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Office of the Comptroller of the Currency

12 CFR Parts 3, 6, 32

[Docket ID OCC-2023-0008]

RIN 1557- AE78

FEDERAL RESERVE SYSTEM

12 CFR Parts 208, 217, 225, 238, 252

[Docket No. R-1813]

RIN 7100-AG64

FEDERAL DEPOSIT INSURANCE CORPORATION

12 CFR Part 324

RIN 3064-AF29

Regulatory Capital Rule: Large Banking Organizations and Banking Organizations with Significant Trading Activity

AGENCY: Office of the Comptroller of the Currency, Treasury; the Board of Governors of the Federal Reserve System; and the Federal Deposit Insurance Corporation.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, and the Federal Deposit Insurance Corporation are inviting public comment on a notice of proposed rulemaking (proposal) that would substantially revise the capital requirements applicable to large banking organizations and to banking organizations with significant trading activity. The revisions set forth in the proposal would improve the calculation of risk-based capital requirements to better reflect the risks of these banking organizations' exposures, reduce the complexity of the framework, enhance the consistency of requirements across these banking organizations, and facilitate more effective supervisory and market assessments of capital adequacy. The revisions would include replacing current requirements that include the use of banking organizations' internal models for credit risk and operational risk with standardized approaches and replacing the current market risk and credit valuation adjustment

risk requirements with revised approaches. The proposed revisions would be generally consistent with recent changes to international capital standards issued by the Basel Committee on Banking Supervision. The proposal would not amend the capital requirements applicable to smaller, less complex banking organizations.

DATES: Comments must be received by November 30, 2023.

ADDRESSES: Comments should be directed to:

***OCC*:** Commenters are encouraged to submit comments through the Federal eRulemaking Portal, if possible. Please use the title "Regulatory capital rule: Amendments applicable to large banking organizations and to banking organizations with significant trading activity" to facilitate the organization and distribution of the comments. You may submit comments by any of the following methods:

- *Federal eRulemaking Portal – Regulations.gov:*

  Go to *https://regulations.gov/*. Enter "Docket ID OCC-2023-0008" in the Search Box and click "Search." Public comments can be submitted via the "Comment" box below the displayed document information or by clicking on the document title and then clicking the "Comment" box on the top-left side of the screen. For help with submitting effective comments, please click on "Commenter's Checklist." For assistance with the *Regulations.gov* site, please call 1-866-498-2945 (toll free) Monday-Friday, 9 a.m.-5 p.m. ET, or e-mail *regulationshelpdesk@gsa.gov*.

- *Mail:* Chief Counsel's Office, Attention: Comment Processing, Office of the Comptroller of the Currency, 400 7th Street, SW, suite 3E-218, Washington, DC 20219.
- *Hand Delivery/Courier:* 400 7th Street, SW, suite 3E-218, Washington, DC 20219.

Instructions: You must include "OCC" as the agency name and "Docket ID OCC-2023-0008" in your comment. In general, the OCC will enter all comments received into the docket and publish the comments on the *Regulations.gov* website without change, including any business or personal information provided such as name and address information, e-mail

addresses, or phone numbers. Comments received, including attachments and other supporting materials, are part of the public record and subject to public disclosure. Do not include any information in your comment or supporting materials that you consider confidential or inappropriate for public disclosure.

You may review comments and other related materials that pertain to this action by the following method:

- *Viewing Comments Electronically – Regulations.gov:*

Go to *https://regulations.gov/*. Enter "Docket ID OCC-2023-0008" in the Search Box and click "Search." Click on the "Dockets" tab and then the document's title. After clicking the document's title, click the "Browse All Comments" tab. Comments can be viewed and filtered by clicking on the "Sort By" drop-down on the right side of the screen or the "Refine Comments Results" options on the left side of the screen. Supporting materials can be viewed by clicking on the "Browse Documents" tab. Click on the "Sort By" drop-down on the right side of the screen or the "Refine Results" options on the left side of the screen checking the "Supporting & Related Material" checkbox. For assistance with the *Regulations.gov* site, please call 1-866-498-2945 (toll free) Monday-Friday, 9 a.m.-5 p.m. ET, or e-mail *regulationshelpdesk@gsa.gov*.

The docket may be viewed after the close of the comment period in the same manner as during the comment period.

***Board*:** You may submit comments, identified by Docket No. R-1813, RIN 7100-AG64 by any of the following methods:

Agency Web Site: https://www.federalreserve.gov. Follow the instructions for submitting comments at https://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm.

Federal eRulemaking Portal: https://www.regulations.gov. Follow the instructions for submitting comments.

E-mail: regs.comments@federalreserve.gov. Include the docket number and RIN in the subject line of the message.

FAX: (202) 452-3819 or (202) 452-3102.

Mail: Ann E. Misback, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue NW., Washington, DC 20551.

In general, all public comments will be made available on the Board's web site at www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm as submitted, and will not be modified to remove confidential, contact or any identifiable information. Public comments may also be viewed electronically or in paper in Room M-4365A, 2001 C St. NW Washington, DC 20551, between 9 a.m. and 5 p.m. during Federal business weekdays.

***FDIC*:** The FDIC encourages interested parties to submit written comments. Please include your name, affiliation, address, email address, and telephone number(s) in your comment. You may submit comments to the FDIC, identified by RIN 3064-AF29 by any of the following methods:

Agency Web Site: https:// www.fdic.gov/resources/regulations/federal-register-publications. Follow instructions for submitting comments on the FDIC's website.

Mail: James P. Sheesley, Assistant Executive Secretary, Attention: Comments/Legal OES (RIN 3064–AF29), Federal Deposit Insurance Corporation, 550 17th Street, NW, Washington, DC 20429.

Hand Delivered/Courier: Comments may be hand-delivered to the guard station at the rear of the 550 17th Street, NW, building (located on F Street NW) on business days between 7 a.m. and 5 p.m.

E-mail: comments@FDIC.gov. Include the RIN 3064-AF29 on the subject line of the message.

Public Inspection: Comments received, including any personal information provided, may be posted without change to https://www.fdic.gov/resources/regulations/federal-register-publications. Commenters should submit only information that the commenter wishes to make

available publicly. The FDIC may review, redact, or refrain from posting all or any portion of any comment that it may deem to be inappropriate for publication, such as irrelevant or obscene material. The FDIC may post only a single representative example of identical or substantially identical comments, and in such cases will generally identify the number of identical or substantially identical comments represented by the posted example. All comments that have been redacted, as well as those that have not been posted, that contain comments on the merits of this document will be retained in the public comment file and will be considered as required under all applicable laws. All comments may be accessible under the Freedom of Information Act.

FOR FURTHER INFORMATION CONTACT:

OCC: Venus Fan, Risk Expert, Benjamin Pegg, Analyst, Andrew Tschirhart, Risk Expert, or Diana Wei, Risk Expert, Capital Policy, (202) 649-6370; Carl Kaminski, Assistant Director, Kevin Korzeniewski, Counsel, Rima Kundnani, Counsel, Daniel Perez, Counsel, or Daniel Sufranski, Senior Attorney, Chief Counsel's Office, (202) 649-5490, Office of the Comptroller of the Currency, 400 7th Street SW., Washington, DC 20219. If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Board: Anna Lee Hewko, Associate Director, (202) 530-6260; Brian Chernoff, Manager, (202) 452-2952; Andrew Willis, Manager, (202) 912-4323; Cecily Boggs, Lead Financial Institution Policy Analyst, (202) 530-6209; Marco Migueis, Principal Economist, (202) 452-6447; Diana Iercosan, Principal Economist, (202) 912-4648; Nadya Zeltser, Senior Financial Institution Policy Analyst, (202) 452-3164; Division of Supervision and Regulation; or Jay Schwarz, Assistant General Counsel, (202) 452-2970; Mark Buresh, Special Counsel, (202) 452-5270; Andrew Hartlage, Special Counsel, (202) 452-6483; Gillian Burgess, Senior Counsel, (202) 736-5564; Jonah Kind, Senior Counsel, (202) 452-2045, Legal Division, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue NW, Washington, DC 20551. For users of TTY–TRS, please call 711 from any telephone, anywhere in the United States.

FDIC: Benedetto Bosco, Chief Capital Policy Section; Bob Charurat, Corporate Expert; Irina Leonova, Corporate Expert; Andrew Carayiannis, Chief, Policy and Risk Analytics Section; Brian Cox, Chief, Capital Markets Strategies Section; Noah Cuttler, Senior Policy Analyst; David Riley, Senior Policy Analyst; Michael Maloney, Senior Policy Analyst; Richard Smith, Capital Markets Policy Analyst; Olga Lionakis, Capital Markets Policy Analyst; Kyle McCormick, Senior Policy Analyst; Keith Bergstresser, Senior Policy Analyst, Capital Markets and Accounting Policy Branch, Division of Risk Management Supervision; Catherine Wood, Counsel; Benjamin Klein, Counsel; Anjoly David, Honors Attorney, Legal Division; regulatorycapital@fdic.gov, (202) 898–6888; Federal Deposit Insurance Corporation, 550 17th Street, NW., Washington, DC 20429.

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I. Introduction

The Office of the Comptroller of the Currency (OCC), the Board of Governors of the Federal Reserve System (Board), and the Federal Deposit Insurance Corporation (FDIC) (collectively, the agencies) are proposing to modify the capital requirements applicable to banking organizations[1] with total assets of $100 billion or more and their subsidiary depository institutions (large banking organizations) and to banking organizations with significant trading activity. The revisions set forth in the proposal would strengthen the calculation of risk-based capital requirements to better reflect the risks of these banking organizations' exposures. In addition, the proposed revisions would enhance the consistency of requirements across large banking organizations and facilitate more effective supervisory and market assessments of capital adequacy.

Following the 2007-09 financial crisis, the agencies adopted an initial set of reforms to improve the effectiveness of and address weaknesses in the regulatory capital framework. For example, in 2013, the agencies adopted a final rule that increased the quantity and quality of regulatory capital banking organizations must maintain.[2] These changes were broadly consistent

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[1] The term "banking organizations" includes national banks, state member banks, state nonmember banks, Federal savings associations, state savings associations, top-tier bank holding companies domiciled in the United States not subject to the Board's Small Bank Holding Company and Savings and Loan Holding Company Policy Statement (12 CFR part 225, appendix C), U.S. intermediate holding companies of foreign banking organizations, and top-tier savings and loan holding companies domiciled in the United States, except for certain savings and loan holding companies that are substantially engaged in insurance underwriting or commercial activities and savings and loan holding companies that are subject to the Small Bank Holding Company and Savings and Loan Holding Company Policy Statement.

[2] The Board and the OCC issued a joint final rule on October 11, 2013 (78 FR 62018) and the FDIC issued a substantially identical interim final rule on September 10, 2013 (78 FR 55340). In April 2014, the FDIC adopted the interim final rule as a final rule with no substantive changes. 79 FR 20754 (April 14, 2014).

with an initial set of reforms published by the Basel Committee on Banking Supervision (Basel Committee) following the financial crisis.[3] The Board also implemented capital planning and stress testing requirements for large bank holding companies and savings and loan holding companies[4] and an additional capital buffer requirement to mitigate the financial stability risks posed by U.S. global systemically important banking organizations (GSIBs),[5] as well as other enhanced prudential standards, consistent with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act).[6]

The proposal would build on these initial reforms by making additional changes developed in response to the 2007-09 financial crisis and informed by experience since the crisis. Requirements under the proposal would generally be consistent with international capital standards issued by the Basel Committee, commonly known as the Basel III reforms.[7] Where appropriate, the proposal differs from the Basel III reforms to reflect, for example, specific characteristics of U.S. markets, requirements under U.S. generally accepted accounting principles (GAAP),[8] practices of U.S. banking organizations, and U.S. legal requirements and policy objectives.

The proposal would strengthen risk-based capital requirements for large banking organizations by improving their comprehensiveness and risk sensitivity. These proposed revisions, including removal of certain internal models, would increase capital requirements in the aggregate, in particular for those banking organizations with heightened risk profiles. Increased capital requirements can produce both economic costs and benefits. The agencies

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[3] The Basel Committee is a committee composed of central banks and banking supervisory authorities, which was established by the central bank governors of the G-10 countries in 1975.

[4] *See* 12 CFR 225.8; 12 CFR part 238, subparts N, O, P, R, S; 12 CFR part 252, subparts D, E, F, N, O.

[5] 12 CFR part 217, subpart H.

[6] *See* 12 CFR part 252; 12 U.S.C. 5365.

[7] *See* the consolidated Basel Framework at https:/www.bis.org/basel_framework/.

[8] GAAP often serve as a foundational measurement component for U.S. capital requirements.

assessed the likely effect of the proposal on economic activity and resilience, and expect that the benefits of strengthening capital requirements for large banking organizations outweigh the costs.[9]

Historical experience has demonstrated the impact individual banking organizations can have on the stability of the U.S. banking system, in particular banking organizations that would have been subject to the proposal. Large banking organizations that experience an increase in their capital requirements resulting from the proposal would be expected to be able to absorb losses with reduced disruption to financial intermediation in the U.S. economy. Enhanced resilience of the banking sector supports more stable lending through the economic cycle and diminishes the likelihood of financial crises and their associated costs.

The agencies seek comment on all aspects of the proposal.

A. Overview of the proposal

The proposal would improve the risk capture and consistency of capital requirements across large banking organizations and reduce complexity and operational costs through changes across multiple areas of the agencies' risk-based capital framework. For most parts of the framework, the proposal would eliminate the use of banking organizations' internal models to set regulatory capital requirements and in their place apply a simpler and more consistent standardized framework. For market risk, the proposal would retain banking organizations' ability to use internal models, with an improved models-based measure for market risk that better accounts for potential losses. The use of internal models would be subject to enhanced requirements for model approval and performance and a new "output floor" to limit the extent to which a banking organization's internal models may reduce its overall capital requirement. The proposal would also adopt new standardized approaches for market risk and credit valuation adjustment (CVA) risk that better reflect the risks of banking organizations' exposures.

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[9] *See* the impact and economic analysis presented in section V of this Supplementary Information.

This new framework for calculating risk-weighted assets (the expanded risk-based approach) would apply to banking organizations with total assets of $100 billion or more and their subsidiary depository institutions. The revised requirements for market risk would also apply to other banking organizations with $5 billion or more in trading assets plus trading liabilities or for which trading assets plus trading liabilities exceed 10 percent of total assets.

The expanded risk-based approach would be more risk-sensitive than the current U.S. standardized approach by incorporating more credit-risk drivers (for example, borrower and loan characteristics) and explicitly differentiating between more types of risk (for example, operational risk, credit valuation adjustment risk). In this manner, the expanded risk-based approach would better account for key risks faced by large banking organizations. The proposed changes would also enhance the alignment of capital requirements to the risks of banking organizations' exposures and increase incentives for prudent risk management.

To ensure that large banking organizations would not have lower capital requirements than smaller, less complex banking organizations, the proposal would maintain the capital rule's dual-requirement structure. Under this structure, a large banking organization would be required to calculate its risk-based capital ratios under both the new expanded risk-based approach and the standardized approach (including market risk, as applicable), and use the lower of the two for each risk-based capital ratio.[10] All capital buffer requirements, including the stress capital buffer requirement, would apply regardless of whether the expanded risk-based approach or the existing standardized approach produces the lower ratio.

For banking organizations subject to Category III or IV capital standards,[11] the proposal would align the calculation of regulatory capital – the numerator of the regulatory capital ratios –

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[10] Banking organizations' risk-based capital ratios are the common equity tier 1 capital ratio, tier 1 capital ratio, and total capital ratio. *See* 12 CFR 3.10 (OCC), 12 CFR 217.10 (Board), and 12 CFR 324.10 (FDIC).

[11] In 2019, the agencies adopted rules establishing four categories of capital standards for U.S. banking organizations with $100 billion or more in total assets and foreign banking organizations

with the calculation for banking organizations subject to Category I or II capital standards, providing the same approach for all large banking organizations. Banking organizations subject to Category III or IV capital standards would be subject to the same treatment of accumulated other comprehensive income (AOCI), capital deductions, and rules for minority interest as banking organizations subject to Category I or II capital standards. This change would help ensure that the regulatory capital ratios of these banking organizations better reflect their capacity to absorb losses, including by taking into account unrealized losses or gains on securities positions reflected in AOCI.

The proposal would expand application of the supplementary leverage ratio and the countercyclical capital buffer to banking organizations subject to Category IV capital standards. This change would bring further alignment of capital requirements across large banking organizations and is consistent with the proposal's goal of strengthening the resilience of large banking organizations.

The proposal would also introduce enhanced disclosure requirements to facilitate market participants' understanding of a banking organization's financial condition and risk management practices. Also, the proposal would align Federal Reserve's regulatory reporting requirements with the changes to capital requirements. The agencies anticipate that revisions to the reporting forms of the Federal Financial Institutions Examination Council (FFIEC) applicable to large

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with $100 billion or more in combined U.S. assets. Under this framework, Category I capital standards apply to U.S. global systemically important bank holding companies and their depository institution subsidiaries. Category II capital standards apply to banking organizations with at least $700 billion in total consolidated assets or at least $75 billion in cross-jurisdictional activity and their depository institution subsidiaries. Category III capital standards apply to banking organizations with total consolidated assets of at least $250 billion or at least $75 billion in weighted short-term wholesale funding, nonbank assets, or off-balance sheet exposure and their depository institution subsidiaries. Category IV capital standards apply to banking organizations with total consolidated assets of at least $100 billion that do not meet the thresholds for a higher category and their depository institution subsidiaries. *See* 12 CFR 3.2 (OCC), 12 CFR 252.5, 12 CFR 238.10 (Board), 12 CFR 324.2 (FDIC); "Prudential Standards for Large Bank Holding Companies, Savings and Loan Holding Companies, and Foreign Banking Organizations," 84 FR 59032 (November 1, 2019); and "Changes to Applicability Thresholds for Regulatory Capital and Liquidity Requirements," 84 FR 59230 (November 1, 2019).

banking organizations and to banking organizations with significant trading activity will be proposed in the near future, which would align with the proposed revisions to the capital rule.

The proposed changes would take effect subject to the transition provisions described in section IV of this Supplementary Information.

The revisions introduced by the proposal would interact with several Board rules, including by modifying the risk-weighted assets used to calculate total loss-absorbing capacity requirements, long-term debt requirements, and the short-term wholesale funding score included in the GSIB surcharge method 2 score. Also, the proposal would revise the calculation of single-counterparty credit limits by removing the option of using a banking organization's internal models to calculate derivatives exposure amounts and requiring the use of the standardized approach for counterparty credit risk for this purpose. The proposal would also remove the exemption from calculating risk-weighted assets under subpart E of the capital rule currently available to U.S. intermediate holding companies of foreign banking organizations under the Board's enhanced prudential standards.

In parallel, the Board is issuing a notice of proposed rulemaking revising the GSIB surcharge calculation applicable to GSIBs and the systemic risk report applicable to large banking organizations.[12]

Question 1: The Board invites comment on the interaction of the revisions under the proposal with other existing rules and with the other notice of proposed rulemaking. In particular, comment is invited on the impact of the proposal on the single-counterparty credit limit framework. What are the advantages and disadvantages of the proposed approach? Which alternatives, if any, should the Board consider and why?

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[12] On October 24, 2019, the Board published in the *Federal Register* a notice of proposed rulemaking inviting comment on a proposal to establish risk-based capital requirements for depository institution holding companies significantly engaged in insurance activities. *See* 84 FR 57240 (October 24, 2019). The Board anticipates that any final rule based on the proposal in this Supplementary Information would include appropriate adjustments as necessary to take into account any final insurance capital rule.

B. Use of internal models under the proposed framework

The proposal would remove the use of internal models to set credit risk and operational risk capital requirements (the so-called advanced approaches) for banking organizations subject to Category I or II capital standards. These internal models rely on a banking organization's choice of modeling assumptions and supporting data. Such model assumptions include a degree of subjectivity, which can result in varying risk-based capital requirements for similar exposures. Moreover, empirical verification of modeling choices can require many years of historical experience because severe credit risk and operational risk losses can occur infrequently. In the agencies' previous observations, the advanced approaches have produced unwarranted variability across banking organizations in requirements for exposures with similar risks.[13] This unwarranted variability, combined with the complexity of these models-based approaches, can reduce confidence in the validity of the modeled outputs, lessen the transparency of the risk-based capital ratios, and challenge comparisons of capital adequacy across banking organizations.

Standardization of credit and operational risk capital requirements would improve the consistency of requirements. Standardized requirements, together with robust public disclosure and reporting requirements, would enhance the transparency of capital requirements and the ability of supervisors and market participants to make independent assessments of a banking organization's capital adequacy, individually and relative to its peers.

The use of robust, risk-sensitive standardized approaches for credit and operational risk would also improve the efficiency of the capital framework by reducing operational costs. Under the advanced approaches, banking organizations subject to Category I or II capital standards must develop and maintain internal modeling systems to determine capital requirements, which

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[13] The Basel Committee has published analysis illustrating the variability of credit-risk-weighted assets across banking organizations. *See* https://www.bis.org/publ/bcbs256.pdf and https://www.bis.org/bcbs/publ/d363.pdf.

may differ from the risk measurement approaches they use to monitor risk for internal assessments. Further, any material changes to a banking organization's internal models must be fully documented and presented to the banking organization's primary Federal supervisor for review.[14] Replacing the use of internal models with standardized approaches would reduce costs associated with maintaining such modeling systems and eliminate the associated submissions to the agencies.

Eliminating the use of internal models to set credit and operational risk capital requirements would not reduce the overall risk capture of the regulatory framework. In addition to the calculation of expanded risk-based approach and standardized approach capital requirements, a large banking organization would continue to be required to maintain capital commensurate with the level and nature of all risks to which the banking organization is exposed,[15] to have a process for assessing its overall capital adequacy in relation to its risk profile and a comprehensive strategy for maintaining an appropriate level of capital,[16] and, where applicable, to conduct internal stress tests.[17] Also, holding companies subject to the Board's capital plan rule would continue to be subject to a stress capital buffer requirement that is based on a supervisory stress test of the holding company's exposures.[18] Although the proposal would remove use of internal models for calculating capital requirements for credit and operational risk, internal models can provide valuable information to a banking organization's internal stress testing, capital planning, and risk management functions. Large banking organizations should employ internal modeling capabilities as appropriate for the complexity of their activities.

The proposal would continue to allow use of internal models to set market risk capital requirements for portfolios where modeling can be demonstrated to be appropriate. In addition,

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[14] *See* 12 CFR 3.123(a) (OCC); 12 CFR 217.123(a) (Board); 12 CFR 324.123(a) (FDIC).

[15] *See* 12 CFR 3.10(e)(1) (OCC); 12 CFR 217.10(e)(1) (Board); 12 CFR 324.10(e)(1) (FDIC).

[16] *See* 12 CFR 3.10(e)(2) (OCC); 12 CFR 217.10(e)(2) (Board); 12 CFR 324.10(e)(2) (FDIC).

[17] *See* 12 CFR 46 (OCC); 12 CFR 252 subpart B and F (Board); 12 CFR 325 (FDIC).

[18] *See* 12 CFR 225.8 and 12 CFR 238.170.

the proposal would provide for conservative but risk-sensitive standardized alternatives where modeling is not supported. In contrast to credit and operational risk, market risk data allows for daily feedback on model performance to support empirical verification. The proposal would limit the use of models to only those trading desks for which a banking organization has received approval from its primary Federal supervisor. Ongoing use of such models would depend upon a banking organization's ability to demonstrate through robust testing that the models are sufficiently conservative and accurate for purposes of calculating market risk capital requirements. In cases where a banking organization cannot demonstrate acceptable performance of its internal models for a given trading desk, the banking organization would be required to use the standardized measure for market risk which acts as a risk-sensitive alternative.

II. Scope of application

The proposal's expanded risk-based approach would apply to banking organizations with total assets of $100 billion or more and their subsidiary depository institutions.[19] These banking organizations are large and exhibit heightened complexity. Application of the expanded risk-based approach to large banking organizations would provide granular, generally standardized requirements that result in robust risk capture and appropriate risk sensitivity. By strengthening the requirements that apply to large banking organizations, the proposal would enhance their resilience and reduce risks to U.S. financial stability and costs they may pose to the Federal Deposit Insurance Fund in case of material distress or failure. Relative to smaller, less complex banking organizations, these banking organizations have greater operational capacity to apply more sophisticated requirements.

Previously, the agencies determined that the advanced approaches requirements should not apply to banking organizations subject to Category III or IV capital standards, as the agencies

[19] The proposal would also apply to depository institutions with total assets of $100 billion or more that are not consolidated subsidiaries of depository institution holding companies, and to depository institutions with total assets of $100 billion or more that are subsidiaries of depository institution holding companies that are not assigned a category under the capital rule.

considered such requirements to be overly complex and burdensome relative to the safety and soundness benefits that they would provide for these banking organizations.[20] The expanded risk-based approach generally is based on standardized requirements, which would be less complex and costly. In addition, recent events demonstrate the impact banking organizations subject to Category III or IV capital standards can have on financial stability. While the recent failure of banking organizations subject to Category IV capital standards may be attributed to a variety of factors, the effect of these failures on financial stability supports further alignment of the regulatory capital framework across large banking organizations.

Banking organizations with significant trading activities are subject to substantial market risk and, therefore, would be subject to market risk capital requirements. Recognizing that the dollar-based threshold for the application of market risk requirements was established in 1996, the proposal would increase this dollar-based threshold from $1 billion to $5 billion of trading assets plus trading liabilities. Banking organizations would also continue to be subject to market risk requirements if their trading assets plus trading liabilities represent 10 percent or more of total assets. The proposal would revise the calculation of the dollar-based threshold amount to be based on four-quarter averages of trading assets and trading liabilities instead of point-in-time amounts. Banking organizations that would no longer meet these minimum thresholds for being subject to market risk capital requirements would calculate risk-weighted assets for trading exposures under the standardized approach. Additionally, under the proposal, large banking organizations would be subject to market risk capital requirements regardless of trading activities.

The proposal would expand application of the countercyclical capital buffer to banking organizations subject to Category IV capital standards. The countercyclical capital buffer is a macroprudential tool that can be used to increase the resilience of the financial system by

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[20] *See* "Prudential Standards for Large Bank Holding Companies, Savings and Loan Holding Companies, and Foreign Banking Organizations," 84 FR 59032 (November 1, 2019).

increasing capital requirements for large banking organizations during a period of elevated risk of above-normal losses. Failure or distress of a banking organization with assets of $100 billion or more during a time of elevated risk or stress can have significant destabilizing effects for other banking organizations and the broader financial system – even if the banking organization does not meet the criteria for being subject to Category II or III capital standards. Applying the countercyclical capital buffer to banking organizations subject to Category IV capital standards would increase the resilience of these banking organizations and, in turn, improve the resilience of the broader financial system. The proposed approach also has the potential to moderate fluctuations in the supply of credit over time. The proposal would also modify how the countercyclical capital buffer amount is determined to reflect the proposed changes to market risk capital requirements. Specifically, the risk-weighted asset amount for private sector credit exposures that are market risk covered positions under the proposal would be determined using the standardized default risk capital requirement for such positions rather than using the specific risk add-on of the current rule.

The proposal also would expand application of the supplementary leverage ratio requirement to banking organizations subject to Category IV capital standards. In contrast to the risk-based capital requirements, a leverage ratio does not differentiate the amount of capital required by exposure type. Rather, a leverage ratio puts a simple and transparent limit on banking organization leverage. Leverage requirements protect against underestimation of risk both by banking organizations and by risk-based capital requirements and serve as a complement to risk-based capital requirements. The supplementary leverage ratio measures tier 1 capital relative to total leverage exposure, which includes on-balance sheet assets and certain off-balance sheet exposures. The proposed change would ensure that all large banking organizations are subject to a consistent and robust leverage requirement that serves as a complement to risk-based capital requirements and takes into account on- and off-balance sheet exposures.

Question 2: What are the advantages and disadvantages of applying the expanded risk-based approach to banking organizations subject to Category III or IV capital standards? To what extent is the expanded risk-based approach appropriate for banking organizations with different risk profiles, including from a cost and operational burden perspective? Are there specific areas, such as the market risk capital framework, for which the agencies should consider a materiality threshold to better balance cost and operational burden and risk sensitivity, and if so what should that threshold be and why? What would the appropriate exposure treatment be for banking organizations with such exposures beneath any materiality threshold, and how would that treatment be consistent with the overall calibration of the expanded risk-based approach? What alternatives, if any, should the agencies consider to help ensure that the risks of large banking organizations are appropriately captured under minimum risk-based capital requirements and why?

Question 3: What are the advantages and disadvantages of harmonizing the calculation of regulatory capital across large banking organizations? What are any unintended consequences of the proposal and what steps should the agencies consider to mitigate those consequences? What are the advantages and disadvantages of harmonizing the calculation of regulatory capital across large banking organizations and using different approaches (for example, the expanded risk-based approach and the U.S. standardized approach) for the calculation of risk-weighted assets?

Question 4: What are the advantages and disadvantages of applying the countercyclical capital buffer and supplementary leverage ratio to banking organizations subject to Category IV capital standards?

III. Proposed changes to the capital rule

A. Calculation of capital ratios and application of buffer requirements

Under the proposal, large banking organizations would be required to calculate total risk-weighted assets under two approaches: (1) the expanded risk-based approach, and (2) the

standardized approach. Total risk-weighted assets under the expanded risk-based approach (expanded total risk-weighted assets) would equal the sum of risk-weighted assets for credit risk, equity risk, operational risk, market risk, and CVA risk, as described in this proposal, minus any amount of the banking organization's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves. For calculating standardized total risk-weighted assets, the proposal would revise the methodology for determining market risk-weighted assets and would require banking organizations subject to Category III or IV capital standards to use the standardized approach for counterparty credit risk (SA-CCR) for derivative exposures.[21]

To determine its applicable risk-based capital ratios, a large banking organization would calculate two sets of risk-based capital ratios (common equity tier 1 capital ratio, tier 1 capital ratio, and total capital ratio), one using expanded total risk-weighted assets and one using standardized total risk-weighted assets. A banking organization's common equity tier 1 capital ratio, tier 1 capital ratio, and total capital ratio would be the lower of each ratio of the two approaches.

The proposal would not change the minimum risk-based capital ratios under the capital rule. Also, the capital conservation buffer would continue to apply to risk-based capital ratios as under the capital rule, except that the stress capital buffer requirement—a component of the capital conservation buffer that is applicable to banking organizations subject to the Board's

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[21] The proposed methodology for determining market risk-weighted assets, in certain instances, would require a banking organization that is subject to subpart E to apply risk weights from subpart D for purposes of determining its standardized total risk-weighted assets and from subpart E for purposes of determining its expanded total risk-weighted assets. This approach would apply in the case of: (i) capital add-ons for re-designations, (ii) term repo-style transactions the banking organization elects to include in market risk, (iii) the standardized default risk capital requirement for securitization positions non-CTP, and (iv) the standardized default risk capital requirement for correlation trading positions, each as discussed further below.

capital plan rule—would apply to a banking organization's risk-based capital ratios regardless of whether the ratios result from the expanded risk-based approach or the standardized approach.

Question 5: What are the advantages and disadvantages of banking organizations being required to calculate risk-based capital ratios in two different ways and what alternatives, such as a single calculation, should the agencies consider and why? What modifications, if any, to the proposed structure of the risk-based capital calculation should the agencies consider?

1. Standardized output floor

To enhance the consistency of capital requirements and ensure that the use of internal models for market risk does not result in unwarranted reductions in capital requirements, the proposal would introduce an "output floor" to the calculation of expanded total risk-weighted assets. This output floor would correspond to 72.5 percent of the sum of a banking organization's credit risk-weighted assets, equity risk-weighted assets, operational risk-weighted assets, and CVA risk-weighted assets under the expanded risk-based approach and risk-weighted assets calculated using the standardized measure for market risk, minus any amount of the banking organization's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves.

The output floor would serve as a lower bound on the risk-weighted assets under the expanded risk-based approach. In other words, if the risk-weighted assets under the expanded risk-based approach were less than the output floor, the output floor would have to be used as the risk-weighted asset amount to determine the expanded risk-based approach capital ratios.

The proposed calibration of the output floor aims to strike a balance between allowing internal models to enhance the risk sensitivity of market risk capital requirements and ensuring that these models would not result in unwarranted reductions in capital requirements. The output floor would be consistent with the Basel III reforms, which would promote consistency in capital requirements for large, complex, and internationally active banking organizations across jurisdictions.

Risk-weighted assets (RWA) under the output floor

$$
\begin{aligned}
Output\ Floor = 0.725 \\
&* [credit\ RWA + equity\ RWA + operational\ RWA + CVA\ RWA \\
&+ market\ RWA\ under\ the\ standardized\ measure] \\
&- adjusted\ allowance\ for\ credit\ losses\ not\ included\ in\ tier\ 2\ capital \\
&- allocated\ transfer\ risk\ reserves
\end{aligned}
$$

Question 6: What are the advantages and disadvantages of the proposed output floor?

2. *Stress capital buffer requirement*

Under the current capital rule, each banking organization is subject to one or more buffer requirements, and must maintain capital ratios above the sum of its minimum requirements and buffer requirements to avoid restrictions on capital distributions and certain discretionary bonus payments.[22] Banking organizations that are subject to the Board's capital plan rule[23] (bank holding companies, U.S. intermediate holding companies, and savings and loan holding companies that have over $100 billion or more in total consolidated assets) are currently subject to a standardized approach capital conservation buffer requirement, which is calculated as the sum of the banking organization's stress capital buffer requirement, applicable countercyclical capital buffer requirement, and applicable GSIB surcharge. The standardized approach capital conservation buffer requirement applies to a banking organization's standardized approach risk-based capital ratios. In addition, banking organizations that are subject to the capital plan rule and the advanced approaches requirements are subject to an advanced approaches capital conservation buffer requirement, which applies to their advanced approaches risk-based capital ratios, and which is calculated in the same manner as the standardized approach capital

[22] 12 CFR 3.11 (OCC); 12 CFR 217.11 (Board); 12 CFR 324.11 (FDIC).

[23] 12 CFR 225.8 (bank holding companies and U.S. intermediate holding companies of foreign banking organizations); 12 CFR 238.170 (savings and loan holding companies).

conservation buffer requirement, except that the banking organization's stress capital buffer requirement is replaced with a 2.5 percent buffer requirement.[24]

The stress capital buffer requirement integrates the results of the Board's supervisory stress tests with the risk-based requirements of the capital rule to determine capital distribution limitations. As a result, required capital levels for each banking organization more closely align with the banking organization's risk profile and projected losses as measured by the Board's stress test.[25] The stress capital buffer requirement is generally calculated as (1) the difference between the banking organization's starting and minimum projected common equity tier 1 capital ratios under the severely adverse scenario in the supervisory stress test (stress test losses) plus (2) the sum of the dollar amount of the banking organization's planned common stock dividends for each of the fourth through seventh quarters of the planning horizon as a percentage of risk-weighted assets (dividend add-on).[26] A banking organization's stress capital buffer requirement cannot be less than 2.5 percent of standardized total risk-weighted assets.

Currently, the stress test losses and dividend add-on portion of the stress capital buffer requirement are calculated using only the standardized approach common equity tier 1 capital ratio. This is consistent with the exclusion of the stress capital buffer requirement from the advanced approaches capital conservation buffer requirement, and with the Board's stress testing and capital plan rules, under which banking organizations are not required to project capital ratios using the advanced approaches.

The Board is proposing to amend its capital plan rule, stress testing rule, and the buffer framework in its capital rule to take into account capital ratios calculated under the expanded risk-based approach, in addition to the standardized approach. Under the proposal, banking organizations subject to the capital plan rule would be subject to a single capital conservation

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[24] *See* 12 CFR 217.11(c).

[25] *See* 85 FR 15576 (March 18, 2020).

[26] 12 CFR 225.8(f)(2); 12 CFR 238.170(f)(2).

buffer requirement, which would include the stress capital buffer requirement, applicable countercyclical capital buffer requirement, and applicable GSIB surcharge, and would apply to the banking organization's risk-based capital ratios, regardless of whether the ratios result from the expanded risk-based approach or the standardized approach. In this manner, the proposal would ensure that the stress capital buffer requirement contributes to the robustness and risk-sensitivity of the risk-based capital requirements of these banking organizations. Application of the stress capital buffer requirement to the risk-based capital ratios derived from the expanded risk-based approach would not introduce complexity given the fixed balance sheet assumption currently used in the Board stress tests and because the expanded risk-based approach is based in mostly standardized requirements.[27]

Additionally, the proposal would revise the calculation of the stress capital buffer requirement for large banking organizations. Under the proposal, both the stress test losses and dividend add-on components of the stress capital buffer requirement would be calculated using the binding common equity tier 1 capital ratio, as of the final quarter of the previous capital plan cycle, regardless of whether it results from the expanded risk-based approach or the standardized approach.[28] The proposed calculation methodology would limit complexity relative to potential alternatives, such as introducing two stress capital buffer requirements for each banking organization (one for each approach to calculating total risk-weighted assets). In addition, the proposed approach recognizes that the binding approach for a banking organization is unlikely to change within the period in which a given stress capital buffer requirement is applicable.

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[27] Initially, the Board did not incorporate the stress capital buffer requirement into the advanced approaches capital conservation buffer requirement owing to the complexity involved in doing so.

[28] The Board's Stress Testing Policy Statement includes an assumption that the magnitude of a banking organization's balance sheet will be fixed throughout the projection horizon under the supervisory stress test. 12 CFR part 252, appendix B. Under this assumption, because the denominators of the common equity tier 1 capital ratios as calculated under the standardized approach and the expanded risk-based approach would remain the same throughout the stress test, the approach under which the binding common equity tier 1 capital ratio is calculated would remain the same throughout the final quarter of the previous capital plan cycle and the projection horizon.

As part of the capital buffer framework, the stress capital buffer requirement helps ensure that a banking organization can withstand losses from a severely adverse scenario, while still meeting its minimum regulatory capital requirements and thereby continuing to serve as a viable financial intermediary. Because this proposal aims to better reflect the risk of banking organizations' exposures in the calculation of risk-weighted assets, without changing the targeted level of conservatism of the minimum capital requirements, the Board is not proposing associated changes to the targeted severity of the stress capital buffer requirement. The Board evaluates the minimum risk-based capital requirements, which are largely determined by risk-weighted assets, and the stress capital buffer requirement individually for their specific intended purposes in the capital framework, and holistically as they determine the aggregate capital banking organizations hold in the normal course of business.

In addition to revising the stress capital buffer requirement, the proposal would amend the Board's stress testing and capital plan rules to require banking organizations subject to Category I, II, or III standards to project their risk-based capital ratios in their company-run stress tests and capital plans using the calculation approach that results in the binding ratios as of the start of the projection horizon (generally, as of December 31 of a given year). Also, the proposal would require banking organizations subject to Category IV standards to project their risk-based capital ratios under baseline conditions in their capital plans and FR Y-14A submissions using the risk-weighted assets calculation approach that results in the binding ratios as of the start of the projection horizon. The use of the binding approach to calculating risk-based capital ratios aims to conform company-run stress tests and capital plans with the binding risk-based capital ratios in the proposed capital rule and promote simplicity relative to possible alternatives (such as requiring that firms project ratios under both the expanded risk-based approach and the standardized approach).

Question 7: The Board invites comment on the appropriate level of risk capture for the risk-weighted assets framework and the stress capital buffer requirement, both for their

respective roles in the capital framework and for their joint determination of overall capital requirements. How should the Board balance considerations of overall capital requirements with the distinct roles of minimum requirements and buffer requirements? What adjustments, if any, to either piece of the framework should the Board consider? Which, if any, specific portfolios or exposure classes merit particular attention and why?

Question 8: What are the advantages and disadvantages of applying the same stress capital buffer requirement to a banking organization's risk-based capital ratios regardless of whether they are determined using the standardized or expanded risk-based approach? What would be the advantages and disadvantages of applying different stress capital buffer requirements for each set of risk-based capital ratios?

Question 9: What, if any, adjustments should the Board consider with respect to the buffer requirements to account for the transitions in this proposal, particularly related to expanded total risk-weighted assets? For example, what would be the advantages and disadvantages of the Board determining stress capital buffer requirements using fully phased-in expanded total risk-weighted assets versus transitional expanded total risk-weighted assets? What, if any, additional adjustments to stress capital buffer requirements should the Board consider during the expanded total risk-weighted assets transition?

B. Definition of capital

The agencies regularly review their capital framework to help ensure it is functioning as intended. Consistent with this ongoing assessment, the agencies believe it is appropriate to align the definition of capital for banking organizations subject to Category III or IV capital standards with the definition currently applicable to banking organizations subject to Category I or II capital standards. The current definition of capital applicable to banking organizations subject to Category I or II capital standards provides for risk sensitivity and transparency that is commensurate with the size, complexity, and risk profile of banking organizations subject to Category III or IV capital standards. The proposed alignment of the numerator and denominator

of regulatory capital ratios of large banking organizations would support the transparency of the capital rule as it facilitates market participants' assessment of loss absorbency and would promote consistency of requirements across large banking organizations.

As described in more detail below, under the proposal, banking organizations subject to Category III or IV capital standards would be required to recognize most elements of AOCI in regulatory capital consistent with the treatment for banking organizations subject to Category I or II capital standards. Banking organizations subject to Category III or IV capital standards would also apply the capital deductions and minority interest treatments that are currently applicable to banking organizations subject to Category I or II capital standards. The proposal would also apply total loss absorbing capacity (TLAC) holdings deduction treatments to banking organizations subject to Category III or IV capital standards. The proposal includes a three-year transition period for AOCI.

1. Accumulated other comprehensive income

Under the current capital rule, banking organizations subject to Category I or II capital standards are required to include most elements of AOCI in regulatory capital; whereas all other banking organizations including those subject to Category III or IV capital standards were provided an opportunity to make a one-time election to opt-out of recognizing most elements of AOCI and related deferred tax assets (DTAs) and deferred tax liabilities within regulatory capital (AOCI opt-out banking organizations).[29] Under the proposal, consistent with the treatment applicable to banking organizations subject to Category I or II capital standards, banking

[29] *See* 12 CFR 3.22(b) (OCC); 12 CFR 217.22(b) (Board); 12 CFR 324.22(b) (FDIC). A banking organization that made an opt-out election is currently required to adjust common equity tier 1 capital as follows: subtract any net unrealized holding gains and add any net unrealized holding losses on available-for-sale securities; subtract any accumulated net gains and add any accumulated net losses on cash flow hedges; subtract any amounts recorded in AOCI attributed to defined benefit postretirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans (excluding, at the banking organization's option, the portion relating to pension assets deducted under §__.22(a)(5) of the current capital rule); and, subtract any net unrealized holding gains and add any net unrealized holding losses on held-to-maturity securities that are included in AOCI.

organizations subject to Category III or IV capital standards would be required to include all AOCI components in common equity tier 1 capital, except gains and losses on cash-flow hedges where the hedged item is not recognized on a banking organization's balance sheet at fair value. This would require all net unrealized holding gains and losses on available-for-sale (AFS) debt securities[30] from changes in fair value to flow through to common equity tier 1 capital, including those that result primarily from fluctuations in benchmark interest rates. This treatment would better reflect the point in time loss-absorbing capacity of banking organizations subject to Category III or IV capital standards and would align with banking organizations subject to Category I or II capital standards.

The agencies have previously observed that the requirement to recognize elements of AOCI in regulatory capital has helped improve the transparency of regulatory capital ratios, as it better reflects banking organizations' actual loss-absorbing capacity at a specific point in time, notwithstanding the potential volatility that such recognition may pose for their regulatory capital ratios. The agencies have also previously observed that AOCI is an important indicator used by market participants to evaluate the capital strength of a banking organization.[31] More recently, the agencies have observed generally higher levels of securities classified as held-to-maturity (HTM) among banking organizations that recognize AOCI in regulatory capital.[32]

Changes in interest rates have led to net unrealized losses for banking organizations' investment portfolios and brought into focus the importance of regulatory capital measures

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[30] AFS securities refers to debt securities. ASC Subtopic 321-10 eliminated the classification of equity securities with readily determinable fair values not held for trading as available-for-sale and generally requires investments in equity securities to be measured at fair value with changes in fair value recognized in net income. Changes in the fair value of (i.e., the unrealized gains and losses on) a banking organization's equity securities are recognized through net income rather than other comprehensive income.

[31] 84 FR 59230, 59249 (November 1, 2019).

[32] GAAP set forth restrictions on the classification of a debt security as HTM, circumstances not consistent with the HTM classification, and situations that call into question or taint a banking organization's intent to hold securities in the HTM category.

reflecting the loss absorbing capacity of a banking organization. The agencies have observed that adverse trends in a banking organization's GAAP equity can have negative market perception and liquidity implications.[33] Specifically, net unrealized losses on AFS securities included in AOCI have reduced banking organizations' tangible book value and liquidity buffers,[34] which can adversely affect market participants' assessments of capital adequacy and liquidity. Banking organizations are often reluctant to sell these AFS securities as the unrealized losses would become realized losses upon sale, thus reducing regulatory capital. However, banking organizations may need to take such steps in order to meet liquidity needs. Recognizing elements of AOCI in regulatory capital thus achieves a better alignment of regulatory capital with market participants' assessment of loss-absorbing capacity.

Question 10: What complementary measures should the banking agencies consider regarding the regulatory capital treatment for securities held as HTM rather than AFS?

2. Regulatory capital deductions

The agencies have long limited the amount of intangible and higher-risk assets, such as mortgage servicing assets (MSAs) and certain temporary difference DTAs, included in regulatory capital and required deduction of the amounts above the limits. This is due to the relatively high level of uncertainty regarding the ability of banking organizations to both accurately value and realize value from these assets, especially under adverse financial conditions. The current capital rule also limits the amount of investments in the capital instruments of other banking organizations that can be reflected in regulatory capital.

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[33] *See* Board of Governors of the Federal Reserve System, Supervision and Regulation Report, at 11 (November 2022); Office of the Comptroller of the Currency, Semiannual Risk Perspective, at 22 (Fall 2022); Federal Deposit Insurance Corporation, Fourth Quarter 2022 *Quarterly Banking Profile*, at 5, 22 (February 2023), Managing Sensitivity to Market Risk in a Challenging Interest Rate Environment (FIL–46–2013, October 8, 2013).

[34] *See* 12 CFR part 50 (OCC); 12 CFR part 249 (Board); 12 CFR part 329 (FDIC).

Furthermore, the current capital rule limits the inclusion of minority interest[35] in regulatory capital in recognition that minority interest is generally not available to absorb losses at the banking organization's consolidated level and to prevent highly capitalized subsidiaries from overstating the amount of capital available to absorb losses at the consolidated organization.

Under the current capital rule, banking organizations subject to Category I or II capital standards must deduct from common equity tier 1 capital amounts of MSAs, temporary difference DTAs that the banking organization could not realize through net operating loss carrybacks, and significant investments in the capital of unconsolidated financial institutions in the form of common stock[36] (collectively, threshold items) that individually exceed 10 percent of the banking organization's common equity tier 1 capital minus certain deductions and adjustments.[37] Banking organizations subject to Category I or II capital standards must also deduct from common equity tier 1 capital the aggregate amount of threshold items not deducted under the 10 percent threshold deduction but that nevertheless exceeds 15 percent of the banking organization's common equity tier 1 capital minus certain deductions and adjustments. Under the current capital rule, banking organizations subject to Category III or IV capital standards are required to deduct from common equity tier 1 capital any amount of MSAs, temporary difference DTAs that the banking organization could not realize through net operating loss carrybacks, and investments in the capital of unconsolidated financial institutions[38] that individually exceed 25

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[35] Minority interest, also referred to as non-controlling interest, reflects investments in the capital instruments of subsidiaries of banking organizations that are held by third parties.

[36] A significant investment in the capital of an unconsolidated financial institution is defined as an investment in the capital of an unconsolidated financial institution where a banking organization subject to Category I or II capital standards owns more than 10 percent of the issued and outstanding common stock of the unconsolidated financial institution. 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[37] *See* 12 CFR 3.22(c)(6), (d)(2) (OCC); 12 CFR 217.22(c)(6), (d)(2) (Board); 12 CFR 324.22(c)(6), (d)(2) (FDIC).

[38] For banking organizations that are not subject to Category I or II capital standards, the current capital rule does not have distinct treatments for significant and nonsignificant investments in the capital of unconsolidated financial institutions. Rather, the regulatory capital treatment for an

percent of common equity tier 1 capital of the banking organization minus certain deductions and adjustments.

Under the proposal, banking organizations subject to Category III or IV capital standards would be required to deduct threshold items from common equity tier 1 capital and apply other capital deductions that are currently applicable to banking organizations subject to Category I or II capital standards instead of the deductions applicable to all other banking organizations, thereby creating alignment across all banking organizations subject to the proposal.

In addition to deductions for the threshold items, the current capital rule requires that a banking organization subject to Category I or II capital standards deduct from regulatory capital any amount of the banking organization's nonsignificant investments[39] in the capital of unconsolidated financial institutions that exceeds 10 percent of the banking organization's common equity tier 1 capital minus certain deductions and adjustments.[40] Further, significant investments in the capital of unconsolidated financial institutions not in the form of common stock must be deducted from regulatory capital in their entirety.[41] Under the proposal, banking organizations subject to Category III or IV capital standards would be required to make these deductions.

Similar to the deductions for investments in the capital of unconsolidated financial institutions, the current capital rule requires banking organizations subject to Category I or II capital standards to deduct covered debt instruments from regulatory capital.[42] Under the

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investment in the capital of unconsolidated financial institutions would be based on the type of instrument underlying the investment.

[39] A non-significant investment in the capital of an unconsolidated financial institution is defined as an investment in the capital of an unconsolidated financial institution where a banking organization subject to Category I or II capital standards owns 10 percent or less of the issued and outstanding common stock of the unconsolidated financial institution. 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[40] 12 CFR 3.22(c)(5) (OCC); 12 CFR 217.22(c)(5) (Board); 12 CFR 324.22(c)(5) (FDIC).

[41] 12 CFR 3.22(c)(6) (OCC); 12 CFR 217.22(c)(6) (Board); 12 CFR 324.22(c)(6) (FDIC).

[42] *See* 12 CFR 3.22(c) (OCC); 12 CFR 217.22(c) (Board); 12 CFR 324.22(c) (FDIC).

proposal, banking organizations subject to Category III or IV capital standards would be required to apply the deduction requirements for certain investments in unsecured debt instruments issued by U.S. or foreign GSIBs (covered debt instruments) that currently apply to banking organizations subject to Category I or II capital standards.[43] The current capital rule generally treats investments in unsecured debt instruments issued by U.S. or foreign GSIBs as tier 2 capital instruments for purposes of applying deduction requirements.

The current capital rule also limits the amount of minority interest that banking organizations subject to Category I or II capital standards may include in regulatory capital based on the amount of capital held by a consolidated subsidiary, relative to the amount of capital the subsidiary would have had to maintain to avoid any restrictions on capital distributions and discretionary bonus payments under capital conservation buffer requirements.[44] Under the current capital rule, banking organizations subject to Category III or IV capital standards are allowed to include: (i) common equity tier 1 minority interest comprising up to 10 percent of the parent banking organization's common equity tier 1 capital; (ii) tier 1 minority interest comprising up to 10 percent of the parent banking organization's tier 1 capital; and (iii) total capital minority interest comprising up to 10 percent of the parent banking organization's total capital.[45] Under the proposal, the limitations on minority interests that apply to banking organizations subject to Category I or II capital standards would also apply to banking organizations subject to Category III or IV capital standards.

3. Additional definition of capital adjustments

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[43] Similar to banking organizations subject to Category II capital standards, the definition of excluded covered debt and the applicable capital treatment, would not apply to banking organizations subject to Category III and IV capital standards. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2) (Board); 12 CFR 324.2 (FDIC).

[44] *See* 12 CFR 3.21(b) (OCC); 12 CFR 217.21(b) (Board); 12 CFR 324.21(b) (FDIC).

[45] *See* 12 CFR 3.21(a) (OCC); 12 CFR 217.21(a) (Board); 12 CFR 324.21(a) (FDIC).

The current capital rule applies an additional capital eligibility criterion to banking organizations subject to Category I or II capital standards for their additional tier 1 and tier 2 capital instruments. The criterion requires that the governing agreement, offering circular or prospectus for the instrument must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event the banking organization enters into a receivership, insolvency, liquidation, or similar proceeding. Under the proposal, this eligibility criterion would also apply to instruments issued after the date on which the issuer becomes subject to the proposed rule, which generally would be the effective date of a final rule for banking organizations subject to Category III or IV capital standards. Instruments issued by banking organizations subject to Category III or IV capital standards prior to the effective date of a final rule that currently count as regulatory capital would continue to count as regulatory capital as long as those instruments remain outstanding.

4. Changes to the definition of tier 2 capital applicable to large banking organizations

The current capital rule defines an element of tier 2 capital to include the allowance for loan and lease losses (ALLL) or the adjusted allowance for credit losses (AACL), as applicable, up to 1.25 percent of standardized total risk-weighted assets not including any amount of the ALLL or AACL, as applicable (and excluding in the case of a banking organization subject to market risk requirements, its standardized market risk-weighted assets). Further, as part of its calculations for determining its total capital ratio, a banking organization subject to Category I or II standards must determine its advanced-approaches-adjusted total capital by (1) deducting from its total capital any ALLL or AACL, as applicable, included in its tier 2 capital and; (2) adding to its total capital any eligible credit reserves that exceed the banking organization's total expected credit losses to the extent that the excess reserve amount does not exceed 0.6 percent of credit-risk-weighted assets. Due to changes in GAAP, all large banking organizations are no longer using ALLL and must use AACL. In addition, the concept of eligible credit reserves is related to

use of the internal ratings-based approach, which the proposal would eliminate. Therefore, under the proposal, a large banking organization would determine its expanded risk-based approach-adjusted total capital by (1) deducting from its total capital AACL included in its tier 2 capital and; (2) adding to its total capital any AACL up to 1.25 percent of total credit risk-weighted assets. The proposal would define total credit risk-weighted assets as the sum of total risk-weighted assets for: (1) general credit risk as calculated under §__.110; (2) cleared transactions and default fund contributions as calculated under §__.114; (3) unsettled transactions as calculated under §__.115; and (4) securitization exposures as calculated under §__.132.

Question 11: The agencies seek comment on the proposed definition of total credit risk-weighted assets in connection with determining a banking organization's total capital ratio. What, if any, modifications should the agencies consider making to this definition and why?

C. Credit risk

Credit risk arises from the possibility that an obligor, including a borrower or counterparty, will fail to perform on an obligation. While loans are a significant source of credit risk, other products, activities, and services also expose banking organizations to credit risk, including investments in debt securities and other credit instruments, credit derivatives, and cash management services. Off-balance sheet activities, such as letters of credit, unfunded loan commitments, and the undrawn portion of lines of credit, also expose banking organizations to credit risk.

In this section of the Supplementary Information, subsection III.C.1. describes expectations for completing due diligence on a banking organization's credit risk portfolio; subsection III.C.2. describes the risk-weight treatment for on-balance sheet exposures under the proposal; subsection III.C.3. describes the proposed approach to determine the exposure amount for off-balance sheet exposures; and subsections III.C.4.-5 provide the available approaches for recognizing the benefits of credit risk mitigants including certain guarantees, certain credit derivatives and financial collateral.

1. Due diligence

Banking organizations must maintain capital commensurate with the level and nature of the risks to which they are exposed.[46] The agencies' safety and soundness guidelines establish standards for banking organizations to have an adequate understanding of the impact of their lending decisions on the banking organization's credit risk.[47] A banking organization's performance of due diligence on their credit portfolios is central to meeting both of these obligations. For example, under the safety and soundness guidelines, a banking organization is expected to have established effective internal policies, processes, systems, and controls to ensure that the banking organization's regulatory reporting is accurate and reflects appropriate risk weights assigned to credit exposures.[48]

When properly performed, due diligence may lead a banking organization to conclude that the minimum regulatory capital requirements for certain exposures do not sufficiently account for their potential credit risk. In such instances, the banking organization should take appropriate risk mitigating measures such as allocating additional capital, establishing larger credit loss allowances, or requiring additional collateral. Adherence to due diligence standards, as established through the agencies' safety and soundness guidelines, directly supports and facilitates requirements for banking organizations to maintain capital commensurate with the level and nature of the risks to which they are exposed.

Question 12: The agencies seek comment on whether due diligence requirements should be directly integrated into the text of the final rule. What would be the advantages and disadvantages of specifying increases in risk weights that would be required to the extent that

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[46] *See* 12 CFR 3.10(e) (OCC); 12 CFR 217.10(e) (Board); 12 CFR 324.10(e) (FDIC).

[47] *See* 12 CFR part 30, appendix A (OCC); 12 CFR, appendix D-1 to part 208 (Board); 12 CFR, appendix A to part 364 (FDIC).

[48] When performing due diligence, banking organizations must adhere to the operational and managerial standards for loan documentation and credit underwriting as set forth in the *Interagency Guidelines Establishing Standards for Safety and Soundness* (safety and soundness guidelines).

due diligence requirements are not met, similar to the proposed risk-weight treatment for securitization exposures as described in section III.D of this Supplementary Information?

2. Proposed risk weights for credit risk

The proposal would replace the use of internal models to set regulatory capital requirements for credit risk as set out in subpart E of the current capital rule with a new expanded risk-based approach for credit risk applicable to large banking organizations. The proposed expanded risk-based approach for credit risk would retain many of the same definitions §__.2 of the current capital rule including among others a sovereign, a sovereign exposure, certain supranational entities, a multilateral development bank, a public sector entity (PSE), a government-sponsored enterprise (GSE), other assets, and a commitment. Some elements of the proposed expanded risk-based approach for credit risk would apply the same risk-weight treatment provided in subpart D of the current capital rule (current standardized approach) for on-balance sheet exposures, including exposures to sovereigns, certain supranational entities and multilateral development banks, government sponsored entities (GSEs) in the form of senior debt and guaranteed exposures, Federal Home Loan Bank (FHLB) and Federal Agricultural Mortgage Corporation (Farmer Mac) equity exposures,[49] public sector entities (PSEs), and other assets. The proposal would also apply the same risk-weight treatment provided in the current standardized approach to the following real estate exposures: pre-sold construction loans, statutory multifamily mortgages, and high-volatility commercial real estate (HVCRE) exposures.

Relative to the internal models-based approaches in the advanced approaches under the current capital rule, the proposed expanded risk-based approach would result in more transparent capital requirements for credit risk exposures across banking organizations. The proposal would also facilitate comparisons of capital adequacy across banking organizations by reducing

[49] For treatment of other exposures to GSEs, see discussion related to equity exposures in section III.E. and exposures to subordinated debt instruments in section III.C.2.d. of this Supplementary Information.

excessive, unwarranted variability in risk-weighted assets for similar exposures. Relative to the current standardized approach, the proposal would incorporate more granular risk factors to allow for a broader range of risk weights.

Specifically, the proposal would introduce the expanded risk-based approach for exposures to depository institutions, foreign banks, and credit unions; exposures to subordinated debt instruments, including those to GSEs; and real estate, retail, and corporate exposures. The proposal would also increase risk capture for certain off-balance sheet exposures through a new exposure methodology for commitments without pre-set limits and would modify the credit conversion factors applicable to commitments. Additionally, the proposal would introduce new definitions for defaulted exposures and defaulted real estate exposures.

Under the proposal, a banking organization would determine the risk-weighted asset amount for an on-balance sheet exposure by multiplying the exposure amount by the applicable risk weight, consistent with the method used under the current standardized approach. The on-balance sheet exposure amount would generally be the banking organization's carrying value[50] of the exposure, consistent with the value of the asset on the balance sheet as determined in accordance with GAAP, which is the same as under the current capital rule. For all assets other than AFS securities and purchased credit-deteriorated assets, the carrying value is not reduced by any associated credit loss allowance that is determined in accordance with GAAP. Using the value of an asset under GAAP to determine a banking organization's exposure amount would reduce burden and provide a consistent framework that can be easily applied across all banking

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[50] *Carrying value* under §__. 2 of the current capital rule means, with respect to an asset, the value of the asset on the balance sheet of the banking organization as determined in accordance with GAAP. For all assets other than available-for-sale debt securities or purchased credit deteriorated assets, the carrying value is not reduced by any associated credit loss allowance that is determined in accordance with GAAP. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC). The exposure amount arising from an OTC derivative contract; a repo-style transaction or an eligible margin loan; a cleared transaction; a default fund contribution; or a securitization exposure would be calculated in accordance with §§__. 113, 121, or 131 of the proposal, respectively, as described in sections III.C.4, II.C.5.b., and III.D. of this Supplementary Information.

organizations of the proposal because, in most cases, GAAP serve as the basis for the information presented in financial statements and regulatory reports.[51]

The proposal would group credit risk exposures into the following categories: sovereign exposures; exposures to certain supranational entities and multilateral development banks; exposures to GSEs; exposures to depository institutions, foreign banks, and credit unions; exposures to PSEs; real estate exposures; retail exposures; corporate exposures; defaulted exposures; exposures to subordinated debt instruments; and off-balance sheet exposures.

The proposed categories with amended risk-weight treatments relative to the current standardized approach include equity exposures to GSEs and exposures to subordinated debt instruments issued by GSEs; exposures to depository institutions, foreign banks, and credit unions; exposures to subordinated debt instruments; real estate exposures; retail exposures; corporate exposures; defaulted exposures; and some off-balance sheet exposures such as commitments. The proposed risk weight treatments for each of these categories are described in the following sections of this Supplementary Information.

a. Defaulted exposures

The proposal would introduce an enhanced definition of a defaulted exposure that would be broader than the current capital rule's definition of a defaulted exposure under subpart E. The proposed scope and criteria of the defaulted exposure category is intended to appropriately capture the elevated credit risk of exposures where the banking organization's reasonable expectation of repayment has been reduced, including exposures where the obligor is in default on an unrelated obligation. Under the proposal, a defaulted exposure would be any exposure that is a credit obligation and that meets the proposed criteria related to reduced expectation of

[51] *See* 12 U.S.C. 1831n.

repayment, and that is not an exposure to a sovereign entity,[52] a real estate exposure,[53] or a policy loan.[54] The proposal would define a credit obligation as any exposure where the lender but not the obligor is exposed to credit risk. In other words, for these exposures, the lender would have a claim on the obligor that does not give rise to counterparty credit risk[55] and would exclude derivative contracts, cleared transactions, default fund contributions, repo-style transactions, eligible margin loans, equity exposures, and securitization exposures.

For all other exposure categories (excluding an exposure to a sovereign entity, real estate exposure, a retail exposure, or a policy loan), the proposed definition of defaulted exposure would look to the performance of the borrower with respect to credit obligations to any creditor. Specifically, if the banking organization determines that an obligor meets any of the of the defaulted criteria for exposures that are not retail exposures, described further below, the proposal would require the banking organization to treat all exposures that are credit obligations of that obligor as defaulted exposures. Additionally, the proposal would differentiate the criteria for determining whether an exposure is a defaulted exposure between exposures that are retail exposures and those that are not.

Retail exposures are originated to individuals or small- and medium-sized businesses.

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[52] Under the proposal, the expanded risk-based approach would rely on the treatment of sovereign default in the current standardized approach in the capital rule. *See* 12 CFR 3.32(a)(6) (OCC); 12 CFR 217.32(a)(6) (Board); 12 CFR 324.32 (a)(6) (FDIC).

[53] For the treatment of defaulted real estate exposures, see section III.C.2.e.vii of this Supplementary Information.

[54] A policy loan is defined under §__.2 of the current capital rule to mean means a loan by an insurance company to a policy holder pursuant to the provisions of an insurance contract that is secured by the cash surrender value or collateral assignment of the related policy or contract. A policy loan includes: (1) A cash loan, including a loan resulting from early payment benefits or accelerated payment benefits, on an insurance contract when the terms of contract specify that the payment is a policy loan secured by the policy; and (2) An automatic premium loan, which is a loan that is made in accordance with policy provisions which provide that delinquent premium payments are automatically paid from the cash value at the end of the established grace period for premium payments. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[55] Counterparty credit risk is the risk that the counterparty to a transaction could default before the final settlement of the transaction where there is a bilateral risk of loss.

Evaluating whether a retail borrower has other exposures that are in default as defined by the proposal may be difficult to operationalize for banking organizations given many unique obligors. For other types of exposures that are not retail exposures, evaluating default at the obligor level is appropriate because those obligors are more likely to have additional credit obligations that are large and held by multiple banking organizations. Default on one of those credit obligations would be indicative of increased riskiness of the exposure held by a banking organization, and hence a banking organization should account for this in evaluating the risk profile of the borrower.

Under the proposal, for a retail exposure, a credit obligation would be considered a defaulted exposure if any of the following has occurred: (1) the exposure is 90 days past due or in nonaccrual status; (2) the banking organization has taken a partial charge-off, write-down of principal, or negative fair value adjustment on the exposure for credit-related reasons, until the banking organization has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure; or (3) a distressed restructuring of the exposure was agreed to by the banking organization, until the banking organization has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure as demonstrated by a sustained period of repayment performance, provided that a distressed restructuring includes the following made for credit-related reasons: forgiveness or postponement of principal, interest, or fees, term extension, or an interest rate reduction. A sustained period of repayment performance by the borrower is generally a minimum of six months in accordance with the contractual terms of the restructured exposure.

For exposures that are not retail exposures (excluding an exposure to a sovereign entity, a real estate exposure, or a policy loan), a credit obligation would be considered a defaulted exposure if either of the following has occurred: (1) the obligor has a credit obligation to the

banking organization that is 90 days or more past due[56] or in nonaccrual status; or (2) the banking organization determines that, based on ongoing credit monitoring, the obligor is unlikely to pay its credit obligations to the banking organization in full, without recourse by the banking organization. If a banking organization determines that an obligor meets these proposed criteria, the proposal would require the banking organization to treat all exposures that are credit obligations of that obligor as defaulted exposures.

For purposes of the second criterion, the proposal would require a banking organization to consider an obligor as unlikely to pay its credit obligations if any of the following criteria apply: (1) the obligor has any credit obligation that is 90 days or more past due or in nonaccrual status with any creditor; (2) any credit obligation of the obligor has been sold at a credit-related loss; (3) a distressed restructuring of any credit obligation of the obligor was agreed to by any creditor, provided that a distressed restructuring includes the following made for credit-related reasons: forgiveness or postponement of principal, interest, or fees, term extension or an interest rate reduction; (4) the obligor is subject to a pending or active bankruptcy proceeding; or (5) any creditor has taken a full or partial charge-off, write-down of principal, or negative fair value adjustment on a credit obligation of the obligor for credit-related reasons. Under the proposal, banking organizations are expected to conduct ongoing credit monitoring regarding relevant obligors. The proposal would require banking organizations to continue to treat an exposure as a defaulted exposure until the exposure no longer meets the definition or until the banking organization determines that the obligor meets the definition of investment grade[57] or the

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[56] Overdrafts are past due and are considered defaulted exposures once the obligor has breached an advised limit or been advised of a limit smaller than the current outstanding balance.

[57] Under §__.2 of the current capital rule, investment grade means that the entity to which the banking organization is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments for the projected life of the asset or exposure. Such an entity or reference entity has adequate capacity to meet financial commitments if the risk of its default is low and the full and timely repayment of principal and interest is expected. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

proposed definition of speculative grade.[58] The proposal would revise the definition of speculative grade, consistent with the current definition of investment grade, to allow the definition to apply to entities to which the banking organization is exposed through a loan or security. In addition, the proposal would make the same revision to the definition of sub-speculative grade.

A banking organization would assign a 150 percent risk weight to a defaulted exposure including any exposure amount remaining on the balance sheet following a charge-off, and any other non-retail exposure to the same obligor, to reflect the increased uncertainty as to the recovery of the remaining carrying value. The proposed risk weight is intended to reflect the impaired credit quality of defaulted exposures and to help ensure that banking organizations maintain sufficient regulatory capital for the increased probability of losses on these exposures. A banking organization may apply a risk weight to the guaranteed or secured portion of a defaulted exposure based on (1) the risk weight under §__.120 of the proposal if the guarantee or credit derivative meets the applicable requirements or (2) the risk weight under §__.121 of the proposal if the collateral meets the applicable requirements.

Question 13: How does the defaulted exposure definition compare with banking organizations' existing policies relating to the determination of the credit risk of a defaulted exposure and the creditworthiness of a defaulted obligor? What additional clarifications are necessary to determine the point at which retail and non-retail exposures should no longer be treated as defaulted exposures?

Question 14: What operational challenges, if any, would a banking organization face in identifying which exposures meet the proposed definition of defaulted exposure? In particular,

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[58] The proposal would revise the definition of speculative grade to mean that the entity to which a banking organization is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse economic conditions, such that should economic conditions deteriorate, the issuer or the reference entity would present an elevated default risk.

the agencies seek comment on the ability of a banking organization to obtain the necessary information to assess whether the credit obligations of a borrower to creditors other than the banking organization would meet the proposed criteria? What operational challenges, if any, would a banking organization face in identifying whether obligors on non-retail credit obligations are subject to a pending or active bankruptcy proceeding?

Question 15: For the purposes of retail credit obligations, the agencies invite comment on the appropriateness of including a borrower's bankruptcy as a criterion for a defaulted exposure. What operational challenges, if any, would a banking organization face in identifying whether obligors on retail credit obligations are subject to a pending or active bankruptcy proceeding? To what extent would criteria (1) through (3) in the proposed defaulted exposure definition for retail exposures sufficiently capture the risk of a borrower involved in a bankruptcy proceeding?

Question 16: What alternatives to the proposed treatment should the agencies consider while maintaining a risk-sensitive treatment for credit risk of a defaulted borrower? For example, what would be the advantages and disadvantages of limiting the defaulted borrower scope to obligations of the borrower with the banking organization?

b. Exposures to government-sponsored enterprises

The proposal would assign a 20 percent risk weight to GSE[59] exposures that are not equity exposures, securitization exposures or exposures to a subordinated debt instrument issued by a GSE, consistent with the current standardized approach.[60] Under the proposal, an exposure

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[59] Government-sponsored enterprise (GSE) under §__. 2 of the current capital rule means an entity established or chartered by the U.S. government to serve public purposes specified by the U.S. Congress but whose debt obligations are not explicitly guaranteed by the full faith and credit of the U.S. government. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[60] Similar to the treatment of senior debt exposures to GSEs and GSE exposures that are not equity exposures or exposures to a subordinated debt instrument issued by a GSE, the proposal would apply the same 20 percent risk weight to all exposures to FHLB or Farmer Mac, including equity exposures and exposures to subordinated debt instruments, which continues the treatment under the current standardized approach.

to the common stock issued by a GSE would be an equity exposure. An exposure to the preferred stock issued by a GSE would be an equity exposure or an exposure to a subordinated debt instrument, depending on the contractual terms of the preferred stock instrument. Equity exposures to a GSE must be assigned a risk-weighted asset amount as calculated under §§__.140 through __.142 of subpart E. An exposure to a subordinated debt instrument issued by a GSE must be assigned a 150 percent risk weight, unless issued by a FHLB or Farmer Mac. As discussed later in sections III.E. and III.C.2.d. of this Supplementary Information, equity exposures and exposures to subordinated debt instruments would generally be subject to an increased risk-based capital requirement to reflect their heightened risk relative to exposures to senior debt.

c. Exposures to depository institutions, foreign banks, and credit unions

The proposal would define the scope of exposures to depository institutions, foreign banks, and credit unions in a manner that is consistent with the definitions and scope of exposures covered under the current capital rule. Under the proposal, a bank exposure would mean an exposure (such as a receivable, guarantee, letter of credit, loan, OTC derivative contract, or senior debt instrument) to any depository institution, foreign bank, or credit union.[61]

The proposed treatment for bank exposures supports the simplicity, transparency, and consistency objectives of the proposal in a manner that is appropriately risk sensitive. The proposal would provide three categories for bank exposures that are ranked from the highest to the lowest in terms of creditworthiness: Grade A, Grade B, and Grade C. The assignment of the bank exposure category would be based on the obligor depository institution, foreign bank, or

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[61] Under §__.2 of the current capital rule, a depository institution means a depository institution as defined in section 3 of the Federal Deposit Insurance Act, a foreign bank means a foreign bank as defined in section 211.2 of the Federal Reserve Board's Regulation K (12 CFR 211.2) (other than a depository institution), and a credit union means an insured credit union as defined under the Federal Credit Union Act (12 U.S.C. 1751 *et seq.*). *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC). Exposures to other financial institutions, such as bank holding companies, savings and loans holding companies, and securities firms, generally would be considered corporate exposures. *See* 78 FR 62087 (October 11, 2013).

credit union. As outlined below, the proposal would rely on the current capital rule's definition of investment grade and the proposed definition of speculative grade for differentiating the credit risk of bank exposures. In addition, the proposal would incorporate publicly disclosed capital levels to differentiate the financial strength of a depository institution, foreign bank, or credit union in a manner that is both objective and transparent to supervisors and the public.

More specifically, a Grade A bank exposure would mean a bank exposure for which the obligor depository institution, foreign bank, or credit union (1) is investment grade, and (2) whose most recent publicly disclosed capital ratios meet or exceed the higher of: (a) the minimum capital requirements and any additional amounts necessary to not be subject to limitations on distributions and discretionary bonus payments under the capital rules established by the prudential supervisor of the depository institution, foreign bank, or credit union, and (b) if applicable, the capital ratio requirements for the well-capitalized category under the agencies' prompt corrective action framework,[62] or under similar rules of the National Credit Union Administration.[63] For example, an exposure to an investment grade depository institution could qualify as a Grade A bank exposure if the depository institution was not subject to limitations on distributions and discretionary bonus payments under the capital rules and had risk-based capital ratios that met the well capitalized thresholds under the agencies' prompt corrective action framework. Further, a bank exposure to a depository institution that had opted into the community bank leverage ratio (CBLR) framework and is investment grade would be considered to be a Grade A bank exposure, even if the obligor depository institution were in the grace period under the CBLR framework.[64] Under the proposal, a depository institution that uses the CBLR

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[62] The capital ratios used for this determination are the ratios on the depository institution's most recent quarterly Consolidated Report of Condition and Income (Call Report).

[63] *See* 12 CFR part 702 (National Credit Union Administration).

[64] *See* 12 CFR 3.12(a)(1) (OCC); 12 CFR 217.12(a)(1) (Board); 12 CFR 324.12(a)(1) (FDIC).

framework would not be required to calculate or disclose risk-based capital ratios for purposes of qualifying as a Grade A bank exposure.

A Grade B bank exposure would mean a bank exposure that is not a Grade A bank exposure and for which the obligor depository institution, foreign bank, or credit union (1) is speculative grade or investment grade, and (2) whose most recent publicly disclosed capital ratios meet or exceed the higher of: (a) the applicable minimum capital requirements under capital rules established by the prudential supervisor of the depository institution, foreign bank, or credit union, and (b) if applicable, the capital ratio requirements for the adequately-capitalized category[65] under the agencies' prompt corrective action framework,[66] or under similar rules of the National Credit Union Administration.[67]

For a foreign bank to qualify as a Grade A or Grade B bank exposure, the proposal would require the applicable capital standards imposed by the home country supervisor to be consistent with international capital standards issued by the Basel Committee.

A Grade C bank exposure would mean a bank exposure that does not qualify as a Grade A or Grade B bank exposure. For example, a bank exposure would be a Grade C bank exposure if the obligor depository institution, foreign bank, or credit union has not publicly disclosed its capital ratios within the last six months. In addition, an exposure would be a Grade C bank exposure if the external auditor of the depository institution, foreign bank, or credit union has issued an adverse audit opinion or has expressed substantial doubt about the ability of the depository institution, foreign bank, or credit union to continue as a going concern within the previous 12 months.

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[65] *See* 12 CFR 6.4(b)(2) (OCC); 12 CFR 208.43(b)(2) (Board); 12 CFR 324.403(b)(2) (FDIC).

[66] The capital ratios used for this determination are the ratios on the depository institution's most recent quarterly Call Report.

[67] *See* 12 CFR part 702 (National Credit Union Administration).

Under the proposal, a foreign bank exposure that is a Grade A or Grade B bank exposure and is a self-liquidating, trade-related contingent item that arises from the movement of goods and that has a maturity of three months or less may be assigned a risk weight that is lower than the risk weight applicable to other exposures to the same foreign bank. The proposed approach to providing a preferential risk weight for short-term self-liquidating, trade-related contingent items would be consistent with the current standardized approach.

The proposal would also address the risk that capital and foreign exchange controls imposed by a sovereign entity in which a foreign bank is located could prevent or materially impede the ability of the foreign bank to convert its currency to meet its obligations or transfer funds. The proposal would, therefore, provide a risk weight floor for foreign bank exposures based on the risk weight applicable to a sovereign exposure for the jurisdiction where the foreign bank is incorporated when (1) the exposure is not in the local currency of the jurisdiction where the foreign bank is incorporated; or (2) the exposure to a foreign bank branch that is not in the local currency of the jurisdiction in which the foreign branch operates (sovereign risk-weight floor).[68] The risk weight floor would not apply to short-term self-liquidating, trade-related contingent items that arise from the movement of goods.

As provided in Table 1, the proposed risk weights for bank exposures generally would range from 40 percent to 150 percent.

Table 1 — Proposed Risk Weights for Bank Exposures

	Grade A Bank Exposure	Grade B Bank Exposure	Grade C Bank Exposure
Base risk weight	40%	75%	150%
Risk weight for a foreign bank exposure that is a self-liquidating, trade-related contingent item that arises from the movement of goods and that has a maturity of three months or less	20%	50%	150%

[68] *See* §__.111 for the proposed sovereign risk-weight table, which is identical to Table 1 to §__.32 in the current capital rule.

Question 17: What are the advantages and disadvantages of assigning a range of risk weights based on the bank's creditworthiness? What alternatives, if any, should the agencies consider, including to address potential concerns around procyclicality?

Question 18: What are the advantages and disadvantages of incorporating specific capital levels in the determination of each of the three categories of bank exposures? What, if any, other risk factors should the banking agencies consider to differentiate the credit risk of bank exposures? What concerns, if any, could limitations on available information about foreign banks raise in the context of determining the appropriate risk weights for exposures to such banks and how should the agencies consider addressing such concerns?

Question 19: What is the impact of limiting the lower risk weight for self-liquidating, trade-related contingent items that arise from the movement of goods to those with a maturity of three months or less? What would be the advantages and disadvantages of expanding this risk weight treatment to include such exposures with a maturity of six months or less? What would be the advantages and disadvantages of limiting this reduced risk weight treatment to only foreign banks whose home country has an Organization for Economic Cooperation and Development (OECD) Country Risk Classification (CRC)[69] of 0, 1, 2, or 3, or is an OECD member with no CRC, consistent with the current standardized approach?[70]

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[69] Under §__. 2 of the current capital rule, a *Country Risk Classification (CRC)* for a sovereign means the most recent consensus CRC published by the Organization for Economic Cooperation and Development (OECD) as of December 31st of the prior calendar year that provides a view of the likelihood that the sovereign will service its external debt. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC). For more information on the OECD country risk classification methodology, see OECD, ''Country Risk Classification,'' available at https://www.oecd.org/trade/topics/export-credits/arrangement-and-sector-understandings/financing-terms-and-conditions/country-risk-classification/.

[70] The CRCs reflect an assessment of country risk, used to set interest rate charges for transactions covered by the OECD arrangement on export credits. The CRC methodology classifies countries into one of eight risk categories (0–7), with countries assigned to the zero category having the lowest possible risk assessment and countries assigned to the 7 category having the highest possible risk assessment. *See* 78 FR 62088 (October 11, 2018).

d. Subordinated debt instruments

The proposal would introduce a definition and an explicit risk weight treatment for exposures in the form of subordinated debt instruments. The proposed definition of a subordinated debt instrument would capture exposures that are financial instruments and present heightened credit risk but are not equity exposures, including: (1) any preferred stock that does not meet the definition of an equity exposure, (2) any covered debt instrument, including a TLAC debt instrument, that is not deducted from regulatory capital, and (3) any debt instrument that qualifies as tier 2 capital under the current capital rule or that would otherwise be treated as regulatory capital by the primary Federal supervisor of the issuer and that is not deducted from regulatory capital.

The proposal would define a subordinated debt instrument as (1) a debt security that is a corporate exposure, a bank exposure, or an exposure to a GSE, including a note, bond, debenture, similar instrument, or other debt instrument as determined by the primary Federal supervisor, that is subordinated by its terms, or separate intercreditor agreement, to any creditor of the obligor, or (2) preferred stock that is not an equity exposure. For these purposes, a debt security would be subordinated if the documentation creating or evidencing such indebtedness (or a separate intercreditor agreement) provides for any of the issuer's other creditors to rank senior to the payment of such indebtedness in the event the issuer becomes the subject of a bankruptcy or other insolvency proceeding, with the scope of applicable bankruptcy or other insolvency proceedings being defined in the applicable documentation. The scope of the definition of a subordinated debt instrument is meant to capture the types of entities that issue subordinated debt instruments and for which the level of subordination is a meaningful determinant of the credit risk of the instrument.

In addition, even though the provision of collateral typically reduces the risk of loss on indebtedness, the proposal includes secured as well as unsecured subordinated debt securities in the scope of subordinated debt instruments, since the effect of subordination may result in the

collateral providing little or no real value to the subordinated debt holder in the event the issuer becomes to subject of a bankruptcy or other insolvency proceeding. A subordinated debt instrument would not include any loan, including a syndicated loan, a debt security issued by a sovereign, public sector entity, multilateral development bank, or supranational entity, or a security that would be captured under the securitization framework. Due to the contractual obligations and structures associated with subordinated debt instruments, such exposures generally pose increased risk relative to a senior loan, including a syndicated loan, or a senior debt security to the same entity because investments in subordinated debt instruments are usually considered junior creditors and subordinate to obligations specified in the definition of senior debt in the document governing the junior creditors' obligations.

The proposal generally would apply a 150 percent risk weight for exposures that meet the definition of a subordinated debt instrument, including any preferred stock that is not an equity exposure, and any tier 2 instrument or covered debt instrument that is not deducted from regulatory capital, including TLAC debt instruments, and any debt instrument that would otherwise be treated as regulatory capital by the primary Federal supervisor of the issuer and that is not deducted from regulatory capital.[71]

The instruments included in the scope of subordinated debt instruments present a greater risk of loss to an investing banking organization relative to more senior debt exposures to the same issuer because subordinated debt instruments have a lower priority of repayment in the event of default. As a result, the proposal would apply an increased risk weight to recognize this increase in loss given default. Since a covered debt instrument that qualifies as a TLAC debt

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[71] Covered debt instruments are subject to deduction by banking organizations subject to Category I or II capital standards similar to the deduction framework for exposures to capital instruments. *See* 12 CFR 3.22(c) (OCC); 12 CFR 217.22(c) (Board); 12 CFR 324.22(c) (FDIC). As noted in section III.B.3. of this Supplementary Information, under the proposal, this deduction framework will be expanded to banking organizations subject to Category III or IV capital standards. As discussed in section III.C.2.b. above, exposures to subordinated debt instruments issued by an FHLB or by Farmer Mac would be assigned a 20 percent risk weight.

instrument shares similar risk characteristics with a subordinated debt instrument, the proposal would require banking organizations to apply the same 150 percent risk weight to any such exposures that are not otherwise deducted from regulatory capital.

Question 20: The agencies seek comment on the scope of the proposed definition of a subordinated debt instrument. What, if any, operational challenges might the proposed definition pose for banking organizations, such as identifying the level of subordination in debt securities or similar instruments, and how should the agencies consider addressing such challenges?

Question 21: Would expanding the definition of a subordinated debt instrument to include loans that are not securities more appropriately capture the types of exposures that pose elevated risk and, if so, why?

Question 22: The agencies seek comment on applying a heightened 150 percent risk weight to exposures to subordinated debt instruments issued by GSEs. What would be the advantages and disadvantages of this proposed regulatory capital requirement? Would there be any challenges for banking organizations to be able to identify which GSE exposures would be subject to the 150 percent risk weight? Please provide specific examples of any challenges and supporting data.

e. Real estate exposures

The proposal would define a real estate exposure as an exposure that is neither a sovereign exposure nor an exposure to a PSE and that is (1) a residential mortgage exposure, (2) secured by collateral in the form of real estate,[72] (3) a pre-sold construction loan,[73] (4) a statutory

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[72] For purposes of the proposal, "secured by collateral in the form of real estate" should be interpreted in a manner that is consistent with the current definition for "a loan secured by real estate" in the Call Report and Consolidated Financial Statements for Holding Companies (FR Y–9C) instructions.

[73] The Resolution Trust Corporation Refinancing, Restructuring, and Improvement Act of 1991 (RTCRRI Act) mandates that each agency provide in its capital regulations (i) a 50 percent risk weight for certain one-to-four-family residential pre-sold construction loans that meet specific statutory criteria in the RTCRRI Act and any other underwriting criteria imposed by the agencies, and (ii) a 100 percent risk weight for one-to-four-family residential pre-sold

multifamily mortgage,[74] (5) a high volatility commercial real estate (HVCRE) exposure,[75] or (6) an acquisition, development, or construction (ADC) exposure. A pre-sold construction loan, a statutory multifamily mortgage, and an HVCRE exposure are collectively referred to as statutory real estate exposures for purposes of this Supplementary Information. Under the proposal, the risk weight treatment for statutory real estate exposures that are not defaulted real estate exposures would be consistent with the current standardized approach.

The proposal would differentiate the credit risk of real estate exposures that are not statutory real estate exposures by introducing the following categories: regulatory residential real estate exposures, regulatory commercial real estate exposures, ADC exposures, and other real estate exposures. The applicable risk weight for these non-statutory real estate exposures would depend on (1) whether the real estate exposure meets the definitions of regulatory residential real estate exposure, regulatory commercial real estate exposure, ADC exposure, or other real estate exposure, described below; (2) whether the repayment of such exposures is dependent on the cash flows generated by the underlying real estate (such as rental properties, leased properties, hotels); and (3) in the case of regulatory residential or regulatory commercial real estate exposures, the loan-to-value (LTV) ratio of the exposure.

These proposed criteria for differentiating the credit risk of real estate exposures would be based on information already collected and maintained by a banking organization as part of its mortgage lending activities and underwriting practices. Under the proposal, regulatory residential

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construction loans for residences for which the purchase contract is cancelled. *See* 12 U.S.C. 1831n, note.

[74] The RTCRRI Act mandates that each agency provide in its capital regulations a 50 percent risk weight for certain multifamily residential loans that meet specific statutory criteria in the RTCRRI Act and any other underwriting criteria imposed by the agencies. *See* 12 U.S.C. 1831n, note.

[75] Section 214 of the Economic Growth, Regulatory Relief, and Consumer Protection Act imposes certain requirements on high volatility commercial real estate acquisition, development, or construction loans. Section 214 of Pub. L. No. 115-174, 132 Stat. 1296 (2018). *See* 12 U.S.C. 1831bb.

and regulatory commercial real estate exposures would be required to meet prudential criteria that are intended to reduce the likelihood of default relative to other real estate exposures. The criteria in these definitions generally align with existing Interagency Guidelines for Real Estate Lending Policies (real estate lending guidelines).[76] Real estate loans in which repayment is dependent on the cash flows generated by the real estate can expose a banking organization to elevated credit risk relative to comparable exposures[77] as the borrower may be unable to meet its financial commitments when cash flows from the property decrease, such as when tenants default or properties are unexpectedly vacant.[78] In addition, LTV ratios can be a useful risk indicator because the amount of a borrower's equity in a real estate property correlates inversely with default risk and provides banking organizations with a degree of protection against losses.[79] Therefore, exposures with lower LTV ratios generally would receive a lower risk weight than comparable real estate exposures with higher LTV ratios under the proposal.[80] The following chart illustrates how the proposal would require a banking organization to assign risk weights to various real estate exposures, as described in more detail below:

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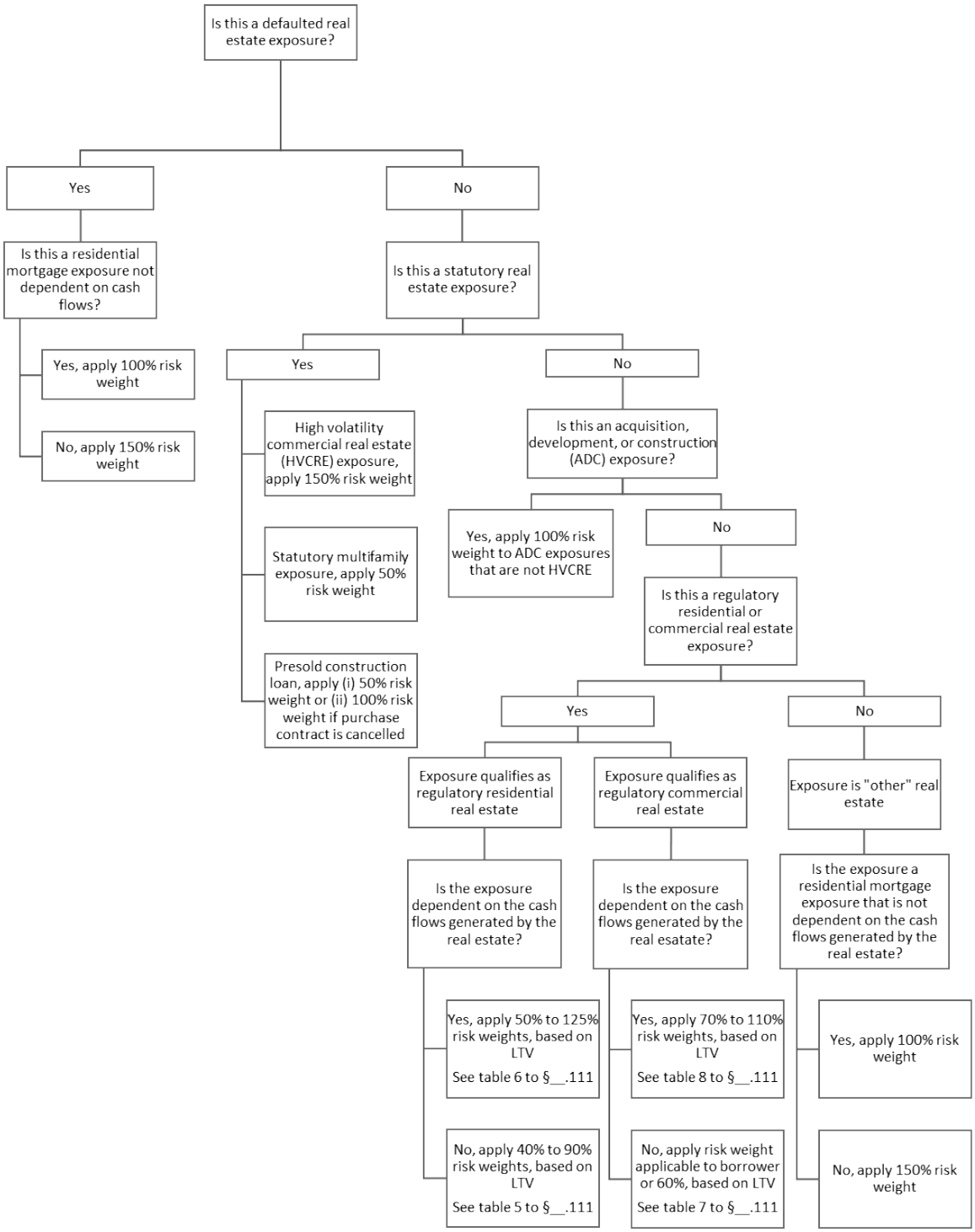
[76] *See* 12 CFR part 34, appendix A to subpart D (OCC); 12 CFR part 208, appendix C (Board); 12 CFR part 365, appendix A (FDIC).

[77] Comparable exposures include loans secured by real estate where the repayment of the loan depends on non-real estate cash flows such as owner-occupied properties, revenue from manufacturing or retail sales.

[78] *See* Board of Governors of the Federal Reserve System, *Financial Stability Report* (November 2020), https://www.federalreserve.gov/publications/files/financial-stability-report-20201109.pdf.

[79] *Id.*, at 30.

[80] The proposed LTV criterion measures the borrower's use of debt (leverage) to finance a real estate purchase, with higher LTV reflecting greater leverage and thus higher credit risk.



i. *Regulatory residential real estate exposures*

Under the proposal, a regulatory residential real estate exposure would be defined as a first-lien residential mortgage exposure (as defined in §__.2) that is not a defaulted real estate exposure (as defined in §__. 101), an ADC exposure, a pre-sold construction loan, a statutory

multifamily mortgage, or an HVCRE exposure, provided the exposure meets certain prudential criteria.[81] First, the loan would be required to be secured by a property that is either owner-occupied or rented. Second, the exposure would be required to be made in accordance with prudent underwriting standards, including standards relating to the loan amount as a percent of the value of the property.[82] Third, during the underwriting process, the banking organization would be required to apply underwriting policies that account for the ability of the borrower to repay based on clear and measurable underwriting standards that enable the banking organization to evaluate these credit factors. The agencies would expect these underwriting standards to be consistent with the agencies' safety and soundness and real estate lending guidelines.[83] Fourth, the property must be valued in accordance with the proposed requirements included in the proposed LTV ratio calculation, as discussed below.

ii. *Regulatory commercial real estate exposures*

The proposal would define a regulatory commercial real estate exposure as a real estate exposure that is not a regulatory residential real estate exposure, a defaulted real estate exposure, an ADC exposure, a pre-sold construction loan, a statutory multifamily mortgage, or an HVCRE exposure, provided the exposure meets several prudential criteria. First, the exposure must be primarily secured by fully completed real estate. Second, the banking organization must hold a first priority security interest in the property that is legally enforceable in all relevant

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[81] Consistent with the standardized approach in the capital rule, under the proposal, when a banking organization holds the first-lien and junior-lien(s) residential mortgage exposures and no other party holds an intervening lien, the banking organization must combine the exposures and treat them as a single first-lien regulatory residential real estate exposure, if the first-lien meets all of the criteria for a regulatory residential real estate exposure.

[82] For more information on value of the property, see section III.C.2.e.iv of this Supplementary Information.

[83] *See* 12 CFR part 30, appendix A (OCC); 12 CFR part 208, appendix C (Board); 12 CFR parts 364 and 365 (FDIC).

jurisdictions.[84] Third, the exposure must be made in accordance with prudent underwriting standards, including standards relating to the loan amount as a percent of the value of the property. Fourth, during the underwriting process, the banking organization must apply underwriting policies that account for the ability of the borrower to repay in a timely manner based on clear and measurable underwriting standards that enable the banking organization to evaluate these credit factors. The agencies would expect that these underwriting standards would be consistent with the agencies' safety and soundness and real estate lending guidelines. Finally, the property must be valued in accordance with the proposed requirements included in the proposed LTV ratio calculation, as discussed below.

Question 23: The agencies seek comment on the application of prudent underwriting standards in the proposed definitions of regulatory residential and regulatory commercial real estate exposures, including standards relating to the loan amount as a percent of the value of the property. What, if any, further clarity is needed and why?

iii. *Exposures that are dependent on the cash flows generated by the real estate*

As noted above, the proposal would differentiate the risk weight of regulatory residential, regulatory commercial, and other real estate exposures based on whether the borrower's ability to service the loan is dependent on cash flows generated by the real estate. Exposures that are dependent on the cash flows generated by real estate to repay the loan can be affected by local market conditions and present elevated credit risk relative to exposures that are serviceable by the income, cash, or other assets of the borrower. For example, an increase in the supply of competitive rental property can lower demand and suppress cash flows needed to support repayment of the loan.

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[84] When the banking organization also holds a junior security interest in the same property and no other party holds an intervening security interest, the banking organization must treat the exposures as a single first-lien regulatory commercial real estate exposure, if the first-lien meets all of the criteria for a regulatory commercial real estate exposure.

If the underwriting process at origination of the real estate exposure considers any cash flows generated by the real estate securing the loan, such as from lease or rental payments or from the sale of the real estate as a source of repayment, then the exposure would meet the proposal's definition of dependent on the cash flows generated by the real estate. Evaluating whether repayment of the exposure is dependent on cash flows generated from the real estate is a conservative and straightforward approach for differentiating the credit risk of real estate exposures. Given their increased credit risk, the proposal would assign relatively higher risk weights to exposures that are dependent on any proceeds or income generated from the real estate itself to service the debt.

Under the proposal, additional loan characteristics can affect whether an exposure would be considered dependent on cash flows from the real estate. The proposal's definition of dependence on the cash flows generated by the real estate would exclude any residential mortgage exposure that is secured by the borrower's principal residence as such mortgage exposures present reduced credit risk relative to real estate exposures that are secured by the borrower's non-principal residence.[85] For residential properties that are not the borrower's principal residence, including vacation homes and other second homes, such properties would be considered dependent on the cash flows generated by the real estate unless the banking organization has relied solely on the borrower's personal income and resources, rather than rental income (or resale or refinance of the property), to repay the loan.

For regulatory commercial real estate exposures, the applicable risk weights similarly would be determined based on whether repayment is dependent on the cash flows generated by the real estate. For example, the agencies would expect that rental office buildings, hotels, and

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[85] For example, if (1) a borrower purchases a two-unit property with the intention of making one unit their principal residence, (2) the borrower intends to rent out the second unit to a third party, and (3) the banking organization considered the cash flows from the rental unit as a source of repayment, the exposure would not meet the proposal's definition of dependent on the cash flows generated by the real estate because the property securing the exposure is the borrower's principal residence.

shopping centers leased to tenants are dependent on the cash flows generated by the real estate for repayment of the loan. In the case of a loan to a borrower to purchase or refinance real estate where the borrower will operate a business such as a retail store or factory and rely solely on the revenues from the business or resources of the borrower other than rental, resale, or other income from the real estate for repayment, the exposure would not be considered dependent on the cash flows generated by the real estate under the proposal. Similarly, a loan to the owner-operator of a farm would not be considered dependent on the cash flows generated by the real estate under the proposal if the borrower will rely solely on the sale of products from the farm or other resources of the borrower other than rental, resale, or other income from the real estate for repayment.

Question 24: What, if any, alternative quantitative threshold should the agencies consider in determining whether a real estate exposure is dependent on cash flows from the real estate (for example, a threshold between 5 and 50 percent of the income)? Further, if the agencies decide to adopt an alternative quantitative threshold, either for regulatory residential or regulatory commercial real estate exposures, how should it be calibrated for regulatory residential and separately for regulatory commercial real estate exposures and what would be the appropriate calibration levels for each? Please provide specific examples of any alternatives, including calculations and supporting data.

Question 25: The agencies seek feedback on the proposed treatment of exposures secured by second homes, including vacation homes where repayment of the loan is not dependent on cash flows. What are the advantages and disadvantages of treating such exposures as regulatory residential real estate exposures? Would a different category be more appropriate for these exposures given their risk profile, and if so, describe which other category(s) of real estate exposures would be most similar and why. Please provide supporting data in your responses.[86]

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[86] *See* Garcia, Daniel (2019). "Second Home Buyers and the Housing Boom and Bust," Finance and Economics Discussion Series 2019-029. Washington: Board of Governors of the Federal Reserve System, https://www.federalreserve.gov/econres/feds/files/2019029pap.pdf.

Question 26: The agencies seek comment on the treatment of residential mortgage exposures where repayment is dependent on cash flows from overnight or short-term rentals, as such cash flows may not be as reliable as a source of repayment as cash flows from long-term rental contracts or the borrower's other income sources. What would be the advantages or disadvantages of treating residential real estate exposures dependent on cash flows from short-term rentals similar to commercial real estate exposures dependent on cash flows?

iv. *Calculating the loan-to-value ratio*

The proposal would require a banking organization also to use LTV ratios to assign a risk weight to a regulatory residential or regulatory commercial real estate exposure. Under the proposal, LTV ratio would be calculated as the extension of credit divided by the value of the property. The proposed calculation of LTV ratio would be generally consistent with the real estate lending guidelines except with respect to the recognition of private mortgage insurance, as described below.

The extension of credit would mean the total outstanding amount of the loan including any undrawn committed amount of the loan. The total outstanding amount of the loan would reflect the current amortized balance as the loan pays down, which may allow a banking organization to assign a lower risk weight during the life of the loan. Similarly, if a loan balance increases, a banking organization would need to increase the risk weight if the increased LTV would result in a higher risk weight. For purposes of the LTV ratio calculation, a banking organization would calculate the loan amount without making any adjustments for credit loss provisions or private mortgage insurance. Not recognizing private mortgage insurance would be consistent with the current capital rule's definition of eligible guarantor, which does not recognize an insurance company engaged predominately in the business of providing credit protection (such as a monoline bond insurer or re-insurer) and also reflects the performance of private mortgage insurance during times of stress in the housing market. The agencies do not intend the proposed risk weights to be applied to LTVs that include private mortgage insurance.

The value of the property would mean the value at the time of origination of all real estate properties securing or being improved by the extension of credit, plus the fair value of any readily marketable collateral and other acceptable collateral, as defined in the real estate lending guidelines, that secures the extension of credit.

For exposures subject to the Real Estate Lending, Appraisal Standards, and Minimum Requirements for Appraisal Management Companies or Appraisal Standards for Federally Related Transactions (combined, the appraisal rule),[87] the market value of real estate would be a valuation that meets all requirements of that rule. For exposures not subject to the appraisal rule, the proposal would require that (1) the market value of real estate be obtained from an independent valuation of the property using prudently conservative valuation criteria and (2) the valuation be done independently from the banking organization's origination and underwriting process. Most real estate exposures held by insured depository institutions are subject to the agencies' appraisal rule, which also provides for evaluations in some cases, and provides for certain exceptions, such as where a lien on real estate is taken as an abundance of caution. To help ensure that the value of the real estate is determined in a prudently conservative manner, the proposal would also provide that, for exposures not subject to the appraisal rule, the valuations of the real estate properties would need to exclude expectations of price increases and be adjusted downward to take into account the potential for the current market prices to be significantly above the values that would be sustainable over the life of the loan.

In addition, when the real estate exposure finances the purchase of the property, the value would be the lower of (1) the actual acquisition cost of the property and (2) the market value obtained from either (i) the valuation requirements under the appraisal rule (if applicable) or (ii) as described above, an independent valuation using prudently conservative valuation criteria that is separate from the banking organization's origination and underwriting process. Supervisory

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[87] *See* 12 CFR part 34, subpart C or subpart G (OCC); 12 CFR part 208, subpart E or 12 CFR part 225, subpart G (Board); 12 CFR part 323 (FDIC).

experience has shown that market values of real estate properties can be temporarily impacted by local market forces and using a value figure including such volatility would not reflect the long-term value of the real estate. Therefore, the proposal would require that the value used for the LTV calculation be an amount that is more conservative than the market value of the property.

Using the value of the property at origination when calculating the LTV ratio protects against volatility risk or short-term market price inflation. For purposes of the LTV ratio calculation, the proposal would require banking organizations to use the value of the property at the time of origination, except under the following circumstances: (1) the banking organization's primary Federal supervisor requires the banking organization to revise the property value downward; (2) an extraordinary event occurs resulting in a permanent reduction of the property value (for example, a natural disaster); or (3) modifications are made to the property that increase its market value and are supported by an appraisal or independent evaluation using prudently conservative criteria. These proposed exceptions are intended to constrain the use of values other than the value of the property at loan origination only to exceptional circumstances that are sufficiently material to warrant use of a revised valuation.

For purposes of determining the value of the property, the proposal would use the definition of readily marketable collateral and other acceptable collateral consistent with the real estate lending guidelines. Therefore, readily marketable collateral would mean insured deposits, financial instruments, and bullion in which the banking organization has a perfected security interest. Financial instruments and bullion would need to be salable under ordinary circumstances with reasonable promptness at a fair market value determined by quotations based on actual transactions, on an auction or similarly available daily bid and ask price market. Readily marketable collateral should be appropriately discounted by the banking organization consistent with the banking organization's usual practices for making loans secured by such collateral. Other acceptable collateral would mean any collateral in which the banking organization has a perfected security interest that has a quantifiable value and is accepted by the

banking organization in accordance with safe and sound lending practices. Other acceptable collateral should be appropriately discounted by the banking organization consistent with the banking organization's usual practices for making loans secured by such collateral. Under the proposal, other acceptable collateral would include, among other items, unconditional irrevocable standby letters of credit for the benefit of the banking organization. The reasonableness of a banking organization's underwriting criteria would be reviewed through the examination and supervisory process to help ensure its real estate lending policies are consistent with safe and sound banking practices.

Question 27: What are the benefits and drawbacks of allowing readily marketable collateral and other acceptable collateral to be included in the value for purposes of calculating the LTV ratio? What are the advantages and disadvantages of providing specific discount factors to the value of acceptable collateral for purposes of calculating the LTV ratio such as the standard supervisory market price volatility haircuts contained in §__.121 of the proposed rule? What alternatives should the agencies consider? Please provide specific examples and supporting data.

v. *Risk weights for regulatory residential real estate exposures*

Under the proposal, a banking organization would assign a risk weight to a regulatory residential real estate exposure based on the exposure's LTV ratio and whether the exposure is dependent on the cash flows generated by the real estate, as reflected in Tables 2 and 3 below. LTV ratios and dependence on cash flows generated by the real estate would factor into the risk-weight treatment for real estate exposures under the proposal because these risk factors can be determinants of credit risk for real estate exposures. The proposed corresponding risk weights in

each LTV ratio category are intended to appropriately reflect differences in the credit risk of these exposures. The risk weights that would apply under the proposal are provided below.[88]

Table 2: Proposed Risk Weights for Regulatory Residential Real Estate Exposures That Are Not Dependent on the Cash Flows of the Real Estate

	LTV ratio ≤ 50%	50% < LTV ratio ≤ 60%	60% < LTV ratio≤ 80%	80% < LTV ratio ≤ 90%	90% < LTV ratio ≤ 100%	LTV ratio > 100%
Risk weight	40%	45%	50%	60%	70%	90%

Table 3: Proposed Risk Weights for Regulatory Residential Real Estate Exposures That Are Dependent on the Cash Flows of the Real Estate

	LTV ratio ≤ 50%	50% < LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	80% < LTV ratio ≤ 90%	90% < LTV ratio ≤ 100%	LTV ratio > 100%
Risk weight	50%	55%	65%	80%	95%	125%

While LTV ratios and dependency upon cash flows of the real estate are useful risk indicators, the agencies recognize that banking organizations consider a variety of factors when underwriting a residential real estate exposure and assessing a borrower's ability to repay. For example, a banking organization may consider a borrower's current and expected income, current and expected cash flows, net worth, other relevant financial resources, current financial obligations, employment status, credit history, or other relevant factors during the underwriting process. The agencies are supportive of home ownership and do not intend the proposal to diminish home affordability or homeownership opportunities, including for low- and moderate-income (LMI) home buyers or other historically underserved markets. The agencies are particularly interested in whether the proposed framework for regulatory residential real estate exposures should be modified in any way to avoid unintended impacts on the ability of otherwise credit-worthy borrowers who make a smaller down payment to purchase a home. For example, the agencies are considering whether a 50 percent risk weight would be appropriate for these

[88] The risk weight assigned to loans does not impact the appropriate treatment of loans under the agencies' other regulations and guidance, such as the supervisory LTV limits under the real estate lending guidelines.

loans, to the extent they are originated in accordance with prudent underwriting standards and originated through a home ownership program that the primary Federal regulatory agency determines provides a public benefit and includes risk mitigation features such as credit counseling and consideration of repayment ability.

Question 28: The agencies seek comment on how the proposed treatment of regulatory residential real estate exposures will impact home affordability and home ownership opportunities, particularly for LMI borrowers or other historically underserved markets. What are the advantages and disadvantages of an alternative treatment that would assign a 50 percent risk weight to mortgage loans originated in accordance with prudent underwriting standards and originated through a home ownership program that the primary Federal regulatory agency determines provides a public benefit and includes risk mitigation features such as credit counseling and consideration of repayment ability? What, if any, additional or alternative risk indicators should the agencies consider, besides loan-to-value or dependency upon cash flow for risk-weighting regulatory residential real estate exposures? Please provide specific examples of mortgage lending programs where such factors were the basis for underwriting the loans and the historical repayment performance of the loans in such programs. Please comment on whether these risk indicators are already collected and maintained by banking organizations as part of their mortgage lending activities and underwriting practices.

In addition, the agencies considered adopting an alternative risk-based capital treatment in subpart E that does not rely on loan-to-value ratios or dependency upon cash flow generated by the real estate. One such alternative would be to incorporate the same treatment for residential mortgage exposures as found in the current U.S. standardized risk-based capital framework. Under this alternative, the risk-based capital treatment for residential mortgage exposures in subpart D of the capital rule would be incorporated into the proposed subpart E. First-lien residential mortgage exposures that are prudently underwritten would receive a 50 percent risk weight consistent with the treatment contained in the U.S. standardized risk-based capital

framework. Such an approach would allow banking organizations to continue to offer prudently underwritten products through lending programs with the flexibility to meet the needs of their communities without additional regulatory capital implications. The agencies note that current mortgage rules promulgated since the global financial crisis require lenders to consider each borrower's ability to repay.[89]

As in subpart D, residential mortgage exposures that do not meet the requirements necessary to receive a 50 percent risk weight would receive a 100 percent risk weight. While such an approach would not use loan-to-value or dependency upon cash flow generated by the real estate to assign a risk-weight, it would provide for a simpler framework where all prudently underwritten first-lien residential mortgage exposures would receive the same risk-based capital treatment. Lastly and consistent with the treatment in subpart D, if a banking organization holds the first and junior lien(s) on a regulatory residential real estate exposure and no other party holds an intervening lien, the banking organization would be required to treat the combined exposure as a single loan secured by a first lien for purposes of assigning a risk weight.

Question 29: The agencies seek comment on assigning risk weights to residential mortgage exposures, consistent with the current U.S. standardized risk-based capital framework. What are the pros and cons of this alternative treatment?

vi. *Risk weights for regulatory commercial real estate exposures*

In a manner similar to regulatory residential real estate exposure, the proposal would require a banking organization to assign a risk weight to a regulatory commercial real estate exposure based on the exposure's LTV ratio and whether the exposure is dependent on the cash flows generated by the real estate, as reflected in Tables 4 and 5 below. For regulatory commercial real estate exposures that are not dependent on cash flows for repayment, the main driver of risk to the banking organization is whether the commercial borrower would generate sufficient revenue through its non-real estate business activities to repay the loan to the banking

[89] *See* 12 CFR part 1026.

organization. For this reason, under Table 4 the proposed risk weight for the exposure would be dependent on the risk weight assigned to the borrower. For the purposes of Table 4, if the LTV ratio of the exposures is greater than 60 percent, and the banking organization does not have sufficient information about the exposure to determine what the risk weight applicable to the borrower would be, the banking organization would be required to assign a 100 percent risk weight to the exposure.

Table 4: Proposed Risk Weights for Regulatory Commercial Real Estate Exposures That Are Not Dependent on the Cash Flows of the Real Estate

	LTV ratio ≤ 60%	LTV ratio > 60%
Risk weight	Lesser of 60% risk weight or the risk weight applicable to the borrower	Risk weight applicable to the borrower

Table 5: Proposed Risk Weights for Regulatory Commercial Real Estate Exposures That Are Dependent on the Cash Flows of the Real Estate

	LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	LTV ratio > 80%
Risk weight	70%	90%	110%

Question 30: What, if any, market effects could the proposed treatment have on residential and commercial real estate mortgage lending and why? What alternatives to the proposed treatment or calibration should the agencies consider? Please provide supporting data.

vii. *Defaulted real estate exposures*

The proposal would require banking organizations to apply an elevated risk weight to defaulted real estate exposures, consistent with the approach to defaulted exposures described in section III.C.2.a. of this Supplementary Information. The proposal would introduce a definition of defaulted real estate exposure that would provide new criteria for determining whether a residential mortgage exposure or a non-residential mortgage exposure is in default. These new criteria are indicative of a credit-related default for such exposures. For residential mortgage exposures, the definition of defaulted real estate exposure would require the banking organization to evaluate default at the exposure level. For other real estate exposures that are not

residential mortgage exposures, the definition of defaulted real estate exposure would require the banking organization to evaluate default at the obligor level, consistent with the approach describe above for non-retail defaulted exposures.

Since residential mortgage exposures are primarily originated to individuals for the purchase or refinancing of their primary residence, most obligors of residential real estate exposures do not have additional real estate exposures. Therefore, determining default at the exposure level would account for the material default risk of most residential mortgage exposures. Additionally, evaluating defaulted residential mortgage exposures at the obligor level may be difficult for banking organizations to operationalize, for example, if there are challenges collecting information on the payment status of other obligations of individual borrowers.

In contrast, for other types of real estate exposures, such as regulatory commercial real estate and ADC exposures, evaluating default at the obligor level would be more appropriate and less challenging as those obligors frequently have other credit obligations that are large in value and potentially held by multiple banking organizations. Default by an obligor on other credit obligations, which a banking organization should account for when evaluating the risk profile of the borrower, would indicate increased credit risk of the exposure held by a banking organization.

A defaulted real estate exposure that is a residential mortgage exposure would include an exposure (1) that is 90 days or more past due or in nonaccrual status; (2) where the banking organization has taken a partial charge-off, write-down of principal, or negative fair value adjustment on the exposure for credit-related reasons, until the banking organization has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure; or (3) where the banking organization agreed to a distressed restructuring that includes the following credit-related reasons: forgiveness or postponement of principal, interest, or fees; term extension; or an interest rate reduction. Distressed restructuring

would not include a loan modified or restructured solely pursuant to the U.S. Treasury's Home Affordable Mortgage Program. [90]

To determine if a non-residential mortgage exposure would be a defaulted real estate exposure, banking organizations would apply the same criteria as described above in section III.C.2.a. of this Supplementary Information that are used to determine if a non-retail exposure is a defaulted exposure. Banking organizations are expected to conduct ongoing credit reviews of relevant obligors. The proposal would require banking organizations to continue to treat non-residential real estate exposures that meet this definition as defaulted real estate exposures until the non-residential real estate exposure no longer meets the definition or until the banking organization determines that the obligor meets the definition of investment grade or speculative grade.

Under the proposal, a defaulted real estate exposure that is a residential mortgage exposure not dependent on the cash flows generated by the real estate would receive a risk weight of 100 percent, regardless of whether the exposure qualifies as a regulatory real estate exposure, unless a portion of the real estate exposure is guaranteed under §__.120 of the proposal. This treatment is consistent with the risk weight for past due residential mortgage exposures under the current standardized approach. Additionally, a residential mortgage guaranteed by the Federal Government through the Federal Housing Administration (FHA) or the Department of Veterans Affairs (VA) generally will be risk-weighted at 20 percent under the proposal, including a residential mortgage guaranteed by FHA or VA that meets the defaulted real estate exposure definition.

Any other defaulted real estate exposure would receive a risk weight of 150 percent, including any other non-residential real estate exposure to the same obligor, consistent with the

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[90] The U.S. Treasury's Home Affordable Mortgage Program was created under the Troubled Asset Relief Program in response to the subprime mortgage crisis of 2008. *See* Emergency Economic Stabilization Act, Pub. L. 110-343, 122 Stat. 3765 (2008).

proposed risk weight of other defaulted exposures described in section II.C.2.a. of this Supplementary Information. A banking organization may apply a risk weight to the guaranteed portion of defaulted real estate exposures based on the risk weight that applies under §__.120 of the proposal if the guarantee or credit derivative meets the applicable requirements.

Question 31: How does the defaulted real estate exposure definition compare with banking organizations' existing policies relating to the determination of the credit risk of defaulted real estate exposures and the creditworthiness of defaulted real estate obligors? What, if any, additional clarifications are necessary to determine the point at which residential and non-residential mortgages should no longer be treated as defaulted exposures? Please provide specific examples and supporting data.

Question 32: For purposes of commercial real estate exposures, the agencies invite comment on the extent to which obligors have outstanding other exposures with multiple banking organizations and other creditors. What would be the advantages and disadvantages of considering both the obligor and the parent company or other entity or individual that owns or controls the obligor when determining if the exposure meets the criteria for "defaulted real estate exposure"?

Question 33: For purposes of residential mortgage exposures, the agencies invite comment on the appropriateness of including a borrower's bankruptcy as a criterion for defaulted real estate exposure. Would criteria (1)(i) through (1)(iii) in the proposed defaulted real estate definition for residential mortgages sufficiently capture the risk of a borrower involved in a bankruptcy proceeding?

viii. *ADC exposures that are not HVCRE exposures*

Under the proposal, the agencies would define an ADC exposure as an exposure secured by real estate for the purpose of acquiring, developing, or constructing residential or commercial real estate properties, as well as all land development loans, and all other land loans. Some ADC exposures meet the definition of HVCRE exposure in §__.2 of the capital rule and would be

assigned a 150 percent risk weight.[91] Real estate exposures that meet the definition of ADC exposure but do not meet the criteria of an HVCRE exposure or a defaulted real estate exposure would be assigned a 100 percent risk weight under the proposal. The proposed regulatory treatment for ADC exposures would not take into consideration cash flow dependency or LTV ratio criteria. ADC exposures are mostly short-term or bridge loans to cover construction or development, or lease up or sales phases of a real estate project, rather than an amortizing permanent loan for completed residential or commercial real estate. Supervisory experience has shown that ADC exposures have heightened risk compared to permanent commercial real estate exposures, and these exposures generally have been subject to a risk weight of 100 percent or more under the current standardized approach. Repayment of ADC loans is often based on the expected completion of the construction or development of the property, which can be delayed or interrupted by many factors such as changes in market condition or financial difficulty of the obligor.

ix. *Other real estate exposures*

The proposal would define other real estate exposures as real estate exposures that are not defaulted real estate exposures, regulatory commercial real estate exposures, regulatory residential real estate exposures, ADC exposures, or any of the statutory real estate exposures.

An exposure meeting the proposed definition of other real estate exposure poses heightened credit risk as a result of not meeting the proposed prudential underwriting criteria included in the definitions of regulatory residential and regulatory commercial real estate, respectively, and accordingly would be assigned a higher risk weight. Specifically, the proposal would require a banking organization to assign a 150 percent risk weight to an other real estate

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[91] Section 214 of the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA) imposes certain requirements on high volatility commercial real estate acquisition, development, or construction loans. Section 214 of Pub. L. No. 115-174, 132 Stat. 1296 (2018); 12 U.S.C. 1831bb.

exposure, unless the exposure is a residential mortgage exposure that is not dependent on the cash flows generated by the real estate, which must be assigned a 100 percent risk weight.

For example, a banking organization would assign a 150 percent risk weight to real estate exposures that are dependent on the cash flows generated by the underlying real estate, such as a rental property, and that do not meet the regulatory residential or regulatory commercial real estate exposure definitions. Loans for the purpose of acquiring real estate and reselling it at higher value that do not qualify as ADC loans and do not meet the definition of regulatory residential real estate exposures would be assigned a 150 percent risk weight as other real estate exposures. The proposed 150 percent risk weight also would provide a regulatory capital incentive for banking organizations to originate real estate exposures in accordance with the prudential qualification requirements for regulatory residential and commercial real estate exposures, respectively.

In other cases, if a banking organization does not adequately evaluate the creditworthiness of a borrower for an owner-occupied residential mortgage exposure, or if the borrower has inadequate creditworthiness or capacity to repay the loan, the exposure would not be considered prudently underwritten and would be assigned a 100 percent risk weight instead of the lower risk weights included in Table 2 for regulatory residential mortgage exposures not dependent on the cash flows generated by the real estate. The 100 percent risk weight would also apply to junior lien home equity lines of credit and other second mortgages given the elevated risk of these loans when compared to similar senior lien loans.

f. Retail exposures

Relative to the current standardized approach, and as described in more detail below, the proposal would increase the credit risk-sensitivity of the capital requirements applicable to retail exposures by assigning risk weights that would vary depending on product type and the degree of portfolio diversification. The proposal would introduce a new definition of retail exposure, which would include an exposure to a natural person or persons, or an exposure to a small or

medium-sized entity (SME)[92] that meets the proposed definition of a regulatory retail exposure described below. Including an exposure to an SME in the definition of a retail exposure provides a benefit for small companies, such as smaller limited liability companies, which may have characteristics more similar to those of a natural person than of a larger corporation. The proposed definition of a retail exposure would be narrower in scope than the current capital rule's existing definition of a retail exposure under subpart E, which includes a broader range of exposures, including real estate-related exposures. Because the proposal would include separate risk-weight treatments for real estate exposures that account for the underlying collateral, the proposed definition of a retail exposure would only apply to a retail exposure that would not otherwise be a real estate exposure.[93]

The proposal would differentiate the risk-weight treatment for retail exposures based on whether (1) the exposure qualifies as a regulatory retail exposure, (2) further qualifies as a transactor exposure; or (3) does not qualify for either of the previous categories and is treated as an other retail exposure. The proposed definitions of a regulatory retail exposure and a transactor exposure outlined below include key criteria for broadly categorizing the relative credit risk of retail exposures.

To qualify as a regulatory retail exposure, the proposal would require the exposure to be in the form of any of the following credit products: a revolving credit or line of credit (such as a credit card, charge card, or overdraft) or a term loan or lease (such as an installment loan, auto loan or lease, or student or educational loan) (collectively, eligible products). In addition, under

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[92] An SME would mean an entity in which the reported annual revenues or sales for the consolidated group of which the entity is a part are less than or equal to $50 million for the most recent fiscal year. This scope is generally consistent with the definition of an SME under the Basel III reforms and also corresponds with the maximum receipts-based size standard for small businesses set by the Small Business Administration, which varies by industry and does not exceed $47 million per year. *See* 13 CFR part 121.

[93] For an exposure that qualifies as a real estate exposure and also meets conditions (1) and (2) of the definition of a retail exposure, the proposal would require a banking organization to treat the exposure as a real estate exposure and calculate risk-based requirements for the exposure as described in section III.C.2.e of this Supplementary Information.

the proposal, the amount of retail exposures that a banking organization could treat as regulatory retail exposures would be limited on an aggregate and granular basis. A banking organization would include all outstanding and committed but unfunded regulatory retail exposures accounting for any applicable credit conversion factor when aggregating the retail exposures. Specifically, the regulatory retail exposure category would exclude any retail exposure to a single obligor and its affiliates that, in the aggregate with any other retail exposures to that obligor or its affiliates, including both on- and off-balance sheet exposures, exceeds a combined total of $1 million (aggregate limit).

In addition, for any single retail exposure, only the portion up to 0.2 percent of the banking organization's total retail exposures that are eligible products (granularity limit) would be considered a regulatory retail exposure. The portion of any single retail exposure that exceeds the granularity limit would not qualify as a regulatory retail exposure. For purposes of calculating the 0.2 percent granularity limit for a regulatory retail exposure, off-balance sheet exposures would be subject to the applicable credit conversion factors, as discussed in §__.112(b), and defaulted exposures, as discussed in §__.101(b) of the proposal, would be excluded. Under the proposal, if an exposure to an SME does not meet criteria (1) through (3) of the definition of a regulatory retail exposure, then none of the exposures to that SME would qualify as retail exposures and all of the exposures to that SME would be treated as corporate exposures.

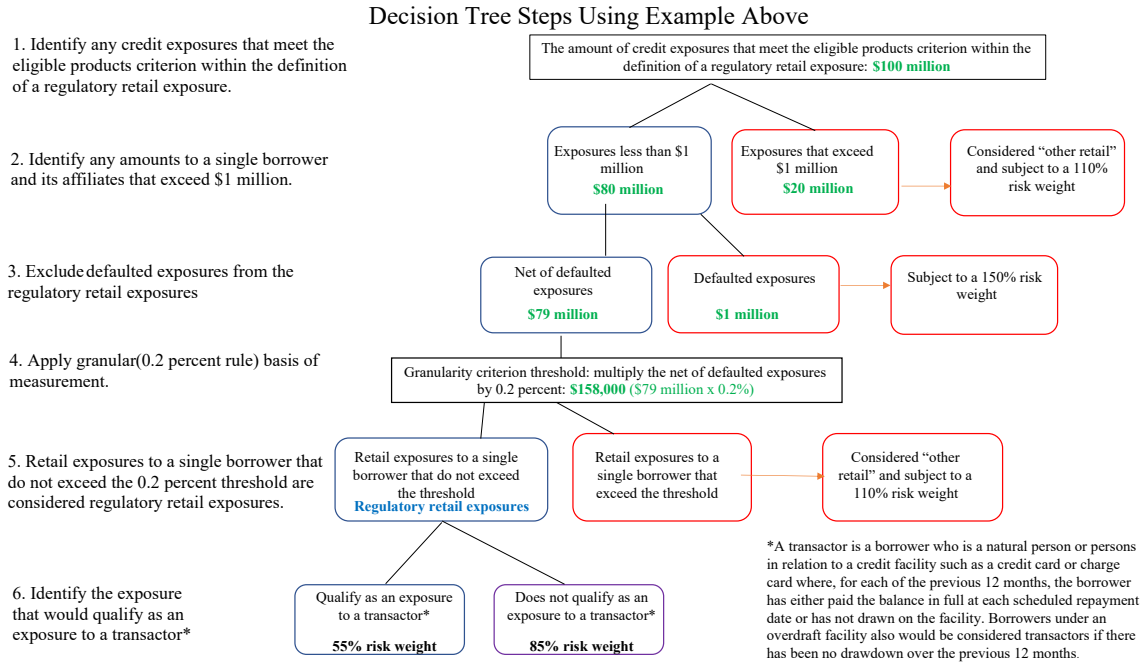
The proposal would define a transactor exposure as a regulatory retail exposure that is a credit facility where the balance has been repaid in full at each scheduled repayment date for the previous twelve months or an overdraft facility where there has been no drawdown over the previous twelve months. If a single obligor had both a credit facility and an overdraft facility from the same banking organization, the banking organization would separately evaluate each facility to determine whether each facility would meet the definition of a transactor exposure to be categorized as a transactor exposure.

Under the proposal, a banking organization would assign a risk weight of 55 percent to a regulatory retail exposure that is a transactor exposure and an 85 percent risk weight to a regulatory retail exposure that is not a transactor exposure. All other retail exposures would be assigned a 110 percent risk weight. The proposed 55 percent risk weight for a transactor exposure is appropriate because obligors that demonstrate a historical repayment capacity generally exhibit less credit risk relative to other retail obligors. A regulatory retail exposure that is not a transactor exposure warrants the proposed 85 percent risk weight, which would be lower than the proposed 110 percent risk weight for all other retail exposures, due to mitigating factors related to size or concentration risk. The aggregate limit and granularity limit are intended to ensure that the regulatory retail portfolio consists of a set of small exposures to a diversified group of obligors, which would reduce credit risk to the banking organization. Conversely, banking organizations with a high aggregate amount of retail exposures to a single obligor, or exposures exceeding the granularity limit, have a heightened concentration of retail exposures. This concentration of retail exposures increases the level of credit risk the banking organization has to a single obligor, and the likelihood that the banking organization could face material losses if the obligor misses a payment or defaults. Therefore, any retail exposure that would not qualify as a regulatory retail or a transactor exposure warrants a risk weight of 110 percent.

The following example describes how a banking organization would identify the amount of retail exposures that could be treated as regulatory retail exposures. First, a banking organization would identify the amount of credit exposures that meet the eligible products criterion within the definition of a regulatory retail exposure. Assume a banking organization has $100 million in total retail exposures that meet the eligible regulatory retail product criterion described above. Next, for this set of exposures, the banking organization would identify any amounts to a single obligor and its affiliates that exceed $1 million. The banking organization in this example determines that a single obligor and its affiliates account for an aggregate of $20 million of the banking organization's total retail exposures. Because this $20 million exceeds the

$1 million threshold for amounts to a single obligor and its affiliates, this $20 million would be retail exposures that are not regulatory retail exposures and subject to a 110 percent risk weight, leaving $80 million that could be categorized as regulatory retail exposures.

Also, assume that of the $80 million, $1 million of the exposures are considered defaulted exposures. This $1 million in defaulted exposures would be subtracted from the $80 million. The banking organization would multiply the remaining $79 million by the 0.2 percent granularity limit, with the resulting $158,000 representing the dollar amount equivalent of the granularity limit for this banking organization's retail portfolio. Therefore, of the remaining $79 million, the portion of those retail exposures to a single obligor and its affiliates that do not exceed $158,000 would be considered regulatory retail exposures. Of the regulatory retail exposures, the portion of the exposure that would qualify as a transactor exposure would receive a 55 percent risk weight and the remaining portion would receive an 85 percent risk weight. Under the proposal, a banking organization would assign a 110 percent risk weight to the portion of a retail exposure that exceeds the granularity limit. Thus, the total amount of retail exposures to a single obligor exceeding $158,000 in this example would receive a 110 percent risk weight as other retail exposures. This example is also illustrated in the following decision tree.



Question 34: What, if any, additional criteria or alternatives should the agencies consider to help ensure that the regulatory retail treatment is limited to a group of diversified retail obligors? What alternative thresholds or calibrations should the agencies consider for purposes of retail exposures? Please provide supporting data in your response.

Question 35: What simplifications, if any, to the calculation described above for a regulatory retail exposure should the agencies consider to reduce operational complexity for banking organizations? For example, what operational challenges would arise from assigning differing risk weights to portions of retail exposures based on the regulatory retail eligibility criteria?

Question 36: Is the requirement for repayment of a credit facility in full at each scheduled repayment date for the previous twelve months or lack of overdraft history an appropriate criterion to distinguish the credit risk of a transactor exposure from other retail exposures, and if not, what would be more appropriate and why? Is twelve months of full repayment history a sufficient amount of time to demonstrate a consistent repayment history of the credit or overdraft facility to meet the definition of a transactor and if not, what would be an appropriate amount of time?

g. *Risk-weight multiplier for certain retail and residential mortgage exposures with currency mismatch*

The proposal would introduce a new requirement for banking organizations to apply a multiplier to the applicable risk weight assigned to certain exposures that contain currency mismatches between the banking organization's lending currency and the borrower's source of repayment. The multiplier would reflect the borrower's increased risk of default due to the borrower's exposure to foreign exchange risk. The multiplier would apply to exposure types where the borrower generally does not manage or hedge its foreign exchange risk. Exposures with such currency mismatches pose increased credit risk to the banking organization as the borrower's repayment ability could be affected by exchange rate fluctuations.

To capture this increased risk, the proposal would require banking organizations to apply a 1.5 multiplier to the applicable risk weight, subject to a maximum risk weight of 150 percent, for retail and residential mortgage exposures to a borrower that does not have a source of repayment in the currency of the loan equal to at least 90 percent of the annual payment from either income generated through ordinary business activities or from a contract with a financial institution that provides funds denominated in the currency of the loan, such as a forward exchange contract. Other types of exposures generally account for foreign exchange risk through hedging or other risk mitigants and would not be subject to the proposed multiplier. The proposed risk weight ceiling of 150 percent aligns with the maximum risk weight for credit exposures under the proposal.

Question 37: What, if any, additional or alternative criteria of the proposed multiplier should the agencies consider and why?

h. Corporate exposures

A corporate exposure under the proposal would be an exposure to a company that does not fall under any other exposure category under the proposal. This scope would be consistent with the definition found in §__.2 of the current capital rule. For example, an exposure to a corporation that also meets the proposed definition of a real estate exposure would be a real estate exposure rather than a corporate exposure for purposes of the proposal.

As described in more detail below, the proposal would differentiate the risk weights of corporate exposures based on credit risk by considering such factors as a corporate exposure's investment quality and the general creditworthiness of the borrower, level of subordination, as well as the nature and substance of the lending arrangement, and the degree of reliance on the borrower's independent capacity for repayment of the obligation, or reliance on the income that the borrowing entity is expected to generate from the asset(s) or a project being financed. First, a banking organization would assign a 65 percent risk weight to a corporate exposure that is an exposure to a company that is investment grade, and that has a publicly traded security

outstanding or that is controlled by a company that has a publicly traded security outstanding.[94] Second, consistent with the current standardized approach, a banking organization would assign risk weights of 2 percent or 4 percent to certain exposures to a qualifying central counterparty.[95] Third, as discussed further below, a banking organization would assign a 130 percent risk weight to a project finance exposure that is not a project finance operational phase exposure. Fourth, a banking organization would assign a 150 percent risk weight to a corporate exposure that is an exposure to a subordinated debt instrument or an exposure to a covered debt instrument unless a deduction treatment is provided as described in section III.C.2.d. of this Supplementary Information.

Finally, a banking organization would assign a 100 percent risk weight to all other corporate exposures. Assigning a 100 percent risk weight to all other corporate exposures appropriately reflects the relative risk of such corporate exposures, as the repayment methods for these exposures pose greater risks than those of publicly-traded corporate exposures that are deemed investment grade. A banking organization would also assign a 100 percent risk weight to corporate exposures that finance income-producing assets or projects that engage in non-real estate activities where the obligor has no independent capacity to repay the loan. For example, corporate exposures subject to the 100 percent risk weight would include exposures (i) for the purpose of acquiring or financing equipment where repayment of the exposure is dependent on the cash flows generated by either the equipment being financed or acquired, (ii) for the purpose of acquiring or financing physical commodities where repayment of the exposure is dependent on the proceeds from the sale of the physical commodities, and (iii) project finance operational phase exposures, as further discussed below.

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[94] Under §__.2 of the current capital rule, a person or company controls a company if it: (1) owns, controls, or holds with power to vote 25 percent or more of a class of voting securities of the company; or (2) consolidates the company for financial reporting purposes. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[95] *See* 12 CFR 3.32(f)(2) and (3) (OCC); 12 CFR 217.32(f)(2) and (3) (Board); 12 CFR 324.32(f)(2) and (3) (FDIC).

i. *Investment grade companies with publicly traded securities outstanding*

Under the proposal, a banking organization would assign a 65 percent risk weight to a corporate exposure that is both (1) an exposure to a company that is investment grade, and (2) where that company, or a parent that controls that company, has publicly traded securities outstanding.[96] This two-pronged test would serve as a reasonable basis for banking organizations to identify exposures to obligors of sufficient creditworthiness to be eligible for a reduced risk weight. The definition of investment grade directly addresses the credit quality of the exposure by requiring that the entity or reference entity have adequate capacity to meet financial commitments, which means that the risk of its default is low and the full and timely repayment of principal and interest is expected. A banking organization's investment grade analysis is dependent upon the banking organization's underwriting criteria, judgment, and assumptions.

The proposed requirement that the company or its parent company have securities outstanding that are publicly traded, in contrast, would be a simple, objective criterion that would provide a degree of consistency across banking organizations. Further, publicly-traded corporate entities are subject to enhanced transparency and market discipline as a result of being listed publicly on an exchange. A banking organization would use these simple criteria, which complement a banking organization's due diligence and internal credit analysis, to determine whether a corporate exposure qualifies as an investment grade exposure.

Question 38: What, if any, alternative criteria should the agencies consider to identify corporate exposures that would warrant a risk weight of 65 percent or a risk weight between 65 percent and 100 percent?

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[96] Under §__.2 of the current capital rule, publicly-traded means traded on: (1) any exchange registered with the SEC as a national securities exchange under section 6 of the Securities Exchange Act; or (2) any non-U.S.-based securities exchange that: (i) is registered with, or approved by, a national securities regulatory authority; and (ii) provides a liquid, two-way market for the instrument in question. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

Question 39: For what reasons, if any, should the agencies consider applying a lower risk weight than 100 percent to exposures to companies that are not publicly traded but are companies that are "highly regulated?" What, if any, criteria should the agencies consider to identify companies that are "highly regulated?" Alternatively, what are the advantages and disadvantages of assigning lower risk weights to highly regulated entities (such as open-ended mutual funds, mutual insurance companies, pension funds, or registered investment companies)?

Question 40: What are the advantages and disadvantages of applying a lower risk weight (such as between 85 and 100 percent), to entities based on size, such as companies with reported annual sales of less than or equal to $50 million for the most recent financial year? What alternative criteria, if any, should the agencies consider to identify small or medium- sized entities that present lower credit risk? For example, should the agencies consider asset size or number of employees to identify small or medium-sized entities? Please provide supporting data.

Question 41: What criteria, if any, should the agencies consider to further differentiate corporate exposures according to their risk profiles and what implications would such criteria have for the risk weighting of these exposures and why?

ii. *Project finance exposures*

The proposal would define a project finance exposure as a corporate exposure for which the banking organization relies on the revenues generated by a single project (typically a large and complex installation, such as power plants, manufacturing plants, transportation infrastructure, telecommunications, or other similar installations), both as the source of repayment and as security for the loan. For example, a project finance exposure could take the form of financing the construction of a new installation, or a refinancing of an existing installation, with or without improvements. The primary determinant of credit risk for a project finance exposure is the variability of the cash flows expected to be generated by the project being financed rather than the general creditworthiness of the obligor or the market value or sale of the

project or the real estate on which the project sits.[97] A project finance exposure also would be required to meet the following criteria: (1) the exposure would need to be to a borrowing entity that was created specifically to finance the project, operate the physical assets of the project, or do both, and (2) the borrowing entity would need to have an immaterial amount of assets, activities, or sources of income apart from revenues from the activities of the project being financed. Under the proposal, an exposure that is deemed secured by real estate,[98] would not be considered a project finance exposure and would be assigned a risk weight as described in section III.C.2.e. of this Supplementary Information.

Under the proposal, a project finance exposure would receive a 130 percent risk weight during the pre-operational phase and a 100 percent risk weight during the operational phase. The proposal would define a project finance operational phase exposure as a project finance exposure where the project has a positive net cash flow that is sufficient to support the debt service and expenses of the project and any other remaining contractual obligation, in accordance with the banking organization's applicable loan underwriting criteria for permanent financings, and where the outstanding long-term debt of the project is declining. Prior to the operational phase classification, a banking organization would be required to treat a project finance exposure as being in the pre-operational phase and assign a 130 percent risk weight to the exposure. The pre-operational phase would be the period between the origination of the loan and the time at which the banking organization determines that the project has entered the operational phase. Relative to the operational phase, the pre-operational phase presents increased uncertainty that the project

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[97] Exposures that are guaranteed by the government or considered a general obligation or revenue obligation exposure to a PSE would not qualify as a project finance exposure.

[98] Although it is common for the banking organization to take a mortgage over the real property and a lien against other assets of the project for security and lender control purposes, a project finance exposure would not be considered a real estate exposure because the banking organization does not rely on real estate collateral to grant credit. As noted in section III.C.2.e of this Supplementary Information, for purposes of the proposal, "secured by collateral in the form of real estate" in the context of the proposed real estate exposure definition should be interpreted in a manner that is consistent with the current definition for "a loan secured by real estate" in the Call Report and FR Y–9C instructions.

will be completed in a timely and cost-effective manner, which warrants the application of a higher risk weight. For example, market conditions could change significantly between commencement and completion of the project. In addition, unanticipated supply shortages could disrupt timely completion of the project and the expected timing of the transition to the operational phase. These unanticipated changes could disrupt the completion of the project and delay it becoming operational, and thus impact the ability of the project to generate cash flows as projected and to repay creditors.

Question 42: What additional exposures, if any, should be captured by the proposed definition of a project finance exposure? What exposures, if any, captured by the proposed definition of a project finance exposure should be excluded from the definition?

Question 43: What clarifications or changes, if any, should the agencies consider to differentiate project finance exposures from exposures secured by real estate? What, if any, capital market effects would the proposed treatment of project finance exposures have and why and what, if any, modifications should the agencies consider to address such effects? How material for banking organizations are project finance exposures that are not based on the creditworthiness of a Federal, state or local government?

3. Off-balance sheet exposures

In addition to on-balance sheet exposures, banking organizations are exposed to credit risk associated with off-balance sheet exposures. Banking organizations often enter into contractual arrangements with borrowers or counterparties to provide credit or other support. Such arrangements generally are not recorded on-balance sheet under GAAP. These off-balance sheet exposures often include commitments, contingent items, guarantees, certain repo-style transactions, financial standby letters of credit, and forward agreements.

The proposal would introduce a few updated credit conversion factors that a banking organization would apply to an off-balance sheet item's notional amount (typically, the contractual amount) in order to calculate the exposure amount for an off-balance sheet exposure.

Under the proposal, the credit conversion factors, which would range from 10 percent to 100 percent, would reflect the expected proportion of the off-balance sheet item that would become an on-balance sheet credit exposure to the borrower, taking into account the contractual features of the off-balance sheet item. For example, a guarantee provided by a banking organization would be subject to a 100 percent credit conversion factor because there generally is a high probability of the full amount of the guarantee becoming an on-balance sheet credit exposure. In contrast, under the terms of most commitments, banking organizations generally are not expected to extend the full amount of credit agreed to in the contract. After determining the off-balance sheet exposure amount, the banking organization would then multiply it by the appropriate risk weight, as provided under section III.C.2. of the Supplementary Information, to arrive at the risk-weighted asset amount for the off-balance sheet exposure, consistent with the calculation method under the current standardized approach.

a. Commitments

The proposal would maintain the existing definition of commitment under the current capital rule. The current capital rule defines a commitment as any legally binding arrangement that obligates a banking organization to extend credit or to purchase assets.[99] A commitment can exist even when the banking organization has the unilateral right to not extend credit at any time.

Off-balance sheet exposures such as credit cards allow obligors to borrow up to a specified amount. However, some off-balance sheet exposures such as charge cards do not have an explicit contractual pre-set credit limit and generally require obligors to pay their balance in full each month. For commitments with no express contractual maximum amount or pre-set limit, the proposal would include an approach to calculate a proxy for the committed but undrawn amount of the commitment (off-balance sheet notional amount), based on an averaging formula over the previous two years (averaging methodology). A banking organization would

[99] *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

first calculate the average total drawn amount of the commitment over the prior eight quarters or, if the banking organization has offered such products to the obligor for fewer than eight quarters, the average total drawn amount since the commitment with no pre-set limit was first issued. The banking organization would then multiply the average total drawn amount by 10 to determine the off-balance sheet notional amount. Next, the banking organization would determine the applicable off-balance sheet exposure amount by first subtracting the current drawn amount from the calculated off-balance sheet notional amount and then multiplying this difference by the applicable credit conversion factor (10 percent for an unconditionally cancelable commitment, as described in more detail in the following section). The risk-weighted asset amount would be the off-balance sheet exposure amount multiplied by the applicable risk weight (e.g., 55 percent for a transactor retail exposure).

For example, assume an obligor's charge card had an average drawn amount of $4,000 over the prior eight quarters, and a drawn amount of $3,000 during the most recent reporting quarter. To determine the off-balance sheet exposure amount of the charge card, a banking organization would (1) multiply the average of $4,000 by 10 ($40,000), (2) subtract the current drawn amount of $3,000 from $40,000 ($37,000), and (3) multiply $37,000 by the 10 percent credit conversion factor for unconditionally cancellable commitments ($3,700). For purposes of this example, assume the obligor's charge card would qualify as a regulatory retail exposure[100] that is a transactor exposure. Applying the 55 percent risk weight for transactor exposures to the exposure amount of $3,700. would result in a risk-weighted asset amount of $2,035.

The proposed averaging methodology would apply a multiplier of 10 to the average total drawn amount because supervisory experience suggests that obligors similar to those with charge cards have average credit utilization rates equal to approximately 10 percent. This approach uses

[100] As discussed in section III.C.2.f of this Supplementary Information, a retail exposure would need to meet certain criteria and be evaluated against the aggregate and granularity limits to qualify as a regulatory retail exposure.

an eight-quarter average balance, as opposed to a shorter period, to better reflect a borrower's credit usage, notably by mitigating the impact of seasonality and of short-term trends in drawn balances from the total credit exposure estimate.

Question 44: What are the advantages and disadvantages of the averaging methodology to calculate a proxy for the undrawn credit exposure amount for commitments with no pre-set limits? What, if any, adjustments should the agencies consider to better reflect a borrower's credit usage when calculating the undrawn portion of the credit exposures for commitments that have less than eight quarters of data, particularly those with less than a full quarter of data? What, if any, alternative approaches should the agencies consider and why?

Question 45: What adjustments, if any, should the agencies make to the proposed multiplier of 10 for calculating the total off-balance sheet notional amount of the obligor under the proposed methodology and why?

b. Credit conversion factors

The proposal would provide the same credit conversion factors in the current capital rule except with respect to commitments. The proposal would modify the credit conversion factors applicable to commitments and simplify the treatment relative to the current standardized approach by no longer differentiating such factors by maturity. Under the proposal, a commitment, regardless of the maturity of the facility, would be subject to a credit conversion factor of 40 percent, except for the unused portion of a commitment that is unconditionally cancelable[101] (to the extent permitted under applicable law) by the banking organization, which would be subject to a credit conversion factor of 10 percent.[102] Although unconditionally

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[101] Under §__. 2 of the current capital rule, unconditionally cancelable means a commitment that a banking organization may, at any time, with or without cause, refuse to extend credit (to the extent permitted under applicable law). *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[102] Under the proposal, a 40 percent CCF would also apply to commitments that are not unconditionally cancelable commitments for purposes of calculating total leverage exposure for the supplementary leverage ratio.

cancellable commitments allow banking organizations to cancel such commitments at any time without prior notice, in practice, banking organizations often extend credit or provide funding for reputational reasons or to support the viability of borrowers to which the banking organization has significant ongoing exposure, even when borrowers are under economic stress. For example, banking organizations may have incentives to preserve substantial or core customer relationships when there is a deterioration in creditworthiness that may, for less substantial customer relationships, cause the banking organization to cancel a commitment. Relative to the current standardized approach, the proposal would simplify the applicable credit conversion factor for all other commitments given the 10 percent applicable credit conversion factor for unconditionally cancellable commitments. A 40 percent credit conversion factor for other commitments is appropriate because such commitments do not provide the banking organization the same flexibility to exit the commitment compared with unconditionally cancellable commitments.

Question 46: What additional factors, if any, should the agencies consider for determining the applicable credit conversion factors for commitments?

4. Derivatives

The current capital rule requires banking organizations to calculate risk-weighted assets based on the exposure amount of their derivative contracts and prescribes different approaches for measuring the exposure amount of derivative contracts based on the size and risk profile of the banking organization. The proposal would expand the scope of banking organizations that would be required to use one of the approaches, SA-CCR, which was adopted in January 2020 (the SA-CCR final rule),[103] and make certain technical revisions to that approach. The current capital rule requires banking organizations subject to Category I or II capital standards to utilize SA-CCR or the internal models methodology to calculate their advanced approaches total risk-weighted assets and to utilize SA-CCR to calculate standardized total risk-weighted assets.[104]

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[103] 85 FR 4362 (January 24, 2020).

[104] 12 CFR 3.34 (OCC); 12 CFR 217.34 (Board); 12 CFR 324.34 (FDIC).

The current capital rule permits banking organizations subject to Category III or IV capital standards to utilize the current exposure methodology or SA-CCR to calculate standardized total risk-weighted assets.[105]

As discussed in section II of this Supplementary Information, the proposal would require institutions subject to Category III or IV capital standards to use the expanded risk-based approach, which includes the requirement to use SA-CCR, and would eliminate the internal models methodology as an available approach to calculate the exposure amount of derivative contracts. Therefore, under the proposal, large banking organizations would be required to use SA-CCR to calculate regulatory capital ratios under the standardized approach, expanded risk-based approach, and supplementary leverage ratio.

The agencies are also proposing technical revisions to SA-CCR to assist banking organizations in implementing SA-CCR in a consistent manner and with an exposure measurement that more appropriately reflects the counterparty credit risks posed by derivative transactions.

a. Proposed technical revisions

i. *Treatment of collateral held by a qualifying central counterparty (QCCP)*

Under the current capital rule, a clearing member banking organization using SA-CCR must determine its capital requirement for a default fund contribution to a QCCP based on the hypothetical capital requirement for the QCCP (K_{CCP}) using SA-CCR.[106] The calculation of K_{CCP} requires calculating the exposure amount of the QCCP to each of its clearing members. In the calculation of the exposure amount, the SA-CCR final rule allows the exposure amount of the QCCP to each clearing member to be reduced by all collateral held by the QCCP posted by the clearing member and by the amount of prefunded default fund contributions provided by the clearing member to the QCCP. However, this treatment is inconsistent with the calculation of the

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[105] *Id*.

[106] *See* 12 CFR 3.133(d) (OCC); 12 CFR 217.133(d) (Board); 12 CFR 324.133(d) (FDIC).

exposure amount for a netting set, in which collateral is not subtracted from the exposure amount but is instead a component of the calculations of both the replacement cost (RC) and potential future exposure (PFE).

The proposal would change how collateral posted to a QCCP by clearing members and the amount of clearing members' prefunded default fund contributions factor into the calculation of K_{CCP}. This treatment, which is more sensitive to the risk-reducing benefits of collateral, would allow the proper recognition of collateral in calculating the exposure amount of a QCCP to its clearing members and would be consistent with the calculation of the exposure amount for a netting set. Specifically, for the purpose of calculating the exposure amount of a QCCP to a clearing member, the net independent collateral amount that appears in the RC and PFE calculations would be replaced by the sum of:

1) the fair value amount of the independent collateral posted to a QCCP by a clearing member;

2) the fair value amount of the independent collateral posted to a QCCP by a clearing member on behalf of a client, in connection with derivative contracts for which the clearing member has provided a guarantee to the QCCP; and

3) the amount of the prefunded default fund contribution of the clearing member to the QCCP.

Both the amount of independent collateral and the prefunded default fund contribution would be adjusted by the standard supervisory haircuts under Table 1 to § __.121 of the proposal, as applicable.

ii. *Treatment of collateral held in a bankruptcy-remote manner*

Both the standardized approach and the advanced approaches under the current capital rule require a banking organization to determine the trade exposure amount for derivative contracts transacted through a central counterparty (CCP).

When calculating its trade exposure amount for a cleared transaction, a banking organization under both the standardized and advanced approaches under the capital rule may exclude collateral posted to the CCP that is held in a bankruptcy-remote manner by the CCP or a custodian. In the SA-CCR final rule, the agencies inadvertently imposed heightened requirements for the exclusion of collateral from the trade exposure amount posted by a clearing member banking organizations to a CCP under the advanced approaches.[107] The expanded risk-based approach does not include these heightened requirements and would align the requirements for the exclusion of collateral from the trade exposure amount of banking organizations under both the standardized and expanded risk-based approach.

iii. *Supervisory delta for collateralized debt obligation (CDO) tranches*

Under the SA-CCR final rule, a banking organization must apply a supervisory delta adjustment to account for the sensitivity of a derivative contract (scaled to unit size) to the underlying primary risk factor, including the correct sign (positive or negative) to account for the direction of the derivative contract amount relative to the primary risk factor.[108]

For a derivative contract that is a CDO tranche, the supervisory delta adjustment is calculated using the formula below:

$$\text{Supervisory delta adjustment} = \frac{15}{(1+14*A) * (1+14*D)}$$

where A is the attachment point and D is the detachment point.

The SA-CCR final rule applies a positive sign to the resulting amount if the banking organization purchased the CDO tranche and applies a negative sign if the banking organization

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[107] 12 CFR 3.133(c)(4)(i) (OCC); 12 CFR 217.133(c)(4)(i) (Board); 12 CFR 324.133(c)(4)(i) (FDIC).

[108] For the supervisory delta adjustment, a banking organization applies a positive sign to the derivative contract amount if the derivative contract is long the risk factor and a negative sign if the derivative contract is short the risk factor. A derivative contract is long the primary risk factor if the fair value of the instrument increases when the value of the primary risk factor increases. A derivative contract is short the primary risk factor if the fair value of the instrument decreases when the value of the primary risk factor increases.

sold the CDO tranche. However, the appropriate sign to account for the purchasing or selling of CDO tranches can be ambiguous: purchasing a CDO tranche can be interpreted as selling credit protection, while selling a CDO tranche can be interpreted as purchasing credit protection. In order to ensure the correct sign of the supervisory delta adjustment for CDO tranches that would result in a proper aggregation of CDO tranches with linear credit derivative contracts in PFE calculations, the proposal would revise the sign specification for the supervisory delta adjustment for CDO tranches as follows: positive if the CDO tranches were used to purchase credit protection by the banking organization and negative if the CDO tranches were used to sell credit protection by the banking organization.

iv. *Supervisory delta for options contracts*

Under the SA-CCR final rule, the supervisory delta adjustment for option contracts is calculated based on the Black-Scholes formulas for delta sensitivity of European call and put option contracts. The original Black-Scholes formula for a European option contract's delta sensitivity assumes a lognormal probability distribution for the value of the instrument or risk factor underlying the option contract, thus precluding negative values for both the current value of the underlying instrument or risk factor and the strike price of the option contract. The SA-CCR final rule uses modified Black-Scholes formulas that are based on a shifted lognormal probability distribution, which allows negative values of the underlying instrument or risk factor with the magnitude not exceeding the value of a shift parameter λ (lambda). The SA-CCR final rule sets λ to zero (thus precluding negative values) for all asset classes except the interest rate asset class, which has exhibited negative values in some currencies in recent years. For the interest rate asset class, a banking organization must set the value of λ for a given currency equal to the greater of (i) the negative of the lowest value of the strike prices and the current values of the interest rate underlying all interest rate options in a given currency that the banking organization has with all counterparties plus 0.1 percent; and (ii) zero.

However, negative values of the instrument or risk factor underlying an option contract can occur in other asset classes as well. For example, whenever an option contract references the difference between the values of two instruments or risk factors, the underlying spread of this option contract can be negative. Such option contracts are commonly traded in the OTC derivatives market, including option contracts on the spread between two commodity prices and on the difference in performance across two equity indices. Under the current capital rule, banking organizations cannot calculate the supervisory delta adjustment for any option contract other than an interest rate derivative contract if the strike price or the current value of the underlying instrument or risk factor is negative because the SA-CCR final rule only allows a non-zero value for λ for interest rate derivative contracts. To ensure that a banking organization is able to calculate the supervisory delta adjustment for option contracts when the underlying instrument or risk factor has a negative value, the proposal would extend the use of the shift parameter λ to all asset classes. More specifically, for non-interest-rate asset classes, the proposal would require a banking organization to use the same value of λ for all option contracts that reference the same underlying instrument or risk factor. If the value of the underlying instrument or risk factor cannot be negative, the value of λ would be set to zero. Otherwise, to determine the value of λ for a given risk factor or instrument, the proposal would require a banking organization to find the lowest value L of the strike price and the current value of the underlying instrument or risk factor of all option contracts that reference this instrument or risk factor with all counterparties. The proposal would require a banking organization to set λ for this instrument or risk factor according to the formula $\lambda=\max\{-1.1\cdot L,0\}$. The purpose of multiplying negative L by 1.1 (thus, resulting in $-1.1\cdot L$) is the same as that for adding 0.1 percent in the case of interest rate derivative contracts under the SA-CCR final rule: to set the lowest possible value of the underlying instrument or risk factor slightly below the lowest observed value. Because it is challenging to determine a universal additive offset value for all values of non-interest-rate

instruments and risk factors, the offset would be performed via multiplication for asset classes other than the interest rate asset class.

The proposal would also permit a banking organization, with the approval of its primary Federal supervisor, to specify a different value for λ for purposes of the supervisory delta adjustment for option contracts other than interest rate option contracts, if a different value for λ would be appropriate, considering the range of values for the instrument or risk factor underlying option contracts. This flexibility would allow a banking organization to use a specific value for λ, rather than the value resulting from the proposed formula described above, in the event that a different value for λ is more appropriate than the value resulting from the formula. A banking organization that specifies a different value for λ would be required to assign the same value for λ to all option contracts with the same underlying instrument or risk factor, as applicable, with all counterparties. This proposed provision is intended to permit a banking organization, with approval from its primary Federal supervisor, to account for unanticipated outcomes in the supervisory delta adjustment of certain asset classes while avoiding arbitrage between assets in that class.

Question 47: What other approaches should the agencies consider to calibrate the lambda parameter for non-interest-rate asset classes, such as a formula that is different from the proposed formula of $\lambda=\max\{-1.1\cdot L,0\}$*, and why? What values besides 1.1, if any, should the agencies consider for the value of the multiplier in the proposed formula? Why?*

v. *Decomposition of credit, equity, and commodity indices*

Under the capital rule, banking organizations are permitted to decompose indices within credit, equity, and commodity asset classes, such that a banking organization would treat each component of the index as a separate single-name derivative contract.[109] The capital rule requires that if a banking organization elects to decompose indices within the credit, equity, and

[109] *See* 12 CFR 3.132(c)(5)(vi) (OCC); 12 CFR 217.132(c)(5)(vi) (Board); 12 CFR 324.132(c)(5)(vi) (FDIC).

commodity asset classes, the banking organization must perform all calculations in determining the exposure amount based on the underlying instrument rather than the index. While this is possible for linear indices, for non-linear index contracts (e.g., those with optionality and CDS index tranches) it is not mathematically possible to calculate the supervisory delta for an underlying component, as the delta associated with the non-linear index applies at the instrument level. In recognition of this fact, the agencies are clarifying that the option to decompose a non-linear index is not available under SA-CCR. Additionally, the agencies are clarifying that if electing to decompose a linear index, banking organizations must apply the weights used by the index when determining the exposure amounts for the underlying instrument.

5. Credit risk mitigation

The current capital rule permits banking organizations to recognize certain types of credit risk mitigants, such as guarantees, credit derivatives, and collateral, for risk-based capital purposes provided the credit risk mitigants satisfy the qualification standards under the rule.[110] Credit derivatives and guarantees can reduce the credit risk of an exposure by placing a legal obligation on a third-party protection provider to compensate the banking organization for losses in the event of a borrower default.[111] Similarly, the use of collateral can reduce the credit risk of an exposure by creating the right of a banking organization to take ownership of and liquidate the collateral in the event of a default by the counterparty. Prudent use of such mitigants can help a banking organization reduce the credit risk of an exposure and thereby reduce the risk-based capital requirement associated with that exposure.

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[110] Consistent with the current capital rule, the proposal would not require banking organizations to recognize any instrument as a credit risk mitigant. Credit derivatives that a banking organization cannot or chooses not to recognize as a credit risk mitigant would be subject to a separate counterparty credit risk capital requirement.

[111] Credit events are defined in the documents governing the credit risk mitigant and often include events such as failure to pay principal and interest and entry into insolvency or similar proceedings.

Credit risk mitigants recognized for risk-based capital purposes must be of sufficiently high quality to effectively reduce credit risk. For guarantees and credit derivatives, the current capital rule primarily looks to the creditworthiness of the guarantor and the features of the underlying contract to determine whether these forms of credit risk mitigation may be recognized for risk-based capital purposes (eligible guarantee or eligible credit derivative). With respect to collateralized transactions, the current capital rule primarily looks to the liquidity profile and quality of the collateral received and the nature of the banking organization's security interest to determine whether the collateral qualifies as financial collateral that may be recognized for purposes of risk-based capital.[112]

As stated earlier, the proposal would eliminate the use of models for credit risk under the current capital rule. Therefore, the proposal would replace certain methodologies for recognizing the risk-reducing benefits of financial collateral and eligible guarantees and credit derivatives—namely, the internal models methodology, simple VaR approach, PD substitution approach, LGD adjustment approach, and double default treatment—with the standardized approaches described below. For eligible guarantees and eligible credit derivatives, the proposal would permit banking organizations to use the substitution approach from subpart D of the current capital rule with a modification for eligible credit derivatives that do not include restructuring as a credit event. Further, the proposal would no longer permit the recognition of credit protection from nth-to-default credit derivatives.[113] For all collateralized transactions, the corporate issuer of any financial collateral in the form of a corporate debt security must have an outstanding publicly traded security or the corporate issuer must be controlled by a company that has an outstanding publicly traded security in order to be recognized. For collateralized transactions where financial collateral secures exposures that are not derivative contracts or netting sets of derivative contracts, the proposal would permit banking organizations to use the simple approach from

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[112] *See* 12 CFR 3.2, 217.2, and 324.2 for the definition of financial collateral.

[113] *See* section III.D.3.a of this Supplementary Information.

subpart D without any modification. For eligible margin loans and repo-style transactions, the proposal would also permit banking organizations to use the collateral haircut approach with standard supervisory market price volatility haircuts[114] from subpart D with two proposed modifications to increase risk sensitivity: (1) adjustments to the market price volatility haircuts and (2) a modified formula for netting sets of eligible margin loans or repo-style transactions that reflects netting and diversification benefits within netting sets. Finally, the proposal would introduce minimum haircut floors for certain eligible margin loan and repo-style transactions with unregulated financial institutions that banking organizations must meet in order to recognize the risk-mitigation benefits of financial collateral.

In connection with the removal of the internal models methodology, the proposal would make corresponding revisions to reflect this change in the definition of a netting set. Compared to the current capital rule, the proposal would exclude cross-product netting sets from the definition of a netting set, as none of the proposed approaches under the revised framework would recognize cross-product netting. This would be consistent with the current capital rule, which also does not recognize cross-product netting. Therefore, the proposal would define a netting set as a group of single-product transactions with a single counterparty that are subject to a qualifying master netting agreement (QMNA)[115] and that consist only of one of the following: derivative contracts, repo-style transactions, or eligible margin loans. For purposes of the proposed netting set definition, the netting set must include the same product (i.e., all derivative contracts or all repo-style transactions or all eligible margin loans). Consistent with the current capital rule, for derivative contracts, the proposed definition of netting set would also include a single derivative contract between a banking organization and a single counterparty.

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[114] Under subpart D, banking organizations also are permitted to use their own estimates of market price volatility haircuts, with prior written approval from the primary Federal supervisors. The proposal would not include this option in subpart E as the agencies have found it to introduce unwarranted variability in banking organizations' risk-weighted assets.

[115] *See* 12 CFR 3.2, 217.2, and 324.2 for the definition of qualifying master netting agreement.

Question 48: What would be the impact of requiring that certain debt securities must be issued by a publicly-traded company, or issued by a company controlled by a publicly-traded company, in order to qualify as financial collateral and what, if any, alternatives should the agencies consider to this requirement?

a. Guarantees and credit derivatives

i. *Substitution approach*

As under subpart D in the current capital rule, under the proposal a banking organization would be permitted to recognize the credit-risk-mitigation benefits of eligible guarantees and eligible credit derivatives by substituting the risk weight applicable to the eligible guarantor or protection provider for the risk weight applicable to the hedged exposure.[116]

ii. *Adjustment for credit derivatives without restructuring as a credit event*

Credit derivative contracts in certain jurisdictions include debt restructuring as a credit event that triggers a payment obligation by the protection provider to the protection purchaser. Such restructurings of the hedged exposure may involve forgiveness or postponement of principal, interest, or fees that result in a loss to investors. Consistent with the current capital rule, the proposal would generally require a banking organization that seeks to recognize the credit risk-mitigation benefits of an eligible credit derivative that does not include a restructuring of the reference exposure as a credit event to reduce the effective notional amount of the credit derivative by 40 percent to account for any unmitigated losses that could occur as a result of a restructuring of the hedged exposure.

Under the proposal, however, the 40 percent adjustment would not apply to eligible credit derivatives without restructuring as a credit event if both of the following requirements are satisfied: (1) the terms of the hedged exposure (and the reference exposure, if different from the

[116] Under subpart E in the current capital rule, an eligible guarantee need not be issued by an eligible guarantor unless the exposure is a securitization exposure. The proposal would require all eligible guarantees to be issued by an eligible guarantor.

hedged exposure) allow the maturity, principal, coupon, currency, or seniority status to be amended outside of receivership, insolvency, liquidation, or similar proceeding only by unanimous consent of all parties; and (2) the banking organization has conducted sufficient legal review to conclude with a well-founded basis (and maintains sufficient written documentation of that legal review) that the hedged exposure is subject to the U.S. Bankruptcy Code or a domestic or foreign insolvency regime with similar features that allows for a company to reorganize or restructure and provides for an orderly settlement of creditor claims.

The unanimous consent requirement would mean that, for restructurings occurring outside of an insolvency proceeding, all holders of the hedged exposure (and the reference exposure, if different from the hedged exposure) must agree to any restructuring for the restructuring to occur, and no holder can vote against the restructuring or abstain. This unanimous consent requirement would reduce the risk that a banking organization would suffer a credit loss on the hedged exposure that would not be offset by a payment under the eligible credit derivative. Banking organizations generally would only be incentivized to vote for a restructuring if the terms of the restructuring would provide a more beneficial outcome to the banking organization relative to insolvency proceedings that would trigger payment under the eligible credit derivative. Additionally, the unanimous consent requirement for the reference exposure, if different from the hedged exposure, would add an additional layer of security by significantly reducing the probability of reaching a restructuring agreement that results in a loss of principal or interest for creditors without triggering payment under the eligible credit derivative. The unanimous consent requirement would need to be satisfied through the terms of the hedged exposure (and the reference exposure, if different from the hedged exposure), which could be accomplished through a contractual provision of the exposure or the application of law.

The requirement that the hedged exposure be subject to the U.S. Bankruptcy Code or a similar domestic or foreign insolvency regime would help to ensure that any restructuring is done in an orderly, predictable, and regulated process. In the event that the obligor of the hedged

exposure defaults and the default is not cured, the obligor would either be required to enter insolvency proceedings, which would trigger payment under the credit derivative, or the obligor would be required to pursue restructuring outside of insolvency, which could not occur without the banking organization's consent. Together, the proposed requirements would ensure that credit derivatives that do not include restructuring as a credit event but provide similarly effective protection as those that do contain such provisions, are afforded similar recognition under the capital framework.

Question 49: The agencies seek comment on the appropriateness of allowing banking organizations to recognize in full the effective notional amount of credit derivatives that do not include restructuring as a credit event, if certain conditions are met. Is the exemption from the 40 percent haircut overly broad? If so, why, and how might the exemption be narrowed to only capture the types of credit derivatives that provide protection similar to credit derivatives that include restructuring as a credit event?

Question 50: To what extent is the proposed treatment of eligible credit derivatives that do not include restructuring of the reference exposure as a credit event relevant outside of the United States?

b. Collateralized transactions

The proposal would only allow a banking organization to recognize the risk-mitigating benefits of a corporate debt security that meets the definition of financial collateral in expanded risk-weighted assets if the corporate issuer of the debt security has a publicly traded security outstanding or is controlled by a company that has a publicly traded security outstanding. Corporations with publicly traded securities typically are subject to mandatory regulatory and public reporting and disclosure requirements, and therefore debt securities issued by such corporations may be a more stable and liquid form of collateral.

i. *Simple approach*

Subpart D of the current capital rule includes the simple approach, which allows a banking organization to recognize the risk-mitigating benefits of financial collateral received by substituting the risk weight applicable to an exposure with the risk weight applicable to the financial collateral securing the exposure, generally subject to a 20 percent floor. The proposal generally would maintain the simple approach of the current capital rule, including restrictions on collateral eligibility and the risk-weight floor, except for the proposed requirement for certain corporate debt securities.

ii. *Collateral haircut approach*

Under the current capital rule, a banking organization may recognize the credit risk-mitigation benefits of repo-style transactions, eligible margin loans, and netting sets of such transactions by adjusting its exposure amount to its counterparty to recognize any financial collateral received and any collateral posted to the counterparty. Subpart E of the current capital rule includes several approaches that a banking organization may use and some of those approaches include the use of models that contribute to variability in risk-weighted assets. For this reason, under the proposal a banking organization would no longer be allowed to use the simple VaR approach or the internal models methodology to calculate the exposure amount, nor would a banking organization be permitted to use its own internal estimates for calculating haircuts. The proposal would broadly retain the collateral haircut approach with standard supervisory market volatility haircuts with some modifications. This approach would require a banking organization to adjust the fair value of the collateral received and posted to account for any potential market price volatility in the value of the collateral during the margin period of risk, as well as to address any differences in currency. To increase the risk-sensitivity of the collateral haircut approach, the proposal would modify certain market price volatility haircuts. The proposal would also introduce a new method to calculate the exposure amount of eligible transactions in a netting set and simplify the existing exposure calculation method for individual transactions that are not part of a netting set.

I. Exposure amount

The proposal would provide two methods for calculating the exposure amount under the collateral haircut approach for eligible margin loans and repo-style transactions. One method would apply to individual eligible margin loans and repo-style transactions, the other to single-product netting sets of such transactions, as described below. The new formula for netting sets would allow for the recognition of the risk-mitigating benefits of netting and portfolio diversification and is intended to provide for increased risk-sensitivity of the capital requirement for such transactions relative to the current capital rule.

A. Exposure amount for transactions not in a netting set

Under the collateral haircut approach, the proposed exposure amount for an individual eligible margin loan or repo-style transaction that is not part of a netting set would yield the same result as the exposure amount equation in the current capital rule. However, the proposal would change the variables and structure to provide a simplified calculation for an individual eligible margin loan or repo-style transaction in comparison with transactions that are part of a netting set. Specifically, the proposal would require a banking organization to calculate the exposure amount as the greater of zero and the difference of the following two quantities: (1) the value of the exposure, adjusted by the market price volatility haircut applicable to the exposure for a potential increase in the exposure amount; and (2) the value of the collateral, adjusted by the market price volatility haircut applicable to the collateral for a potential decrease in the collateral value and the currency mismatch haircut applicable where the currency of the collateral is different from the settlement currency. The banking organization would use the market price volatility haircuts and a standard 8 percent currency mismatch haircut, subject to adjustments, as described in the following section. Specifically, the exposure amount for an individual eligible margin loan or repo-style transaction that is not in a netting set would be based on the following formula:

$$E^* = max\{0; E \times (1 + H_e) - C \times (1 - H_c - H_{fx})\}$$

Where:

- E^* is the exposure amount of the transaction after credit risk mitigation.
- E is the current fair value of the specific instrument, cash, or gold the banking organization has lent, sold subject to repurchase, or posted as collateral to the counterparty.
- H_e is the haircut appropriate to E as described in Table 1 to § __.121, as applicable.
- C is the current fair value of the specific instrument, cash, or gold the banking organization has borrowed, purchased subject to resale, or taken as collateral from the counterparty.
- H_c is the haircut appropriate to C as described in Table 1 to § __.121, as applicable.
- H_{fx} is the haircut appropriate for currency mismatch between the collateral and exposure.

The first component in the above formula, $E \times (1 + H_e)$, would capture the current value of the specific instrument, cash, or gold the banking organization has lent, sold subject to repurchase, or posted as collateral to the counterparty by the banking organization in the eligible margin loan or repo-style transaction, while accounting for the market price volatility of the instrument type. The second component in the above formula, $C \times (1 - H_c - H_{fx})$, would capture the current value of the specific instrument, cash, or gold the banking organization has borrowed, purchased subject to resale, or taken as collateral from the counterparty in the eligible margin loan or repo-style transaction, while accounting for the market price volatility of the specific instrument as well as any adjustment to reflect currency mismatch, if applicable.

B. Exposure amount for transactions in a netting set

Under the collateral haircut approach, the proposal would provide a new, more risk-sensitive equation that recognizes diversification benefits by taking into consideration the number of securities included in a netting set of eligible margin loans or repo-style transactions.

Under this approach, the exposure amount for a netting set of eligible margin loans or repo-style transactions would equal:

$$E^* = max\left\{0; \left(\sum_i E_i - \sum_i C_i\right) + \left(0.4 \times net_{exposure}\right) + \left(0.6 \times \frac{gross_{exposure}}{\sqrt{N}}\right) + \left(\sum_{fx}\left(E_{fx} \times H_{fx}\right)\right)\right\}$$

Where:

- E^* is the exposure amount of the netting set after credit risk mitigation.
- E_i is the current fair value of the instrument, cash, or gold the banking organization has lent, sold subject to repurchase, or posted as collateral to the counterparty.
- C_i is the current fair value of the instrument, cash, or gold the banking organization has borrowed, purchased subject to resale, or taken as collateral from the counterparty.
- $net_{exposure} = |\sum_s E_s H_s|$
- $gross_{exposure} = \sum_s E_s |H_s|$
- E_s is the absolute value of the net position in a given instrument or in gold (where the net position in a given instrument or gold equals the sum of the current fair values of the instrument or gold the banking organization has lent, sold subject to repurchase, or posted as collateral to the counterparty, minus the sum of the current fair values of that same instrument or gold the banking organization has borrowed, purchased subject to resale, or taken as collateral from the counterparty).
- H_s is the haircut appropriate to E_s as described in Table 1 to § __.121, as applicable. H_s has a positive sign if the instrument or gold is net lent, sold subject

to repurchase, or posted as collateral to the counterparty; H_s has a negative sign if the instrument or gold is net borrowed, purchased subject to resale, or taken as collateral from the counterparty.

- N is the number of instruments in the netting set with a unique Committee on Uniform Securities Identification Procedures (CUSIP) designation or foreign equivalent, with certain exceptions. N would include any instrument with a unique CUSIP that the banking organization lends, sells subject to repurchase, or posts as collateral, as well as any instrument with a unique CUSIP that the banking organization borrows, purchases subject to resale, or takes as collateral. However, N would not include collateral instruments that the banking organization is not permitted to include within the credit risk mitigation framework (such as nonfinancial collateral that is not part of a repo-style transaction included in the banking organization's market risk weighted assets) or elects not to include within the credit risk mitigation framework. The number of instruments for N would also not include any instrument (or gold) for which the value E_s is less than one-tenth of the value of the largest E_s in the netting set. Any amount of gold would be given a value of one.
- E_{fx} is the absolute value of the net position in each currency fx different from the settlement currency.
- H_{fx} is the haircut appropriate for currency mismatch of currency fx.

The first component in the above formula, $(\Sigma_i E_i - \Sigma_i C_i)$ would capture the baseline exposure of a netting set of eligible margin loans or repo-style transactions after accounting for the value of any collateral. The second, $(0.4 \times net_{\text{exposure}})$, and third,$(0.6 \times ({}^{\text{gross}_{\text{exposure}}}/_{\sqrt{N}}))$ components in the above formula would reflect the systematic risk (based on the net exposure)

and the idiosyncratic risk[117] (based on the gross exposure) of the netting set of eligible margin loans or repo-style transactions covered by a QMNA. Under the proposal, the net exposure component would allow the formula to recognize netting at the level of the netting set and correlations in the movement of market prices for instruments lent and received. Additionally, because the contribution from the gross exposure component to the exposure amount would decrease proportionally with an increase in the number of unique instruments by CUSIP designations or foreign equivalent, the gross exposure would capture the impact of portfolio diversification. The fourth component, $(\Sigma_{fx}(E_{fx} \times \mathrm{H}_{fx}))$would capture any adjustment to reflect currency mismatch, if applicable.

When determining the market price volatility and currency mismatch haircuts, the banking organization would use the market price volatility haircuts described in the following section and a standard 8 percent currency mismatch haircut, subject to certain adjustments.

Question 51: What are the advantages and disadvantages of the proposed methodology for calculating the exposure amount for eligible margin loans and repo-style transactions covered by a QMNA?

Question 52: What would be the advantages and disadvantages of an alternative method to calculate the number of instruments N based on the number of legal entities that issued or guaranteed the instruments?

II. Market price volatility haircuts

Under the proposal, a banking organization would apply the market price volatility haircut appropriate for the type of collateral, as provided in Table 1 to § __.121 below, in the exposure amount calculation for repo-style transactions, eligible margin loans, and netting sets thereof using the collateral haircut approach and in the calculation of the net independent

[117] Systematic risk represents risks that are impacted by broad market variables (such as economy, region, and sector). Idiosyncratic risk represents risks that are endemic to a specific asset, borrower, or counterparty.

collateral amount and the variation margin amount for collateralized derivative transactions using SA-CCR. Consistent with the current capital rule, the proposal would require banking organizations to apply an 8 percent supervisory haircut, subject to adjustments, to the absolute value of the net position in each currency that is different from the settlement currency.

Proposed Table 1 to §__.121

Market Price Volatility Haircuts (Haircut and risk weights in percent)						
Residual maturity		Securities issued by a sovereign or an issuer described in §__. 111(b)[118] (percent)			Other investment-grade securities (percent)	
		Issuer risk weight of zero	Issuer risk weight of 20 or 50	Issuer risk weight of 100	Exposures other than securitization exposures	Senior securitization exposures with risk weight < 100
Debt securities	Less than or equal to 1 year	0.5	1	15	2	4
	Greater than 1 year and less than or equal to 3 years	2	3	15	4	12
	Greater than 3 years and less than or equal to 5 years				6	
	Greater than 5 years and less than or equal to 10 years	4	6	15	12	24
	Greater than 10 years				20	
Main index equities (including convertible bonds) and gold		20				
Other publicly traded equities and convertible bonds		30				
Mutual funds		Highest haircut applicable to any security in which the fund can invest, unless the banking organization can apply the full look-through approach for equity investments in funds in §__.142(b), in which case the banking organization may use a weighted average of haircuts applicable to the securities held by the fund.				
Cash on deposit		Zero				
Other exposure types[119]		30				

[118] This category also would include public sector entities that are treated as sovereigns by the national supervisor.

[119] Includes senior securitization exposures with a risk weight greater than or equal to 100 percent and sovereign exposures with a risk weight greater than 100 percent.

The proposed haircuts would strike a balance between simplicity and risk sensitivity relative to the supervisory haircuts in the current capital rule by introducing additional granularity with respect to residual maturity, which is a meaningful driver for distinguishing between the market price volatility of different instruments, and by streamlining other aspects of the collateral haircut approach where the exposure's risk weight figures less prominently in the instrument's market price volatility, as described below.

The proposal would apply haircuts based solely on residual maturity, rather than a combination of residual maturity and underlying risk weight as under the current capital rule for investment grade debt securities other than sovereign debt securities. These haircuts are derived from observed stress volatilities during 10-business day periods during the 2008 financial crisis. Debt securities with longer maturities are subject to higher price volatility from future changes in both interest rates and the creditworthiness of the issuer.

Because securitization exposures tend to be more volatile than corporate debt,[120] the proposal would provide a distinct category of market price volatility haircuts for certain securitization exposures consistent with the current capital rule. The proposal would distinguish between non-senior and senior securitization exposures to enhance risk sensitivity. Since senior securitization exposures absorb losses only after more junior securitization exposures, these exposures have an added layer of security and different market price volatility. Therefore, the proposal would only specify term-based haircuts for investment grade senior securitization exposures that receive a risk weight of less than 100 percent under the securitization framework. Other securitization exposures would receive the 30 percent market price volatility haircut applicable to "other" exposure types.

The proposal would require a banking organization to apply market price volatility haircuts of 20 percent for main index equities (including convertible bonds) and gold, 30 percent

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[120] *See* Basel Committee, "Strengthening the resilience of the banking sector - consultative document," December 2009; https://www.bis.org/publ/bcbs164.pdf.

for other publicly traded equities and convertible bonds, and 30 percent for other exposure types. Equities in a main index typically are more liquid than those that are not included in a main index, as investors may seek to replicate the index by purchasing the referenced equities or engaging in derivative transactions involving the index or equities within the index. The lower haircuts for equities included in a main index under the proposal would reflect the higher liquidity of those securities compared to other publicly traded equities or exposure types, which would generally help to reduce losses to banking organizations when liquidating those securities during stress conditions.

For collateral in the form of mutual fund shares, the proposal would be consistent with the collateral haircut approach provided in the current capital rule in which a banking organization would apply the highest haircut applicable to any security in which the fund can invest. The proposal also would include an alternative method available to a banking organization if the mutual fund qualifies for the full look-through approach described in section III.E.1.c.ii. of this Supplementary Information. This alternative method would provide a more risk-sensitive calculation of the haircut on mutual fund shares collateral by using the weighted average of haircuts applicable to the instruments held by the mutual fund.[121] This aspect of the proposal reflects the agencies' observation that, while certain mutual funds may be authorized to hold a wide range of investments, the actual holdings of mutual funds are often more limited.

In addition, the proposal would maintain the requirement for a banking organization to apply a market price volatility haircut of 30 percent to address the potential market price volatility for any instruments that the banking organization has lent, sold subject to repurchase, or posted as collateral that is not of a type otherwise specified in Table 1 to § __.121.

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[121] If the mutual fund qualifies for the full look-through approach described in section III.E.1.c.ii of this Supplementary Information but would be treated as a market risk covered position as described in section III.H.3 of this Supplementary Information if the banking organization held the mutual fund directly, the banking organization is permitted to apply the alternative method to calculate the haircut.

Question 53: What are the advantages and disadvantages of allowing banking organizations to apply the full look-through approach for certain collateral in the form of mutual fund shares? What alternative approaches should the agencies consider for banking organizations to determine the market price volatility haircuts for collateral in the form of mutual fund shares?

III. Minimum haircut floors for certain eligible margin loans and repo-style transactions

The proposed framework for minimum haircuts on non-centrally cleared securities financing transactions would reflect the risk exposure of banking organizations to non-bank financial entities that employ leverage and engage in maturity transformation but that are not subject to prudential regulation.

The absence of prudential regulation makes such entities more vulnerable to runs, leading to an increase in the credit risk of these entities in the form of a greater risk of default in stress periods.[122] Episodes of non-bank financial entities' distress, such as the 2008 financial crisis, have highlighted banking organizations' exposure to non-bank financial entities through securities financing transactions, which may give rise to credit and liquidity risks.

Securities financing transactions may include repo-style transactions and eligible margin loans. The motivation behind a specific securities financing transaction can be either to lend or borrow cash, or to lend or borrow a security. Securities financing transactions can be used by a counterparty to achieve significant leverage – for example, through transactions where the primary purpose is to finance a counterparty through the lending of cash – and result in elevated counterparty credit risk.

The proposal would require a banking organization to receive a minimum amount of collateral when undertaking certain repo-style transactions and eligible margin loans (in-scope

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[122] *See* "Strengthening Oversight and Regulation of Shadow Banking," Financial Stability Board, August 2013 https://www.fsb.org/wp-content/uploads/r_130829b.pdf.

transactions) with such entities (unregulated financial institutions). The application of haircut floors would determine the minimum amount of collateral exchanged. A banking organization would treat in-scope transactions with unregulated financial institutions that do not meet the proposed haircut floors as repo-style transactions or eligible margin loans where the banking organization did not receive any collateral from its counterparty.[123] The proposed treatment is intended to limit the build-up of excessive leverage outside the banking system and reduce the cyclicality of such leverage, thereby limiting risk to the lending banking organization and the banking system.

A. Unregulated financial institutions

Consistent with the definition in §__. 2 of the current capital rule, the proposal would define unregulated financial institution as a financial institution that is not a regulated financial institution, including any financial institution that would meet the definition of "financial institution" under §__.2 of the current capital rule but for the ownership interest thresholds set forth in paragraph (4)(i) of that definition. Unregulated financial institutions would include hedge funds and private equity firms. This definition would capture non-bank financial entities that employ leverage and engage in maturity transformation but that are not subject to prudential regulation.

Question 54: What entities should be included or excluded from the scope of entities subject to the minimum haircut floors and why? For example, what would be the advantages and disadvantages of expanding the definition of entities that are scoped-in to include all counterparties, or all counterparties other than QCCPs? What impact would expanding the scope of entities subject to the minimum haircut floors have on banking organizations' business

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[123] In this example, the banking organization would be permitted to calculate the exposure amount using the collateral haircut approach but would be required to exclude any collateral received from the calculation. Alternatively, the banking organization could choose not to use the collateral haircut approach but to risk weight any on-balance sheet or off-balance sheet portions of the exposure as demonstrated in the example below.

models, competitiveness, or ability to intermediate in funding markets and in U.S. Treasury securities markets?

B. In-scope transactions

Under the proposal, an in-scope transaction generally would include the following non-centrally cleared transactions: (1) an eligible margin loan or a repo-style transaction in which a banking organization lends cash to an unregulated financial institution in exchange for securities, unless all of the securities are non-defaulted sovereign exposures, and (2) certain security-for-security repo-style transactions that are collateral upgrade transactions with an unregulated financial institution. Under the proposal, a collateral upgrade transaction would include a transaction in which the banking organization lends one or more securities that, in aggregate, are subject to a lower haircut floor in Table 2 to § __.121 than the securities received from the unregulated financial institution.

The proposal would exempt the following types of transactions and netting sets of such transactions with unregulated financial institutions from the minimum haircut floor requirements: (1) transactions in which an unregulated financial institution lends, sells subject to repurchase, or posts as collateral securities to a banking organization in exchange for cash and the unregulated financial institution reinvests the cash at the same or a shorter maturity than the original transaction with the banking organization; (2) collateral upgrade transactions in which the unregulated financial institution is unable to re-hypothecate, or contractually agrees that it will not re-hypothecate, the securities it receives as collateral; or (3) transactions in which a banking organization borrows securities from an unregulated financial institution for the purpose of meeting current or anticipated demand, such as for delivery obligations, customer demand, or segregation requirements, and not to provide financing to the unregulated financial institution. For transactions that are cash-collateralized in which an unregulated financial institution lends securities to the banking organization, banking organizations could rely on representations made by the unregulated financial institution as to whether the unregulated financial institution

reinvests the cash at the same or a shorter maturity than the maturity of the transaction. For transactions in which a banking organization is seeking to borrow securities from an unregulated financial institution to meet a current or anticipated demand, banking organizations must maintain sufficient written documentation that such transactions are for the purpose of meeting a current or anticipated demand and not for providing financing to an unregulated financial institution. The proposal would exclude these in-scope transactions from the minimum haircut floors as these transactions do not pose the same credit and liquidity risks as other in-scope transactions and serve as important liquidity and intermediation services provided by banking organizations.

Question 55: What alternative definitions of "in-scope transactions" should the agencies consider? For example, what would be the pros and cons of an expanded definition of "in-scope transactions" to include all eligible margin loan or repo-style transactions in which a banking organization lends cash, including those involving sovereign exposures as collateral? How would the inclusion of sovereign exposures affect the market for those securities? What, if any, additional factors should the agencies consider concerning this alternative definition?

Question 56: What, if any, difficulties would banking organizations have in identifying transactions that would be exempt from the minimum haircut floor?

Question 57: What, if any, operational burdens would be imposed by the proposal to require banking organizations to maintain sufficient written documentation to exempt transactions with an unregulated financial institution where the banking organization is seeking to borrow securities from an unregulated financial institution to meet a current or anticipated demand?

C. Application of the minimum haircut floors

For in-scope transactions, the proposal would establish minimum haircut floors that would be applied on a single-transaction or a portfolio basis depending on whether the in-scope transaction is part of a netting set. The proposed haircut floors are derived from observed

historical price volatilities as well as existing market and central bank haircut conventions. If the in-scope transaction is a single transaction, then the banking organization would apply the corresponding single-transaction haircut floor. If the in-scope transaction is part of a netting set, the banking organization would apply a portfolio-based floor to the entire netting set.[124] In-scope transactions that do not meet the applicable minimum haircut floor would be treated as uncollateralized exposures.

The minimum haircut floors are intended to reflect the minimum amount of collateral banking organizations should receive when undertaking in-scope transactions with unregulated financial institutions. Banking organizations should require an appropriate amount of collateral to be provided to account for the risks of the transaction and counterparty. Figure 1 provides a summary of the process for determining whether an in-scope transaction meets the applicable minimum haircut floor.

Figure 1. Flow chart for applying the minimum haircut floors

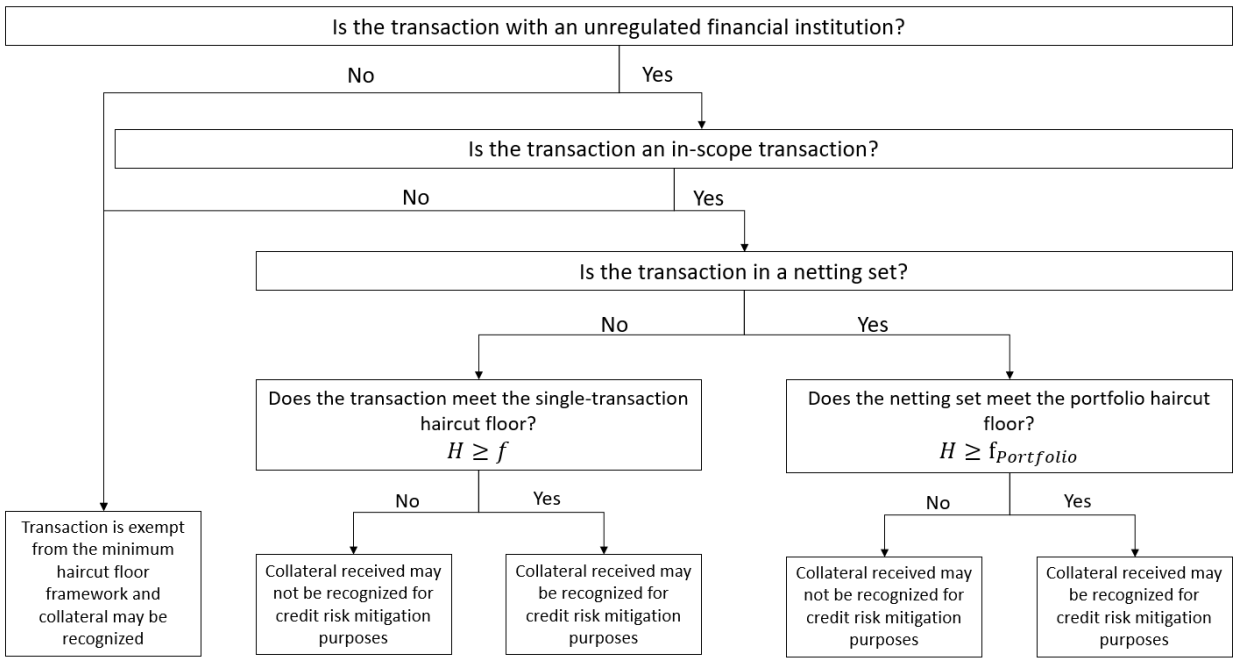

Table 2 to § __.121: The minimum haircut floors (f) by collateral types and maturity

Residual maturity of collateral	Haircut level (in percentage)	
	Corporate and other issuers	Securitization exposures

[124] If a netting set contains both in-scope and out-of-scope transactions, the banking organization would apply a portfolio-based floor for the entire netting set.

≤ 1 year debt securities and floating rate notes (FRNs)	0.5	1.0
> 1 year, ≤ 5 years debt securities	1.5	4.0
> 5 years, ≤ 10 years debt securities	3.0	6.0
> 10 years debt securities	4.0	7.0
Main index equities	6.0	
Cash on deposit	Zero	
Sovereign exposures that receive a zero percent risk weight under § __.111	Zero	
Other exposure types	10.0	

The proposal would require a banking organization to compare the haircut (*H*) and a single-transaction or portfolio haircut floor (*f*), as calculated below, to determine whether an in-scope transaction or a netting set of in-scope transactions meets the relevant floor. If *H* is less than *f*, then the banking organization may not recognize the risk-mitigating effects of any financial collateral that secures the exposure.

For a single cash-lent-for-security in-scope transaction, *H* would be defined as the ratio of the fair value of financial collateral borrowed, purchased subject to resale, or taken as collateral from the counterparty to the fair value of cash lent, minus one, and *f* would be the corresponding haircut applicable to the collateral in Table 2 to § __.121. For example, for an in-scope transaction in which a banking organization lends $100 in cash to an unregulated financial institution and receives $102 in investment-grade corporate bonds with a residual maturity of 10 years as collateral, the haircut would be calculated as H = (102/100) - 1 = 2 percent. The single-transaction haircut floor for an investment grade corporate bond with a residual maturity of 10 years or less under Table 2 to § __.121 would be $f = 3$ percent Since the haircut is less than the single-transaction haircut floor ($H = 2$ percent < 3 percent $= f$), the proposal would not allow the banking organization to recognize the risk-mitigating benefits of the collateral and would require the banking organization to calculate the exposure amount of its repo-style transaction or eligible margin loan as if it had not received any collateral from its counterparty.

For a single security-for-security repo-style transaction, H would be defined as the ratio of the fair value of financial collateral borrowed, purchased subject to resale, or taken as collateral from the counterparty (B) relative to the fair value of the financial collateral the banking organization has lent, sold subject to repurchase, or posted as collateral to the counterparty (L), minus one. The single-transaction haircut floor (f) of the transaction would incorporate the corresponding haircut applicable to the collateral received (f_B) and collateral lent (f_L) in Table 2 to § __.121. The single-transaction haircut floor for the two types of collateral would be computed as follows:

$$f = \left({(1 + f_B)}/{(1 + f_L)} \right) - 1$$

The single transaction floor then would be compared to the haircut of the transaction, determined as follows:

$$\mathrm{H} = \frac{\mathrm{C_B}}{\mathrm{C_L}} - 1$$

where C_B denotes the fair value of collateral received and C_L the fair value of collateral lent. For example, for a securities lending transaction in which a banking organization lends $100 in investment grade corporate bonds with a residual maturity of 10 years (which correspond to a haircut floor of 3 percent) and receives $102 in main index equity securities (which correspond to a haircut floor of 6 percent) as collateral, the haircut would be:

$$H = \frac{102}{100} - 1 = 2 \text{ percent.}$$

The single-transaction haircut floor would be:

$$f = \frac{1 + 6\%}{1 + 3\%} - 1 = 2.9126 \text{ percent}$$

Since the haircut is less than the single-transaction haircut floor (H = 2 percent < 2.9126 percent = f), the banking organization would not be able to recognize the risk-mitigating benefits of the

collateral received and would be required to calculate the exposure amount of its repo-style transaction or eligible margin loan as if it had not received any collateral from its counterparty.

For a netting set of in-scope transactions, the haircut floor of the netting set would be computed as follows:

$$f_{Portfolio} = \left(\left(\frac{\sum(C_L/(1+f_L))}{\sum C_L}\right)\Big/\left(\frac{\sum(C_B/(1+f_B))}{\sum C_B}\right)\right) - 1$$

In the above formula, (C_L) would be the fair value of the net position in each security or in cash that is net lent, sold subject to repurchase, or posted as collateral to the counterparty; C_B is the fair value of the net position that is net borrowed, purchased subject to resale, or taken as collateral from the counterparty; and f_L and f_B would be the haircut floors for the securities or cash, as applicable, that are net lent and net borrowed, respectively.[125] This calculation would be the weighted average haircut floor of the portfolio. The portfolio haircut H would be calculated as:

$$H = \left(\sum C_B \Big/ \sum C_L\right) - 1$$

The portfolio would satisfy the minimum haircut floor requirement where the following condition is satisfied: $H \geq f_{Portfolio}$

If the portfolio does not satisfy the minimum haircut floor, the banking organization would not be able to recognize the risk-mitigating benefits of the collateral received.

In the following example, there are two in-scope repo-style transactions that are in the same netting set: (1) a reverse repo transaction in which a banking organization lends $100 in cash to an unregulated financial institution and receives $102 in investment grade corporate bonds with a residual maturity of 10 years (which correspond to a haircut floor of 3 percent) as

[125] For a given security or cash, a banking organization may collect the security or cash in one transaction and post it in another. Thus, at the portfolio level, the banking organization may, after netting across all transactions in the same portfolio, be either collecting the security or cash (that is, net borrowed) or posting the security or cash (that is, net lent).

collateral; and (2) a securities lending transaction in which a banking organization lends $100 of different investment grade corporate bonds also with a residual maturity of 10 years and receives $104 in main index equity securities (which correspond to a haircut floor of 6 percent) as collateral. For this set of in-scope repo-style transactions, the portfolio haircut would be:

$$H = \frac{102+104}{100+100} - 1 = 3 \text{ percent.}$$

The portfolio haircut floor would be:

$$f_{Portfolio} = \left[\left(\frac{\frac{100}{(1+0\%)}+\frac{100}{(1+3\%)}}{100+100}\right) \Big/ \left(\frac{102/(1+3\%)+104/(1+6\%)}{102+104}\right)\right] - 1 = 2.971 \text{ percent.}$$

The banking organization would be able to recognize the risk-mitigating benefits of the collateral received, because the portfolio haircut is higher than the portfolio haircut floor:

$H = 3 \text{ percent} > 2.971 \text{ percent} = f_{Portfolio})$

To calculate the exposure amount for this transaction, the banking organization would use the collateral haircut approach formula in §__.121(c) and the standard market price volatility haircuts in Table 1 to §__.121 and set N to 3:

$$E^* = max\,\{0; ((100 + 100) - (102 + 104) + (0.4 \times 21.04) + (0.6 \times \frac{45.04}{\sqrt{3}})\} = 18.018$$

Where

$$exposure_{net} = |(100 \times 0\%) + (100 \times 12\%) + (102 \times (-12\%)) + (104 \times (-20\%))| = 21.04$$

and

$$exposure_{gross} = (100 \times |0\%|) + (100 \times |12\%| + (102 \times |-12\%|) + (104 \times |-20\%|) = 45.04$$

In a similar example, there are also two in-scope repo-style transactions that are in the same netting set: (1) a reverse repo transaction in which a banking organization lends $100 in cash to an unregulated financial institution and receives $101 in investment grade corporate bonds with a residual maturity of 10 years (which correspond to a haircut floor of 3 percent) as collateral; and (2) a securities lending transaction in which a banking organization lends $100 of

different investment grade corporate bonds and receives $102 in main index equity securities (which correspond to a haircut floor of 6 percent) as collateral. For this set of in-scope repo-style transactions, the portfolio haircut would be:

$$H = \frac{101+102}{100+100} - 1 = 1.5 \text{ percent}$$

and the portfolio haircut floor would be:

$$f_{Portfolio} = \left[\left(\frac{\frac{100}{(1+0\%)}+\frac{100}{(1+3\%)}}{100+100}\right) \Big/ \left(\frac{101/(1+3\%)+102/(1+6\%)}{101+102}\right)\right] - 1 = 2.9642 \text{ percent.}$$

Since the portfolio haircut is less than the portfolio haircut floor (H = 1.5 percent < 2.9642 percent = $f_{Portfolio}$), the banking organization would not be able to recognize the risk-mitigating benefits of the collateral received.

Instead, the banking organization would be required to separately risk-weight the on-balance sheet and off-balance sheet portion of each individual transaction. In this example, assuming that both individual transactions are treated as secured borrowings instead of sales under GAAP, the first transaction in which a banking organization lends $100 in cash to an unregulated financial institution and receives $101 in investment grade corporate bonds would result in an on-balance sheet receivable of $100.[126] If the second transaction is a securities lending transaction from the perspective of the banking organization and the banking organization is permitted to sell or repledge the equity securities, the transaction results in an increase in the banking organization's balance sheet of $102 for the equity securities received from the counterparty. The banking organization would be required to apply a 100 percent credit conversion factor (CCF) to the off-balance sheet exposure to its counterparty for the return of the investment grade corporate bonds. In this case, the off-balance sheet exposure to the

[126] The transaction would also result in credit (reduction) of $100 cash, but this would have no impact on the banking organization's risk-weighted assets as cash is assigned a 0 percent risk weight under §__.111.

counterparty would be the $100 of lent investment grade corporate bonds.[127] The total exposure amount for the two transactions would be ($100 receivable + $102 equity exposure + $100 off-balance sheet exposure) = $302. If the banking organization is not permitted to sell or repledge the equity securities in the second transaction, or if that transaction is a securities borrowing transaction from the perspective of the banking organization, the equity securities received by the banking organization would not be recognized on the banking organization's balance sheet.[128] The banking organization would still be required to apply a 100 percent CCF to the off-balance sheet exposure to its counterparty,[129] so the total exposure amount would be ($100 receivable + $100 off-balance sheet exposure) = $200.[130]

Question 58: What alternative minimum haircut floors should the agencies consider and why? What would be the advantages and disadvantages of setting the minimum haircuts at a higher level, such as at the proposed market price volatility haircuts used for recognition of collateral for eligible margin loans and repo-style transactions, or at levels between the proposed minimum haircut floors and the proposed market price volatility haircuts?

Question 59: Where a banking organization has exchanged multiple securities for multiple other securities under a QMNA with an unregulated financial institution, what would be the costs and benefits of providing banking organizations the flexibility to apply a single-transaction haircut floor on a transaction-by-transaction basis for in-scope transactions within the netting set, rather than applying a portfolio-based floor? Under this approach, each in-scope transaction within a netting set would be evaluated separately. Banking organizations would be

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[127] See proposed §__.112(b)(5)(iv).

[128] If the transaction is a securities borrowing transaction from the perspective of the banking organization, and if the equity securities received are sold or if the counterparty defaults, the banking organization would be required to record an obligation to return the securities.

[129] See proposed §__.112(b)(5)(v)

[130] In all cases, the $100 of investment grade corporate bonds the banking organization has lent would continue to remain on the banking organization's balance sheet and the banking organization would continue to maintain risk-based capital against these bonds.

permitted to recognize the risk-mitigation benefits of collateral for individual transactions that meet the single-transaction haircut floor, even if the netting set did not meet the portfolio-based floor.

Question 60: How can the proposed formulas used for determining whether an in-scope transaction or in-scope set of transactions breaches the minimum haircut floors be improved or further clarified?

Question 61: What are the advantages and disadvantages of the proposed approach to minimum collateral haircuts for in-scope transactions with unregulated financial institutions? How might the proposal change the behavior of banking organizations and their counterparties, including changes in funding practices and potential migration of funding transactions to other counterparties? Commenters are encouraged to provide data and supporting analysis.

D. Securitization framework

The securitization framework is designed to provide the capital requirement for exposures that involve the tranching of credit risk of one or more underlying financial exposures. The risk and complexity posed by securitizations differ relative to direct exposure to the underlying assets in the securitization because the credit risk of those assets is divided into different levels of loss prioritization using a wide range of structural mechanisms.[131] The performance of a securitization depends not only on the structure, but also on the performance of the underlying assets and certain parties to the securitization structure, including the asset servicer and any liquidity facility provider. The involvement of these parties makes securitization exposures susceptible to additional risks as compared to direct credit exposures.

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[131] To segment a reference portfolio into different levels of risks for different investors, the securitization process divides the reference portfolio into different slices, called tranches, which receive cash flows or absorb losses based on a predetermined order of priority. This payment structure is known as the "cash flow waterfall," or simply the "waterfall." The waterfall schedule prioritizes the manner in which interest or principal payments from the reference portfolio must be allocated, creating different risk-return profiles for each tranche.

The proposed securitization framework would draw on many features of the framework in subpart E of the current capital rule with the following modifications: (1) additional operational requirements for synthetic securitizations; (2) a modified treatment for resecuritizations that meet the operational requirements; (3) a new securitization standardized approach (SEC-SA), as a replacement to the supervisory formula approach and standardized supervisory formula approach (SSFA), which includes, relative to the SSFA, modified definitions of attachment point and detachment point, a modified definition of the W parameter, modifications to the definition of K_G, a higher p-factor, a lower risk-weight floor for securitization exposures that are not resecuritization exposures, and a higher risk-weight floor for resecuritization exposures; (4) a prohibition on using the securitization framework for nth-to-default credit derivatives; (5) a new treatment for derivative contracts that do not provide credit enhancement; (6) a modified treatment for overlapping exposures; (7) new maximum capital requirements and eligibility criteria for certain senior securitization exposures (the "look-through approach"); (8) a modification to the treatment for credit-enhancing interest only strips (CEIOs); and (9) a new framework for non-performing loan (NPL) securitizations.[132]

1. Operational requirements

The proposed operational requirements would be consistent with the operational requirements in subpart E of the current capital rule, with three exceptions as described below. In addition, for resecuritization exposures that meet the operational requirements, the proposal would eliminate the option for banking organizations to treat the exposures as if they had not been securitized.

a. Early amortization provisions

Early amortization provisions cause investors in securitization exposures to be repaid before the original stated maturity when certain conditions are triggered. For example, many

[132] The proposal generally would use the same approaches to determine the exposure amount of securitization exposures.

securitizations of revolving credit facilities, most commonly credit-card receivable securitizations, contain provisions that require the securitization to be wound down and investors repaid on an accelerated basis if excess spread falls below a certain threshold. This decrease in excess spread would typically be caused by credit deterioration in the underlying exposures. Such provisions can expose the originating banking organization to increased credit and liquidity risk and potentially increased capital requirements after the early amortization is triggered as the banking organization could be obligated to fund the borrowers' future draws on the revolving lines of credit. In such an instance, the originating banking organization may have to either find a new funding source, whether internal or external, to cover the new draws or reduce borrowers' credit line availability.

The proposal would expand the applicability of the operational requirements regarding early amortization provisions to synthetic securitizations, similar to their application to traditional securitizations under subpart D of the current capital rule. Under §__. 2 of the current capital rule, an early amortization provision means a provision in the documentation governing a securitization that, when triggered, causes investors in the securitization exposure to be repaid before the original stated maturity of the securitization exposure, with certain exceptions.[133] Under the proposal, if a synthetic securitization includes an early amortization provision and references one or more underlying exposures in which the borrower is permitted to vary the drawn amount within an agreed limit under a line of credit, the banking organization would be required to hold risk-based capital against the underlying exposures as if they had not been synthetically securitized.

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[133] The exceptions to the current definition of early amortization provision are a provision that: (1) is triggered solely by events not directly related to the performance of the underlying exposures or the originating banking organization (such as material changes in tax laws or regulations); or (2) leaves investors fully exposed to future draws by borrowers on the underlying exposures even after the provision is triggered.

Question 62: What, if any, additional exceptions to the early amortization provision definition should the agencies consider and why, provided such exceptions would not incentivize a banking organization to provide implicit support to a securitization exposure?

b. Synthetic excess spread

The proposal would prohibit an originating banking organization from recognizing the risk-mitigating benefits of a synthetic securitization that includes synthetic excess spread. Synthetic excess spread would be defined in the proposal as any contractual provision in a synthetic securitization that is designed to absorb losses prior to any of the tranches of the securitization structure. Synthetic excess spread is a form of credit enhancement provided by the originating banking organization to the investors in the synthetic securitization; therefore, the originating banking organization should maintain capital against the credit exposure represented by the synthetic excess spread. However, a risk-based capital requirement for synthetic excess spread may not be determinable with sufficient precision to promote comparability across banking organizations because the amount of synthetic excess spread made available to investors in the synthetic securitization would depend upon the maturity of the underlying assets, which itself depends on whether any of the underlying exposures have defaulted or prepaid. In particular, the total amount of synthetic excess spread made available at inception to investors over the life of the transaction may not be known *ex ante,* as the outstanding balance of the securitization in future years is unknown. Therefore, if a synthetic securitization structure includes synthetic excess spread, the banking organization would be required under the proposal to maintain capital against all the underlying exposures as if they had not been synthetically securitized.

Question 63: What clarifications or modifications should the agencies consider for the above proposed definition of synthetic excess spread and why?

Question 64: What are the advantages and disadvantages of the proposed treatment of synthetic securitizations with synthetic excess spread? If the agencies were to permit originating

banking organizations to recognize the credit risk-mitigation benefits of securitizations with synthetic excess spread, how should the exposure amount of the synthetic excess spread be calculated, and what would be the appropriate capital requirement for synthetic excess spread?

c. Minimum payment threshold

Under the proposal, the operational requirements for synthetic securitizations would include a new requirement that any applicable minimum payment threshold for the credit risk mitigant be consistent with standard market practice. A minimum payment threshold is a contractual minimum amount that must be delinquent before a credit event is deemed to have occurred. The proposed minimum payment threshold criterion is intended to prohibit an originating banking organization from recognizing the capital reducing benefits of a synthetic securitization whose minimum payment threshold is so large that it allows for material losses to occur without triggering the credit protection acquired by the protection purchaser, as such provisions would interfere with an effective transfer of credit risk.

Question 65: What are the benefits and drawbacks of the proposed minimum payment threshold criterion? What, if any, additional criteria or clarifications should the agencies consider and why?

d. Resecuritization exposures

For a resecuritization that is a traditional securitization, if the operational requirements have been met, an originating banking organization would be required to exclude the transferred exposures from the calculation of its risk-weighted assets and maintain risk-based capital against any credit risk it retains in connection with the resecuritization. Unlike in the case of a securitization exposure that is not a resecuritization, the proposal would not allow a banking organization the option to elect to treat a resecuritization as if the underlying exposures had not been re-securitized. While a securitization of non-securitized assets can be used to diversify or transfer credit risk of those exposures, a resecuritization might not offer similar risk reduction or diversification benefits, particularly if the underlying exposures reflect similar high-risk tranches

of other securitizations. Therefore, these resecuritization exposures warrant a higher regulatory capital requirement than that applicable to the underlying exposures.

Similarly, for a resecuritization that is a synthetic securitization, if the operational requirements have been met, an originating banking organization would be required to recognize for risk-based capital purposes the use of a credit risk mitigant to hedge the underlying exposures and must hold capital against any credit risk of the exposures it retains in connection with the synthetic securitization.

2. Securitization standardized approach (SEC-SA)

Under the proposal, a banking organization would determine the capital requirements for most securitization exposures under the SEC-SA, which is substantively similar to the SSFA in the current capital rule except for certain changes as discussed below. Under the SEC-SA, a banking organization would determine the risk weight for a securitization exposure based on the risk weight of the underlying assets, with adjustments to reflect (1) delinquencies in such assets, (2) the securitization exposure's subordination level in the allocation of losses, and (3) the heightened correlation and additional risks inherent in securitizations relative to direct credit exposures.

To calculate the risk weight for a securitization exposure using the SEC-SA, a banking organization must have accurate information on the parameters used in the SEC-SA calculation. If the banking organization cannot, or chooses not to, apply the SEC-SA, the banking organization would be required to apply a 1,250 percent risk weight to the exposure.

a. Definition of attachment point and detachment point

Under the current capital rule, the attachment point (parameter A) of a securitization exposure equals the ratio of the current dollar amount of underlying exposures that are subordinated to the exposure of the banking organization to the current dollar amount of underlying exposures. Any reserve account funded by the accumulated cash flows from the underlying exposures that is subordinated to the banking organization's securitization exposure

may be included in the calculation of parameter A to the extent that cash is present in the account. The calculation in the current capital rule does not permit a banking organization to recognize noncash assets in a reserve account in the calculation of parameter A. In contrast, the proposal would permit a banking organization to recognize all assets, cash or noncash, that are included in a reserve account in the calculation of parameter A. However, a banking organization would not be allowed to include interest rate derivative contracts and exchange rate derivative contracts, or the cash collateral accounts related to these instruments, in the calculation of parameters A and D. The agencies are proposing this treatment because assets held in a funded reserve account, whether cash or noncash, can provide credit enhancement to a securitization exposure, whereas interest rate and foreign exchange derivatives (and any cash collateral held against these derivatives) do not.[134]

The proposal would modify the definition of attachment point so that it refers to the outstanding balance of the underlying assets in the pool rather than the current dollar value of the underlying exposures. By referencing the outstanding balance of the underlying assets instead of the current dollar amount of the underlying exposures, the revised definition would clarify that a banking organization may recognize a nonrefundable purchase price discount[135] when

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[134] For example, if a securitization SPE has assets denominated in U.S. Dollars and liabilities denominated in Euros, and if the securitization SPE executes a USD-EUR foreign exchange swap, the swap hedges the foreign exchange risk between the SPE's assets and liabilities but does not provide credit enhancement to any of the tranches of the securitization.

[135] The proposal would define nonrefundable purchase price discount to mean the difference between the initial outstanding balance of the exposures in the underlying pool and the price at which these exposures are sold by the originator to the securitization SPE, when neither originator nor the original lender are reimbursed for this difference. In cases where the originator underwrites tranches of a NPL securitization for subsequent sale, the NRPPD may include the differences between the notional amount of the tranches and the price at which these tranches are first sold to unrelated third parties. For any given piece of a securitization tranche, only its initial sale from the originator to investors is taken into account in the determination of NRPPD. The purchase prices of subsequent re-sales are not considered. See proposed definition in §__.101.

calculating the attachment point of a securitization exposure. A similar modification would be made to the definition of detachment point.[136]

b. Definition of W parameter

Under the current capital rule, parameter W, which is expressed as a decimal value between zero and one, reflects the proportion of underlying exposures that are not performing or are delinquent, according to criteria outlined in the rule. The proposal would apply a similar definition of parameter W for subpart E, but clarify that for resecuritization exposures, any underlying exposure that is a securitization exposure would only be included in the denominator of the ratio and would be excluded from the numerator of the ratio. That is, for resecuritization exposures, parameter W would be the ratio of the sum of the outstanding balance of any underlying exposures of the securitization that meet any of the criteria in paragraphs __.133(b)(1)(i) through (vi) of the proposal that are not securitization exposures to the outstanding balance of all underlying exposures. Underlying securitization exposures need not be included in the numerator of parameter W because the risk weight of the underlying securitization exposure as calculated by the SEC-SA already reflects the impact of any delinquent or otherwise nonperforming loans within the underlying securitization exposure. For example, if a resecuritization with a notional amount of $10 million includes underlying securitization exposures with a notional amount of $5 million and underlying non-securitization exposures with a notional amount of $5 million, and if $500,000 of the non-securitization exposures are delinquent, the numerator for the W parameter would be $500,000 while the denominator for the W parameter would be $10 million. This would be true regardless of the delinquency status of any of the securitization exposures.

c. Delinquency-adjusted (K_A) and non-adjusted (K_G) weighted-average capital requirement of the underlying exposures

[136] For the sake of consistency, the proposal would also use the term "outstanding balance" in the calculation of W and K_G.

Under the proposal, K_A would reflect the delinquency-adjusted, weighted-average capital requirement of the underlying exposures and would be a function of K_G and W. Under this approach, in order to calculate parameter W, and thus K_A, the banking organization must know the delinquency status of all underlying exposures in the securitization. K_G would equal the weighted average total capital requirement of the underlying exposures (with the outstanding balance used as the weight for each exposure), calculated using the risk weights according to subpart E of the proposed rule.

The agencies are proposing two modifications to the definition of K_G for SEC-SA compared to the current K_G as used in the SSFA. First, for interest rate derivative contracts and exchange rate derivative contracts, the positive current exposure times the risk weight of the counterparty multiplied by 0.08 would be included in the numerator of K_G but excluded from the denominator of K_G. If amounts related to interest rate and exchange rate derivative contracts were included in both the numerator and denominator of K_G, these contracts could reduce the capital requirement of securitization exposures even though interest rate and exchange rate derivative contracts do not provide any credit enhancement to a securitization. Second, if a banking organization transfers credit risk via a synthetic securitization to a securitization SPE and if the securitization SPE issues funded obligations to investors, the banking organization would include the total capital requirement (exposure amount multiplied by risk weight multiplied by 0.08) of any collateral held by the securitization SPE in the numerator of K_G. The denominator of K_G is calculated without recognition of the collateral. This ensures that if collateral held at the SPE is invested in credit-sensitive assets, the credit risk associated with those assets will be included in the banking organization's capital calculation. Consistent with subpart D of the current capital rule, under the proposal, the value of K_G for a resecuritization exposure would equal the weighted average of two distinct K_G values, one for the underlying securitization (which equals the capital requirement calculated using the SEC-SA), the other for

the underlying exposures (which equals the weighted average capital requirement of the underlying exposures).

Question 66: Recognizing that banking organizations may not always know the delinquency status of all underlying exposures, what would be the benefits and drawbacks of allowing a banking organization to use the SEC-SA if the banking organization knows the delinquency status for most, but not all, of the underlying exposures? For example, if the banking organization knew the delinquency status of 95 percent of the exposures, it could (1) split the underlying exposures into two subpools, (2) calculate a weighted average of the K_A of the subpool comprising the underlying exposures for which the delinquency status is known, (3) assign a value of 1 for K_A of the other subpool comprising exposures for which the delinquency status is unknown, and (4) assign a K_A for the entire pool equal to the weighted average of the K_A for each subpool. What other approaches should the agencies consider and why?

d. Supervisory calibration parameter (Supervisory parameter p)

Under the proposal, a banking organization would apply a supervisory parameter p of 1.0 to securitization exposures that are not resecuritization exposures and a supervisory parameter p of 1.5 to resecuritization exposures. The proposed increase to the supervisory parameter p for securitizations that are not resecuritization exposures from 0.5 to 1.0 would help to ensure that the framework produces appropriately conservative risk-based capital requirements when combined with the reduced risk weights applicable to certain underlying assets under the proposal that would be reflected in lower values of K_G and the proposed reduction in the risk-weight floor under SEC-SA for securitization exposures that are not resecuritization exposures.[137]

e. Supervisory risk-weight floors

[137] *See* sections III.C.2 and III.D.2.d of this Supplementary Information for a more detailed discussion of the reduced risk weights applicable to certain underlying assets and the risk-weight floor, respectively.

The SEC-SA would require banking organizations to apply a risk weight floor to all securitization exposures. The SEC-SA is based on assumptions and the risk weight floor ensures a minimum level of capital is held to account for modelling risks and correlation risks.[138] The proposal would apply a risk weight floor of 15 percent for securitization exposures that are not resecuritization exposures. The 15 percent risk weight floor is most relevant for more senior securitization exposures. While junior tranches can absorb a significant amount of credit risk, senior tranches are still exposed to some amount of credit risk on the underlying exposures. Therefore, a minimum prudential capital requirement continues to be appropriate in the securitization context.

For resecuritization exposures, the proposed SEC-SA approach would require banking organizations to apply a risk-weight floor of at least 100 percent. The proposed 100 percent supervisory risk-weight floor for resecuritization exposures is intended to capture the greater complexity of such exposures and heightened correlation risks inherent in the underlying securitization exposures.[139]

The proposal would also apply a minimum risk weight of 100 percent to NPL securitization exposures. Compared to other securitizations, the performance of NPL securitizations depends more heavily on the servicer's ability to generate cashflows from the workout of the underlying exposures, typically through renegotiation of the defaulted loans with the borrower or enforcement against the collateral. These idiosyncratic risks associated with NPL securitizations merit a higher minimum risk weight.

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[138] Default correlation is the likelihood that two or more exposures will default at the same time.

[139] In a typical securitization exposure that is not a resecuritization, each underlying exposure is subject to idiosyncratic default risks (for example, the employment status of each obligor) which may exhibit lower relative default correlation. In a resecuritization exposure, the underlying exposures, which are typically tranches of securitizations, usually have credit enhancement from more junior tranches that protects against many idiosyncratic risks. Systematic risks are more likely to generate defaults in the underlying exposures of resecuritizations than idiosyncratic risks, but systematic risks are also much more correlated; therefore, resecuritizations typically have higher default correlations than other types of securitizations.

3. *Exceptions to the SEC-SA risk-based capital treatment for securitization exposures*

Securitization exposures sometimes contain unique features that, if not accounted for, could produce inconsistent outcomes under the SEC-SA or in some cases make the calculation of the risk weight inoperable. Thus, notwithstanding the general application of SEC-SA, the proposal would include additional approaches to account for certain types of securitization exposures, which would more appropriately align the capital requirement with the risk of the exposure.

a. *Nth-to-default credit derivatives*

Under the current capital rule, a banking organization that has purchased credit protection in the form of an nth-to-default credit derivative is permitted to recognize the risk mitigating benefits of that derivative. The proposal would not permit banking organizations to recognize any risk-mitigating benefit for nth-to-default credit derivatives in which the banking organization is the protection purchaser under either the proposed credit risk mitigation framework or under the proposed securitization framework. Purchased credit protection through nth-to-default derivatives often does not correlate with the hedged exposure which inhibits the risk mitigating benefits of the instrument.

For nth-to-default credit derivatives in which the banking organization is the protection provider, the proposal would prohibit use of the securitization framework and instead would require banking organizations to calculate the risk-weighted asset amount by multiplying the aggregate risk weights of the assets included in the basket up to a maximum of 1,250 percent by the notional amount of the protection provided by the credit derivative. In aggregating the risk weights, the (n-1) assets with the lowest risk weight may be excluded from the calculation. This approach would require banking organizations to maintain capital based on the risk characteristics of all the underlying assets in the basket on which it is providing protection, while

accounting for the fact that the banking organization is not required to make a payment unless "n" names in the basket default.

b. Derivative contracts that do not provide credit enhancements

The proposal would provide a new treatment for certain interest rate or foreign exchange derivative contracts that qualify as securitization exposures. Some securitizations either make payments to investors in a different currency from the underlying exposures or make fixed payments to investors when the cash flows received on the securitized assets are linked to a floating interest rate. To neutralize these foreign exchange or interest rate risks, the securitization SPE may enter into a derivative contract that mirrors the currency or interest rate mismatch between the exposures and the tranches. Cash flows required to be made to the derivative counterparty tend to have a senior claim to the principal and interest payment of the collateral, and therefore tend not to provide credit enhancement.

The proposal would require a banking organization that acts as a counterparty to these types of interest rate and foreign exchange derivatives to set the risk weight on such derivatives equal to the risk weight calculated under the SEC-SA for a securitization exposure that is pari passu to the derivative contract or, if such an exposure does not exist, the risk weight of the next subordinated tranche of the securitization exposure. A banking organization may otherwise not be able to calculate a risk weight for these derivative contracts using the SEC-SA because the attachment and detachment points under the proposed formula could equal one another, rendering the formula inoperable. The proposed treatment is intended to appropriately reflect how the credit risk associated with these derivative contracts would be commensurate with or less than the credit risk associated with a pari passu tranche or the next subordinated tranche of a securitization exposure.

The current capital rule permits banking organizations to assign a risk-weighted asset amount for certain derivative contracts that are securitization exposures equal to the exposure amount of the derivative contract (i.e., a risk weight of 100 percent). The proposal would

eliminate this option. The approaches for derivative contracts described in sections III.C.4. of this Supplementary Information (including the treatment for derivative contracts that do not provide credit enhancement described above) are more risk-sensitive and reflective of the risks than a flat 100 percent risk weight.

i. *Overlapping exposures*

The proposal would introduce new provisions for overlapping exposures.[140] First, the proposal would allow a banking organization to treat two non-overlapping securitization exposures as overlapping to the degree that the banking organization assumes that obligations with respect to one of the exposures covers obligations with respect to the other exposure. For example, if a banking organization provides a full liquidity facility to an ABCP program that is not contractually required to fund defaulted assets and the banking organization also holds commercial paper issued by the ABCP program, a banking organization would be permitted to calculate risk-weighted assets only for the liquidity facility if the banking organization assumes, for purposes of calculating risk-based capital requirements, that the liquidity facility would be required to fund the defaulted assets. In this case, the banking organization would be maintaining capital to cover losses on the commercial paper when calculating capital requirements for the liquidity facility, so there is no need to assign a separate capital requirement for the commercial paper held by the banking organization.

Second, the proposal would also allow a banking organization to recognize an overlap between relevant risk-based requirements for securitization exposures under subpart E and market risk covered positions under subpart F, provided the banking organization is able to calculate and compare the capital requirements for the relevant exposures. For example, a banking organization could hold a correlation trading position that would be subject to the proposed requirements under subpart F but would preclude losses in all circumstances on a

[140] An overlapping exposure occurs when a banking organization is exposed to the same risk to the same obligor through multiple direct or indirect exposures to that obligor.

separate securitization exposure held by the banking organization that would be subject to requirements under subpart E under the proposal. In such cases, the proposal would allow the banking organization to calculate the risk-based requirement for the overlapping portion of the exposures based on the greater of the requirement under subpart E or under subpart F.

Question 67: What challenges, if any, would the option to recognize an overlap between market risk covered and noncovered positions introduce? To what degree do banking organizations anticipate recognizing overlaps between market risk covered and noncovered positions?

ii. *Look-through approach for senior securitization exposures*

The proposal would introduce a provision that would allow a banking organization to cap the risk weight applied to a senior securitization exposure that is not a resecuritization exposure at the weighted-average risk weight of the underlying exposures, provided that the banking organization has knowledge of the composition of all of the underlying exposures (also referred to as the "look-through approach"). For purposes of calculating the weighted-average risk weight, the unpaid principal balance would be used as the weight for each exposure. The proposal would define a senior securitization exposure as an exposure that has a first priority claim on the cash flows from the underlying exposures. When determining whether a securitization exposure has a first priority claim on the cash flows from the underlying exposures, a banking organization would not be required to consider amounts due under interest rate derivative contracts, exchange rate derivative contracts, and servicer cash advance facility contracts,[141] or any fees and other similar payments to be made by the securitization SPE to other parties. Both the most senior commercial paper issued by an ABCP program and a liquidity facility that supports the ABCP program may be senior securitization exposures if the liquidity

[141] A servicer cash advance facility means a facility under which the servicer of the underlying exposures of a securitization may advance cash to ensure an uninterrupted flow of payments to investors in the securitization, including advances made to cover foreclosure costs or other expenses to facilitate the timely collection of the underlying exposures.

facility provider's right to reimbursement of the drawn amounts is senior to all claims on the cash flows from the underlying exposures, except amounts due under interest rate derivative contracts, exchange rate derivative contracts, and servicer cash advance facility contracts, fees due, and other similar payments.

Accordingly, under the proposed look-through approach, if a senior securitization exposure's underlying pool of assets consists solely of loans with a weighted average risk weight of 100 percent, the risk weight for the senior securitization exposure would be the lower of the risk weight calculated under the SEC-SA and 100 percent. The proposed risk-weight cap is intended to recognize that the credit risk associated with each dollar of a senior securitization exposure generally will not be greater than the credit risk associated with each dollar of the underlying assets, because the non-senior tranches of a securitization provide credit enhancement to the senior tranche.

Notwithstanding the proposed risk weight cap, the proposal would require banking organizations to floor the total risk-based capital requirement under the look-through approach at 15 percent, consistent with the proposed 15 percent floor under the SEC-SA. The proposed 15 percent floor, even if it results in a risk weight amount greater than the risk weight cap, is intended to appropriately reflect the minimum amount of risk-based capital that a banking organization should maintain for such exposures given that the process of securitization can introduce additional risks that are not present in the underlying exposures such as modelling risks and correlation risks.

iii. *Credit-enhancing interest only strips*

The proposal would require a banking organization to deduct from common equity tier 1 capital any portion of a CEIO strip[142] that does not constitute an after-tax-gain-on sale, regardless of whether the securitization exposure meets the proposed operational requirements. The

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[142] *See* §__.2 for the definition of credit-enhancing interest-only strip.

proposed treatment for CEIOs would be different than under subpart D of the current capital rule, which requires a risk weight of 1,250 percent for these items. The agencies are proposing to require deduction from common equity tier 1 capital because valuations of CEIOs can include a high degree of subjectivity and, just like assets subject to deduction under the current capital rule such as goodwill and other intangible assets, banking organizations may not be able to fully realize value from CEIOs based on their balance sheet carrying amounts. While a deduction is generally equivalent to a 1,250 percent risk weight when the banking organization maintains an 8 percent capital ratio, given the various capital ratios, buffers, and add-ons applicable to banking organizations subject to subpart E, applying a deduction provides a more consistent treatment across ratios and banking organizations.

iv. *NPL securitizations*

The proposal would define an NPL securitization as a securitization whose underlying exposures consist solely of loans where parameter W for the underlying pool is greater than or equal to 90 percent at the origination cut-off date[143] and at any subsequent date on which assets are added to or removed from the pool due to replenishment or restructuring. A securitization exposure that meets the definition of a resecuritization exposure would be excluded from the definition of an NPL securitization.

In a typical NPL securitization, the originating banking organization sells the non-performing loans to a securitization SPE at a significant discount to the outstanding loan balances (reflecting the nonperforming nature of the underlying exposures) and this discount acts as a credit enhancement to investors. Unlike the performance of securitizations of performing loans, which principally depend on the cash flows of the underlying loans, the performance of NPL securitizations depends in part on the performance of workouts on defaulted loans, which

[143] Cut-off date is the date on which the composition of the asset pool collateralizing a securitization transaction is established. This means that all assets to be included in a securitization must already be in existence and meet the NPL criteria as of that date.

are uncertain and could be volatile, and on the liquidation of underlying collateral for those loans which are unable to be cured.

The proposal would introduce a specific approach for NPL securitization exposures as the proposed SEC-SA may be inappropriate for the unique risks of such exposures. The proposal would require a banking organization to assign a risk weight of 100 percent to a securitization exposure to an NPL securitization if the following conditions are satisfied: (1) the transaction structure meets the definition of a traditional securitization; (2) the securitization has a credit enhancement in the form of a nonrefundable purchase price discount greater than or equal to 50 percent of the outstanding balance of the pool of exposures; and (3) the banking organization's exposure is a senior securitization exposure as described in section III.D.3.b.ii. of this Supplementary Information.[144] Using the SEC-SA for senior securitizations of NPLs that meet these criteria would result in capital requirements that do not reflect the nonrefundable purchase price discount associated with these transactions. The SEC-SA is calibrated on the basis that the loans in the pool at origination are generally performing and is therefore inappropriate for senior exposures to securitizations of NPLs that meet these criteria.

If the NPL securitization exposure is not a senior securitization exposure or the purchase price discount is less than 50 percent, the banking organization would be required to use the SEC-SA to calculate the risk weight (subject to a risk weight floor of 100 percent and reflecting all delinquent exposures in calculating parameter W). If the exposure does not meet the requirements of the SEC-SA, the banking organization must assign a risk weight of 1,250 to the exposure.

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[144] If the banking organization is an originating banking organization with respect to the NPL securitization, the banking organization may maintain risk-based capital against the transferred exposures as if they had not been securitized and must deduct from common equity tier 1 capital any after-tax gain-on-sale resulting from the transaction and any portion of a CEIO strip that does not constitute an after-tax gain-on-sale.

I. Attachment and detachment points for NPL securitizations

Under the proposal, the nonrefundable purchase price discount would equal the difference between the outstanding balance of the underlying exposures and the price at which these exposures are sold by the originator[145] to investors on a final basis without recourse through the securitization SPE, when neither the originator nor the original lender are eligible for future reimbursement for this difference (that is, that the purchase price discount is "non-refundable"). In cases where the originator underwrites tranches of the NPL securitization for subsequent sale, a banking organization may include in the calculation of the nonrefundable purchase price discount the differences between the outstanding balance of the underlying nonperforming loans and the price at which the tranches are first sold to third parties unrelated to the originator. For any given piece of a securitization tranche, a banking organization may only take into account the initial sale from the originator to investors in the determination of the nonrefundable purchase price discount and may not account for any subsequent secondary re-sales.

Since the calculation of parameters A and D both depend on the outstanding balance of the assets in the underlying pool, any nonrefundable purchase price discount associated with a securitization would be included in both the numerator and denominator of parameters A and D. For example, assume an originating banking organization transfers a pool of mortgage loans with an outstanding balance of $100 million to a securitization SPE at a price of $60 million. The nonrefundable purchase price discount would be the difference between the unpaid principal balances on the underlying mortgages at the time of sale to the securitization SPE and the price at which the originating banking organization sold these mortgages to the securitization SPE (that is, $40 million). Assume that the securitization SPE issues $60 million in securitization tranches of which the banking organization retains the senior $50 million tranche and an

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[145] While originator typically refers to the party originating the underlying loans, in the NPL context it refers to the party arranging the NPL securitization (i.e., the securitizer).

investing banking organization purchases the $10 million first-loss tranche. Parameter A for the investing banking organization's exposure would equal 40 percent (that is, the ratio of $40 million to $100 million). Thus, the discount paid for the underlying assets is effectively the "first loss" position in the securitization. Likewise, the originating banking organization would treat both the nonrefundable purchase price discount and the investing banking organization's tranche as subordinate and would set Parameter A at 50 percent.

If, in the example above, the originating bank sells both tranches and each tranche is sold at a 20 percent discount (that is, the $10 million first loss tranche is sold for a price of $8 million and the $50 million senior tranche is sold for a price of $40 million), the investing banking organization that purchases the first-loss tranche would be permitted to assign an attachment point of 52 percent to its exposure, because the nonrefundable purchase price discount would be the difference between the original outstanding amount of the exposures ($100 million) and the total notional value of all the securitization tranches ($48 million). The investing banking organization that purchases the senior tranche would be permitted to assign an attachment point of 60 percent to the exposure.

4. Credit risk mitigation for securitization exposures

The proposal would replace the existing credit risk mitigation framework under subpart E with a framework that is consistent with the credit risk mitigation framework under subpart D of the current capital rule,[146] with one exception. A banking organization that purchases or sells tranched credit protection, whether hedged or unhedged, referencing part of a senior tranche would not be allowed to treat the lower-priority portion that the credit protection does not reference as a senior securitization exposure. For example, if a banking organization holds a

[146] In particular, the proposal would eliminate references to model-based approaches that are currently contained in subpart E. The proposal would also eliminate the formula for collateral recognition under subpart E, which includes standard supervisory haircuts calibrated to a 65-day holding period and permits banking organizations to calculate their own estimates of haircuts with prior supervisory approval.

securitization exposure with an attachment point of 20 percent and a detachment point of 100 percent and the banking organization purchases an eligible guarantee with an attachment point of 50 percent and a detachment point of 100 percent, the banking organization's residual exposure, which attaches at 20 percent and detaches at 50 percent, would be considered a non-senior securitization exposure, and the banking organization would not be permitted to apply the look-through approach to this exposure. A banking organization that purchases a mezzanine tranche that attaches at 20 percent and detaches at 50 percent has a similar economic exposure to a banking organization that purchases a senior tranche that attaches at 20 percent and detaches at 100 percent and then purchases credit protection that attaches at 50 percent and detaches at 100 percent. Since the former transaction would not be considered a senior securitization exposure eligible for the look-through approach, the agencies believe that the latter transaction likewise should not be eligible for the look-through approach. Alternatively, the banking organization may choose not to recognize the tranched credit protection, in which case, the banking organization may treat the securitization exposure (which attaches at 20 percent and detaches at 100 percent) as a senior securitization exposure.

E. Equity exposures

Equity exposures present a greater risk of loss relative to credit exposures as equity exposures represent an ownership interest in the issuer of an equity instrument and have a lower priority of payment or reimbursement in the event that the issuing entity fails to meet its credit obligations. For example, an equity exposure entitles a banking organization to no more than the pro-rata residual value of a company after all other creditors, including subordinated debt holders, are repaid. As a result, consistent with the current capital rule, the proposal would generally assign higher risk weights to equity exposures than exposures subject to the proposed credit risk framework.

The current capital rule's advanced approaches equity framework permits use of an internal models approach for publicly traded and non-publicly traded equity exposures and

equity derivative contracts. The proposal would not include an internal models approach because of the types of equity exposures that would likely be subject to the equity framework. Under the proposal, material publicly traded equity exposures would generally be subject to the proposed market risk framework described in section III.H of this Supplementary Information, unless there are restrictions on the tradability of such exposures.[147] Similarly, equity exposures to investment funds for which the banking organization has access to the investment fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments and investment limits, and is either able to (1) calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund, or (2) obtain daily price quotes - would generally be subject to the proposed market risk framework.[148] As the proposed equity framework would primarily cover illiquid or infrequently traded equity exposures, the proposal would require banking organizations to use a standardized approach to determine capital requirements for such equity exposures. This is intended to increase the transparency of the capital framework and facilitate comparisons of capital adequacy across banking organizations.

The proposed framework would largely maintain those sections of the current capital rule's equity framework that do not rely on models, including the definition of equity exposure,[149] the definition of investment fund, the treatment of stable value protection, and the methods for measuring the exposure amount for equity exposures. The proposal would make certain modifications to improve the risk sensitivity and robustness of the risk-based capital requirements for equity exposures relative to the current capital rule. Specifically, the proposal

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[147] While the proposal would require banking organizations that are not subject to the proposed market risk capital framework to calculate risk-weighted assets for all publicly traded equity exposures under the proposed equity framework, such entities typically do not have material equity exposures.

[148] *See* §_.202 for the proposed definition of market risk covered position.

[149] *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

would: (1) eliminate the 100 percent risk weight threshold category under the simple risk-weight approach for non-significant equity exposures; (2) eliminate the effective and ineffective hedge pair treatment under the simple risk-weight approach; (3) align the conversion factors for conditional commitments to acquire an equity exposure, consistent with the proposed off-balance sheet treatment for exposures subject to the proposed credit risk framework, and (4) increase the risk weight applicable to equity exposures to investment firms with greater than immaterial leverage that the primary Federal supervisor has determined do not qualify as a traditional securitization. Additionally, the proposal would enhance the risk-sensitivity of the current capital rule's look-through approaches for equity exposures to investment funds by (1) specifying a hierarchy of approaches that a banking organization would be required to use based on the nature and quality of the information available to the banking organization concerning the investment fund's underlying assets and liabilities; (2) modifying the full look-through and the alternative look-through approaches to explicitly capture off-balance sheet exposures held by an investment fund, the counterparty credit risk and CVA risk of any underlying derivatives held by the investment fund, and the leverage of the investment fund; (3) replacing the simple modified look-through approach with a flat 1,250 percent risk weight, and (4) flooring the risk weight applicable to an equity exposure to an investment fund at 20 percent, consistent with the standardized approach in the current capital rule.

1. Risk-weighted asset amount

The proposal would retain the risk-weighted asset amount calculation under the current capital rule. Consistent with the current capital rule, the proposal would require a banking organization to determine the risk-weighted asset amount for each equity exposure, except for equity exposures to investment funds, by multiplying the adjusted carrying value of the exposure by the lowest applicable risk weight, as described below in section III.E.1.b. of this Supplementary Information. A banking organization would determine the risk-weighted asset amount for an equity exposure to an investment fund by multiplying the adjusted carrying value

of the exposure by either the risk weight calculated under one of the look-through approaches or by a risk weight of 1,250 percent, as described below in section III.E.1.c. of this Supplementary Information. A banking organization would calculate its aggregate risk-weighted asset amount for equity exposures as the sum of the risk-weighted asset amount calculated for each equity exposure.[150]

a. Adjusted carrying value

Under the proposal, the adjusted carrying value of an equity exposure, including equity exposures to investment funds, would be based on the type of exposure, as described in Table 6 below.

Table 6: Adjusted Carrying Value for Equity Exposures

Equity exposure type	Adjusted carrying value
On-balance sheet component of an equity exposure	The carrying value of the exposure.
Unconditional commitment to acquire an equity exposure	The effective notional principal amount of the exposure multiplied by a 100 percent conversion factor.
Conditional commitment to acquire an equity exposure	The effective notional principal amount of the exposure multiplied by a 40 percent conversion factor.
Off-balance sheet component of an equity exposure that is not an equity commitment[151]	The effective notional principal amount[152] of the exposure, the size of which is equivalent

[150] The proposal would exclude from the proposed equity framework equity exposures that a banking organization would be required to deduct from regulatory capital under §_.22(d)(2)(i)(C) of the proposal. The proposal would require a banking organization to assign a 250 percent risk weight to the amount of the significant investments in the common stock of unconsolidated financial institutions that is not deducted from common equity tier 1 capital.

[151] Consistent with the current capital rule, the proposal would allow a banking organization to choose not to hold risk-based capital against the counterparty credit risk of equity derivative contracts, as long as it does so for all such contracts. Where the equity derivative contracts are subject to a qualified master netting agreement, the proposal would require the banking organization to either include all or exclude all of the contracts from any measure used to determine counterparty credit risk exposure. *See* §__.113(d) of the proposal.

[152] Consistent with the current capital rule, the proposal includes the concept of the effective notional principal amount of the off-balance sheet portion of an equity exposure to provide a uniform method for banking organizations to measure the on-balance sheet equivalent of an off-balance sheet exposure. For example, if the value of a derivative contract referencing the

	to a hypothetical on-balance sheet position in the underlying equity instrument that would evidence the same change in fair value (measured in dollars) for a given small change in the price of the underlying equity instrument, minus the adjusted carrying value of the on-balance sheet component of the exposure.

The proposal would maintain the current capital rule's methods for calculating the adjusted carrying value for equity exposures, with one exception. The proposal would simplify the treatment of conditional commitments to acquire an equity exposure to remove the differentiation of conversion factors by maturity. The proposal would require a banking organization to multiply the effective notional principal amount of a conditional commitment by a 40 percent conversion factor to calculate its adjusted carrying value. The 40 percent conversion factor is meant to appropriately account for the risk of conditional equity commitments, which provide the banking organization more flexibility to exit the commitment relative to unconditional equity commitments.

b. Expanded simple risk-weight approach (ESRWA)

Under the proposal, the risk-weighted asset amount for an equity exposure, except for equity exposures to investment funds, would be the product of the adjusted carrying value of the equity exposure multiplied by the lowest applicable risk weight in Table 7.

Table 7: Risk Weights Applicable to Equity Exposures under the Expanded Simple Risk-Weight Approach (ESRWA)

Risk Weight	Equity Exposure

common stock of company X changes the same amount as the value of 150 shares of common stock of company X, for a small change (for example, 1.0 percent) in the value of the common stock of company X, the effective notional principal amount of the derivative contract is the current value of 150 shares of common stock of company X, regardless of the number of shares the derivative contract references. The adjusted carrying value of the off-balance sheet component of the derivative is the current value of 150 shares of common stock of company X minus the adjusted carrying value of any on-balance sheet amount associated with the derivative.

0%	An equity exposure to a sovereign, the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the European Stability Mechanism, the European Financial Stability Facility, a multilateral development bank, and any other entity whose credit exposures receive a zero percent risk weight under §__. 111 of the proposal.
20%	An equity exposure to a PSE, FHLB, or Farmer Mac.
100%	An equity exposure that qualifies as a community development investment under section 24 (Eleventh) of the National Bank Act.
	An equity exposure to an unconsolidated small business investment company or held through a consolidated small business investment company, as described in section 302 of the Small Business Investment Act.
250%	• A publicly traded equity exposure.[153] • Significant investments in the capital of unconsolidated financial institutions in the form of common stock that are not deducted from capital pursuant to § _.22(d)(2)(i)(C).[154]
400%	An equity exposure that is not publicly traded.
1,250%	An equity exposure to an investment firm that: • Would meet the definition of a traditional securitization were it not for the application of paragraph (8) of that definition; and • Has greater than immaterial leverage.

Except for the proposed zero, 20, and 400 percent risk-weight buckets and the 250 percent risk weight for significant investments in the capital of an unconsolidated financial institution in the form of common stock that are not deducted from regulatory capital, the proposal would revise the risk weights applicable to other types of equity exposures relative to those in the current capital rule's simple risk-weight approach. Specifically, to enhance risk

[153] The proposal would rely on the existing definition of publicly traded under the current capital rule. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[154] Consistent with the current capital rule, the proposal would require banking organizations to apply the 250 percent risk weight to the net long position, as calculated under §__.22(h), that is not deducted from capital pursuant to §__.22(d)(2)(i)(C).

sensitivity and simplify the equity framework, the proposal would eliminate the following risk weights within the current capital rule's simple risk-weight approach: (1) the 100 percent risk weight for non-significant equity exposures whose aggregate adjusted carrying value does not exceed 10 percent of the banking organization's total capital, and (2) the 100 and 300 percent risk weights for the effective and ineffective portion of hedge pairs, respectively. Given the removal of the 100 percent risk weight threshold category for non-significant equity exposures and the revised scope of equity exposures subject to the proposed equity framework, the proposal would (1) assign a 100 percent risk weight to equity exposures to Small Business Investment Companies and (2) generally assign a 250 percent risk weight to publicly traded equity exposures with restrictions on tradability,[155] as described in more detail below. Finally, the proposal would introduce a 1,250 percent risk weight to replace the 600 percent risk weight in the simple risk-weight approach under subpart E of the current capital rule for equity exposures to investment firms that have greater than immaterial leverage and that the primary Federal supervisor has determined do not qualify as a traditional securitization exposure, as described in more detail below.

Removing the 100 percent risk weight for non-significant equity exposures is intended to increase the risk sensitivity of the equity framework by requiring banking organizations to apply a risk weight based on the characteristics of each equity exposure, rather than only for those in excess of 10 percent of the banking organization's total capital. Given that primarily illiquid or infrequently traded equity positions would be subject to the proposed equity framework, the proposal would remove the 100 and 300 percent risk weights under the current capital rule for the effective and ineffective portions of hedge pairs. The hedge pair treatment under the current capital rule is only available if each of the equity exposures is publicly traded or has a return that

[155] Banking organizations that would be subject to the proposed enhanced risk-based capital framework but not the proposed market risk capital requirements would be required to assign a 250 percent risk weight to all publicly traded equity positions that are not equity exposures to investment funds.

is primarily based on a publicly traded equity exposure. As such positions would generally be subject to the proposed market risk capital framework under the proposal, the agencies are proposing to eliminate the hedge pair treatment to simplify the risk-weighting framework under the proposal.

i. *Community development investments and small business investment companies*

The current capital rule assigns a 100 percent risk weight to equity exposures that either (1) qualify as a community development investment under section 24 (Eleventh) of the National Bank Act, or (2) represent non-significant equity exposures to the extent that the aggregate adjusted carrying value of the exposures does not exceed 10 percent of the banking organization's total capital. Under the current capital rule, when determining which equity exposures are "non-significant" and thus eligible for a 100 percent risk weight, a banking organization first must include equity exposures to an unconsolidated small business investment company or held through a consolidated small business investment company described in section 302 of the Small Business Investment Act of 1958 (15 U.S.C. 682).[156] As depository institutions are limited by statute to only invest up to 5 percent of total capital in the equity exposures and debt instruments of small business investment companies, the current capital rule effectively assigns a 100 percent risk weight to all equity exposures to such programs.

Equity exposures to community development investments and small business investment companies generally receive favorable tax treatment and/or investment subsidies that make their risk and return characteristics different than equity investments in general. Recognizing this more favorable risk-return structure and the importance of these investments to promoting important public welfare goals, the proposal would effectively retain the treatment of equity exposures that qualify as community development investments and equity exposures to small

[156] *See* 12 CFR 3.152(b)(3)(iii)(B) (OCC); 12 CFR 217.152(b)(3)(iii)(B) (Board); 12 CFR 324.152(b)(3)(iii)(B) (FDIC).

business investment companies under the current capital rule and assign such exposures a 100 percent risk weight.

ii. *Publicly traded equity with tradability restrictions*[157]

To appropriately capture the risk of publicly traded equity exposures with restrictions on tradability, the proposal would (1) eliminate the 100 percent risk weight for non-significant equity exposures up to 10 percent of total capital under the current capital rule; and (2) introduce a 250 percent risk weight to replace the current capital rule's 300 percent risk weight applicable to publicly traded exposures.[158] The revised calibration of the risk-weight for publicly traded equity exposures with restrictions on tradability is intended to take into account the removal of the non-significant equity exposures treatment. Under the proposal, banking organizations would no longer assign separate risk weights (100 percent and 300 percent) to publicly traded equity exposures based on factors that are unrelated to the underlying risk of the exposure. Instead, the proposal would assign an identical 250 percent risk weight to all publicly traded equity exposures with restrictions on tradability, improving the consistency and risk-sensitivity of the framework.

iii. *Equity exposures to investment firms with greater than immaterial leverage and that would meet the definition of a traditional securitization were it not for the application of paragraph (8) of that definition*

Consistent with the current capital rule, the proposed securitization framework generally would apply to exposures to investment firms with material liabilities that are not operating companies,[159] unless the primary Federal supervisor determines the exposure is not a traditional

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[157] The proposal would require banking organizations that are not subject to the proposed market risk capital framework to calculate risk-weighted assets for all publicly traded equity exposures under the proposed equity framework.

[158] Equity exposures, including preferred stock exposures, to the FHLBs and Farmer Mac would continue to receive a 20 percent risk weight.

[159] Operating companies generally refer to companies that are established to conduct business with clients with the intention of earning a profit in their own right and generally produce goods or provide services beyond the business of investing, reinvesting, holding, or trading in financial

securitization based on its leverage, risk profile or economic substance.[160,161] For an equity exposure to an investment firm that has greater than immaterial leverage and that the primary Federal supervisor has determined does not qualify as a traditional securitization exposure, the proposal would increase the 600 percent risk weight in the simple risk-weight approach under subpart E of the current capital rule to 1,250 percent under the proposed expanded simple risk-weight approach. As under the current capital rule, the applicable risk weight for equity exposures to such investment firms with greater than immaterial liabilities under the proposed securitization framework would depend on the size of the first loss tranche. [162] For investment firms that have greater than immaterial leverage, their capital structure may result in a large first

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assets. Accordingly, an equity investment in an operating company generally would be an equity exposure under the proposal and subject to the proposed enhanced simple risk-weight approach. Consistent with the current capital rule, under the proposal, banking organizations would be operating companies and would not fall under the definition of a traditional securitization. However, investment firms that generally do not produce goods or provide services beyond the business of investing, reinvesting, holding, or trading in financial assets, would not be operating companies, and would not qualify for the general exclusion from the definition of traditional securitization.

[160] In general, such entities qualify as "traditional securitizations" unless explicitly scoped out by criterion (10) of that definition (for example collective investment funds, as defined in 12 CFR 208.34, as well as entities registered with the SEC under the Investment Company Act of 1940, 15 U.S.C. 80a–1, or foreign equivalents thereof). As the definition of "traditional securitization" does not include exposures to entities where all or substantially all of the underlying exposures are not financial exposures, equity exposures to Real Estate Investment Trusts (REITs) generally would be treated in a similar manner to equity exposures to operating companies and, unless they qualify as market risk covered positions, would be subject to the proposed expanded simple risk-weight approach of the equity framework.

[161] For example, for an equity security issued by a qualifying venture capital fund, as defined under §__.10(c)(16) of each agency's regulations implementing section 13 of the BHC Act, that also has outstanding debt securities, the proposal would generally require a banking organization to treat the exposure as a traditional securitization exposure if the exposure would meet all of the criteria of the definition of traditional securitization under §__.2 of the current capital rule unless the primary Federal supervisor determines the exposure is not a traditional securitization.

[162] Consistent with the current capital rule, under the proposal, an equity exposure to an investment firm that is treated as a traditional securitization would be subject to due diligence requirements. If a banking organization is unable to demonstrate to the satisfaction of the primary Federal supervisor a comprehensive understanding of the features of an equity exposure that would materially affect the performance of the exposure, the proposal would require the banking organization to assign a risk weight of 1,250 percent to the equity exposure to the investment firm.

loss tranche that understates the risk of the exposure to the investment firm. Unlike most traditional securitization structures, investment firms that can easily change the size and composition of their capital structure (as well as the size and composition of their assets and off-balance sheet exposures) may pose additional risks not covered by the securitization framework. For example, the performance of an equity exposure to an investment firm with greater than immaterial liabilities may depend in part on management discretion regarding asset composition and capital structure. To appropriately capture the additional risks posed by equity exposures to investment firms with greater than immaterial liabilities that may not be reflected within the proposed securitization framework, the proposal would permit the primary Federal supervisor to determine that the exposure is not a traditional securitization and require the banking organization to apply a 1,250 percent risk weight to the adjusted carrying value of equity exposures to such investment firms.[163]

Question 68: The agencies request comment on the proposed application of a 1,250 percent risk weight to equity exposures to investment firms with greater than immaterial leverage and that would meet the definition of a traditional securitization were it not for the application of paragraph (8) of that definition. For what, if any, types of exposures would requiring banking organizations to apply a 1,250 percent risk weight be inappropriate and why? What are the advantages and disadvantages of the proposed 1,250 percent risk weight relative to expanding the proposed look-through approaches for investment funds to include such exposures?

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[163] Consistent with the current capital rule, the agencies will consider the economic substance, leverage, and risk profile of a transaction to ensure that an appropriate risk-based capital treatment is applied. The agencies will consider a number of factors when assessing the economic substance of a transaction including, for example, the amount of equity in the structure, overall leverage (whether on or off-balance sheet), whether redemption rights attach to the equity investor, and the ability of the junior tranches to absorb losses without interrupting contractual payments to more senior tranches.

Question 69: The agencies seek comment on the advantages and disadvantages of requiring banking organizations to calculate risk-based capital requirements for equity exposures to investment firms with greater than immaterial leverage under the proposed securitization framework relative to the proposed look-through approaches under the equity framework. What, if any, types of equity exposures to investment firms with greater than immaterial leverage may not be appropriately captured by the securitization framework – such as equity exposures to investment firms where all the exposures of the investment firm are pari passu in the event of a bankruptcy or other insolvency proceeding? Between the proposed securitization framework and the proposed look-through approaches under the equity framework, which approach would be more operationally burdensome or challenging and why? Which approach would produce a more appropriate capital requirement and why? Provide supporting data and examples.

c. Risk weights for equity exposures to investment funds

The separate risk-based capital treatment for equity exposures to investment funds under the current capital rule reflects that the risk of equity exposures to investment fund structures depends primarily on the nature of the underlying assets held by the fund and the degree of leverage employed by the fund. Consistent with the current capital rule, the proposal would require banking organizations to determine the risk weight applicable to the adjusted carrying value of each equity exposure to an investment fund using a look-through approach in the equity framework. When more detailed information is available about the investment fund's characteristics, a banking organization is in a better position to evaluate the risk profile of its equity exposure to the fund and calculate a risk weight commensurate with that risk. Conversely, equity exposures to investment funds that provide less transparency or are not subject to regular independent verification could present elevated risk to banking organizations. Accordingly, the proposal would specify a hierarchy that banking organizations would be required to use to

identify the applicable look-through approach for each equity exposure to an investment fund based on the nature and quality of the information available to the banking organization.

The proposal would also enhance the risk sensitivity of the current capital rule's look-through approaches under subpart E by modifying the full look-through and the alternative look-through approaches to explicitly capture off-balance sheet exposures held by an investment fund, the counterparty credit risk and CVA risk of any underlying derivatives held by the investment fund, and the leverage of an investment fund. The proposal would also replace the simple modified look-through approach under subpart E with a flat 1,250 percent risk-weight.

i. *Hierarchy of look-through approaches*

The proposal would require a banking organization that is not subject to the proposed market risk capital framework to use the full look-through approach if the banking organization has sufficient verified information about the underlying exposures of the investment fund to calculate a risk-weighted asset amount for each of the exposures held by the investment fund.[164] If a banking organization is unable to meet the criteria to use the full look-through approach, the proposal would require the banking organization to apply the alternative modified look-through approach and determine a risk-weighted asset amount for the exposures of the investment fund based on the information contained in the investment fund's prospectus, partnership agreement, or similar contract that defines the investment fund's permissible investments. If the banking organization is unable to apply either the full look-through approach or the alternative modified look-through approach, the proposal would require the banking organization to assign a 1,250 percent risk weight to the adjusted carrying value of the equity exposure to the investment fund. Banking organizations generally would not be permitted to apply a combination of the above

[164] The proposal would require banking organizations subject to the market risk capital requirements to apply the proposed market risk capital framework to determine the risk-weighted asset amount for equity exposures to investment funds that would otherwise be subject to the full look-through approach under the proposed equity framework. *See* §_.202 for the proposed definition of market risk covered position.

approaches to determine the risk-weighted asset amount applicable to the adjusted carrying value of an equity exposure to an investment fund, except for equity exposures to investment funds with underlying securitizations, or equity exposures to other investment funds, as described in section III.E.1.c.v. of this Supplementary Information.

ii. *Full look-through approach*

Since the full look-through approach is the most granular and risk-sensitive approach, the proposal would require banking organizations that are not subject to the proposed market risk capital framework to use the full look-through approach when verified, detailed information about the underlying exposures of the investment fund is available to enhance risk-sensitivity of the risk-based capital requirements. Under the proposed hierarchy, such banking organizations would be required to use the full look-through approach if the banking organization is able to calculate a risk-weighted asset amount for each of the underlying exposures of the investment fund as if the exposures were held directly by the banking organization, with the exception of securitization exposures, derivative exposures, and equity exposures to other investment funds, as described in section III.E.1.c.v. of this Supplementary Information.

Specifically, the proposal would require banking organizations that are not subject to the proposed market risk capital framework to apply the full look-through approach when there is sufficient and frequent information provided to the banking organization regarding the underlying exposures of the investment fund. To satisfy this criterion, the frequency of financial reporting of the investment fund must be at least quarterly, and the financial information must be sufficient for the banking organization to calculate the risk-weighted asset amount for each exposure held by the investment fund as if each exposure were held directly by the banking organization (except for securitization exposures, derivatives exposures, and equity exposures to other investment funds). In addition, such information would be required to be verified on at

least a quarterly basis by an independent third party, such as a custodian bank or management fund.[165]

The proposal would largely maintain the same risk-weight treatment as provided under the full look-through approach in the advanced approaches of the current capital rule, with five exceptions. First, to facilitate application of the full look-through approach, the proposal would allow banking organizations the option to use conservative alternative methods to those provided under the proposed expanded risk-weighted asset approach to calculate the risk-weighted asset amount attributable to any underlying exposures that are securitizations, derivatives, or equity exposures to another investment fund, as described in section III.E.1.c.v. of this Supplementary Information.

Second, to increase comparability across banking organizations, the proposal would clarify that the total risk-weighted asset amount for the investment fund under the full look-through approach must include any off-balance sheet exposures of the investment fund and the counterparty credit risk and, where applicable, the CVA risk of any underlying derivative exposures held by the investment fund. Accordingly, under the proposal, the total risk-weighted asset amount for the investment fund under the full look-through approach would equal the sum of the risk-weighted asset amount for (1) the on-balance sheet exposures, including any equity exposures to other investment funds and securitization exposures; (2) the off-balance sheet exposures, and (3) the counterparty credit risk and CVA risk, if applicable, of any underlying derivative exposures held by the investment fund, as described in section III.E.1.c.v. of this Supplementary Information. A banking organization would calculate the average risk weight for an equity exposure to the investment fund by dividing the total risk-weighted asset amount for the investment fund by the total assets of the investment fund.

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[165] As externally licensed auditors typically express their opinions on investment funds' accounts rather than on the accuracy of the data used for the purposes of applying the full look-through approach, an external audit would not be required.

Third, to capture the risk of equity exposures to investment funds with leverage, the full look-through approach under the proposal would explicitly require banking organizations to adjust the average risk weight for its equity exposure to the investment fund upwards to reflect the leverage of the investment fund.[166] Specifically, the proposal would require banking organizations to multiply the average risk weight for its equity exposure to the investment fund by the ratio of the total assets of the investment fund to the total equity of the investment fund.

Fourth, to avoid disincentivizing banking organizations from obtaining the necessary information to apply the full-look through approach, the proposal would cap the risk weight for an equity exposure to an investment fund under the full look-through approach at no more than 1,250 percent.

Fifth, consistent with the standardized approach under the current capital rule, to reflect the agencies' and banking organizations' experience with money market fund investments and similar investment funds during the 2008 financial crisis and the 2020 coronavirus response, the proposal would floor the minimum risk weight that may be assigned to the adjusted carrying value of any equity exposure to an investment fund under the proposed look-through approaches at 20 percent. Accordingly, under the proposal, a banking organization would be required to calculate the total risk-weighted asset amount for an equity exposure to an investment fund under the full look-through approach by multiplying the adjusted carrying value of the equity exposure by the applicable risk weight, as calculated according to the following formula provided under §__.142(b) of the proposed rule:

$$RW_{IF} = min\left(max\left(\left(\frac{RWA_{on} + RWA_{off} + RWA_{derivatives}}{Total\ Assets_{IF}}\right) * \left(\frac{Total\ Assets_{IF}}{Total\ Equity_{IF}}\right), 20\%\right), 1250\%\right)$$

<u>Where</u>

[166] While not done explicitly, the full look-through approach under the current capital rule does capture the leverage of an investment fund.

- RWA_{on} is the aggregate risk-weighted asset amount of the on-balance sheet exposures of the investment fund, including any equity exposures to other investment funds and securitization exposures, calculated as if each exposure were held directly on balance sheet by the banking organization;
- RWA_{off} is the aggregate risk-weighted asset amount of the off-balance sheet exposures of the investment fund, calculated for each exposure as if it were held under the same terms by the banking organization;
- $RWA_{derivatives}$ is the aggregate risk-weighted asset amount for the counterparty credit risk and CVA risk, if applicable, of the derivative contracts held by the investment fund, calculated as if each derivative contract were held directly by the banking organization, unless the banking organization applies the alternative approach described in section III.E.1.c.v. of this Supplementary Information;[167]
- $Total\ Assets_{IF}$ is the balance sheet total assets of the investment fund; and
- $Total\ Equity_{IF}$ is the balance sheet total equity of the investment fund.

Question 70: What would be the advantages and disadvantages of allowing a banking organization that does not have adequate data or information to determine the risk weight associated with its equity exposure to an investment fund to rely on information from a source other than the investment fund itself, if the risk weight would be increased (for example by a factor of 1.2)? For what types of investment funds would a banking organization rely on a source other than the investment fund itself to obtain this information and what types of entities would it rely on to obtain this information?

iii. *Alternative modified look-through approach*

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[167] Under the proposal, a banking organization may exclude equity derivative contracts held by the investment fund for purposes of calculating the $RWA_{derivatives}$ component of the full and alternative modified look-through approaches, if the banking organization has elected to exclude equity derivative contracts for purposes of §__.113(d) of the proposal.

If a banking organization is unable to meet the criteria to use the full look-through approach, the proposal would require the banking organization to use the alternative modified look-through approach, provided that the information contained in the investment fund's prospectus, partnership agreement, or similar contract is sufficient to determine the risk weight applicable to each exposure type in which the investment fund is permitted to invest.[168] To account for the uncertain accuracy of risk assessments when banking organizations have limited information about the underlying exposures of an investment fund or such information is not verified on at least a quarterly basis by an independent third party, the alternative modified look-through approach in the current capital rule requires banking organizations to use conservative assumptions when calculating total risk-weighted assets for equity exposures to investment funds.

The proposal would largely maintain the same risk-weight treatment as provided under the alternative modified look-through approach in the advanced approaches of the current capital rule, with five exceptions. First, to increase comparability of the risk-based capital requirements applicable to equity exposures to investment funds with investment policies that permit the investment fund to hold equity exposures to other investment funds or securitization exposures, the proposed alternative modified look-through approach would specify the methods that banking organizations would be required to use to calculate risk-weighted assets for such underlying exposures, as described in section III.E.1.c.v. of this Supplementary Information.

Second, to capture the risk of equity exposures to investment funds with investment policies that permit the use of off-balance sheet transactions or derivative contracts, the proposal would require banking organizations to include the off-balance sheet transactions as well as the

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[168] Under the proposal, banking organizations subject to the proposed market risk capital requirements would only apply the alternative modified look-through approach to such equity exposures to investment funds if the banking organization is unable to obtain daily quotes for the equity exposure to the investment fund. *See* §__.202 for the proposed definition of market risk covered position.

counterparty credit risk and CVA risk, if applicable, of the derivative contracts, when calculating the total risk-weighted asset amount for the investment fund. Specifically, the proposal would require banking organizations to assume that the investment fund invests to the maximum extent permitted under its investment limits in off-balance sheet transactions with the highest applicable credit conversion factor and risk weight.[169] The proposal would also require banking organizations to assume that the investment fund has the maximum volume of derivative contracts permitted under its investment limits. Under the proposal, the total risk-weighted asset amount for the investment fund under the alternative modified look-through approach would equal the sum of the following risk-weighted asset amounts: (1) the on-balance sheet exposures, including any equity exposures to other investment funds and securitization exposures; (2) the off-balance sheet exposures, and (3) the counterparty credit risk and CVA risk, if applicable, for derivative exposures, as described in section III.E.1.c.v. of this Supplementary Information. A banking organization would calculate the average risk weight for an equity exposure to the investment fund by dividing the total risk-weighted asset amount for the investment fund by the total assets of the investment fund.

Third, to capture the risk of equity exposures to investment funds with leverage, the alternative modified look-through approach under the proposal would require a banking organization to adjust the average risk weight for its equity exposure to the investment fund upwards by the ratio of the total assets of the investment fund to the total equity of the investment fund.

Fourth, to avoid disincentivizing banking organizations from obtaining the necessary information to apply the alternative modified look-through approach, the proposal would cap the

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[169] For example, if the mandate of an investment entity permits the use of unconditional equity commitments, the proposal would require the banking organization to multiply the notional amount of the commitment by a 100 percent credit conversion factor and the risk weight applicable to the underlying reference exposure of the commitment. If the banking organization does not know the type of equity underlying the commitment, the banking organization would be required to use the highest applicable risk-weight to equity exposures.

risk weight applicable to an equity exposure to an investment fund under the alternative modified look-through approach at no more than 1,250 percent.

Fifth, consistent with the standardized approach under the current capital rule, to reflect the agencies' and banking organizations' experience with money market fund investments and similar investment funds during the 2008 financial crisis and the 2020 coronavirus response, the proposal would floor the minimum risk weight that may be assigned to the adjusted carrying value of any equity exposure to an investment fund under the proposed look-through approaches at 20 percent.

Accordingly, under the proposal, a banking organization's risk-weighted asset amount for an equity exposure to an investment fund under the alternative modified look-through approach would be equal to the adjusted carrying value of the equity exposure multiplied by the lesser of 1,250 percent or the greater of either (1) the product of the average risk weight of the investment fund multiplied by the leverage of the investment fund or (2) 20 percent.

iv. *1,250 percent risk weight*

When banking organizations have limited information on the underlying exposures or the leverage of the investment fund, they have limited ability to appropriately capture and manage the risk and price volatility of such equity exposures. Accordingly, if a banking organization does not have the necessary information to apply the full look-through approach or the alternative modified look-through approach, the proposal would require the banking organization to assign a 1,250 percent risk weight to the adjusted carrying value of its equity exposure to the investment fund.

v. *Risk weights for equity exposures to investment funds with underlying securitizations, derivatives, or equity exposures to other investment funds*

Banking organizations may not always be able to obtain the necessary information to calculate risk-weighted asset amounts under the full look-though approach or the alternative modified look-through approach for certain types of underlying exposures held by an investment

fund. For example, even if an investment fund provides detailed quarterly disclosures on all its underlying assets and liabilities, such disclosures may not identify the actual counterparty to each underlying derivative exposure of the investment fund or which of the underlying derivative exposures of the investment fund are subject to the same qualified master netting agreement. Furthermore, the information contained in an investment fund's prospectus, partnership agreement, or similar contract may not always allow banking organizations to calculate risk-weighted asset amounts for such underlying exposures under the alternative modified look-through approach.

To facilitate application of the look-through approaches, the proposal would allow banking organizations to use conservative assumptions to calculate risk-weighted asset amounts under the full look-through approach for underlying exposures that are securitization exposures, derivative exposures, or equity exposures to another investment fund. For purposes of the alternative modified look-through approach, the proposal would require banking organizations to use these alternative assumptions for such underlying exposures.

I. Securitization exposures

For any securitization exposures held by an investment fund, the proposal would allow a banking organization using the full look-through approach to apply a 1,250 percent risk weight to the exposure, if it cannot or chooses not to calculate the applicable risk weight under the securitization standardized approach (SEC-SA), as described in section III.D. of this Supplementary Information. The proposal would require a banking organization applying the alternative modified look-through approach to apply a 1,250 percent risk weight to any securitization exposures held by an investment fund.

II. Derivative exposures

For derivative exposures held by an investment fund, the proposal would require a banking organization to calculate the risk-weighted asset amount for each derivative netting set by multiplying the exposure amount of the netting set by the risk weight applicable to the

derivative counterparty under the proposed credit risk framework. To the extent a banking organization cannot determine the counterparty, the proposal would require the banking organization to multiply the resulting exposure amount by a 100 percent risk weight, as a conservative approach to reflect the highest risk-weight that would be likely to apply to a counterparty to such transactions.[170]

For banking organizations using the full look-through approach, the proposal would require a banking organization to use the replacement cost and the potential future exposure as calculated under SA-CCR to determine the exposure amount for each netting set of underlying derivative exposures (including single derivative contracts)[171] held by the investment fund, where possible.[172] If a banking organization using the full look-through approach does not have sufficient information to calculate the replacement cost or the potential future exposure for each derivative netting set using SA-CCR or is using the alternative modified look-through approach, the proposal would require the banking organization to use the notional amount of each netting set and 15 percent of the notional amount of each netting set for the replacement cost and potential future exposure, respectively. The proposal would require banking organizations using the alternative modified look-through approach to use the notional amount of each netting set and 15 percent of the notional amount of each netting set to determine the replacement cost and potential future exposure, respectively. A banking organization would multiply the resulting exposure amount by a factor of 1.4 if the banking organization determines that the counterparty

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[170] Relatedly, to the extent a banking organization is unable to determine the netting sets of the underlying derivative exposures, the proposal would require each single derivative to be its own netting set.

[171] The proposal would rely on the existing definition of netting set under the current capital rule, which is defined to include a single derivative contract between a banking organization and a single counterparty. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[172] Under the proposal, a banking organization may exclude equity derivative contracts held by the investment fund for purposes of calculating the $RWA_{derivatives}$ component of the full and alternative modified look-through approaches, if the banking organization has elected to exclude equity derivative contracts for purposes of §__.113(d) of the proposal.

is not a commercial end-user or cannot determine whether the counterparty is a commercial end-user.[173] Additionally, the proposal would require a banking organization to further multiply the exposure amount by a factor of 1.5 for each derivative netting set that either qualifies (or for which the banking organization cannot determine whether the exposure qualifies) as a CVA risk covered position, as defined in section III.I.3 of this Supplementary Information. Accordingly, the proposal would require banking organizations to calculate the exposure amount for derivative exposures held by an investment fund as described in the following formula:

$$Exposure\ Amount = C * \alpha\ (Replacement\ Cost + Potential\ Future\ Exposure)$$

Where

- C would equal 1.5 if at least one of the derivative contracts in the netting set is a CVA risk covered position or if the banking organization cannot determine whether one or more of the derivative contracts within the netting set is a CVA risk covered position; C would equal 1 if all of the derivative contracts within the netting set are not CVA risk covered positions;
- α would equal 1.4 if the banking organization determines that the counterparty is not a commercial end-user or cannot determine whether the counterparty is a commercial end-user, or 1 otherwise;
- *Replacement Cost* would equal:
  - The replacement cost as calculated under SA-CCR for purposes of the full look-through approach, where possible; or
  - The notional amount of the derivative contract if the banking organization cannot determine replacement cost under SA-CCR or is using the alternative modified look-through approach;

[173] The proposal would rely on the existing definition of commercial end-user under the current capital rule. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

- *Potential Future Exposure* would equal:
  - The potential future exposure as calculated under SA-CCR[174] for purposes of the full look-through approach, where possible; or
  - 15 percent of the notional amount of the derivative contract if the banking organization cannot determine the potential future exposure under SA-CCR or is using the alternative modified look-through approach.

The proposal is intended to provide a conservative approach for banking organizations to calculate risk-weighted asset amounts for the underlying derivative exposures held by an investment fund in a manner that appropriately captures the risk of such positions. For example, using 100 percent of the notional amount of the derivative contract as a proxy for the replacement cost is intended to provide a standardized and simple input to the exposure amount calculation when the necessary information about the replacement cost is not available. The notional amount of the derivative contract is typically larger than the fair value or replacement cost of the contract and thus providing a conservative estimate of the maximum exposure that could arise for a derivative contract. Similarly, setting potential future exposure equal to 15 percent of the notional amount of the derivative contract is intended to provide a conservative estimate of the potential losses that could arise from a counterparty credit risk exposure when the likelihood of significant changes in the value of the exposure increases over the longer term.

III. Equity exposures to other investment funds

For an equity exposure to an investment fund (e.g., Investment Fund A) that itself has a direct equity exposure to another investment fund (e.g., Investment Fund B), the proposal would require a banking organization to determine the proportional amount of risk-weighted assets of Investment Fund A attributable to the underlying equity exposure to Investment Fund B using

[174] If the banking organization is not able to calculate the replacement cost of the netting set under SA-CCR but is able to calculate the PFE aggregated amount, the banking organization must set the PFE multiplier equal to 1.

the hierarchy of approaches described in section III.E.1.c.i. of this Supplementary Information. That is, the banking organization may be required to apply the same or another approach to determine the risk-weighted asset amount for Investment Fund A's equity exposure to Investment Fund B than was used for the banking organization's equity exposure to Investment Fund A, based on the nature and quality of the information available to the banking organization regarding the underlying assets and liabilities of Investment Fund B.

For all subsequent indirect equity exposure layers (e.g., Investment Fund B's equity exposure to Investment Fund C and so forth), the proposal would generally require the banking organization to assign a 1,250 percent risk weight, with one exception. If the banking organization applied the full look-through approach to calculate risk-weighted assets for the equity exposure to the investment fund at the previous layer, the banking organization would be required to apply the full look-through approach to any subsequent layer when there is sufficient and frequent information provided to the banking organization regarding the underlying exposures of that particular investment fund. If there is not sufficient and frequent information to apply the full look-through approach to the subsequent layer, then the banking organization would be required to assign a 1,250 percent risk weight to the subsequent layer.

Question 71: The agencies invite comment on the impact of the proposed expanded risk-based framework for equity exposures. What are the pros and cons of the proposal and what, if any, unintended consequences might the proposed treatment pose with respect to a banking organization's equity exposures? Provide data to support the response.

Question 72: The agencies solicit comment on all aspects of the proposed treatment of equity exposures to investment funds. What, if any, challenges could implementing the full look-through approach, the alternative modified look-through approach, or the 1,250 percent risk weight pose for banking organizations? What, if any, clarifications or modifications should the agencies consider making to the proposed look-through approaches and why? To what extent would equity exposures to investment funds be captured under the proposed look-through

approaches in equity exposure framework as opposed to the market risk framework? Which type(s) of investment funds would present challenges under the proposed methods? What other methods should the agencies consider to more accurately capture such exposures' risk that would still help promote simplicity and transparency of risk-based capital requirements?

Question 73: What, if any, modifications should the agencies consider to more appropriately capture the risk of underlying derivatives exposures held by an investment fund and why? The agencies seek comment on the appropriateness of the proposed alternative method for banking organizations to calculate risk-weighted asset amounts for derivative exposures held by an investment fund if the banking organization does not have sufficient information to use SA-CCR. What would be the benefits and drawbacks of excluding derivative contracts that are used for hedging rather than speculative purposes and that do not constitute a material portion of the investment entity's exposures?

F. Operational risk

The proposal would introduce a capital requirement for operational risk based on a standardized approach (standardized approach for operational risk). The current capital rule defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people, and systems, or from external events. Operational risk includes legal risk but excludes strategic and reputational risk.[175] Experience shows that operational risk is inherent in all banking products, activities, processes, and systems.

Under the current capital rule, banking organizations subject to Category I or II capital standards are required to calculate risk-weighted assets for operational risk using the advanced measurement approaches (AMA),[176] which are based on a banking organization's internal models. The AMA results in significant challenges for banking organizations, market

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[175] *See* 12 CFR 3.101 (OCC), 217.101 (Board), and 12 CFR 324.101 (FDIC).

[176] The agencies adopted the AMA for operational risk as part of the advanced approaches capital framework in 2007. *See* 72 FR 69288 (December 7, 2007).

participants, and the supervisory process. AMA exposure estimates can present substantial uncertainty and volatility, which introduces challenges to capital planning processes.[177] In addition, the AMA's reliance on internal models has resulted in a lack of transparency and comparability across banking organizations. As a result, supervisors and market participants experience challenges in assessing the relative magnitude of operational risk across banking organizations, evaluating the adequacy of operational risk capital, and determining the effectiveness of operational risk management practices. To address these concerns, the proposal would remove the AMA and introduce a standardized approach for operational risk that seeks to address the operational risks currently covered by the AMA.

The operational risk capital requirements under the standardized approach for operational risk would be a function of a banking organization's business indicator component and internal loss multiplier. The business indicator component would provide a measure of the operational risk exposure of the banking organization and would be calculated based on its business indicator multiplied by scaling factors that increase with the business indicator. The business indicator would serve as a proxy for a banking organization's business volume and would be based on inputs compiled from a banking organization's financial statements. The internal loss multiplier would be based on the ratio of a banking organization's historical operational losses to its business indicator component and would increase the operational risk capital requirement as historical operational losses increase. To help ensure the robustness of the operational risk capital requirement, the proposal would require that the internal loss multiplier be no less than one.

A banking organization's operational risk capital requirement would be equal to its business indicator component multiplied by its internal loss multiplier. Similar to the current

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[177] *See, e.g.*, Cope, E., G. Mignola, G. Antonini, and R. Ugoccioni. 2009. Challenges and Pitfalls in Measuring Operational Risk from Loss Data. Journal of Operational Risk 4(4): 3–27; and Opdyke, J., and A. Cavallo. 2012. Estimating Operational Risk Capital: The Challenges of Truncation, the Hazards of Maximum Likelihood Estimation, and the Promise of Robust Statistics. Journal of Operational Risk 7(3): 3–90.

capital rule, risk-weighted assets for operational risk would be equal to 12.5 times the operational risk capital requirement.

1. Business indicator

Under the proposal, the business indicator would be based on the sum of the following three components: an interest, lease, and dividend component; a services component; and a financial component. Each component would serve as a measure of a broad category of activities in which banking organizations typically engage. Given that operational risk is inherent in all banking products, activities, processes, and systems, these components aim to capture comprehensively the volume of a banking organization's financial activities and thus serve as a proxy for a banking organization's business volume. The interest, lease, and dividend component aims to capture lending and investment activities through measures of interest income, interest expense, interest-earning assets, and dividends. The services component aims to capture fee and commission-based activities as well as other banking activities, such as those resulting in other operating income and other operating expense. Lastly, the financial component aims to capture trading activity and other activities that are associated with a banking organization's assets and liabilities.

Banking organizations with higher overall business volume are larger and more complex, which likely results in exposure to higher operational risk.[178] Higher business volumes present more opportunities for operational risk to manifest. In addition, the complexities associated with

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[178] Recent research connecting operational risk to higher business volume includes Frame, McLemore, and Mihov (2020), Haste Makes Waste: Banking Organization Growth and Operational Risk, Federal Reserve Bank of Dallas, https://www.dallasfed.org/research/papers/2020/wp2023; Curti, Frame, and Mihov (2019), Are the Largest Banking Organizations Operationally More Risky?, Journal of Money, Credit and Banking Vol. 54, Issue 5, 1223-1259, https://doi.org/10.1111/jmcb.12933; and Abdymomunov and Curti (2020), Quantifying and Stress Testing Operational Risk with Peer Banks' Data, Journal of Financial Services Research Vol. 57, 287-313, https://link.springer.com/article/10.1007/s10693-019-00320-w.

a higher business volume can give rise to gaps or other deficiencies in internal controls that result in operational losses. Therefore, higher overall business volume would correlate with higher operational risk capital requirements under the proposal.

Under the proposal, all inputs to the business indicator would be based on three-year rolling averages. For example, when calculating the three-year average for a business indicator input reported at the end of the third calendar quarter of 2023, the values of the item for the fourth quarter of 2020 through the third quarter of 2021, the fourth quarter of 2021 through the third quarter of 2022, and the fourth quarter of 2022 through the third quarter of 2023 would be averaged. The one exception is interest-earning assets, which would be calculated as the average of the quarterly values of interest-earning assets for the previous 12 quarters.[179]

The use of three-year averages would capture a banking organization's activities over time and help reduce the impact of temporary fluctuations. Basing the business indicator on a shorter time period, such as a single year of data, would likely result in a more volatile capital requirement, which could make it more difficult for banking organizations to incorporate the operational risk capital requirement into capital planning processes and could result in unduly low or high operational risk capital requirements given temporary changes in a banking organization's activities. Alternatively, basing the business indicator on too many years of data could reduce its responsiveness to changes in a banking organization's activities, which could in turn weaken the relationship between the capital requirements and the banking organization's risk profile. Based on these considerations, the use of three-year averages aims to balance the stability and responsiveness of a banking organization's operational risk capital requirement.

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[179] Unlike the other inputs used to calculate the business indicator, interest-earning assets are balance-sheet items, rather than income statement items, and thus their use in the business indicator does not represent a flow over a one-year period, but rather a point-in-time value. The use of average interest-earning assets for the previous 12 quarters instead of, for example, the average interest-earning assets for the ending quarter of the last three years aims to increase the robustness of the average used in the calculation.

As described below, the inputs used in each component of the business indicator would, in most cases, use information contained in line items from schedules RI and RC of the Call Report and schedules HI and HC of the FR Y-9C report, as applicable. The agencies are planning to separately propose modifications to the FFIEC 101 report so that all inputs to the business indicator (described below) as well as total net operational losses (described further below) would be publicly reported as separate inputs to the applicable calculations.

The inputs to each component of the business indicator would not be meant to overlap. Income and expenses would not be counted in more than one component of the business indicator, consistent with instructions to the regulatory reports and the principles of accounting. The inputs used to calculate the business indicator would include data relative to entities that have been acquired by, or merged with, the banking organization over the period prior to the acquisition or merger that is relevant to the calculation of the business indicator.

a. The interest, lease, and dividend component

Under the proposal, the interest, lease, and dividend component would account for activities that produce interest, lease, and dividend income and would be calculated as follows:

Interest, lease, and dividend component

$$= \min\left(Avg_{3y}\left(\text{Abs}(\textit{total interest income} - \textit{total interest expense})\right), 0.0225 * Avg_{3y}(\textit{interest earning assets})\right) + Avg_{3y}(\textit{dividend income})$$

The proposal includes the following definitions:

- *Total interest income* would mean interest income from all financial assets and other interest income;[180]

[180] Total interest income would correspond to total interest income in the FR Y-9C (holding companies) and Call Report, excluding dividend income as defined in the proposal.

- *Total interest expense* would mean interest expenses related to all financial liabilities and other interest expenses;[181]

- *Dividend income* would mean all dividends received on securities not consolidated in the banking organization's financial statements;[182] and

- *Interest-earning assets* would mean the sum of all gross outstanding loans and leases, securities that pay interest, interest-bearing balances, Federal funds sold, and securities purchased under agreements to resell.[183]

The interest, lease, and dividend component aims to capture a banking organization's interest income and expenses from financial assets and liabilities, as well as dividend income from investments in stocks and mutual funds.

The interest income and expenses portion is calculated as the absolute value of the difference between total interest income and total interest expense (which constitutes net interest income) and is subject to a ceiling equal to 2.25 percent of the banking organization's total interest-earning assets. Net interest income is a useful indicator of a banking organization's operational risk because a higher volume of business is associated with higher operational risk. Because operational risk does not necessarily increase proportionally to increases in net interest income, the net interest income input would be capped at 2.25 percent of interest-earning assets.

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[181] Total interest expense would correspond to total interest expense in the FR Y-9C (holding companies) and Call Report.

[182] Dividend income is currently included in total interest income in the FR Y-9C (holding companies) and Call Report.

[183] Interest-earning assets would equal the sum of interest-bearing balances in U.S. offices, interest-bearing balances in foreign offices, Edge and agreement subsidiaries, and IBFs, Federal funds sold in domestic offices, securities purchased under agreements to resell, loans and leases held for sale, loans and leases, held for investment, total held-to-maturity securities at amortized cost (only including securities that pay interest), total available-for-sale securities at fair value (only including securities that pay interest), and total trading assets (only including trading assets that pay interest) in the FR Y-9C (holding companies) and Call Report.

The proposal would add dividend income to the net interest income input to capture investment activities that do not produce interest income (for example, investment in equities and mutual funds).

b. The services component

Under the proposal, the services component would account for activities that result in fees and commissions and other financial activities not captured by the other components of the business indicator. The services component would be calculated as follows:

Services component

$$= \max\left(Avg_{3y}\,(\textit{fee and commission income}),\ Avg_{3y}(\textit{fee and commission expense})\right)$$

$$+ \max\left(Avg_{3y}\,(\textit{other operating income}),\ Avg_{3y}(\textit{other operating expense})\right)$$

The proposal includes the following definitions:

- *Fee and commission income* would mean income received from providing advisory and financial services, including insurance income;[184]
- *Fee and commission expense* would mean expenses paid by the banking organization for advisory and financial services received;[185]

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[184] Fee and commission income would include the sum of income from fiduciary activities, service charges on deposit accounts in domestic offices; fees and commissions from securities brokerage; investment banking, advisory, and underwriting fees and commissions; fees and commissions from annuity sales; income and fees from printing and sale of checks; income and fees from automated teller machines; safe deposit box rent; bank card and credit card interchange fees; income and fees from wire transfers; underwriting income from insurance and reinsurance activities; and income from other insurance activities in the FR Y-9C (holding companies) and Call Report. Fee and commission income would also include servicing fees on a gross basis, which would correspond to net servicing fees in the FR Y-9C (holding companies) and Call Report, with the modification that expenses should not be netted, because fee and commission expenses should not be netted in the calculation of fee and commission income. In addition, fee and commission income would include other income received from providing advice and financial services that is not currently itemized in the regulatory reports.

[185] Fee and commission expense would include consulting and advisory expenses and automated teller machine and interchange expenses in the FR Y-9C (holding companies) and Call Report. Fee and commission expense would also include any other expenses paid for advice and financial services received that are not currently itemized in the regulatory reports.

- *Other operating income* would mean income not included in other elements of the business indicator and not excluded from the business indicator;[186] and
- *Other operating expense* would mean expenses associated with financial services not included in other elements of the business indicator and all expenses associated with operational loss events (expenses associated with operational loss events would not be included in other business indicator items).[187] Other operating expense would not include expenses excluded from the business indicator.

The services component would reflect a banking organization's income and expenses from fees and commissions as well as its other operating income and expenses.

The fee and commission elements and the other operating elements of the services component would be calculated as gross amounts, reflecting the larger of either income or expense. This approach would account for the different business models of banking organizations better than a netting approach, which may lead to variances in the services component that exaggerate differences in operational risk. For example, using income net of expense as the indicator would result in the services component for banking organizations that only distribute products bought from third parties, for which expenses would be netted from income, being substantially lower than the services component of banking organizations that originate products to distribute, which would generally not have many financial expenses to net

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Note that fee and commission expense would include fees paid by the banking organization as a result of outsourcing financial services, but not fees paid for outsourced non-financial services (e.g., logistical, information technology, human resources).

[186] Other operating income would include rent and other income from other real estate owned in the FR Y-9C (holding companies) and Call Report. Other operating income would also include all other income items not currently itemized in the regulatory reports, which are not included in other business indicator items and are not specifically excluded from the business indicator.

[187] Note that expenses with operational loss events in "other operating expense" would not exclude expenses associated with operational loss events that result in less than $20,000 in net loss amount.

from income. Therefore, a netting approach would likely exaggerate the difference in operational risk between these two business models.

The proposal would include in the services component the income and expense of a banking organization's insurance activities. The agencies intend for the operational risk capital requirement to reflect all operational risks to which a banking organization is exposed, regardless of the activity or legal entity in which the operational risk resides.

Question 74: What are the advantages and disadvantages of the proposed approach to calculating the services component, including any impacts on specific business models? Which alternatives, if any, should the agencies consider and why? Similarly, should the agencies consider any adjustments or limits related to specific business lines, such as underwriting, wealth management, or custody, or to specific fee types, such as interchange fees, and if so what adjustment or limits should they consider? For example, should the agencies consider adjusting or limiting how the services component contributes to the business indicator and, if so, how? What would be the advantages and disadvantages of any alternative approach and what impact would such an alternative approach have on operational risk capital requirements? For example, under the proposal, fee income and expenses of charge cards are included under the services component. Would it be more appropriate for fee income and expenses of charge cards to be included in net interest income of the interest, lease, and dividend component (and excluded from the services component) and for charge card exposures to be included in interest earning assets of the interest, lease, and dividend component and why? Please provide supporting data with your response.

c. The financial component

Under the proposal, the financial component would capture trading activities and other activities associated with a banking organization's assets and liabilities. The financial component would be calculated as follows:

Financial component

$= \text{Avg}_{3y}\left(\text{Abs (trading revenue)}\right)$

$+ \text{Avg}_{3y}\left(\text{Abs (net profit or loss on assets and liabilities not held for trading)}\right)$

The proposal includes the following definitions:

- Trading revenue would mean the net gain or loss from trading cash instruments and derivative contracts (including commodity contracts);[188] and
- Net profit or loss on assets and liabilities not held for trading would mean the sum of realized gains (losses) on held-to-maturity securities, realized gains (losses) on available-for-sale securities, net gains (losses) on sales of loans and leases, net gains (losses) on sales of other real estate owned, net gains (losses) on sales of other assets, venture capital revenue, net securitization income, and mark-to-market profit or loss on bank liabilities.[189]

The financial component aims to capture trading activities and other activities that are associated with a banking organization's assets and liabilities. Trading revenue, which reflects net income or loss from trading activities, would be a proxy for the business volume associated with trading and related activities. Net profit or loss on assets and liabilities not held for trading would reflect the profit or loss of activities associated with assets and liabilities that are not included by other components of the business indicator and therefore ensures that the business indicator comprehensively captures these activities. The use of net values for these inputs would align with current regulatory reporting, thereby reducing data gathering and calculation burden. Both of these inputs would be measured in terms of their absolute value to better capture business volume (for example, negative trading revenue would not imply that a banking

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[188] Trading revenue would correspond to trading revenue in the FR Y-9C (holding companies) and Call Report.

[189] Realized gains (losses) on held-to-maturity securities, realized gains (losses) on available-for-sale securities, net gains (losses) on sales of loans and leases, net gains (losses) on sales of other real estate owned, net gains (losses) on sales of other assets, venture capital revenue, and net securitization income correspond to their current definitions in the FR Y-9C (holding companies) and Call Report.

organization's trading activities are small in volume), which is associated with higher operational risk.

d. Exclusions from the business indicator

Under the proposal, the business indicator would reflect the volume of financial activities of a banking organization; therefore, the business indicator would exclude expenses that do not relate to financial services received by the banking organization. Excluded expenses would include staff expenses, expenses to outsource non-financial services (such as logistical, human resources, and information technology), administrative expenses (such as utilities, telecommunications, travel, office supplies, and postage), expenses relating to premises and fixed assets, and depreciation of tangible and intangible assets. Still, the proposal would include expenses related to operational loss events in the services component even when they relate to these otherwise-excluded categories of expenses because the objective of the operational risk capital requirement is to support a banking organization's resilience to operational risk, and observed operational loss expenses are a meaningful indicator of a banking organization's exposure to operational risk.

The proposal also would not include loss provisions and reversal of provisions (except for those related to operational loss events) or changes in goodwill in the business indicator, as these items do not reflect business volume of the banking organization. In addition, the business indicator would not include applicable income taxes as an expense, as they reflect obligations to the government for which the operational risk capital framework should be neutral.

With prior supervisory approval, the proposal would allow banking organizations to exclude activities that they have ceased to conduct, whether directly or indirectly, from the calculation of the business indicator, provided that the banking organization demonstrates that such activities do not carry legacy legal exposure. Supervisory approval would not be granted when, for example, legacy business activities are subject to potential or pending legal or

regulatory enforcement action. The supervisory approval requirement would help ensure that a banking organization's operational risk capital requirement aligns with its existing operational risk exposure.

2. Business indicator component

Under the proposal, the business indicator component would be a function of the business indicator, with three linear segments. The business indicator component would increase at a rate of: (a) 12 percent per unit of business indicator for levels of business indicator up to $1 billion; (b) 15 percent per unit of business indicator for levels of business indicator above $1 billion and up to $30 billion; and (c) 18 percent per unit of business indicator for levels of business indicator above $30 billion. Table 8 below presents the formulas that can be used to calculate the business indicator component given a banking organization's business indicator.

Table 8—Business Indicator Components by Business Indicator Range

Business indicator range	Business indicator component[190]
$0 to $1 billion	0.12 * Business Indicator (BI)
> $1 billion to $30 billion	$120 million + 0.15 * (BI - $1 billion)
> $30 billion	$4.47 billion + 0.18 * (BI - $30 billion)

The higher rate of increase of the business indicator component as a banking organization's business indicator rises above $1 billion and $30 billion would reflect exposure to operational risk generally increasing more than proportionally with a banking organization's overall business volume, in part due to the increased complexity of large banking organizations.

[190] $120 million is equal to 0.12 * $1 billion. $4.47 billion is equal to 0.12 * $1 billion + 0.15 * ($30 billion - $1 billion).

This approach is supported by analysis undertaken by the Basel Committee.[191] Similarly, academic studies have found that larger U.S. bank holding companies have higher operational losses per dollar of total assets.[192]

3. *Internal loss multiplier*

Higher historical operational losses are associated with higher future operational risk exposure.[193] Supervisory experience also suggests that operational risk management deficiencies can be persistent, which can often result in operational losses. Accordingly, under the proposal, the operational risk capital requirement would be higher for banking organizations that experienced larger operational losses in the past. To this effect, the proposal would include a scalar, the internal loss multiplier, that increases operational risk capital requirements based on a banking organization's historical operational loss experience. This multiplier would depend on the ratio of a banking organization's average annual total net operational losses to its business indicator component.

The proposal would require the internal loss multiplier to be no less than one. This floor would ensure that the operational risk capital requirement provides a robust minimum amount of coverage to the potential future operational risks a banking organization may be exposed to, as reflected by its overall business volume through the business indicator component, even in situations where historical operational losses have been low in relative terms.

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[191] *See* Basel Committee (2014), "Operational risk – Revisions to the simpler approaches," https://www.bis.org/publ/bcbs291.htm and Basel Committee (2016), "Standardized Measurement Approach for operational risk," https://www.bis.org/bcbs/publ/d355.htm.

[192] *See* Curti, Mih, and Mihov (2022), "Are the Largest Banking Organizations Operationally More Risky?, Journal of Money, Credit and Banking," DOI: 10.111/jmcb.12933; and Frame, McLemore, and Mihov (2020), "Haste Makes Waste: Banking Organization Growth and Operational Risk," Federal Reserve Bank of Dallas, https://www.dallasfed.org/research/papers/2020/wp2023.

[193] *See* Curti and Migueis (2023), "The Information Value of Past Losses in Operational Risk, Finance and Economics Discussion Series," Board of Governors of the Federal Reserve System, https://doi.org/10.17016/FEDS.2023.003.

The internal loss multiplier would be calculated as follows:

$$Internal\ Loss\ Multiplier = maximum\left\{1, ln\left(exp(1) - 1 + \left(\frac{15\ x\ Average\ Annual\ Total\ Net\ Operational\ Losses}{Business\ Indicator\ Component}\right)^{0.8}\right)\right\}$$

Where:

- *Average annual total net operational losses* would correspond to the average of annual total net operational losses over the previous ten years (on a rolling quarter basis).[194] In this calculation, the total net operational losses of a quarter would equal the sum of any portions of losses or recoveries of any material operational losses allocated to the quarter. Material operational loss would mean an operational loss incurred by the banking organization that resulted in a net loss greater than or equal to $20,000 after taking into account all subsequent recoveries related to the operational loss.
- *exp*(1) is the Euler's number, which is approximately equal to 2.7183.
- *ln* is the natural logarithm.

Average annual total net operational losses would be multiplied by 15 in the internal loss multiplier formula. This multiplication extrapolates from average annual total net operational losses the potential for unusually large losses and, therefore, aims to ensure that a banking organization maintains sufficient capital given its operational loss history and risk profile. The constant used is consistent with the Basel III reforms.

[194] For example, when calculating average annual total net operational losses for the second calendar quarter of 2023, total net operational losses from the third calendar quarter of 2013 through the second calendar quarter of 2023 would be included.

The natural log function (*ln*) combined with an exponent of 0.8 would limit the effect that large operational losses have on a banking organization's operational risk capital requirement. This feature of the internal loss multiplier formula is intended to constrain the volatility of the operational risk capital requirement. As a result, increases in average annual total net operational losses would increase the operational risk capital requirement at a decreasing rate.[195]

The calculation of average annual total net operational losses would be based on an average of ten years of data. The use of a ten-year average for annual total net operational losses would balance recognition that a banking organization's operational risk exposure changes over time with limiting the volatility that would result from using a shorter time horizon and the importance of the calculation window providing sufficient information regarding the banking organization's operational risk profile.

The proposal would define an "operational loss" as all losses (excluding insurance or tax effects) resulting from an operational loss event, including any reduction in previously reported capital levels attributable to restatements or corrections of financial statements. An operational loss includes all expenses associated with an operational loss event except for opportunity costs, forgone revenue, and costs related to risk management and control enhancements implemented to prevent future operational losses. Operational loss would not include losses that are also credit losses and are related to exposures within the scope of the credit risk risk-weighted assets framework (except for retail credit card losses arising from non-contractual, third-party-initiated fraud, which are operational losses).

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[195] The internal loss multiplier variation depends on the ratio of the product of 15 and the average annual total operational losses to the business indicator component. The 0.8 exponent applied to this ratio reduces the effect of the variation of this ratio on the internal loss multiplier. For example, a ratio of 2 becomes approximately 1.74 after application of the exponent, and a ratio of 0.5 becomes approximately 0.57 after application of the exponent. Similarly, the application of a logarithmic function further reduces the variability of the internal loss multiplier for values above 1. Taken together, these two transformations mitigate the reaction of the operational risk capital requirement to large historical operational losses.

"Operational loss event" would be defined as an event that results in loss due to inadequate or failed internal processes, people, or systems or from external events. This definition includes legal loss events and restatements or corrections of financial statements that result in a reduction of capital relative to amounts previously reported. The proposal would retain the current classification of operational loss events according to seven event types:

1 – Internal fraud, which means the operational loss event type that comprises operational losses resulting from an act involving at least one internal party of a type intended to defraud, misappropriate property, or circumvent regulations, the law, or company policy excluding diversity and discrimination noncompliance events.

2 – External fraud, which means the operational loss event type that comprises operational losses resulting from an act by a third party of a type intended to defraud, misappropriate property, or circumvent the law. Retail credit card losses arising from non-contractual, third-party-initiated fraud (for example, identity theft) are external fraud operational losses.

3 – Employment practices and workplace safety, which means the operational loss event type that comprises operational losses resulting from an act inconsistent with employment, health, or safety laws or agreements, payment of personal injury claims, or payment arising from diversity and discrimination noncompliance events.

4 – Clients, products, and business practices, which means the operational loss event type that comprises operational losses resulting from the nature or design of a product or from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements).

5 – Damage to physical assets, which means the operational loss event type that comprises operational losses resulting from the loss of or damage to physical assets from natural disasters or other events.

6 – Business disruption and system failures, which means the operational loss event type that comprises operational losses resulting from disruption of business or system failures, including hardware, software, telecommunications, or utility outage or disruptions.

7 – Execution, delivery, and process management, which means the operational loss event type that comprises operational losses resulting from failed transaction processing or process management or losses arising from relations with trade counterparties and vendors.

By ensuring consistency, the classification of operational loss events according to these event types would continue to assist banking organizations and the agencies in understanding the causal factors driving operational losses.

The proposal would include a $20,000 net loss threshold (that is, $20,000 after taking into account all subsequent recoveries related to the operational loss) for inclusion of an operational loss in the calculation of average annual total net operational losses. This threshold aims to balance comprehensiveness against the materiality of the operational losses.

The proposal would require a banking organization to group losses with a common underlying trigger into the same operational loss event. For example, losses that occur in multiple locations or over a period of time resulting from the same natural disaster would be grouped into a single operational loss event. This grouping requirement aims to ensure comprehensive inclusion of operational loss events that result in $20,000 or more of net loss in the calculation of the internal loss multiplier and to facilitate understanding of operational risk exposure by banking organizations and supervisors.

There are two main differences in how the proposal would treat operational losses relative to typical practice under the AMA. First, total net operational losses would include operational losses in the quarter in which their accounting impacts were recorded, rather than aggregated into a single event date.[196] Second, operational losses would enter the internal loss multiplier calculation net of related recoveries, including insurance recoveries.[197] Recoveries would be included in the quarter in which they are paid to the banking organization. Insurance receivables would not be accounted for in the calculation as recoveries. Reductions in the legal reserves associated with an ongoing legal event would be treated as recoveries for the calculation of total net operational losses. Also, a recovery would only offset a loss arising from a related operational loss event. This proposed treatment would ensure that only applicable recoveries are recognized.

Under the proposal, a negative financial impact that a banking organization books in its financial statement due to having incorrectly booked a positive financial impact in a previous financial statement would constitute an operational loss (these losses are generally known as "timing losses"). Examples of an incorrectly booked positive financial impact would include revenue overstatement, overbilling, accounting errors, and mark-to-market errors. Corrections that would constitute operational losses include refunds and restatements that result in a reduction in equity capital. If the initial overstatement and its correction occur in the same financial statement period, there would be no operational loss under the proposal.

The proposal's definition of operational loss includes a clarification regarding the boundary between operational risk and credit risk, which aims to ensure that all losses

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[196] For example, if an operation loss event results in a loss impact of $500,000 in the first quarter of 2020 and a loss impact of $400,000 in the second quarter of 2021, the banking organization would add $500,000 to the total gross operational losses of first quarter of 2020 and add $400,000 to the total gross operational losses of the second quarter of 2021.

[197] A recovery is an inflow of funds or economic benefits received from a third party in relation to an operational loss event.

experienced by a banking organization in its financial statements are within the scope of the credit risk, market risk, or operational risk frameworks. Losses resulting from events that meet the definition of an operational loss event which are also credit losses and are related to exposures within the scope of the credit risk risk-weighted assets framework would continue to be excluded from total operational losses for purposes of the operational risk capital requirement. In keeping with the current framework and prevailing industry practice, retail credit card losses arising from non-contractual, third-party-initiated fraud would continue to be operational losses under the proposal. In addition, operational losses related to products that are outside of the scope of the credit risk-weighted asset framework (for example, losses due to representations and warranties unrelated to credit risk that require the banking organization to repurchase an asset) would be operational losses even if they are associated with obligor default events. Operational losses that result from boundary events with market risk (for example, losses that are the result of failed or inadequate model validation processes) would also continue to be treated as operational losses in the proposal.

The proposal includes revisions to the FR Y-14Q report, which is applicable to large banking organizations subject to the Board's capital plan rule, to conform with the revisions to the definitions of operational loss and operational loss event introduced by the proposal.

Under the proposal, a banking organization would include in its calculation of total net operational losses any operational loss events incurred by an entity that has been acquired by or merged with the banking organization. In cases where historical loss data meeting the collection requirements is not available for a merged or acquired entity for certain years in the calculation window of the internal loss multiplier, the proposal would provide a formula for calculating annual total net operational losses for this merged or acquired entity for these missing years. Annual total net operational losses of the merged or acquired entity for the missing years would be such that the ratio of average annual total net operational losses to the business indicator

contribution of this merged or acquired entity[198] is the same as the ratio of the average annual total net operational losses to business indicator of the remainder of the banking organization:

*Annual total net operational losses for a merged or acquired business that lacks loss data = Business indicator contribution of merged or acquired business that lacks loss data * Average annual total net operational losses of the banking organization excluding amounts attributable to the merged or acquired business / Business indicator of the banking organization excluding amounts attributable to the merged or acquired business.*

This approach would recognize that historical data for operational losses may be difficult to obtain in certain circumstances, particularly if an acquired or merged entity had not previously been required to track operational losses.[199]

Banking organizations that only have five to nine years of loss data meeting the operational loss event data collection requirements in §__.150(f)(2) of the proposal (for example, when transitioning into the standardized approach for operational risk) would be expected to use as many years of loss data meeting the internal loss event data collection requirements as are available in the calculation of average annual total net operational losses. In cases where a banking organization's loss collection practices are deficient, its primary Federal supervisor may require higher capital requirements under the capital rule's reservation of authority.

Under the proposal, the internal loss multiplier would equal one in cases where the number of years of loss data meeting the internal loss event data collection requirements is less than five years. In cases where the banking organization's primary Federal supervisor determines that an internal loss multiplier of one results in insufficient operational risk capital, the primary

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[198] The business indicator contribution of a merged or acquired entity would be the business indicator of the banking organization inclusive of the merged or acquired entity minus the business indicator of the banking organization when the merged or acquired entity is excluded.

[199] In contrast, the business indicator includes only three years of financial statement data, which should be readily available.

Federal supervisor may require higher capital requirements under the capital rule's reservation of authority.

Under the proposal, a banking organization would be able to request supervisory approval to exclude operational loss events that are no longer relevant to their risk profile from the internal loss multiplier calculation. The agencies expect the exclusion of operational loss events would generally be rare, and a banking organization would be required to provide adequate justification for why operational loss events are no longer relevant to its risk profile when requesting supervisory approval for exclusion. In evaluating the relevance of operational loss events to the banking organization's risk profile, the primary Federal supervisor would consider various factors, including whether the cause or causes of the loss events could occur in other areas of the banking organization's operations. The banking organization would need to demonstrate, for example, that there is no similar or residual legal exposure and that the excluded operational loss events have no relevance to other continuing activities or products.

In the case of divestitures, a banking organization would be able to request supervisory approval to remove historical operational loss events associated with an activity that the banking organization has ceased to directly or indirectly conduct—either through full sale of the business or closing of the business—from the calculation of the internal loss multiplier. Given that divestiture has occurred, exclusion of operational losses relating to legal events would generally depend on whether the divested activities carry legacy legal exposure, as would be the case, for example, where such activities are the subject of a potential or pending legal or regulatory enforcement action.

Except in the case of divestitures, the agencies would only consider providing supervisory approval for exclusions after operational losses have been included in a banking organization's total net operational losses for at least three years. This retention period would

aim to ensure prudence in the calculation of operational risk capital requirements, as operational risk exposure is unlikely to be fully eliminated over a short time frame.

Finally, to ensure that requests for operational loss exclusions are of a substantive nature, the agencies would only consider a request for exclusion when the total net operational losses to be excluded are equal to five percent or more of the banking organization's average annual total net operational losses.

Question 75: What are the advantages and disadvantages of flooring the internal loss multiplier at one? Which alternatives, if any, should the agencies consider and why?

Question 76: What are the advantages and disadvantages of including the internal loss multiplier as opposed to setting it equal to one?

Question 77: What are the advantages and disadvantages of the treatment proposed for losses of merged or acquired businesses? Which alternatives, if any, should the agencies consider and why? What impact would any alternatives have on the conservatism of the proposal?

Question 78: What are the advantages and disadvantages of an alternative threshold for the operational losses for which banking organizations may request supervisory approval to exclude?

4. Operational risk management and data collection requirements

Under the proposal, banking organizations would continue to be required to collect operational loss event data. As discussed above, a banking organization would be required to include operational losses, net of recoveries, of $20,000 or more in the calculation of the internal loss multiplier. To assist the identification of operational loss events that result in an operational loss, net of recoveries, of $20,000 or more, the proposal would require banking organizations to

collect operational loss event data for all operational loss events that result in $20,000 or more of gross operational loss.

Operational loss event data would include the gross loss amount, recovery amounts, the date when the event occurred or began (date of occurrence), the date when the banking organization became aware of the event (date of discovery), and the date when the loss event resulted in a loss, provision, or recovery being recognized in the banking organization's profit and loss accounts (date of accounting). These loss data collection requirements are similar to the loss reporting requirements currently in place for banking organizations subject to the FR Y-14 reporting and are similar to the data that banking organizations subject to the AMA have typically collected.

To ensure the validity of its operational loss event data, a banking organization would be required to document the procedures used for the identification and collection of operational loss event data. Additionally, the banking organization would be required to have processes to independently review the comprehensiveness and accuracy of operational loss data, and the banking organization would be required to subject the aforementioned procedures and processes to regular independent reviews by internal or external audit functions.

The proposal would introduce a requirement that banking organizations collect descriptive information about the drivers or causes of operational loss events that result in a gross operational loss of $20,000 or more. This requirement would facilitate the efforts of banking organizations and the agencies to understand the sources of operational risk and the drivers of operational loss events. The agencies would expect that the level of detail of any descriptive information be commensurate with the size of the gross loss amount of the operational loss event.

The proposal would not include certain data requirements included in the AMA. Specifically, banking organizations would not be required to estimate their operational risk

exposure or to collect external operational loss event data, scenario analysis, and business, environment, and internal control factors.

The agencies consider effective operational risk management to be critical to ensuring the financial and operational resilience of banking organizations, particularly for large banking organizations.[200] Thus, consistent with the current advanced approaches qualification requirements applicable to banking organizations subject to Category I or II capital standards, the proposal would include the requirement that large banking organizations have an operational risk management function that is independent of business line management. This independent operational risk management function would be expected to design, implement, and oversee the comprehensiveness and accuracy of operational loss event data and operational loss event data collection processes, and oversee other aspects of the banking organization's operational risk management. Large banking organizations would also be required to have and document processes to identify, measure, monitor, and control operational risk in their products, activities, processes, and systems. In addition, large banking organizations would be required to report operational loss events and other relevant operational risk information to business unit management, senior management, and the board of directors (or a designated committee of the board).

Question 79: The proposal would require a banking organization to collect information on the drivers of operational loss events, with the level of detail of any descriptive information commensurate with the size of the gross loss amount. What are the advantages and disadvantages of this requirement? Which alternatives should the agencies consider - for example, introducing a higher dollar threshold for such a requirement – and why?

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[200] The interagency paper titled "Sound Practices to Strengthen Operational Resilience" (November 2, 2020) notes that operational resilience "is the outcome of effective operational risk management combined with sufficient financial and operational resources to prepare, adapt, withstand, and recover from disruptions."

G. Disclosure requirements

1. Proposed disclosure requirements

Meaningful public disclosures of a banking organization's activities and the features of its risk profile, including risk appetite, work in tandem with the regulatory and supervisory frameworks applicable to banking organizations by helping to support robust market discipline. In this way, meaningful public disclosures help to support the safety and soundness of banking organizations and the financial system more broadly.

The proposal would revise certain existing qualitative disclosure requirements and introduce new and enhanced qualitative disclosure requirements related to the proposed revisions described in this Supplementary Information. The proposal would also remove from the disclosure tables most of the existing quantitative disclosures, which would instead be included in regulatory reporting forms. Therefore, the agencies anticipate separately proposing revisions to the Consolidated Reports of Condition and Income, the Regulatory Capital Reporting for Institutions Subject to the Advanced Capital Adequacy Framework (FFIEC 101), and the Market Risk Regulatory Report for Institutions Subject to the Market Risk Capital Rule (FFIEC 102). The Board similarly anticipates proposing corresponding revisions to the Consolidated Financial Statements for Holding Companies (FR Y–9C), the Capital Assessments and Stress Testing (FR Y–14A and FR Y–14Q), and the Systemic Risk Report (FR Y-15) to reflect the changes to the capital rule that would be required under this proposal. The proposal would also remove disclosures related to internal ratings-based systems and internal models, consistent with the broader objectives of this proposal.

Under the current capital rule, banking organizations subject to Category I or II capital standards are subject to enhanced public disclosure and reporting requirements in comparison to the disclosure and reporting requirements applicable to banking organizations subject to Category III or IV capital standards. Under the proposal, the enhanced public disclosure requirements would apply to all large banking organizations. Applying enhanced disclosure and

reporting requirements to banking organizations subject to Category III or IV capital standards would bring consistency across large banking organizations and promote transparency for market participants. Consistent with the current capital rule, the top-tier entity (including a depository institution, if applicable), would be subject to both the qualitative and quantitative enhanced disclosure and reporting requirements.[201]

The current capital rule does not subject a banking organization that is a consolidated subsidiary of a bank holding company, a covered savings and loan holding company that is a banking organization as defined in 12 CFR 238.2, or depository institution that is subject to public disclosure requirements, or a subsidiary of a non-U.S. banking organization that is subject to comparable public disclosure requirements in its home jurisdiction to the qualitative disclosure requirements described in the current capital rule. The proposal would not change the current capital rule's requirements regarding public disclosure policy and attestation, the frequency of required disclosures, the location of disclosures, or the treatment of proprietary information.

2. Specific public disclosure requirements

The proposed changes to disclosure requirements pertaining to the risk-based capital framework are described below.[202] Disclosure tables 1,[203] 2,[204] 3,[205] 4,[206] 11[207] (table 9 to §

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[201] In the case of a depository institution that is not a consolidated subsidiary of a depository institution holding company that is assigned a category under the capital rule, the depository institution would be considered the top-tier entity for purposes of the qualitative and quantitative enhanced disclosure and reporting requirements.

[202] The table numbers refer to the table numbers included in the proposed rule.

[203] *See* Table 1 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) – Scope of Application.

[204] *See* Table 2 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) - Capital Structure.

[205] *See* Table 3 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) - Capital Adequacy.

[206] *See* Table 4 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) - Capital Conservation and Countercyclical Capital Buffers.

[207] *See* Table 11 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) - Equities Not Subject to Subpart F of This Part.

__.162 in the proposal), and 12[208] (table 10 to § __.162 in the proposal) in §__. 173 of the current capital rule have been retained without material modification, although the table numbers would change.

The proposal would retain the requirement that a banking organization disclose its risk management objectives as they relate to specific risk areas (e.g., credit risk). The proposal would revise the risk areas to which these disclosure requirements apply to help ensure consistency with the broader proposal. In addition, the proposal would require a banking organization to describe its risk management objectives as they relate to the organization overall. The required disclosures would include information regarding how the banking organization's business model determines and interacts with the overall risk profile; how this risk profile interacts with the risk tolerance approved by its board; the banking organization's risk governance structure; channels to communicate, define, and enforce the risk culture within the banking organization; scope and features of risk measurement systems; risk information reporting; qualitative information on stress testing; and the strategies and processes to manage, hedge, and mitigate risks. These disclosures are intended to allow market participants to evaluate the adequacy of a banking organization's approach to risk management.

Table 5 to § __.162, "Credit Risk: General Disclosures," would include the disclosures a banking organization is required to make under the current capital rule regarding its approach to general credit risk.[209] In addition, the proposal would require a banking organization to disclose certain additional information regarding its risk management policies and objectives for credit risk. Specifically, the proposal would require a banking organization to enhance its existing disclosures by describing how its business model translates into the components of the banking organization's credit risk profile and how it defines credit risk management policy and sets credit

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[208] *See* Table 12 to 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) - Interest Rate Risk for Non-Trading Activities.

[209] *See* Table 5 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) – Credit Risk – General Disclosures.

limits. Additionally, a banking organization would be required to disclose the organizational structure of its credit risk management and control function as well as interactions with other functions. A banking organization would also be required to disclose information on its policies related to reporting of credit risk exposure and the credit risk management function that are provided to the banking organization's leadership.

Table 6 to § __.162, "General Disclosure for Counterparty Credit Risk-Related Exposures," would include the disclosures a banking organization is required to make under the current capital rule regarding its approach to managing counterparty credit risk.[210] The proposal would also include new disclosure requirements regarding a banking organization's methodology for assigning economic capital for counterparty credit risk exposures as well as its policies regarding wrong-way risk exposures. Additionally, the proposal would further require a banking organization to disclose its risk management objectives and policies related to counterparty credit risk, including the method used to assign the operating limits defined in terms of internal capital for counterparty credit risk exposures and for CCP exposures, policies relating to guarantees and other risk mitigants and assessments concerning counterparty credit risk (including exposures to CCPs), and the increase in the amount of collateral that the banking organization would be required to provide in the event of a credit rating downgrade.

Table 7 to § __.162, "Credit Risk Mitigation," would include the disclosures a banking organization is required to make under the current rule regarding its approach to credit risk mitigation.[211] In addition, the proposal would specify that a banking organization must provide a meaningful breakdown of its credit derivative providers, including a breakdown by rating class or by type of counterparty (e.g., banking organizations, other financial institutions, and non-financial institutions). These disclosures would apply to eligible credit risk mitigants under the

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[210] *See* Table 7 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC) – General Disclosure for Counterparty Credit Risk of OTC Derivative Contracts, Repo-Style Transactions, and Eligible Margin Loans.

[211] *See* Table 8 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC)– Credit Risk Mitigation.

proposal,[212] although a banking organization would be encouraged to also disclose information about other mitigants. The credit risk mitigation disclosures in Table 7 to § __.162 of the proposal would not apply to synthetic securitization exposures, which would be included in Table 8 to § __.162 as part of the banking organization's disclosures related to securitization exposures.

Table 8 to § __.162, "Securitization," would include the disclosures a banking organization is required to make under the current capital rule regarding its approach to securitization.[213] In addition to the existing qualitative disclosures related to securitization, the proposal would require disclosure of whether the banking organization provides implicit support to a securitization and the risk-based capital impact of such support.

Table 11 to § __.162, "Additional Disclosure Related to the Credit Quality of Assets," is a new disclosure table that would require banking organizations to provide further information on the scope of "past due" exposures used for accounting purposes, including the differences, if any, between the banking organization's scope of exposures treated as past due for accounting purposes and those treated as past due for regulatory capital purposes. Table 11 to § __.162 would also describe the scope of exposures that qualify as "defaulted exposures" or "defaulted real estate exposures" that are not exposures for which credit losses are measured under ASC[214] Topic 326 and for which the banking organization has recorded a partial write-off or write-down. Additionally, a banking organization would be required to disclose the scope of exposures that qualify as a "loan modification to borrowers experiencing financial difficulty" for accounting

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[212] *See* section III.C.5 of this Supplementary Information for a more detailed discussion on the types of credit risk mitigants that a banking organization would be allowed to recognize for purposes of calculating risk-based capital requirements.

[213] *See* Table 9 to § 3.173 (OCC); § 217.173 (Board); § 324.173 (FDIC)– Securitization.

[214] The Accounting Standards Codification is promulgated by the Financial Accounting Standards Board for GAAP.

purposes under ASC Topic 310[215] and the difference, if any, between the scope of exposures treated as "defaulted exposures" or "defaulted real estate exposures."

Table 12 to § __.162, "General Qualitative Disclosure Requirements Related to CVA" is a new disclosure table that would require a banking organization to disclose certain information pertaining to CVA risk, including its risk management objectives and policies for CVA risk and information related to a banking organization's CVA risk management framework, including processes implemented to identify, measure, monitor, and control CVA risks and effectiveness of CVA hedges. Table 13 to § __.162, "Qualitative Disclosures for Banks Using the SA-CVA" is a new disclosure table that would require a banking organization that has approval to use the standardized CVA approach (SA-CVA) to make disclosures related to the banking organization's risk management framework, including a description of the banking organization's risk management framework, a description of how senior management is involved in the CVA risk management framework, and an overview of the governance of the CVA risk management framework such as documentation, independent risk control unit, independent review, and independence of data acquisition from lines of business.

Table 14 to § __.162, "General Qualitative Information on a Banking Organization's Operational Risk Framework," is a new disclosure table that would require a banking organization to disclose information regarding its operational risk management processes, including its policies, frameworks, and guidelines for operational risk management; the structure and organization of its operational risk management and control function; its operational risk measurement system (the systems and data used to measure operational risk in order to estimate the operational risk capital requirement); the scope and context of its reporting framework on operational risk to executive management and to the board of directors; and the risk mitigation and risk transfer used in the management of operational risk.

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[215] *See* ASC 310-10-50-36.

Table 15 to § __.162, "Main Features of Regulatory Capital Instruments and of other TLAC-Eligible Instruments," is a new disclosure table that would require a banking organization to disclose information regarding the terms and features of its regulatory capital instruments and other instruments eligible for TLAC[216]. In addition, the proposal would require a banking organization to describe the main features of its regulatory capital instruments and provide disclosures of the full terms and conditions of all instruments included in regulatory capital. A banking organization that is also a GSIB would also be required to describe the main features of its covered debt positions and provide disclosures of the full terms and conditions of all covered debt positions.

H. Market risk

1. Background

a. Description of market risk

Market risk for a banking organization results from exposure to price movements caused by changes in market conditions, market events, and issuer events that affect asset prices. Losses resulting from market risk can affect a banking organization's capital strength, liquidity, and profitability. To help ensure that a banking organization maintains a sufficient amount of capital to withstand adverse market risks and consistent with amendments to the Basel Capital Accord, the agencies adopted risk-based capital standards for market risk in 1996 (1996 rule).[217] Although adoption of the 1996 rule was a constructive step in capturing market risk, the 1996 rule did not sufficiently capture the risks associated with financial instruments that became prevalent in the years following its adoption. This became evident during the 2007–2009

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[216] For purposes of Table 15, unique identifiers associated with regulatory capital instruments and other instruments eligible for TLAC may include Committee on Uniform Security Identification Procedures number, Bloomberg identifier for private placement, International Securities Identification Number, or others.

[217] 61 FR 47358 (September 6, 1996). The agencies' market risk capital rules were located at 12 CFR part 3, appendix B (OCC), 12 CFR part 208, appendix E and 12 CFR part 225, appendix E (Board), and 12 CFR part 325, appendix C (FDIC).

financial crisis, when the 1996 rule did not fully capture banking organizations' increased exposures to traded credit and other structured products, such as collateralized debt obligations (CDO), credit default swaps (CDS), mortgage-related securitizations, and exposures to other less liquid products.

In August 2012, the agencies issued a final rule that modified the 1996 rule to address these deficiencies.[218] Specifically, the rule added a stressed value-at-risk (VaR) measure, a capital requirement for default and migration risk (the incremental risk capital requirement), a comprehensive risk measurement for correlation trading portfolio, a modified definition of covered position, a definition of trading position, an expanded set of requirements for internal models to reflect advances in risk management, and revised requirements for regulatory backtesting. These changes enhanced the calibration of market risk capital requirements by incorporating stressed conditions into VaR and by increasing the comprehensiveness and quality of the standards for internal models used to calculate market risk capital requirements.[219]

While these updates to the rule addressed certain pressing deficiencies in the calculation of market risk capital requirements, a number of structural shortcomings that came to light during the crisis remained unaddressed (such as an inability of a VaR metric to capture tail risks). To address these shortcomings, the Basel Committee conducted a fundamental review of the market risk capital framework.[220] Following this review, the Basel Committee in

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[218] Risk-Based Capital Guidelines: Market Risk, 77 FR 53059 (August 30, 2012).

[219] The rule was subsequently modified in 2013 with changes that included moving the market risk requirements from the agencies' respective appendices to subpart F of the capital rule; making savings associations and savings and loan holding companies with material exposure to market risk subject to the market risk rule, 78 FR 62018 (October 11, 2013); addressing changes to the country risk classifications, clarifying the treatment of certain traded securitization positions; revising the definition of covered position, and clarifying the timing of the market risk disclosure requirements, 78 FR 76521 (December 18, 2013).

[220] The Basel Committee has published three consultative documents on the review and to address the structural shortcomings identified. "Fundamental review of the trading book," May 2012, www.bis.org/publ/bcbs219.pdf; "Fundamental review of the trading book: A revised market risk framework," October 2013, www.bis.org/publ/bcbs265.pdf; and, "Fundamental

January 2016 published a new, more robust framework, which established minimum capital requirements for market risk.[221] The new framework also included enhanced templates and qualitative disclosure requirements to increase the transparency of banking organizations' market-risk-weighted assets. In January 2019, the Basel Committee published an amended framework for market risk capital requirements that revised the calibration of certain risk weights to more appropriately capture the potential losses for certain types of risks.[222] The proposal would modify subpart F of the capital rule to increase risk sensitivity, transparency, and consistency of the market risk capital requirements in a manner generally consistent with the revised framework of the Basel Committee.

b. Overview of the proposal

The proposal would improve the risk-sensitivity and calibration of market risk capital requirements relative to the current capital rule. The proposal would introduce a risk-sensitive standardized methodology for calculating risk-weighted assets for market risk (standardized measure for market risk) and a new models-based methodology (models-based measure for market risk) to replace the framework in subpart F of the current capital rule. The standardized measure for market risk would be the default methodology for calculating market risk capital requirements for all banking organizations subject to market risk requirements. A banking organization would be required to obtain prior approval from its primary Federal supervisor to use the models-based measure for market risk to determine its market risk capital requirements.[223]

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review of the trading book: Outstanding issues," December 2014, www.bis.org/bcbs/publ/d305.pdf.

[221] Basel Committee, "Minimum capital requirements for market risk," January 2016, www.bis.org/bcbs/publ/d352.pdf.

[222] Basel Committee, Explanatory note on the minimum capital requirements for market risk, January 2019, www.bis.org/bcbs/publ/d457.pdf.

[223] A banking organization that has regulatory approval to use internal models to measure market risk would be required to obtain new approvals to use the models-based measure for market risk under the proposed framework.

In contrast to the current framework which, subject to approval, allows the use of internal models at the banking organization level, the proposal would provide for enhanced risk-sensitivity by introducing the concept of a trading desk and restricting application of the proposed models-based approach to the trading desk level. The trading desk-level approach would limit use of the internal models approach to only those trading desks that can appropriately capture the risk of market risk covered positions in banking organizations' internal models. Notably, the proposal would also improve the current capital rule's models-based measure for market risk. Specifically, the proposal would replace the VaR-based measure of market risk with an expected shortfall-based measure that better accounts for extreme losses.[224] In addition, the proposal would replace the fixed ten-business-day liquidity horizon in the current capital rule with liquidity horizons that vary based on the underlying risk factors to adequately capture the market risk of less liquid positions.[225]

If after receiving approval from the primary Federal supervisor to use the models-based measure for market risk, a banking organization's trading desk fails to satisfy either the proposed desk-level backtesting requirements[226] or the proposed desk-level profit and loss attribution testing requirements,[227] the proposal would require the banking organization to use the standardized measure for market risk to calculate market risk capital requirements for the trading desk. This requirement would limit the use of internal models to only those trading desks for

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[224] The proposal would define expected shortfall as a measure of the average of all potential losses exceeding the VaR at a given confidence level and over a specified horizon.

[225] The proposal would define liquidity horizon as the time required to exit or hedge a market risk covered position without materially affecting market prices in stressed market conditions.

[226] The proposed desk-level backtesting requirements are intended to measure the conservatism of the forecasting assumptions and valuation methods used in the desk's expected shortfall models.

[227] The proposed desk-level profit and loss attribution (PLA) testing requirements are intended to measure the accuracy of the potential future profits or losses estimated by the expected shortfall models relative to those produced by the front office models. For purposes of this Supplementary Information, the term "front office model" refers to the valuation methods used to report actual profits and losses for financial reporting purposes.

which the models are sufficiently conservative and accurate for purposes of calculating market risk capital requirements for the trading desk.

The proposed standardized measure for market risk (as illustrated in Figure 2 below) would consist of three main components: (1) a sensitivities-based capital requirement that would capture non-default market risk based on the estimated losses produced by risk factor sensitivities[228] under regulatorily determined stress conditions;[229] (2) a standardized default risk capital requirement that would capture losses on credit and equity positions in the event of issuer default; and (3) a residual risk capital requirement (a residual risk add-on) that would address in a simple, conservative manner any other known risks that are not already captured by the first two components, such as gap risk, correlation risk, and behavioral risks. The proposed standardized measure for market risk would also include three additional components that would apply in limited instances to specific positions: (1) a fallback capital requirement for instances where a banking organization is unable to calculate market risk capital requirements under the sensitivities-based method or the standardized default risk capital requirement; (2) a capital add-on for re-designations for instances where a banking organization re-classifies an instrument after initial designation as being subject either to the market risk capital requirements under subpart F or to the capital requirements under either subpart D or E of the capital rule, respectively, and (3) any additional capital requirement established by the primary Federal supervisor. Specifically, as part of the proposal's reservation of authority provisions, the primary Federal supervisor may require a banking organization to maintain an overall amount of capital that differs from the amount otherwise required under the proposal, if the primary Federal

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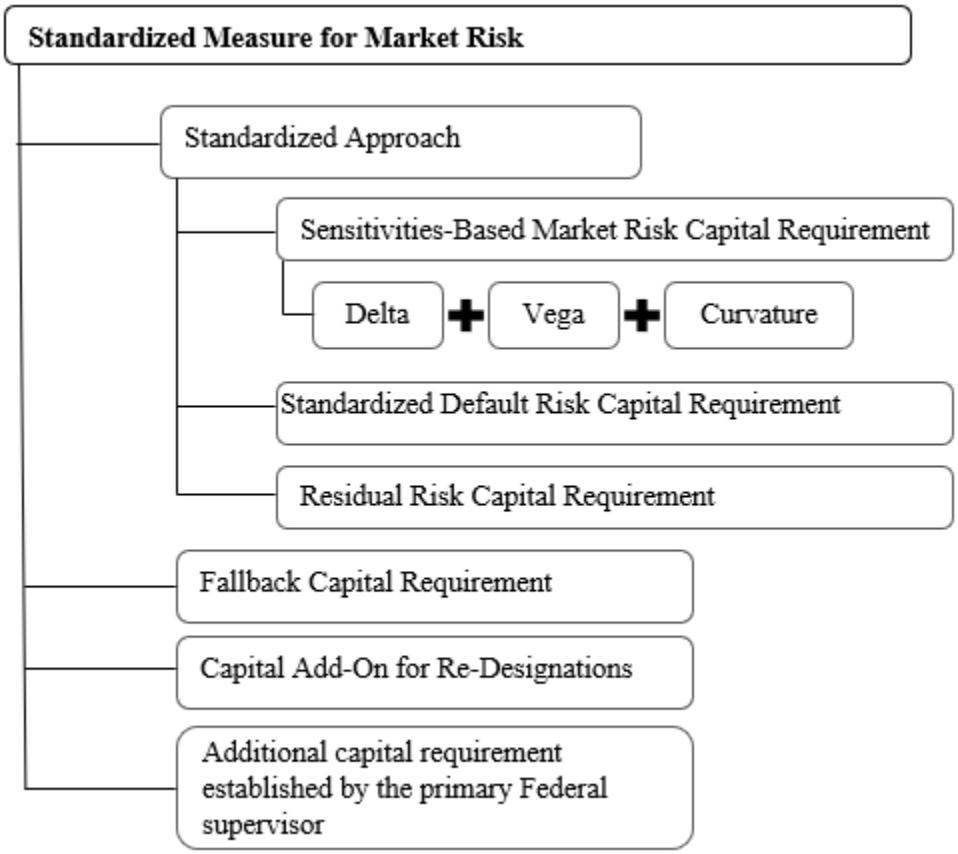
[228] A risk factor sensitivity is the change in value of an instrument given a small movement in a risk factor that affects the instrument's value.

[229] Under the proposal, the market risk capital requirement for the sensitivities-based method would equal the sum of the capital requirements for a given risk factor for delta (a measure of impact on a market risk covered position's value from small changes in underlying risk factors), vega (a measure of the impact on a market risk covered position's value from small changes in volatility) and curvature (a measure of the additional change in the positions' value not captured by delta arising from changes in the value of an option or an embedded option).

supervisor determines that the banking organization's market risk capital requirements under the proposal are not commensurate with the risk of the banking organization's market risk covered positions, a specific market risk covered position, or categories of positions, as applicable. The standardized measure for market risk would equal the simple sum of the above components as shown in Figure 2.

Figure 2



The core components of the models-based measure for market risk would consist of (1) the internal models approach capital requirements for model-eligible trading desks;[230] (2) the standardized approach capital requirements for model-ineligible trading desks; and (3) the

[230] The internal models approach capital requirements for model-eligible trading desks would itself consist of four components: (1) the internally modelled capital requirement for modellable risk factors, (2) the stressed expected shortfall for non-modellable risk factors, (3) the standardized default risk capital requirement, and (4) the aggregate trading portfolio backtesting capital multiplier. *See* section III.H.8.a of this Supplementary Information.

additional capital requirement applied to model-eligible trading desks with shortcomings in the internal models used for determining risk-based capital requirements in the form of a PLA add-on,[231] if applicable. To limit the increase in capital requirements arising due to differences in calculating risk-based capital requirements separately[232] between market risk covered positions held by trading desks subject to the internal models approach and those held by trading desks subject to the standardized approach, the models-based measure for market risk would cap the sum of these three components at the capital required for all trading desks under the standardized approach.

There are four other components of the models-based measure for market risk; however, these would only apply in limited circumstances. These components include: (1) the capital requirement for instances where the capital requirements for model-eligible desks under the internal models approach exceed those under the standardized approach;[233] (2) the fallback capital requirement for instances where a banking organization is not able to apply the standardized approach to market risk covered positions on model-ineligible trading desks or the internal models approach to market risk covered positions on model-eligible trading desks, as well as all securitization positions and correlation trading positions that are excluded from the capital add-on for ineligible positions on model-eligible trading desks; (3) the capital add-on for re-designations for instances where a banking organization re-classifies an instrument after initial designation as being subject either to the market risk capital requirements under subpart F or to

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[231] The PLA add-on would be an additional capital requirement for model deficiencies in model-eligible trading desks based on the profit and loss attribution test results. *See* section III.H.8.b of this Supplementary Information.

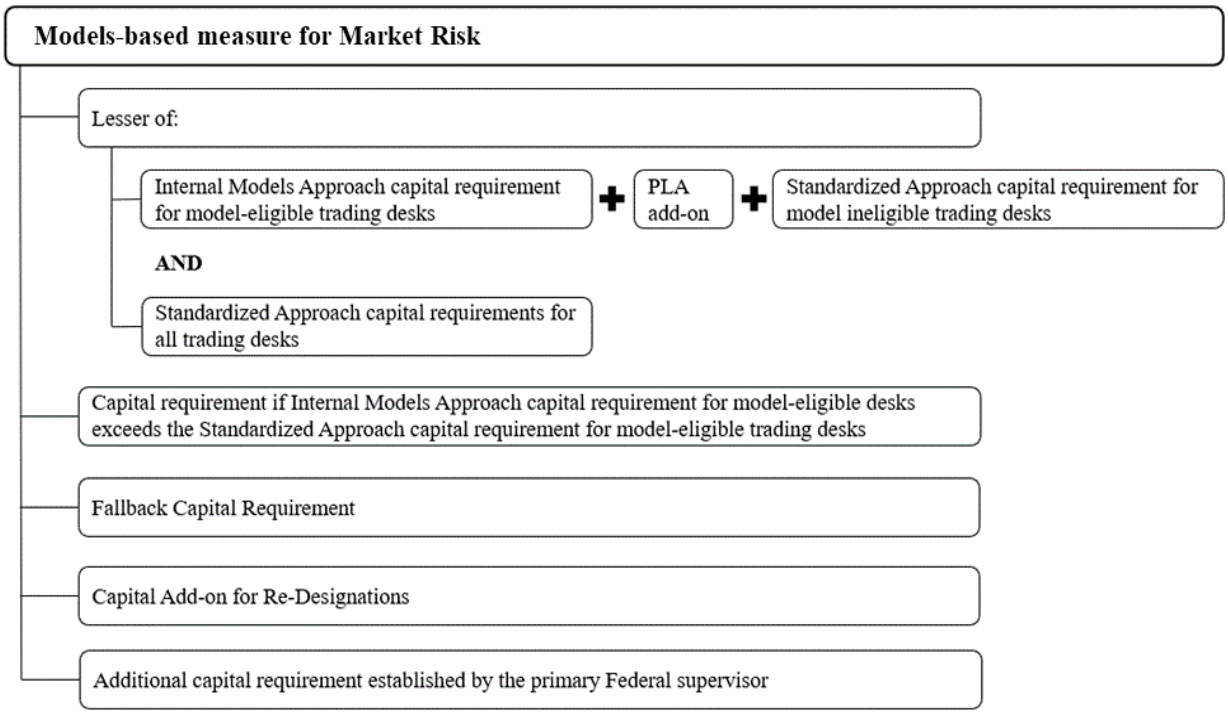
[232] Separate capital calculations could unnecessarily increase capital requirement because they ignore the offsetting benefits between market risk covered positions held by trading desks subject to the internal models approach and those held by trading desks subject to the standardized approach.

[233] As the standardized approach is less risk-sensitive than the internal models approach, to the extent that the capital requirement under the internal models approach exceeds that under the standardized approach for model-eligible desks, the proposal would require this difference to be reflected in the aggregate capital requirement under the models-based measure for market risk.

the capital requirements under either subpart D or subpart E of the capital rule, respectively, or from including securitization positions, correlation trading positions, or certain equity positions in investment funds[234] on a model-eligible trading desk, provided such positions are not included in the fallback capital requirement; and (4) any additional capital requirement established by the primary Federal supervisor. Specifically, as part of the proposal's reservation of authority provisions, and similar to the standardize measure for market risk, the primary Federal supervisor may require the banking organization to maintain an overall amount of capital that differs from the amount otherwise required under the proposal.

Under the proposal, the market risk capital requirements for a banking organization under the models-based measure for market risk would equal the sum of the following components as shown in Figure 3.

Figure 3



[234] Specifically, the capital add-on would apply to equity positions in an investment fund on model-eligible trading desks where the banking organization cannot identify the underlying positions held by the investment fund on a quarterly basis or there is no daily price of the fund available.

The proposal would also revise the criteria for determining whether a banking organization is subject to the market risk-based capital requirements to (1) reflect the significant growth in capital markets since adoption of the 1996 rule; (2) provide a more reliable and stable measure of banking organizations' trading activity by introducing a four-quarter average requirement, and (3) incorporate measures of risk identified as part of the agencies' 2019 regulatory tiering rule.[235] In general, the revised criteria would take into account the prudential benefits of the proposed market risk capital requirements and the potential costs, including compliance costs.

In addition, the proposal would help promote consistency and comparability in market risk capital requirements across banking organizations by strengthening the criteria for identifying positions subject to the proposed market risk capital requirement and by proposing a risk-based capital treatment of transfers of risk between a trading desk and another unit within the same banking organization (internal risk transfers). The proposal would also improve the transparency of market risk capital requirements through enhanced disclosures.

2. Scope and application of the proposed rule

a. Scope of the proposed rule

Currently, any banking organization with aggregate trading assets and trading liabilities that, as of the most recent calendar quarter, equal to $1 billion or more, or 10 percent or more of the banking organization's total consolidated assets, is required to calculate market risk capital requirements under subpart F of the current capital rule.

The proposal would revise the criteria for determining whether a banking organization is subject to subpart F of the capital rule. Under the proposal, large banking organizations, as well as those with significant trading activity, would be required to calculate market risk capital requirements under subpart F of the capital rule. Specifically, a banking organization with

[235] *See* 84 FR 59230, 59249 (November 1, 2019).

significant trading activity would be any banking organization with average aggregate trading assets and trading liabilities, excluding customer and proprietary broker-dealer reserve bank accounts,[236] over the previous four calendar quarters equal to $5 billion or more, or equal to 10 percent or more of total consolidated assets at quarter end as reported on the most recent quarterly regulatory report. Under the proposal, any holding company subject to Category I, II, III, or IV standards or any subsidiary thereof, if the subsidiary engaged in any trading activity over any of the four most recent quarters, would be subject to subpart F of the capital rule.

The proposed scope is designed to apply market risk capital requirements to all large banking organizations. As the agencies noted in the preamble to the final regulatory tiering rule, due to their operational scale or global presence, banking organizations subject to Category I or II capital standards pose heightened risks to U.S. financial stability which would benefit from more stringent capital requirements being applied to such banking organizations.[237] As banking organizations subject to Category I or II capital standards are generally subject to rules based on the standards published by the Basel Committee, the proposed scope would help promote competitive equity among U.S. banking organizations and their foreign peers and competitors, and reduce opportunities for regulatory arbitrage across jurisdictions. In addition, given the increasing size and complexity of activities of banking organizations subject to Category III and IV capital standards and the risks such banking organizations pose to U.S. financial stability, it would be appropriate to require such banking organizations to be subject to the proposed market risk capital requirements, which provide for enhanced risk sensitivity.

In addition to applying subpart F of the capital rule to large banking organizations, the proposed rule would retain a trading activity threshold. To reflect inflation since 1996 and

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[236] The proposal would define customer and proprietary broker-dealer reserve bank accounts as segregated accounts established by a subsidiary of a banking organization that fulfill the requirements of 17 CFR 240.15c3-3 (SEC Rule 15c3-3) or 17 CFR 1.20 (CFTC Regulation 1.20).

[237] *See* 84 FR 59230, 59249 (November 1, 2019).

growth in the capital markets, the agencies are proposing to increase the trading activity dollar threshold from $1 billion to $5 billion. A banking organization whose trading assets and trading liabilities are equal to 10 percent or more of its total assets would continue to be subject to subpart F of the capital rule under the proposal. This means that a banking organization that is not subject to Category I, II, III, or IV capital standards may still be subject to subpart F if it exceeds either of these quantitative thresholds. The proposed trading activity dollar threshold would be measured using the average aggregate trading assets and trading liabilities of a banking organization, calculated in accordance with the instructions to the FR Y-9C or Call Report, as applicable, over the prior four consecutive quarters, rather than using only the single most recent quarter.[238] This approach would provide a more reliable and stable measure of the banking organization's trading activities than the current capital rule's quarter-end measure.[239] Furthermore, for purposes of determining applicability of subpart F of the capital rule, a banking organization would exclude from its calculation of aggregate trading assets and trading liabilities securities related to certain segregated accounts established by a subsidiary of a banking organization pursuant to SEC Rule 15c3-3 and CFTC Regulation 1.20 (customer and proprietary broker-dealer reserve bank accounts). To protect customers against losses arising from a broker-dealer's use of customer assets and cash, the SEC's and CFTC's requirements for customer and proprietary broker-dealer reserve bank accounts limit the ability of a banking organization to benefit from short-term price movements on the assets held in such accounts. When such

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[238] For purposes of the proposed scoping criteria, aggregate average trading assets and trading liabilities would mean the sum of the amount of trading assets and the amount of trading liabilities as reported by the banking organization on the Consolidated Financial Statements for Holding Companies (sum of line items 5 and 15 on schedule HC of the Y-9C) or on the Consolidated Reports of Condition and Income (i.e., the sum of line items 5 and 15 on schedule RC of the FFIEC 031, the FFIEC 041, or the FFIEC 051), as applicable.

[239] If the banking organization has not reported trading assets and trading liabilities for each of the preceding four calendar quarters, the threshold would be based on the average amount of trading assets and trading liabilities over the quarters that the banking organization has reported, unless the primary Federal supervisor notifies the banking organization in writing to use an alternative method.

accounts constitute the vast majority of a banking organization's trading activities, the prudential benefit of requiring the banking organization to measure risk-weighted assets for market risk would be limited. The proposal would only allow a banking organization to exclude these amounts from proposed trading activity thresholds for the purpose of determining whether the banking organization is subject to market risk capital requirements. If a banking organization exceeds either of the proposed trading threshold criteria after excluding such accounts, the proposal would require the banking organization to include such accounts when calculating market risk capital requirements.

b. Application of proposed rule

The proposal would require a banking organization to comply with the market risk capital requirements beginning the quarter after the banking organization meets any of the proposed scoping criteria. To avoid volatility in requirements, a banking organization would remain subject to market risk capital requirements unless and until (1) it falls below the trading activity threshold criteria for each of four consecutive quarters or is no longer a banking organization subject to Category I, II, III, or IV capital standards, as applicable, and (2) has provided notice to its primary Federal supervisor.

Implementing the proposed market risk capital requirements would require significant operational preparation. Therefore, the agencies expect that that a banking organization would monitor its aggregate trading assets and trading liabilities on an ongoing basis and work with its primary Federal supervisor as it approaches any of the proposed scoping criteria to prepare for compliance. To facilitate supervisory oversight, the proposal would require a banking organization to notify its primary Federal supervisor after falling below the relevant scope thresholds.

While the proposed threshold criteria for application of market risk capital requirements would help reasonably identify a banking organization with significant levels of trading activity given the current risk profile of the banking organization, there may be unique instances where a

banking organization either should or should not be required to reflect market risk in its risk-based capital requirements. To continue to allow the agencies to address such instances on a case-by-case basis, the proposal would retain, without modification, the authority under subpart F of the capital rule for the primary Federal supervisor to either: (1) require a banking organization that does not meet the proposed threshold criteria to calculate the proposed market risk capital requirements, or (2) exclude a banking organization that meets the proposed threshold criteria from such calculation, as appropriate. To allow the agencies to address such instances on a case-by-case basis, the proposal would retain such existing authority under subpart F of the capital rule.

Question 80: The agencies seek comment on the appropriateness of the proposed scope of application thresholds. Given the compliance costs associated with the proposal, what, if any, alternative thresholds should the agencies consider and why?

Question 81: What are the advantages or disadvantages of using a four-quarter rolling average for the $5 billion aggregate trading assets and trading liabilities scope of application threshold? What different methodologies and time periods should the agencies consider for purposes of this threshold?

3. Market risk covered position

Subpart F of the capital rule applies to a banking organization's covered positions, which are defined to include, subject to certain restrictions: (i) any trading asset or trading liability as reported on a banking organization's regulatory reports that is a trading position[240] or that hedges another covered position and is free of any restrictive covenants on its tradability or for which the material risk elements may be hedged by the banking organization in a two-way market, and

[240] The current capital rule defines a trading position as one that is held by a banking organization for the purpose of short-term resale or with the intent of benefiting from actual or expected short-term price movements or to lock-in arbitrage profits.

(ii) any foreign exchange[241] or commodity position regardless of whether such position is a trading asset or trading liability. The definition of a covered position also explicitly excludes certain positions. Thus, the definition is structured into three broad categories, each subject to certain conditions: trading assets or liabilities that are covered positions, positions that are covered positions regardless of whether they are trading assets or trading liabilities, and exclusions.

The proposal would retain the structure and major elements of the existing definition of covered position (re-designated as "market risk covered position") with several modifications intended to better align the definition of market risk covered position with those positions the agencies believe should be subject to the market risk capital requirements as well as to reflect other proposed changes to the framework (for example, to incorporate the proposed treatment of internal risk transfers). The proposed revisions would also help promote consistency and comparability in the risk-based capital treatment of positions across banking organizations.

a. Trading assets and trading liabilities that would be market risk covered positions under the proposal

The proposed definition of market risk covered position would expand to explicitly include any trading asset or trading liability that is held for the purpose of regular dealing or

[241] With prior approval from its primary Federal supervisor, a banking organization may exclude from its market risk covered positions any structural position in a foreign currency, which is defined as a position that is not a trading position and that is (i) a subordinated debt, equity or minority interest in a consolidated subsidiary that is denominated in a foreign currency; (ii) capital assigned to foreign branches that is denominated in a foreign currency; (iii) a position related to an unconsolidated subsidiary or another item that is denominated in a foreign currency and that is deducted from the banking organization's tier 1 or tier 2 capital, or (iv) a position designed to hedge a banking organization's capital ratios or earnings against the effect of adverse exchange rate movements on (i), (ii), or (iii).

making a market in securities or other instruments.[242,243] In general, such positions are held to facilitate sales to customers or otherwise to support the banking organization's trading activities, for example by hedging its trading positions, and therefore expose a banking organization to significant market risk.

b. Positions that would be market risk covered positions under the proposal regardless of whether they are trading assets or trading liabilities

The proposal would include as market risk covered positions certain positions or hedges of such positions[244] regardless of whether the position is a trading asset or trading liability.[245] Consistent with subpart F of the current capital rule, such positions would continue to include foreign exchange and commodity positions with certain exclusions. In particular, the proposal would continue to allow a banking organization to exclude structural positions in a foreign currency from market risk covered positions with prior approval from its primary Federal supervisor. In addition, the proposal would exclude from market risk covered positions foreign exchange and commodity positions that are eligible CVA hedges that mitigate the exposure component of CVA risk.[246]

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[242] The proposal also would require such a position to be free of any restrictive covenants on its tradability or for the banking organization to be able to hedge the material risk elements of such a position in a two-way market.

[243] The proposed definition of market risk covered position would include correlation trading positions and instruments resulting from securities underwriting commitments where the securities are purchased by the banking organization on the settlement date, excluding purchases that are held to maturity or available for sale purposes.

[244] A position that hedges a trading position must be within the scope of the banking organization's hedging strategy as described in §__.203(a)(2) of the proposed rule.

[245] Extending market risk covered positions to also include such hedges is intended to encourage sound risk management by allowing a banking organization to capture both the underlying market risk covered position and any associated hedge(s) when calculating its market risk capital requirements. Consistent with current practice, the agencies would review a banking organization's hedging strategies to ensure the appropriate designation of positions subject to subpart F of the capital rule.

[246] An eligible CVA hedge generally would include an external CVA hedge or a CVA hedge that is the CVA segment of an internal risk transfer. *See* section III.I.3.b. of this Supplementary Information for more detail on the treatment and recognition of CVA hedges either under the proposed CVA risk framework or the market risk framework.

The proposal would also expand the types of positions that would be market risk covered positions, even if not categorized as trading assets or trading liabilities, to include the following, each discussed further below: (i) certain equity positions in an investment fund; (ii) net short risk positions; (iii) certain publicly traded equity positions;[247] (iv) embedded derivatives on instruments issued by the banking organization that relate to credit or equity risk and that the banking organization bifurcates for accounting purposes;[248] and (v) certain positions associated with internal risk transfer under the proposal.[249]

First, the proposal would include as a market risk covered position an equity position in an investment fund for which the banking organization has access to the fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments and investment limits, and which meets one of two conditions. Specifically, the banking organization would either need to (i) be able to use the look-through approach to calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund, or (ii) obtain daily price quotes for the investment fund.

In contrast to the current covered position definition, which in part relies on the legal form of the investment fund by referencing the Investment Company Act to determine whether an equity position in such a fund is a covered position, the proposed criteria would capture equity positions for which there is sufficient transparency to be reliably valued on a daily basis, either from an observable market price for the equity position in the investment fund itself or from the banking organization's ability to identify the underlying positions held by the investment fund.

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[247] Equity positions arising from deferred compensation plans, employee stock ownership plans, and retirement plans would not be included in the scope of market risk covered position.

[248] This would apply to hybrid contracts containing an embedded derivative that must be separated from the host contract and accounted for as a derivative instrument under ASC Topic 815, Derivatives and Hedging (formerly FASB Statement No. 133 "Accounting for Derivative Instruments and Hedging Activities," as amended).

[249] *See* section III.H.4 of this Supplementary Information for further detail on eligible internal risk transfer positions.

Second, the proposal would introduce a new term, net short risk positions, to describe over-hedges of credit and equity exposures that are not market risk covered positions. As the hedged exposures from which such positions originate are not traded, net short risk positions would not meet the definition of trading position even though they expose the banking organization to market risk.[250] The agencies propose to include net short risk positions in market risk covered positions in order to help ensure that such exposures are appropriately reflected in banking organizations' risk-based capital requirements.

For example, assume a banking organization purchases an eligible credit derivative (for example, a credit default swap) to mitigate the credit risk arising from a loan that is not a market risk covered position and the notional amount of protection provided by the credit default swap exceeds the loan exposure amount. The banking organization is exposed to additional market risk on the exposure arising from the difference between the amount of protection purchased and the amount of protected exposure because the value of the protection would fall if the credit spread of the credit default swap narrows. Neither subpart D nor E[251] of the capital rule would require the banking organization to reflect this risk in risk-weighted assets. To capture the market risk arising from net short risk positions, the proposal would require the banking organization to treat such positions as market risk covered positions.

To calculate the exposure amount of a net short risk position, the proposal would require a banking organization to compare the notional amounts of its long and short credit positions and the adjusted notional amounts of its long and short equity positions that are not market risk

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[250] The proposal would retain, without modification, the existing definition of trading position in subpart F of the current capital rule. *See* 12 CFR 3.202 (OCC); 12 CFR 217.202 (Board); 12 CFR 324.202 (FDIC).

[251] Under the proposal, subpart D would cover a Standardized Approach and subpart E would cover an Expanded Risk-Based Approach for Risk-Weighted Assets.

covered positions.[252] For purposes of this calculation, the notional amounts would include the total funded and unfunded commitments for loans that are not market risk covered positions. Additionally, as a banking organization may hedge exposures at either the single-name level or the portfolio level, the proposal would require a banking organization to identify separately net short risk positions for single name exposures and for index hedges. For single-name exposures, the proposal would require a banking organization to evaluate its long and short equity and credit exposures for all positions referencing a single exposure to determine if it has a net short risk position in a single-name exposure. For index hedges, the proposal would require a banking organization to evaluate its long and short equity and credit exposures for all positions in the portfolio (aggregating across all relevant individual exposures) to determine if it has a net short risk position for any given portfolio.

The proposal would limit the application of the proposed market risk capital requirements to positions arising from exposures for which the notional amount of a short position exceeds the notional amount of a long position by $20 million or more at either the single-name or index hedge level. Exposures arising from net short risk positions are a potential area where a banking organization may maintain insufficient capital relative to the market risk and should be monitored at the single name or portfolio level rather than in the aggregate. The agencies nonetheless recognize that it could be burdensome to require a banking organization to capture every net short exposure that may arise, regardless of size or duration, when calculating their market risk capital requirements. Accordingly, the proposed $20 million threshold is intended to help ensure that individual net short risk exposures that could materially impact the risk-based capital requirements of a banking organization would be appropriately reflected in the proposed market risk capital requirements. Additionally, the proposed $20 million threshold is intended to

[252] For equity derivatives, the adjusted notional amount would be the product of the current price of one unit of the stock (for example, a share of equity) and the number of units referenced by the trade.

strike a balance between over-hedging concerns and aligning incentives for banking organizations to prudently hedge and manage risk while capturing positions for which a market risk capital requirement would be appropriate. For example, if a loan amortizes more quickly than expected, due to a borrower making additional payments to pay down principal, the amount of notional protection would only constitute a net short risk position if it exceeds the amount of the total committed loan balance by $20 million or more. The operational burden of requiring a banking organization to capture temporary or small differences due to accelerated amortization within its market risk capital requirements could inhibit the banking organization from engaging in prudential hedging and sound risk management. The proposal would require a banking organization to calculate net short risk positions on a spot, quarter-end basis, consistent with regulatory reporting, in order to reduce the operational burden of identifying such positions subject to the proposed market risk capital requirements.

Third, the proposal generally would include as market risk covered positions all publicly traded equity positions[253] regardless of whether they are trading assets or trading liabilities and provided that there are no restrictions on the tradability of such positions.

Fourth, a banking organization may issue hybrid instruments that contain an embedded derivative related to credit or equity risk and a host contract and bifurcate the derivative and the host contract for accounting purposes under GAAP. Under such circumstances, the proposal would include the embedded derivative in the definition of market risk covered position regardless of whether GAAP treats the derivative as a trading asset or a trading liability. If the

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[253] The proposal would not change the current capital rule's definition of publicly traded as traded on: (1) any exchange registered with the SEC as a national securities exchange under section 6 of the Securities Exchange Act of 1934 (15 U.S.C. 78f); or (2) any non-U.S.-based securities exchange that is registered with, or approved by, a national securities regulatory authority and that provides a liquid, two-way market for the instrument in question. Consistent with the current capital rule, the proposal would define a two-way market as a market where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and settled at that price within a relatively short time frame conforming to trade custom.

banking organization elected to report the entire hybrid instrument at fair value under the fair value option rather than bifurcating the accounting, it would be a market risk covered position only if it otherwise met the proposed definition, such as held with trading intent or to hedge another market risk covered position.[254] This approach would capture the market risk of embedded derivatives a banking organization faces when it issues such hybrid instruments while being sensitive to the operational challenges of requiring banking organizations to calculate the fair value such derivatives on a daily basis, and also appropriately excluding conventional instruments with an embedded derivative for which the capital requirements under subpart D or E of the capital rule would be appropriate.[255]

Fifth, the proposed definition of market risk covered position would include certain transactions of internal risk transfers, as described in section III.H.4 of this Supplementary Information, based in certain cases on the eligibility of the internal risk transfers. The market risk covered position would explicitly include (1) the trading desk segment of an eligible internal risk transfer of credit risk or interest rate risk and the trading desk segment of an internal risk transfer of CVA risk; (2) certain external transactions based on eligibility of the risk transfers, executed by a trading desk related to an internal risk transfer of CVA, credit, or interest rate risk, and (3) both external and internal ineligible CVA hedges (an internal CVA hedge is the CVA segment of an internal transfer of CVA risk). This aspect of the proposal is intended to help promote consistency and comparability in the risk-based capital treatment of such positions across

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[254] For purposes of regulatory reporting, the instructions to the Y-9C and Call Report require a banking organization to classify as trading securities all debt securities that a banking organization has elected to report at fair value under a fair value option with changes in fair value reported in current earnings, regardless of whether such positions are held with trading intent. ASC 815-15-25-4 permits both issuers of and investors in hybrid financial instruments that would otherwise require bifurcation of an embedded derivative to elect at acquisition, issuance or a new basis event to carry such instrument at fair value with all changes in fair value reported in earnings.

[255] For example, a conventional mortgage loan contains an embedded prepayment or call option.

banking organizations and ensure the appropriate capitalization of such positions under subparts D, E, or F of the capital rule.

c. Exclusions from the proposed definition of market risk covered position

The definition of a covered position under subpart F of the current capital rule explicitly excludes certain positions.[256] These excluded instruments and positions generally reflect the fact that they are either deducted from regulatory capital, explicitly addressed under subpart D or E of the current capital rule, have significant constraints in terms of a banking organization's ability to liquidate them readily and value them reliably on a daily basis, or are not held with trading intent.

Consistent with subpart F of the current capital rule, the proposal would continue to exclude from the definition of market risk covered positions any intangible asset, including any servicing asset; any hedge of a trading position that the banking organization's primary Federal supervisor determines to be outside the scope of the banking organization's trading and hedging strategy; any instrument that, in form or substance, acts as a liquidity facility that provides support to asset-backed commercial paper, and any position a banking organization holds with the intent to securitize.

The proposed definition would also continue to exclude from market risk covered positions any direct real estate holdings.[257] Consistent with past guidance from the agencies, indirect investments in real estate, such as through REITs or special purpose vehicles, would not be direct real estate holdings and could be market risk covered positions if they meet the proposed definition.[258]

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[256] *See* 77 FR 53060, 53064-53065 (August 30, 2012) for a more detailed discussion on these exclusions under the market risk capital rule.

[257] Direct real estate holdings include real estate for which the banking organization holds title, such as "other real estate owned" held from foreclosure activities, and bank premises used by the bank as part of its ongoing business activities.

[258] *See* 77 FR 53060, 53065 (August 30, 2012) for the agencies' interpretive guidance on the treatment of such indirect holdings under subpart F of the capital rule.

The proposed definition would also exclude from market risk covered positions any non-publicly traded equity positions, other than certain equity positions in investment funds, and would additionally exclude: (1) a publicly traded equity position that has restrictions on tradability; (2) a publicly traded equity position that is a significant investment in the capital of an unconsolidated financial institution in the form of common stock not deducted from regulatory capital, and (3) any equity position in an investment fund that is not a trading asset or trading liability or that otherwise does not meet the requirements to be a market risk covered position. The proposed definition would add an exclusion for any derivative instrument or exposure to an investment fund that has material exposures to any of the preceding excluded instruments or positions discussed in this section.

To provide additional clarity, the proposal would also exclude from market risk covered positions debt securities for which the banking organization elects the fair value option for purposes of asset and liability management, as such positions are not reflective of a banking organization's trading activity. The proposal would also add an exclusion for instruments held for the purpose of hedging a particular risk of a position in any of the preceding excluded types of instruments discussed in this section.

With respect to internal risk transfers of CVA risks, the proposed definition would exclude from market risk covered positions the CVA segment of an internal risk transfer that is an eligible CVA hedge. In addition, consistent with the Basel III reforms, only positions recognized as eligible external CVA hedges under either the basic or standardized capital requirements for CVA risk would be excluded from the market risk capital requirements.[259] To the extent a banking organization enters into one or more external hedges that hedge CVA variability but do not qualify as eligible hedges under the revised CVA capital standards, the

[259] External transactions executed by a trading desk as matching transactions to all internal transfers of CVA risk would be market risk covered positions under the proposal. *See* section III.H.3.b of this Supplementary Information for a more detailed discussion on the treatment of eligible and ineligible internal risk transfers of CVA risk.

banking organization would need to capture such hedges in its market risk capital requirements and would not be able to recognize the benefit of the external hedge when calculating risk-based capital requirements for CVA risk.

Question 82: The agencies seek comment on the appropriateness of the proposed definition of market risk covered position. What, if any, practical challenges might the proposed definition pose for banking organizations, such as the ability to fair value daily any of the proposed instruments that would be captured by the definition? [260]

Question 83: The agencies seek comment on the extent to which limiting the proposed definition of market risk covered position to include equity positions in investment funds only for which a banking organization has access to the fund's investments limits (as specified in the fund's prospectus, partnership agreement, or similar contract that define the fund's permissible investments) appropriately captures the types of positions that should be subject to regulatory capital requirements under the proposed market risk framework. What types of investment funds, if any, would a banking organization have the ability to value reliably on a daily basis that do not meet this condition?

Question 84: The agencies seek comment on whether the agencies should consider allowing a banking organization to exclude from the definition of market risk covered position investments in capital instruments or covered debt instruments of financial institutions that have been deducted from tier 1 capital, including investments in publicly-traded common stock of financial institutions, and hedges of these investments that meet the requirements to offset such

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[260] For banking organizations subject to subpart F of the capital rule, the Volcker Rule defines the scope of instruments subject to the proprietary trading prohibition (trading account) based on two prongs: market risk capital rule covered positions that are trading positions, and instruments purchased or sold in connection with the business of a dealer, swap dealer, or securities-based swap dealer that require it to be licensed or registered as such. The proposed revisions to the definition of covered positions under subpart F of the capital rule could alter the scope of financial instruments deemed to be in the trading account under the Volcker Rule, but only to the extent that a market risk covered position is also a trading position and the position is not otherwise excluded from the Volcker rule definition of trading account.

positions for purposes of determining deductions. What would the benefits and drawbacks be of not providing such an optionality?

Question 85: For the purposes of determining whether certain positions are within the definition of market risk covered position, is the proposed definition of net short risk position appropriate, and why? What, if any, alternative measures should the agencies consider to identify net short risk positions and why would these be more appropriate?

Question 86: The agencies seek comment on whether the proposed $20 million threshold is an appropriate measure for identifying significant net short risk exposures that warrant capitalization under the market risk framework. What alternative thresholds or methods should the agencies consider for identifying significant net short risk positions, and why would these alternatives be more appropriate than the proposed $20 million threshold?

Question 87: What, if any, challenges might banking organizations face in calculating the market risk capital requirement for net short risk positions? In particular, what, if any, alternatives to the total commitment for loans should the agencies consider using to calculate notional amount—for example, delta notional values rather than notional amount, present value, sensitivities—and why would any such alternatives be a better metric? Please provide specific details on the mechanics of and rationale for any suggested methodology. In addition, which, if any, of the items to be included in a banking organization's net short credit or equity risk position may present operational difficulties and what is the nature of such difficulties? How could such concerns be mitigated?

Question 88: The agencies seek comment on whether to modify the exclusion for debt instruments for which a banking organization has elected to apply the fair value option that are used for asset and liability management purposes. Would such an exclusion be overly restrictive, and, if so, why and how should the exclusion be expanded? Please specify the types and amounts of debt instruments for which banking organizations apply the fair value option that should be

covered under this exclusion, and the capital implications of expanding the exclusion relative to the proposal.

Question 89: The agencies seek comment on whether to modify the criteria for including external CVA hedges in the scope of market risk covered position. What are the benefits and drawbacks of requiring a banking organization to include ineligible external CVA hedges in the market risk capital requirements, provided a banking organization has effective risk management and an effective hedging program?

4. Internal risk transfers

A banking organization may choose to hedge the risks of certain positions[261] held by a banking unit or a CVA desk by having one of its trading desks obtain the hedge and subsequently transfer the hedge position through an internal transaction to the banking unit or the CVA desk. The current capital rule does not address the transfers of risk from a banking unit or a CVA desk (or a functional equivalent thereof) to a trading desk within the same banking organization[262] (internal risk transfers), for example between a mortgage banking unit and a rates trading desk. Thus, market risk-weighted assets do not reflect the market risk of such internal transactions and capture only the external portion of the hedge, potentially misrepresenting the risk position of the banking organization.

Accordingly, the proposal would define internal risk transfers and establish a set of requirements including documentation and other conditions for a banking organization to recognize certain types of internal risk transfers in risk-based capital requirements. The proposal would define internal risk transfers as a transfer executed through internal derivatives trades of

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[261] Such risks can include credit, interest rate, or CVA risk arising from exposures that are subject to risk-based requirements under subpart D or E of the capital rule.

[262] For example, if the banking organization is a depository institution within a holding company structure, transactions conducted between the depository institution and an affiliated broker-dealer entity would not qualify as transactions within the same banking organization for the depository institution. Such transactions would qualify as transactions within the same banking organization for the consolidated holding company.

credit risk or interest rate risk arising from an exposure capitalized under subparts D or E of the capital rule to a trading desk, or a transfer of CVA risk arising from a CVA desk (or the functional equivalent if the banking organization does not have any CVA desks) to a trading desk.[263] The proposed definition of internal risk transfer would not include transfers of risk from a trading desk to a banking unit or between trading desks because such transactions present the types of risks appropriately captured in market risk-weighted assets.[264]

In practice, for internal risk management purposes, most banking organizations already document the source of risk being hedged and the trading desk providing the hedge. As a result, the agencies do not expect the proposed documentation requirements for such transactions to qualify as eligible internal risk transfers, as described in more detail below, to pose a significant compliance burden on banking organizations. The agencies encourage prudent risk management and believe this aspect of the proposal will help promote consistency and comparability in the risk-based capital treatment of such internal transactions across banking organizations and ensure the appropriate capitalization of such positions.

a. Internal risk transfers of credit risk

The Basel III reforms introduce risk-based capital treatment of internal transfers of credit risk executed from a banking unit to a trading desk to hedge the credit risk arising from exposures in the banking unit. The proposal is generally consistent with the Basel III reforms by specifying the criteria for internal risk transfer eligibility and clarifying the scope of exposures subject to market risk capital requirements. Specifically, the banking organization would be required to maintain documentation identifying the underlying exposure under subpart D or E of

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[263] An internal risk transfer transaction would comprise two perfectly offsetting segments—one segment for each of two parties to the transaction.

[264] As described in section III.H.7.c.ii of this Supplementary Information, for transfers of risk between a trading desk that uses the standardized measure and a trading desk that uses the internal models approach, a banking organization may exclude the leg of the transaction acquired by the trading desk using the standardized approach from the residual risk add-on.

the capital rule being hedged and its sources of credit risk. In addition, a trading desk would be required to enter into an external hedge that meets the requirements of §__.36 of the current capital rule or §__.120 of the proposed rule and matches the terms, other than amount, of the internal credit risk transfer.

When these requirements are met, the transaction would qualify as an eligible internal risk transfer, for which the banking unit would be allowed to recognize the amount of the hedge position received from the trading desk as a credit risk mitigant when calculating the risk-based capital requirements for the underlying exposure under subpart D or E of the capital rule. Since the trading desk enters into external hedges to manage credit risk arising from banking unit exposures, such external hedges would be included in the scope of market risk covered positions along with the internal risk transfer (the trading desk segment), where they would cancel each other provided the amounts and terms of both transactions match. Nevertheless, if the internal risk transfer results in a net short credit position for the banking unit, the trading desk would be required to calculate risk-based capital requirements for such positions under subpart F of the capital rule. A net short risk credit position results when the external hedge exceeds the amount required by the banking unit to hedge the underlying exposure under subpart D or E of the capital rule.

For transactions that do not meet these requirements, the proposal would require a banking organization to disregard the internal risk transfer (the trading desk segment) from the market risk covered positions. The proposal would subject the entire amount of the external hedge acquired by the trading desk to the proposed market risk capital requirements and disallow any recognition of risk mitigation benefits of the internal credit risk transfer under subpart D or E of the capital rule.

b. Internal risk transfers of interest rate risk

The proposal would specify the risk-based capital treatment of internal transfers of interest rate risk from a banking unit to the trading desk to hedge the interest rate risk arising

from the banking unit. When a banking organization executes an internal interest rate risk transfer between a banking unit and a trading desk, the transferred interest rate risk exposure would be considered an eligible risk transfer that the banking organization may treat as a market risk covered position only if such internal risk transfer meets a set of requirements. Specifically, the banking organization would be required to maintain documentation of the underlying exposure being hedged and its sources of interest rate risk. In addition, given the complexity of tracking the direction of internal transfers of interest rate risk, the proposal would allow a banking organization to establish a dedicated notional trading desk for conducting internal risk transfers to hedge interest rate risk. The proposal would require such a desk to receive approval from its primary Federal supervisor to execute such internal risk transfers.[265] The proposal would require the capitalization of trading desks that engage in such transactions on a standalone basis, without regard to other market risks generated by activities on the trading desk.

When these requirements are met, the transaction would qualify as an eligible internal interest rate risk transfer, for which the banking organization may recognize the hedge benefit of an internal derivative transaction. A trading desk that conducts internal risk transfers of interest rate risk may enter into external hedges to mitigate the risk but would not be required to do so under the proposal. As the amount transferred to the trading desk from the banking unit to hedge the underlying exposure under subpart D or E of the capital rule would be a market risk covered position, any such external hedges would also be market risk covered positions and thus also subject to the proposed market risk capital requirements.[266]

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[265] The proposal would not require banking organizations to purchase the hedge from a third party for such transactions to qualify as an internal risk transfer.

[266] As the trading desk segments of eligible internal risk transfers of interest rate risk would be market risk covered positions, to the extent a trading desk enters into external hedges to mitigate the risk of such positions, the external hedge would also be subject to the market risk capital rule and could in whole or in part offset the market risk of the eligible internal risk transfer.

For transactions that do not meet these requirements, a banking organization would be required to exclude the internal interest rate risk transfer (the trading desk segment) from its market risk covered positions. The entire amount of any external hedge of an ineligible internal risk transfer would be a market risk covered position.

c. Internal risk transfers of CVA risk

The proposal would specify the capital treatment of internal CVA risk transfers executed between a CVA desk (or the functional equivalent thereof) and a trading desk to hedge CVA risk arising from exposures that are subject to the proposed capital requirements for CVA risk.

Under the proposal, an internal CVA risk transfer would involve two perfectly offsetting positions of a derivative transaction executed between a CVA desk and a trading desk. For the CVA desk to recognize the risk mitigation benefits of the internal risk transfer under the risk-based capital requirements for CVA risk, the proposal would require the banking organization to have a dedicated CVA desk or the functional equivalent thereof that, along with other functions performed by the desk, manages internal risk transfers of CVA risk. In either case, such a desk would not need to satisfy the proposed trading desk definition, given the proposed risk-based capital requirements for CVA risk are not calibrated at the trading desk level. Additionally, the proposal would require a banking organization to maintain an internal written record of each internal derivative transaction executed between the CVA desk and the trading desk, including identifying the underlying exposure being hedged by the CVA desk and the sources of such risk. Furthermore, if the internal risk transfer from the CVA desk to the trading desk is subject to curvature risk, default risk, or the residual risk add-on under the proposed market risk capital rule, as described in sections III.H.7.a.ii.III., III.H.7.b., and III.H.7.c of this Supplementary Information, respectively, the trading desk would have to execute an external transaction with a third party that is identical in its terms to the risk transferred by the CVA desk to the trading desk. This external transaction would be included in market risk covered positions; therefore, there would be no impact to the market risk capital required for the trading desk as the external

transaction would perfectly offset the risk from the internal risk transfer. Given the difference in recognizing the curvature risk, the default risk, or the residual risk add-on under the proposed market risk capital requirements and the CVA risk capital requirements, as well as complexity of tracking and ensuring the appropriateness of internal transfers of CVA risk, the external matching transaction requirement is intended to ensure the complete offsetting of the above mentioned risks at the time the trades are originated, facilitate the identification by the primary Federal supervisor of the underlying position or sources of risk being hedged by the internal risk transfer, and thus the determination of whether the transfer is an eligible internal CVA risk transfer.

In addition to the above-mentioned requirements for the internal transaction and the related external matching transaction to qualify as an eligible internal risk transfer of CVA risk, the proposal sets forth general requirements for the recognition of CVA hedges that would be applicable to both internal transfers of CVA risk and external CVA hedges. The proposal specifies these requirements for both the basic approach for CVA risk and standardized approach for CVA risk, as described in section III.I.3 of this Supplementary Information.[267]

For eligible internal risk transfers of CVA risk, the banking organization would be required to treat the transfers of risk from the CVA desk or the functional equivalent to the trading desk as market risk covered positions. In this way, the proposal would allow the CVA desk to recognize the risk-mitigating benefit of the hedge position received from the trading desk when calculating risk-based capital requirements for CVA risk. As the overall risk profile of the banking organization would not have changed, the proposed treatment would require the trading

[267] While the basic approach for CVA applies certain restrictions on eligible instrument types for hedges to be recognized as eligible, the standardized approach for CVA risk allows for a broader set of hedging instruments. Moreover, the standardized approach for CVA risk would also recognize as eligible hedges instruments that are used to hedge the exposure component of CVA risk.

desk to reflect the impact of the risk transferred from the CVA desk as part of the transaction in the proposed market risk capital requirements.

For transactions that do not meet these requirements or the general hedge eligibility requirements under the basic approach for CVA risk or the standardized approach for CVA risk, a banking organization would be required to include both the trading desk segment and the CVA segment of the internal transfer of CVA risk in market risk-weighted assets. This is equivalent to disregarding the internal CVA risk transfer. The entire amount of the external matching transaction executed by the non-CVA trading desk in the context of an internal CVA risk transfer would be deemed a market risk covered position. In addition, the CVA desk would not be able to recognize any risk mitigation or offsetting benefit from the ineligible internal risk transfer in its capital requirements for CVA risk.

d. Internal risk transfers of equity risk

The agencies are not proposing to allow a banking organization to recognize any risk mitigation benefits for internal equity risk transfers executed between a trading desk and a banking unit to hedge exposures that are subject to either subpart D or E of the capital rule. The proposed definition of market risk covered position would include equity positions that are publicly traded with no restrictions on tradability. Given the expanded scope of equity positions that would be subject to the proposed market risk capital requirements as discussed above, the agencies believe that primarily illiquid or irregularly traded equity positions would remain subject to subparts D or E of the capital rule. As a banking organization would not be able to hedge the material risk elements of such equity positions in a liquid, two-way market, consistent with the current framework, the proposal would not allow a banking organization to recognize internal transfers of equity risk of such positions for risk-based capital purposes.

Question 90: The agencies seek comment on any operational challenges of the proposed internal risk transfer framework, in particular any potential difficulties related to internal risk

transfers executed before implementation of the proposed market risk capital rule. What is the nature of such difficulties and how could they be mitigated?

Question 91: The agencies seek comment on the extent to which the proposed internal risk transfer framework would incentivize hedging and prudent risk management and/or provide opportunity to misrepresent the risk profile of a banking organization. What, if any, additional requirements or other modifications should the agencies consider?

Question 92: The agencies seek comment on the appropriateness of the proposed eligibility requirements for a banking unit to recognize the risk mitigation benefit of an eligible internal risk transfer of credit risk. What, if any, additional requirements or other modifications should the agencies consider, and why?

Question 93: What, if any, operational burden might the proposed exclusion for the credit risk segment of internal risk transfers pose for banking organizations? What, if any, alternatives should the agencies consider to appropriately exclude the types of positions that should be captured under subpart D or E of the capital rule, but would impose less operational burden relative to the proposal?

Question 94: The agencies seek comment on subjecting the internal risk transfers of interest rate risk to the market risk capital requirements on a standalone basis. What are the benefits and costs associated with this requirement?

Question 95: The agencies seek comment on the matching external transaction requirements for internal transfer of CVA risk. Should such external matching transactions be subject to additional requirements, such as those applicable to external hedges of credit risk, and if so, why?

Question 96: The agencies seek comment on limiting an eligible internal risk transfer of CVA risk to only internal transactions for which the external transaction perfectly offsets the

internal risk transfer. What, if any, challenges might this requirement pose and what should the agencies consider to mitigate such challenges?

Question 97: The agencies seek comment on the proposed requirement that a banking organization's trading desk execute a matching transaction with a third party if the internal risk transfer of CVA risk is subject to curvature risk, default risk, or the residual risk add-on? What other risk mitigation techniques would the banking organization implement?

Question 98: The agencies seek comment on the proposed documentation requirements for an internal risk transfer of credit risk, interest rate risk, and CVA risk to qualify as an eligible internal risk transfer. What, if any, alternatives should the agencies consider that would appropriately capture the types of positions that should be recognized under subpart D or E of the capital rule?

5. General requirements for market risk

Subpart F of the current capital rule requires a banking organization to satisfy certain general risk management requirements related to the identification of trading positions, active management of covered positions, stress testing, control and oversight, and documentation. The proposal would maintain these requirements, as well as introduce additional requirements. The additional requirements are designed to further strengthen a banking organization's risk management of market risk covered positions and to appropriately reflect other changes under the proposal such as the definition of market risk covered position and the introduction of the trading desk concept, as described in sections III.H.3 and III.H.5.b of this Supplementary Information. The proposal would also make certain related technical corrections to the requirements around valuation of market risk covered positions.[268]

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[268] Specifically, to align with the GAAP considerations for valuation of market risk covered positions, the proposal would eliminate the market risk capital rule requirement that a banking organization's process for valuing covered positions must consider, as appropriate, unearned credit spreads, close-out costs, early termination costs, investing and funding costs, liquidity, and

a. Identification of market risk covered positions

Subpart F of the current capital rule requires a banking organization to have clearly defined policies and procedures for determining which trading assets and trading liabilities are trading positions and which trading positions are correlation trading positions, as well as for actively managing all positions subject to the rule.

The proposal would expand these requirements to reflect the proposed scope and definition of market risk covered position as described in section III.H.3 of this Supplementary Information. A banking organization also would be required to update its policies and procedures for identifying market risk covered positions at least annually and to identify positions that must be excluded from market risk covered positions. In addition, the proposal would introduce a new requirement for a banking organization to establish a formal framework for re-designating a position after its initial designation as being subject to subpart F or to subparts D and, as applicable, E of the capital rule. Specifically, the proposal would require a banking organization to establish policies and procedures that describe the events or circumstances under which a re-designation would be considered, a process for identifying such events or circumstances, any restrictions on re-designations, and the process for obtaining senior management approval as well as for notifying the primary Federal supervisor of material re-designations. These proposed requirements are intended to complement the proposed capital requirement for re-designations described in section III.H.6.d of this Supplementary Information by ensuring re-designations would occur in only those circumstances identified by the banking organization's senior management as appropriate to merit re-designation.[269]

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model risk. *See* 12 CFR 3.203(b)(2) (OCC); 12 CFR 217.203(b)(2) (Board); 12 CFR 324.203(b)(2) (FDIC).

[269] As described in further detail in section III.H.6.d of this Supplementary Information, the proposal would introduce a capital requirement (the capital add-on for re-designations) to offset any potential capital benefit that a banking organization otherwise might have received from re-classifying an instrument previously treated under subparts D or E of the capital rule as a market risk covered position.

In addition to the requirements for identifying market risk covered positions, the proposal would require a banking organization to have clearly defined trading and hedging strategies for its market risk covered positions that are approved by the banking organization's senior management. Consistent with the capital rule, the trading strategy would need to specify the expected holding period and the market risk of each portfolio of market risk covered positions, and the hedging strategy would need to specify the level of market risk that the banking organization would be willing to accept for each portfolio of market risk covered positions, along with the instruments, techniques, and strategies for hedging such risk.

b. Trading desk

i. *Trading desk definition*

To limit overreliance on internal models, support more prudent market risk management practices, and better align operational requirements with the level at which trading activity is conducted, the proposal would introduce the concept of a trading desk and apply the proposed internal models approach at the trading desk level. Regardless of whether a banking organization uses the standardized or the models-based measure for market risk, the proposal would require the banking organization to satisfy certain general operational requirements for each trading desk, as described below in section III.H.5.c of this Supplementary Information. The proposal would require the banking organization to satisfy certain additional operational requirements, as described below in section III.H.5.d of this Supplementary Information, in order for the banking organization to calculate the market risk capital requirements for trading desks under the internal models approach.

The proposal would define trading desk as a unit of organization of a banking organization that purchases or sells market risk covered positions and satisfies three requirements. First, the proposal would require a banking organization to structure a trading desk pursuant to a well-defined business strategy. In general, a well-defined business strategy would

include a written description of the trading desk's general strategy, including the economics behind the business strategy, the trading and hedging strategies and a list of the types of instruments and activities that the desk will use to accomplish its objectives. The proposal would require a trading desk to be organized to ensure the appropriate setting, monitoring, and management review of the desk's trading and hedging limits and strategies. Third, the proposal would require that a trading desk be characterized by a clearly-defined unit of organization that: (1) engages in coordinated trading activity with a unified approach to the key elements of the proposed rule's requirements for trading desk policies and active management of market risk covered positions; (2) operates subject to a common and calibrated set of risk metrics, risk levels, and joint trading limits; (3) submits compliance reports and other information as a unit for monitoring by management; and (4) books its trades together.

The proposed trading desk definition is intended to help ensure that a banking organization structures its trading desks to capture the level at which trading activities are managed and operated and at which the profit and loss of the trading strategy is attributed.[270] This approach would recognize the different strategies and objectives of discrete units in a banking organization's trading operations. The proposed parameters provide sufficient specificity to enable more precise measures of market risk for the purpose of determining risk-based capital requirements, while taking into account the potential variation in trading practices across banking organizations. In this regard, the proposal aims to reduce the regulatory compliance burden for banking organizations by providing flexibility to align the proposed trading desk definition with the organizational structure that banking organizations may already have in place to carry out their trading activities.

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[270] The proposal would define trading desk in a manner generally consistent with the Volcker Rule. *See* 12 CFR 44.3(e)(14) (OCC); 12 CFR 248.3(e)(14) (Board); 12 CFR 351.3(e)(14) (FDIC).

Question 99: What, if any, changes should the agencies consider making to the definition of a trading desk and why? Are there any other key factors that banking organizations typically use to define trading desks for business purposes that the agencies should consider including in the trading desk definition to clarify the designation of trading desks for purposes of the market risk capital framework?

Question 100: The agencies seek comment on any implementation challenges banking organizations with cross-border operations could face in applying the proposed trading desk definition. What are the advantages and disadvantages of permitting a U.S. subsidiary of a foreign banking organization to apply trading desk designations consistent with its home country's regulatory requirements, provided those requirements are consistent with the Basel III reforms?

ii. *Notional trading desk definition*

The proposed definition of market risk covered position would include certain types of instruments and positions that may not arise from, and may be unrelated to, a banking organization's trading activities, such as net short risk positions, certain embedded derivatives that are bifurcated for accounting purposes, as well as foreign exchange and commodity exposures that are not trading assets or trading liabilities.[271] When a banking organization enters into such positions, it may do so in a manner that causes these positions to appear not to originate from a banking organization's existing trading desks.

To address the issue that certain trading desk-level requirements are not applicable to these types of activities and positions, the proposal would introduce the concept of a notional

[271] As noted in section III.H.3.c of this Supplementary Information, identifying these positions for treatment under the proposed rule is necessary to enhance the rule's sensitivity to risks that might not otherwise be captured or adequately captured by subparts D or E of the capital rule.

trading desk[272] to which such positions would be allocated. Under the proposal, notional trading desks would be subject to only a subset of the general risk management requirements applicable to trading desks. Specifically, the proposal would require a banking organization to identify any such positions and activities allocated to notional trading desks, as described in section III.H.5.b.iii of this Supplementary Information, but would not require a banking organization to establish policies and procedures describing the trading strategy or risk management for the notional trading desks or require a notional trading desk to satisfy the requirements for active management of market risk covered positions. Nevertheless, to qualify for use of the internal models approach, the proposal would require a notional trading desk to satisfy all of the general requirements for trading desks, as well as those applicable for the models-based measure.[273]

The agencies are proposing to require a banking organization to identify any notional trading desks as part of the trading desk structure requirement, described in section III.H.5.b.iii of this Supplementary Information, to help ensure that a banking organization appropriately treats all market risk covered positions under the capital rule. The agencies would review a banking organization's trading desk structure, including notional trading desks and trading desks used for internal risk transfers, to help ensure that they have been appropriately identified.

Question 101: What, if any, additional requirements should apply to notional trading desks to clarify the level at which market risk capital requirements must be calculated? What, if any, additional types of positions should be assigned to the notional trading desk and why?

iii. *Trading desk structure*

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[272] The proposal would define a notional trading desk as a trading desk created for regulatory capital purposes to account for market risk covered positions arising under subpart D or subpart E such as net short risk positions, embedded derivatives on instruments that the banking organization issued that relate to credit or equity risk that it bifurcates for accounting purposes, and foreign exchange positions and commodity positions. Notional trading desks would be exempt from certain requirements applicable to other trading desks, as discussed in this section III.H.5.b.iv.

[273] *See* section III.H.5.d of this Supplementary Information for further discussion on the requirements applicable to model-eligible trading desks.

The proposal would require a banking organization to define its trading desk structure, subject to the requirement that the structure must define each constituent trading desk and identify: (1) model-eligible trading desks that are used in the models-based measure for market risk, (2) model-ineligible trading desks used in both the standardized measure and model-based measure for market risk,[274] (3) trading desks that are used for internal risk transfers (as applicable), and (4) notional trading desks (as applicable).[275]

Additionally, before calculating market risk capital requirements under the models-based measure for market risk, the proposal would require a banking organization to receive prior written approval from the primary Federal supervisor of its trading desk structure. As part of the model approval process described in section III.H.5.d.iv of this Supplementary Information, the agencies would consider whether the level at which a banking organization is proposing to establish its trading desks is consistent with the level at which trading activities are actively managed and operated. The agencies would also consider whether the level at which the banking organization defines each trading desk is sufficiently granular to allow the banking organization and the primary Federal supervisor to assess the adequacy of the internal models used by the trading desk. For example, a banking organization's proposed trading desk structure may be considered insufficiently detailed if it reflects risk limits, internal controls, and ongoing management at one or more organizational levels above the routine management of the trading desk (for example, at the division-wide or entity level).

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[274] The list of model-eligible trading desks should include both those for which the banking organization has elected to calculate market risk capital requirements under the standardized approach as well as any trading desks that previously received approval to use the internal models approach but subsequently reported one or both PLA test metrics in the red zone, as described in more detail in section III.H.8.b.ii of this Supplementary Information. A banking organization should maintain a list of all trading desks and make it available for the primary Federal supervisor for review upon request.

[275] A banking organization could also seek approval for a notional trading desk to be a model-eligible trading desk. Any such desk that is approved would be subject to backtesting and profit and loss attribution testing at the trading desk level.

iv. *Trading desk policies*

Subpart F of the current capital rule requires a banking organization to have clearly defined trading and hedging strategies for their trading positions that are approved by senior management. In addition to applying these requirements at the trading desk level for trading desks that are not notional trading desks, the proposal would require policies and procedures for each trading desk to describe the strategy and risk management framework established for overseeing the risk-taking activities of the trading desk.

For each trading desk that is not a notional trading desk, the proposal would require a banking organization to have a clearly defined policy, approved by senior management, that describes the general strategy of the trading desk, the risk and position limits established for the trading desk, and the internal controls and governance structure established to oversee the risk-taking activities of the trading desk.[276] At a minimum, this would include the business strategy for each trading desk;[277] the clearly defined trading strategy that details the market risk covered positions in which the trading desk is permitted to trade, identifies the main types of market risk covered positions purchased and sold by the trading desk, and articulates the expected holding period of, and market risk associated with, each portfolio of market risk covered positions held by the trading desk; the clearly defined hedging strategy that articulates the acceptable level of market risk and details the instruments, techniques, and strategies that the trading desk will use to hedge the risks of the portfolio; a brief description of the general strategy of the trading desk that addresses the economics of its business strategy, primary activities, and trading and hedging

[276] Under the proposal, these requirements would generally not apply to any notional trading desk, except those with prior approval from the primary Federal supervisor to use the internal models approach.

[277] Under the proposal, the business strategy must include regular reports on the revenue, costs and market risk capital requirements of the trading desk.

strategies; and the risk scope applicable to the trading desk that is consistent with its business strategy, including the overall risk classes and permitted risk factors.[278]

Together, the proposed requirements are intended to help ensure that each trading desk engages only in those activities that are permitted by senior management and that any exceptions would be elevated to the appropriate organizational level. For example, the proposed requirement for a banking organization to document trading, hedging, and business strategies, including the internal controls established to manage the risks arising from the trading strategy, at the level of the organization responsible for implementing the general business strategy, is intended to help ensure appropriate monitoring of the risk limits set by senior management. Additionally, the proposed requirements would help to assist the primary Federal supervisor in monitoring compliance, particularly when assessing whether the trading activities conducted by a trading desk are consistent with the general strategy of the desk and the appropriateness of the limits established for the desk. For example, the requirement for a trading desk to list the types of instruments traded by the desk to hedge risks arising from its business strategy would help to assist the primary Federal supervisor in providing effective supervisory oversight of the trading desk's activities.

c. Operational requirements

Subpart F of the current capital rule requires a banking organization to satisfy certain operational requirements for active management of market risk covered positions, stress testing, control and oversight, and documentation. The proposal would maintain these requirements and introduce revisions designed to complement changes under the proposed standardized and models-based measures for market risk (including the application of calculations at the trading desk level in the case of the models-based measure for market risk), and to support the proposed

[278] *See* section III.H.7.a.i of this Supplementary Information for further discussion on risk factors.

requirements described in section III.H.5.a of this Supplementary Information that would help ensure a banking organization maintains robust risk management processes for identifying and appropriately managing its market risk covered positions.

A key assumption of the proposed market risk framework is that the internal risk management models[279] used by banking organizations provide an adequate basis for determining risk-based capital requirements for market risk covered positions.[280] To help ensure such adequacy, the proposal also would strengthen a banking organization's prudent valuation practices by incorporating requirements that build on the agencies' overall regulatory framework for market risk management, including the regulatory guidance set forth in the Board's Supervision and Regulation (SR) Letter 11-7 and OCC's Bulletin 2011-12, Regulatory Guidance on Model Risk Management. In addition to facilitating the regulatory review process, the proposed revisions are intended to assist a banking organization's independent risk control unit and audit functions in providing appropriate review of and challenge to model risk management, thereby promoting effective model risk management.

The general risk management requirements described in this section would apply to all banking organizations subject to the proposed market risk capital framework regardless of whether they use the standardized measure for market risk or models-based measure for market risk.

i. *Active management of market risk covered positions*

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[279] The proposal would define internal risk management model as a valuation model that the independent risk control unit within the banking organization uses to report market risks and risk-theoretical profits and losses to senior management. *See* §__.202 of the proposed rule.

[280] Additionally, as described in more detail in section III.H.7.a.ii of this Supplementary Information, the proposal also assumes that the valuation models used to report actual profits and losses for purposes of financial reporting would provide an adequate basis for purposes of calculating regulatory capital requirements. As such models are already subject to additional requirements to enhance the accuracy of the financial data produced, the proposed requirements would only apply to those internal risk management models that the primary Federal supervisor has approved the banking organization to use in calculating regulatory capital requirements.

Subpart F of the current capital rule requires a banking organization to have clearly defined policies and procedures for actively managing all positions subject to the market risk capital rule, including establishing and conducting daily monitoring of position limits.[281] These requirements are appropriate to support active management and monitoring under the current framework; the proposal adds enhancements to support active management and monitoring at the trading desk level.

Accordingly, the proposal would require a banking organization to have clearly defined policies and procedures that describe its internal controls, as well as its ongoing monitoring, management, and authorization procedures, including escalation procedures, for the active management of all market risk covered positions. At a minimum, these policies and procedures must identify key groups and personnel responsible for overseeing the activities of the banking organization's trading desks that are not notional trading desks.

Further, the proposal would specify a broader set of risk metrics for the monitoring requirement, which would apply at the trading desk level. Specifically, at a minimum, the proposal would require that a banking organization establish and conduct daily monitoring by trading desks of: (1) trading limits, including intraday trading limits, limit usage, and remedial actions taken in response to limit breaches; (2) sensitivities to risk factors; and (3) market risk covered positions and transaction volumes; and, as applicable, (4) VaR and expected shortfall; (5) backtesting and *p*-values[282] at the trading desk level and at the aggregate level for all model-eligible trading desks; and (6) comprehensive profit-and-loss attribution (each as described in sections III.H.7 and III.H.8 of this Supplementary Information). These risk metrics are the

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[281] The proposal would retain certain other requirements with modifications such as policies and procedures for active management of trading positions subject to the market risk requirements which include, but are not limited to, ongoing assessment of the ability to hedge market risk covered positions and portfolio risks. *See* 12 CFR 3.203(b)(1) or 12 CFR 217.203(b)(1).

[282] P-value is the probability, when using the VaR-based measure for purposes of backtesting, of observing a profit that is less than, or a loss that is greater than, the profit or loss that actually occurred on a given date.

minimum elements necessary to support adequate daily monitoring of market risk covered positions at the trading desk level.

Consistent with subpart F of the capital rule, for a banking organization that has approval for at least one model-eligible trading desk, the proposal would require the banking organization's policies and procedures to describe the establishment and monitoring of backtesting and *p*-values at the trading desk level and at the aggregate level for all model-eligible trading desks. Daily information on the probability of observing a loss greater than that which occurred on any given day is a useful metric for a banking organization and supervisors to assess the quality of a banking organization's VaR model. For example, if a banking organization that used a historical simulation VaR model using the most recent 500 business days experienced a loss equal to the second worst day of the 500, it would assign a probability of 0.004 (2/500) to that loss based on its VaR model. Applying this process many times over a long interval provides information about the adequacy of the VaR model's ability to characterize the entire distribution of losses, including information on the size and number of backtesting exceptions. The requirement to create and retain this information at the entity-wide and trading desk level may help identify particular products or business lines for which a model does not adequately measure risk. The agencies view active management of model risk at the trading desk level as the best mechanism to address potential risks of reliance on models, such as the possible adverse consequences (including financial loss) of decisions based on models that are incorrect or misused.

ii. *Stress testing and internal assessment of capital adequacy*

Subpart F of the capital rule requires a banking organization to have a rigorous process for assessing its overall capital adequacy in relation to its market risk. The process must take into account market concentration and liquidity risks under stressed market conditions as well as other risks arising from the banking organization's trading activities that may not be fully

captured by a banking organization's internal models. At least quarterly, a banking organization must conduct stress tests at the entity-wide level of the market risk of its covered positions.

The proposal would enhance the stress testing and internal assessment of capital adequacy requirements in subpart F of the capital rule to reflect both the entity-wide and the trading-desk level elements within the proposed market risk capital requirement calculation. Specifically, the proposal would require a banking organization to stress-test the market risk of its market risk covered positions at both the entity-wide and trading-desk level on at least a quarterly basis. The proposal also would require that results of such stress testing be reviewed by senior management of the banking organization and reflected in the policies and limits set by the banking organization's management and the board of directors, or a committee thereof. In addition to concentration and liquidity risks, the proposal would require stress tests to take into account risks arising from a banking organization's trading activities that may not be adequately captured in the standardized measure for market risk or in the models-based measure for market risk, as applicable.

The proposed requirements are intended to help ensure that each trading desk only engages in those activities that are permitted by the banking organization's senior management, and that any weaknesses revealed by the stress testing results would be elevated to the appropriate management levels of the banking organization and addressed in a timely manner.

iii. *Control and oversight*

Subpart F of the capital rule requires a banking organization to maintain a risk control unit that reports directly to senior management and is independent of the business trading units. The internal audit function is responsible for assessing, at least annually, the effectiveness of the controls supporting the banking organization's market risk measurement systems (including the activities of the business trading units and independent risk control unit), compliance with the banking organization's policies and procedures, and the calculation of the banking organization's

market risk capital requirements. At least annually, the internal audit function must report its findings to the banking organization's board of directors (or a committee thereof).

The proposal largely would retain the control, oversight, and validation requirements in subpart F of the capital rule, including the requirement that a banking organization maintain an independent risk control unit. The proposal would expand the required oversight responsibilities of the independent risk control unit to include the design and implementation of market risk management systems that are used for identifying, measuring, monitoring, and managing market risk. The proposed change is intended to complement other changes under the proposal, in particular allowing a banking organization to calculate risk-based requirements using standardized and models-based measures for market risk (for example, the inclusion of more rigorous model eligibility tests that apply at the trading desk level), as well as the introduction of a capital add-on requirement for re-designations.

Further, the proposal would enhance the internal review and challenge responsibilities of a banking organization by requiring it to maintain conceptually sound systems and processes for identifying, measuring, monitoring, and managing market risk. In addition to its current requirements under subpart F of the capital rule, the banking organization's internal audit function would have to assess at least annually the effectiveness of the designations and re-designations of market risk covered positions, and its assessment of the calculation of the banking organization's measures for market risk under subpart F, including the mapping of risk factors to liquidity horizons, as applicable. The proposal would enhance the validation requirements by requiring a banking organization to maintain independent validation of its valuation models and valuation adjustments or reserves.

The agencies intend for these elements of the proposal to enhance the accountability of the banking organization's independent risk control unit and internal audit function and provide banking organizations with sufficient flexibility to incorporate the risk management processes

required for regulatory capital purposes within those daily risk management processes used by the banking organization, such that managing market risk would be more consistent with the banking organization's overall risk profile and business model. A banking organization's primary Federal supervisor would evaluate the robustness and appropriateness of the banking organization's internal stress-testing methods, risk management processes, and capital adequacy.

iv. *Documentation*

Similar to the enhancements to policies and procedures described above, the proposal would enhance the documentation requirements under subpart F of the capital rule to reflect the proposed market risk capital framework. Specifically, a banking organization would be required to adequately document all material aspects of its identification, management, and valuation of its market risk covered positions, including internal risk transfers and any re-designations of positions between subpart F and subparts D and E of the capital rule. Consistent with subpart of F of the current capital rule, the proposal would require a banking organization to adequately document all material aspects of its internal models, and its control, oversight, validation, and review processes and results, as well as its internal assessment of capital adequacy. The proposal also would require a banking organization to document an explanation of the empirical techniques used to measure market risk. Further, a banking organization would be required to establish and document its trading desk structure, including identifying which trading desks are model-eligible, model-ineligible, used for internal risk transfers, or constitute notional trading desks, as well as document policies describing how each trading desk satisfies applicable requirements. These enhancements would support the banking organization's ability to distinguish between positions subject to subpart F of the capital rule and those that are not.

d. Additional operational requirements for the models-based measure for market risk

Under subpart F of the capital rule, a banking organization must use an internal VaR based model to calculate risk-based capital requirements for its covered positions. The proposal

would not require a banking organization to use an internal model but would allow a banking organization that has approval from its primary Federal supervisor for at least one model-eligible trading desk to use the internal models approach to calculate market risk capital requirements.

As a condition for use of the internal models approach, the proposal would require a trading desk to satisfy certain additional operational requirements, which are intended to help ensure that a banking organization has allocated sufficient resources for the desk to develop and rely on internal models that appropriately capture the market risk of its market risk covered positions. Specifically, the additional operational requirements, as well as the proposed profit and loss attribution and backtesting requirements, as described in sections III.H.8.b and III.H.8.c of this Supplementary Information, would help ensure that the losses estimated by the internal models used to calculate a trading desk's risk-based capital requirements are sufficiently accurate and sufficiently conservative relative to the profits and losses that are reported in the general ledger. These general ledger reported profits and losses are produced by front-office models.[283] In this way, the additional operational requirements are intended to help ensure that the internal models of a trading desk properly measure all material risks of the market risk covered positions to which they are applied, and the sophistication of the internal models is commensurate with the complexity and extent of trading activity conducted by the trading desk.

As described above, the proposal would require eligibility for use of the internal models approach to be determined at the trading desk level, rather than for the entire banking

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[283] The proposed backtesting requirements are intended to measure the conservatism of the forecasting assumptions and valuation methods in the expected shortfall models used for determining risk-based capital requirements while the proposed PLA testing requirements are intended to measure the accuracy of the potential future profits or losses estimated by the expected shortfall models relative to those produced by the front office models. If a trading desk fails to satisfy either the proposed PLA or backtesting requirements, it would no longer be able to calculate risk-based capital requirements using the internal models approach. In this way, the proposal would only allow trading desks for which the internal models are sufficiently conservative and accurate to use the internal models approach to calculate its market risk capital requirements.

organization. By aligning the level at which a banking organization may be permitted to model market risk capital requirements with the level at which the banking organization applies its front office controls, the proposed requirements would enhance prudent capital management for banking organizations that use the models-based measure for market risk. Additionally, the proposed trading desk-level framework would provide a prudential backstop to the internal models approach by requiring the use of the standardized approach for trading desks with risks that are not adequately captured by a banking organization's internal models. This avoids the risk of an abrupt or severe change in a banking organization's overall market risk capital requirement in the event that a particular trading desk ceases to be eligible to use the internal models approach.

i. *Trading desk identification*

As part of the model approval process, the proposal would require a banking organization to identify all trading desks within its trading desk structure that it would designate as model-eligible and for which it would seek approval to use internal models from the primary Federal supervisor. When identifying which trading desks to designate as model-eligible, the banking organization would be required to consider whether the standardized or internal models approach would more appropriately reflect the market risk of the desk's market risk covered positions.

Additionally, the proposal generally would prohibit a banking organization from seeking model approval for trading desks that hold securitization positions or correlation trading positions, with one exception. Given the operational difficulties of requiring a banking organization to bifurcate trading desks that hold an insignificant amount of securitization or correlation trading positions pursuant to their trading or hedging strategy, the proposal would allow the banking organization to designate such desks as model-eligible. If the primary Federal supervisor were to approve the use of internal models for such desks, the proposal would require the banking organization to separately calculate market risk capital requirements for such

securitization or correlation trading positions held by a model-eligible trading desk under either the standardized approach or the fallback capital requirement, and otherwise treat such positions as if they were not held by the desk.[284]

Question 102: The agencies seek comment on the benefits and drawbacks of requiring trading desks that hold an insignificant amount of securitization positions and correlation trading positions to exclude from the internal models approach such positions and any related hedges, if applicable, in order for such desks to request approval to calculate market risk capital requirements under the models-based for market risk. Commenters are encouraged to provide data to support their responses.

ii. *Review, risk management, and validation*

To help ensure that the internal models appropriately capture a model-eligible trading desk's market risk exposure on an ongoing basis, the proposal would require a banking organization to satisfy additional model review and validation standards for model-eligible trading desks in order to calculate market risk capital requirements under the models-based measure for market risk.

Specifically, a banking organization that uses the models-based measure for market risk would be required to (1) review its internal models at least annually and enhance them, as appropriate, to help ensure the models continue to satisfy the initial approval requirements and employ risk measurement methodologies that are the most appropriate for the banking organization's market risk covered positions, (2) integrate its internal models used for calculating the expected shortfall-based measure for market risk into its daily risk management process, and

[284] Specifically, the proposal would require a banking organization to exclude any insignificant amount of securitization positions and / or correlation trading positions held by the model-eligible trading desk from (1) the aggregate trading portfolio backtesting; and (2) from the relevant desk-level backtesting and profit and loss attribution metrics, except with the approval of the banking organization's primary Federal supervisor.

(3) independently[285] validate its internal models both initially and on an ongoing basis, and revalidate them when there is a material change to a model, a significant structural change in the market, or changes in the composition of its market risk covered positions that might result in the internal models no longer adequately capturing the market risk of the market risk covered positions held by the model-eligible trading desk.

The proposal also would require banking organizations to establish a validation process that at a minimum includes an evaluation of the internal models' (1) conceptual soundness[286] and (2) adequacy in appropriately capturing and reflecting all material risks, including that the assumptions are appropriate and do not underestimate risks. Additionally, the proposal would require a banking organization to perform ongoing monitoring to review and verify processes, including by comparing the outputs of the internal models with relevant internal and external data sources or estimation techniques. The results of this comparison provide a valuable diagnostic tool for identifying potential weaknesses in a banking organization's models. As part of this comparison, a banking organization would be expected to investigate the source of differences between the model estimates and the relevant internal or external data or estimation techniques and whether the extent of the differences is appropriate.

In addition, the proposal would expand on the outcomes analysis requirements in subpart F of the capital rule by requiring validation to include not only any outcomes analysis that includes backtesting at the aggregated level of all model-eligible trading desks, but also backtesting and profit and loss attribution testing at the trading desk level for each model-eligible

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[285] Either the validation process itself would have to be independent, or the validation process would have to be subjected to independent review of its adequacy and effectiveness. The independence of the banking organization's validation process would be characterized by separateness from and impartiality to the development, implementation, and operation of the banking organization's internal models, or otherwise by independent review of its adequacy and effectiveness, though the personnel conducting the validation would not necessarily be required to be external to the banking organization.

[286] The process should include evaluation of empirical evidence supporting the methodologies used and evidence of a model's strengths and weaknesses.

trading desk. The agencies recognize that financial markets and modeling technologies undergo continual development. Accordingly, a banking organization needs to continually ensure that its models are appropriate. The ongoing review, risk management, and validation requirements in the proposal are intended to help ensure that the internal models used accurately reflect the risks of market risk covered positions in evolving markets.

iii. *Documentation*

In addition to the general documentation requirements applicable to all banking organizations as described in section III.H.5.c.iv of this Supplementary Information, the proposal would require a banking organization that uses the models-based measure for market risk to document policies and procedures regarding the determination of which risk factors are modellable and which are not modellable (risk factor eligibility test), including a description of how the banking organization maps real price observations to risk factors; the data alignment of the profit and loss systems used by front office and by the internal risk management models; the assignment of risk factors to liquidity horizons, and any empirical correlations recognized with respect to risk factor classes.

As with the other enhanced operational requirements applicable to a banking organization that uses the models-based measure for market risk, these requirements are designed to help ensure the use of the internal models approach under the models-based measure for market risk only applies to those trading desks for which the banking organization is able to demonstrate that the internal models appropriately capture the market risk of the market risk covered positions held by the desk.

iv. *Model eligibility*

For the banking organization to use the models-based measure for market risk, the proposal would require a banking organization to receive the prior written approval from its

primary Federal supervisor for at least one trading desk to apply the internal models approach. Accordingly, the proposal would establish a framework for such approval.

I. Initial approval

Under the proposal, the approval for a banking organization to use internal models would be granted at the individual trading desk level.[287] For the primary Federal supervisor to approve an internal model, the proposal would require a banking organization to demonstrate that (1) the internal model properly measures all the material risks of the market risk covered positions to which it would be applied; (2) the internal model has been properly validated in accordance with the validation process and requirements; (3) the level of sophistication of the internal model is commensurate with the complexity and amount of the market risk covered positions to which it would be applied; and (4) the internal model meets all applicable requirements.

To receive approval as a model-eligible trading desk, the proposal would require a trading desk to satisfy one of the following criteria. The banking organization could provide to the primary Federal supervisor at least 250 business days of backtesting and PLA test results for the trading desk. Alternatively, the banking organization could either (1) provide at least 125 business days of backtesting and PLA test results for the trading desk and demonstrate to the satisfaction of the primary Federal supervisor that the internal models would be able to satisfy the backtesting and PLA requirements on an ongoing basis; (2) demonstrate that the trading desk consists of market risk covered positions similar to those of another trading desk that has received approval from the primary Federal supervisor and such other trading desk has provided at least 250 business days of backtesting and PLA results, or (3) subject the trading desk to the PLA add-on until the desk provides at least 250 business days of backtesting and PLA test results

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[287] The proposal would require a banking organization to receive written approval from the primary Federal supervisor for both the expected shortfall internal model and the stressed expected shortfall methodology used by the trading desk. As the initial approval process for each would be the same, for simplicity, the term "internal models" used throughout this section is intended to refer to both.

that pass the trading-desk level backtesting requirements and produce PLA metrics in the green zone, as further described in sections III.H.8.b and III.H.8.c of this Supplementary Information.

The proposed criteria would hold trading desks to robust modeling requirements, while providing a banking organization sufficient flexibility to satisfy the standard over time and as the banking organization adapts its business structure. The agencies recognize that when initially requesting approval and in subsequent requests (for example, after a reorganization or upon entering into a new business), a banking organization may not always be able to provide a full year of backtesting and PLA results for each trading desk, even if the internal models used by the desk provide an adequate basis for determining risk-based capital requirements. The proposed criteria would allow a banking organization to seek model approval for trading desks with at least a six-month track record demonstrating the accuracy and conservatism of the internal models used by the desk (PLA and backtesting results) as well as for trading desks that consist of similar market risk covered positions to another trading desk, for which the banking organization has provided at least 250 business days of trading desk level profit and loss attribution test and backtesting results and has received approval from its primary Federal supervisor. Given the difficulty in evaluating the appropriateness of the internal models used by trading desks that provide less than six months of profit and loss attribution test and backtesting results and that do not consist of market risk covered positions similar to those of another trading desk that has received approval, the agencies are proposing to allow a banking organization to designate such desks as model-eligible, but to subject any such trading desk approved by the primary Federal supervisor to the PLA add-on until the desk produces one year of satisfactory profit and loss attribution test and backtesting results in the green zone. Thus, the trading desk would remain subject to an additional capital requirement until it provides sufficient evidence demonstrating the appropriateness of the internal models, at which time application of the PLA add-on would automatically cease.

II. Ongoing eligibility and changes to trading desk structure or internal models

Subpart F of the current capital rule requires a banking organization to promptly notify the primary Federal supervisor when (1) extending the use of a model that the primary Federal supervisor has approved to an additional business line or product type, (2) making any change to an internal model that would result in a material change in the banking organization's total risk-weighted asset amount for market risk for a portfolio of covered positions, or (3) making any material change to its modelling assumptions.

The proposal would expand on these requirements to require a banking organization to receive prior written approval from its primary Federal supervisor before implementing any change to its trading desk structure or internal models (including any material change to its modelling assumptions) that would (1) in the case of trading desk structure, materially impact the risk-weighted asset amount for a portfolio of market risk covered positions; or (2) in the case of internal models, result in a material change in the banking organization's internally modelled capital calculation for a trading desk under the internal models approach. Additionally, the proposal would require a banking organization to promptly notify its primary Federal supervisor of any change, including non-material changes, to its internal models, modelling assumptions, or trading desk structure.[288] Whether a banking organization would be required to receive prior written approval or promptly notify the primary Federal supervisor before extending the use of an approved model to an additional business line or product type would depend on the nature of and impact of such a change.

The proposal also would require a model-eligible trading desk to perform and successfully pass quarterly backtesting and the PLA testing requirements on an ongoing basis in

[288] In such cases, a banking organization should notify the primary Federal supervisor in writing, in a manner acceptable to the supervisor (such as through e-mail, where appropriate).

order to maintain its approval status.[289] As banking organizations' quarterly review of backtesting and PLA results would take place after a quarter is over, the proposal would permit a banking organization to rely on the internal models approach for model-eligible trading desks that previously received approval from the primary Federal supervisor during the 20-day period following quarter end while updating its use of internal models based on the results of the quarterly review.

Even if a model-eligible trading desk were to satisfy the above requirements, a banking organization's primary Federal supervisor could determine that the desk no longer complies with any of the proposed applicable requirements for use of the models-based measure for market risk or that the banking organization's internal model for the trading desk fails to either comply with any of the applicable requirements or to accurately reflect the risks of the desk's market risk covered positions. In such cases, the primary Federal supervisor could (1) rescind the desk's model approval and require the desk to calculate market risk capital requirements under the standardized approach, or (2) subject the desk to a PLA add-on capital requirement until it restores the desk's full approval, in the case of trading desk noncompliance.

The agencies recognize that even if a banking organization's expected shortfall model for a trading desk satisfies the proposed backtesting, PLA testing, and operational requirements, the model may not appropriately capture the risk of the market risk covered positions held by the desk (for example, if the model develops specific shortcomings in risk identification, risk aggregation and representation, or validation). Thus, as an alternative to requiring a trading desk to use the standardized approach, the proposal would allow the primary Federal supervisor to subject the trading desk to the PLA add-on if the desk were to continue to satisfy all of the proposed backtesting, PLA testing, and operational requirements for use of the models-based measure for market risk. In this way, the proposal would help to ensure that the market risk

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[289] *See* sections III.H.8.b and III.H.8.c of this Supplementary Information.

capital requirements for the trading desk appropriately reflect the materiality of the shortcomings of the expected shortfall model, as the PLA add-on would apply until such time that the banking organization enhances the accuracy and conservatism of the trading desk's expected shortfall model to the satisfaction of its primary Federal supervisor.

Similarly, after approving a banking organization's stressed expected shortfall methodology to capture non-modellable risk factors for use by one or more trading desks, as described in section III.H.8.a.i of this Supplementary Information, the primary Federal supervisor may subsequently determine that the methodology no longer complies with the operational requirements for use of the models-based measure for market risk or that the methodology fails to accurately reflect the risks of the market risk covered positions held by the trading desk. In such cases, the proposal would allow the primary Federal supervisor to rescind its approval of the banking organization's methodology and require the affected trading desk(s) to calculate market risk capital requirements for the trading desk under the standardized approach. As the methodologies used to capture the market risk of non-modellable risk factors would not be subject to the proposed PLA testing requirements, which inform the calibration of the PLA add-on as described in section III.H.8.b of this Supplementary Information, the PLA add-on would not be an alternative if the primary Federal supervisor rescinds its approval of such a methodology.

6. Measure for market risk

Under subpart F of the current capital rule, a banking organization must use one or more internal models to calculate market risk capital requirements for its covered positions.[290] A banking organization's market risk-weighted assets equal the sum of the VaR-based capital requirement, the stressed VaR-based capital requirement, specific risk add-ons, the incremental

[290] Notably, for securitization positions subject to subpart F, the current capital rule provides a standardized measurement method for capturing specific risks and a models-based measure capturing general risks for calculating market risk-weighted assets.

risk capital requirement, the comprehensive risk capital requirement, and the capital requirement for de minimis exposures, plus any additional capital requirement established by the primary Federal supervisor, multiplied by 12.5. The primary Federal supervisor may require the banking organization to maintain an overall amount of capital that differs from the amount otherwise required under the rule, if the regulator determines that the banking organization's market risk-based capital requirements under the rule are not commensurate with the risk of the banking organization's covered positions, a specific covered position, or portfolios of such positions, as applicable.

As noted in section III.H.1.b. of this Supplementary Information, the proposal would introduce a standardized methodology for calculating market risk capital requirements and a new methodology for the internal models approach to replace the framework in subpart F of the current capital rule. Under the proposal, a banking organization that has one or more model-eligible trading desks would be required to calculate market risk capital requirements under both the standardized and the models-based measures for market risk. Furthermore, if required by the primary Federal supervisor, a banking organization that has one or more model-eligible trading desk would be required to calculate the standardized measure for market risk for each model-eligible trading desk as if that trading desk were a standalone regulatory portfolio. A banking organization with no model-eligible trading desks would only calculate market risk capital requirements under the standardized measure for market risk.

The agencies would have the authority to require a banking organization to calculate capital requirements for specific positions or categories of positions under either subpart D or E instead of under subpart F of the capital rule, or under subpart F instead of under subpart D or E of the capital rule, or under both subpart F and subpart D or E, as applicable, to more appropriately reflect the risks of the positions. Alternatively, under the proposal, the primary Federal supervisor may require a banking organization to apply a capital add-on for re-designations of specific positions or portfolios. These proposed provisions would help the

primary Federal supervisor ensure that a banking organization's risk-based capital requirements appropriately reflect the risks of such positions.

Additionally, for a banking organization that uses the models-based measure for market risk, the agencies would reserve the authority to require a banking organization to modify its observation period or methodology (including the stress period) used to measure market risk, when calculating the expected shortfall measure or stressed expected shortfall. In this way, the proposal would help the primary Federal supervisor ensure that a banking organization's internal models remain sufficiently robust to capture risks in a dynamic market environment and appropriately reflect the risks of such positions.

a. Standardized measure for market risk

Under the proposal, the standardized measure for market risk would consist of three main components: a sensitivities-based method, a standardized default risk capital requirement, and a residual risk add-on (together, the standardized approach). The proposed standardized measure for market risk also would include three additional components that would apply in more limited instances to specific positions: the fallback capital requirement, the capital add-on requirement for re-designations, and any additional capital requirement established by the primary Federal supervisor as part of the proposal's reservation of authority provisions.

The core component of the standardized approach is the sensitivities-based capital requirement, which would capture non-default market risk based on the estimated losses produced by risk factor sensitivities[291] under regulatorily determined stressed conditions. The standardized default risk capital requirement captures losses on credit and equity positions in the event of obligor default, while the residual risk add-on serves to produce a simple, conservative capital requirement for any other known risks that are not already captured by first two

[291] A risk factor sensitivity is the change in value of an instrument given a small movement in a risk factor that affects the instrument's value.

components (sensitivities-based measure and the standardized default risk capital), such as gap risk, correlation risk, and behavioral risks such as prepayments. The fallback capital requirement would apply in cases where a banking organization is unable to calculate either the sensitivities-based capital requirement, such as when a sensitivity is not available, or the standardized default risk capital requirement.[292] Additionally, the capital add-on requirement for re-designations would apply in cases where a banking organization re-classifies an instrument after initial designation as being subject either to the market risk capital requirements under subpart F or to capital requirements under subpart D or E of the capital rule, respectively.[293] Each of these components is intended to help ensure the standardized measure for market risk provides a simple, transparent, and risk-sensitive measure for determining a banking organization's market risk capital requirements. The standardized measure for market risk equals the sum of the above components and any additional capital requirement established by the primary Federal supervisor, as described in more detail in section III.H.7 of this Supplementary Information.

The agencies view the proposed standardized measure for market risk as sufficiently risk sensitive to serve as a credible floor to the models-based measure for market risk. If a trading desk does not receive approval to use the internal models approach or fails to meet the operational requirements of the models-based measure for market risk on an on-going basis, the desk would be required to continue to use the standardized approach to calculate its market risk capital requirements. The conservative calibration of the risk weights and correlations applied to a banking organization's market risk covered positions would help ensure that risk-based capital requirements under the standardized approach appropriately capture the market risks to which a banking organization is exposed. Additionally, by relying on a banking organization's models to

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[292] *See* section III.H.6.c of this Supplementary Information for a more detailed discussion on the fallback capital requirement.

[293] *See* section III.H.6.d of this Supplementary Information for a more detailed discussion of the capital add-on for re-designations.

produce risk factor sensitivities, the proposed standardized measure for market risk would help ensure market risk capital requirements appropriately capture a banking organization's actual market risk exposure in a manner that minimizes compliance burden and enhances risk-capture. Furthermore, the proposed standardized measure for market risk would also promote comparability in market risk capital requirements across banking organizations subject to the proposal.

b. Models-based measure for market risk

To limit use of the internal models approach to only those trading desks that can appropriately capture the risks of market risk covered positions in internal models, model-eligible trading desks would be required to satisfy the model eligibility criteria and processes (for example, profit and loss attribution testing) introduced under the proposal, as described in section III.H.5.d of this Supplementary Information. Thus, under the proposal, a banking organization with prior regulatory approval to use the models-based measure for market risk could have some trading desks that are eligible for the internal models approach and others that use the standardized approach. Specifically, if the primary Federal supervisor were to approve a banking organization to calculate market risk capital requirements for one or more trading desks under the internal models approach, the banking organization would be required to calculate the entity-wide market risk capital requirement under the models-based measure for market risk (IMA_{total}), which would incorporate the capital requirements under the standardized approach for model-ineligible trading desks, according to the following formula, as provided under §__.204(c) of the proposed rule:

$$\begin{aligned} IMA_{Total} = min\left(\left(IMA_{G,A} + PLA\ add\text{-}on + SA_U\right), SA_{all\ desks}\right) \\ + max\left(\left(IMA_{G,A} - SA_{G,A}\right), 0\right) + \ fallback\ capital\ requirement \\ + \ capital\ add\text{-}ons \end{aligned}$$

Under the proposal, the core components of the models-based measure for market risk capital requirements are the internal models approach capital requirements for model-eligible trading desks, which capture non-default market risks and the standardized default risk capital requirement for model-eligible desks ($IMA_{G,A}$), the standardized approach capital requirements for model-ineligible trading desks (SA_U), the standardized approach capital requirement for market risk covered positions and term repo-style transactions the banking organization elects to include in model-eligible trading desks ($S_{G,A}$) and the additional capital requirements applied to model-eligible trading desks with shortcomings in the internal models used for determining regulatory capital requirements, (*PLA add-on*) if applicable.

To limit the increase in capital requirements arising due to differences in calculating risk-based capital requirements separately[294] between market risk covered positions held by trading desks subject to the internal models approach and those held by trading desks subject to the standardized approach, the models-based measure for market risk would cap the sum of $\mathrm{IMA}_{G,A}$, the PLA add-on, and SA_{U} at the capital required for all trading desks under the standardized approach:

$$\left(min\left(\left(IMA_{G,A} + PLA\ add\text{-}on + SA_U\right), SA_{all\ desks}\right)\right)$$

The other components of the models-based measure for market risk include four other components that would only apply in more limited circumstances; these include the capital requirement for instances where the capital requirements for model-eligible desks under the internal models approach exceed those under the standardized approach, ($max((IMA_{G,A} - SA_{\mathrm{G,A}})$,

[294] Separate capital calculations could unnecessarily increase capital requirement because they ignore the offsetting benefits between market risk covered positions held by trading desks subject to the internal models approach and those held by trading desks subject to the standardized approach.

0)),[295] the fallback capital requirement for instances where a banking organization is not able to apply the standardized approach and the internal models approach, if eligible,[296] and the capital add-on to offset any potential capital benefit that otherwise might have been received either from re-designating an instrument or from including ineligible positions on a model-eligible trading desk,[297] as well as any additional capital requirement established by the primary Federal supervisor pursuant to the proposal's reservation of authority provisions.

The proposed models-based measure for market risk would provide important improvements to the risk sensitivity and calibration of risk-weighted assets for market risk. In addition to replacing the VaR-based measure with an expected shortfall measure to capture tail risk, the models-based measure for market risk would replace the fixed ten business-day liquidity horizon in subpart F of the current capital rule with ones that vary based on the underlying risk factors in order to adequately capture the market risk of less liquid positions. The proposal also would limit the regulatory capital benefit of hedging and portfolio diversification across different asset classes, which generally dissipates in stress periods.

Question 103: The agencies seek comment on all aspects of the models-based measure for market risk calculation, including the capital requirement for instances where the capital requirement under the internal models approach for model-eligible desks exceeds the amount required for such desks under the standardized approach. What would be the benefits or drawbacks of capping the total capital requirement under the models-based measure for market risk at that required for all trading desks under the standardized approach?

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[295] As the standardized approach is less risk-sensitive than the internal models approach, to the extent that the capital requirement under the internal models approach exceeds that under the standardized approach for model-eligible desks, the proposal would require this difference to be reflected in the aggregate capital requirement under the models-based measure for market risk.

[296] *See* section III.H.6.c of this Supplementary Information for a more detailed discussion on the fallback capital requirement.

[297] *See* section III.H.6.d of this Supplementary Information for a more detailed discussion on the capital add-on requirement for re-designations.

c. Fallback capital requirement

The agencies recognize that a banking organization may not be able to calculate market risk capital requirements for one or more of its market risk covered positions in situations when a banking organization is unable to calculate market risk requirements under the standardized approach and the internal models approach, if eligible. For example, a banking organization may not be able to calculate some risk factor sensitivities or components for one or more market risk covered positions due to an operational issue or a calculation failure. Such issues could arise when a new market product is introduced and the banking organization has not had sufficient time to develop models and analytics to produce the required sensitivities or the new data feeds for the proposed market risk capital calculations. In such cases, the proposal would require a banking organization to apply the fallback capital requirement to the affected market risk covered positions, as further described below.

For purposes of calculating the standardized measure for market risk, the proposal would require a banking organization to apply the fallback capital requirement to each of the affected positions and exclude such positions from the standardized approach capital requirement.[298]

For purposes of calculating the models-based measure for market risk, unless the banking organization receives prior written approval from its primary Federal supervisor, the proposal would require the banking organization to exclude each market risk covered position for which it is not able to apply the standardized approach or the internal models approach, as applicable, from the respective components of IMA_{Total}[299] As the fallback capital requirement would only

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[298] The respective components of the standardized approach capital requirement are the sensitivities-based method capital requirement, the standardized default risk capital requirement, and the residual risk add-on.

[299] The respective components of IMA_{total} are: $IMA_{G,A}$, SA_U, $SA_{all\ desks}$, $SA_{G,A}$, SA_i (as part of the PLA add-on calculation), the capital add-on for certain securitization and correlation trading positions or equity positions in an investment fund on model-eligible trading desks, and any additional capital requirement established by the primary Federal supervisor. *See* section III.H.8.b. of this Supplementary Information for further discussion of each of these components.

apply in instances where a banking organization is not able to apply the internal models approach and the standardized approach to calculate market risk capital requirements, the agencies consider that applying a separate capital treatment for such positions is appropriate to ensure that they are conservatively incorporated into the market risk capital requirement.

Similar to the capital requirement for de minimis exposures in subpart F of the capital rule, the fallback capital requirement would equal the sum of the absolute fair value of each position subject to the fallback capital requirement, unless the banking organization receives prior written approval from its primary Federal supervisor to use an alternative method to quantify the market risk capital requirement for such positions.

Question 104: The fair value for derivative positions may materially underestimate the exposure since the fair value of derivatives is generally lower than the derivatives' potential exposure (for example, fair value of a derivative swap contract is generally zero at origination). Is the fallback capital requirement based on the absolute fair value of the derivative positions appropriate? What could be alternative methodologies for the fallback capital requirements for derivatives (for example, the absolute value of the adjusted notional amount or the effective notional amount of derivatives as defined in the standardized approach for counterparty credit risk (SA-CCR)? What, if any, alternative techniques would more appropriately measure the market risk associated with market risk covered positions for which the standardized approach cannot be applied?

d. Re-designations and other capital add-ons

To reflect the proposed definition of market risk covered position, the proposal would require a banking organization to have clearly defined policies and procedures for identifying

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Also, *see* section III.H.6.d of this Supplementary Information for further discussion on the capital add-on for certain securitization and correlation trading positions held on model-eligible desks.

positions that are market risk covered positions and those that are not, as well as for determining whether, after such initial designation, a position needs to be re-designated.[300]

A position's effect on risk-weighted assets can vary based on whether it is a market risk covered position. Therefore, to offset any potential capital benefit that otherwise might be received from re-classifying a position, the proposal would introduce the capital add-on requirement as a penalty for any re-designation. With prior written approval from its primary Federal supervisor, the proposal would not require a banking organization to apply the penalty to re-designations arising from circumstances that are outside of the banking organization's control (for example, changes in accounting standards or in the characteristics of the instrument itself, such as an equity being listed or de-listed). The agencies expect re-designations to be extremely rare, and recognize that re-designations could occur, for example, due to the termination of a business activity applicable to the instrument. Given the very limited circumstances under which re-designations would occur, any re-designation would be irrevocable, unless the banking organization receives prior approval from its primary Federal supervisor.

To calculate the capital add-on for a re-designation, a banking organization would be required to calculate the total capital requirements for the re-designated positions under subparts D, E (if applicable), and F of the capital rule before and immediately after the re-designation of a position. The proposal would require a banking organization that is subject to subpart D of the capital rule to calculate its total capital requirements separately under subpart D of the capital rule and under the market risk capital requirements before and immediately after the re-designation. If the total capital requirement is lower as a result of the re-designation, then the difference between the two would be the capital add-on for the re-designation. In cases when a banking organization is also subject to subpart E of the capital rule, the proposal would require the banking organization to calculate total capital requirements separately under subpart D of the

[300] *See* section III.H.5.a of this Supplementary Information.

capital rule and subpart E of the capital rule and under the market risk capital requirements before and immediately after the re-designation. If the total capital requirement is lower as a result of the re-designation, then the difference would be the capital add-on for the re-designation. As such, the proposal would require the banking organization to apply a capital add-on for re-designated positions in situations when such re-designations result in any capital reduction under the market risk capital requirements.

The proposal would require a banking organization to calculate the capital add-on requirement at the time of the re-designation. A banking organization could reduce or eliminate the capital add-on as the instrument matures, pays down, amortizes, or expires, or the banking organization sells or exits (in whole or in parts) the position.

Under the standardized measure for market risk, the capital add-on would include the capital add-on for re-designations. Under the models-based measure for market risk, the capital add-on would include the capital add-on for re-designations, as well as add-ons for any securitization and correlation trading positions, or equity positions in an investment fund, where a banking organization is not able to identify the underlying positions held by an investment fund on a quarterly basis on model-eligible trading desks, provided such positions are not subject to the fallback capital requirement. Specifically, for securitization and correlation trading positions and equity positions in an investment fund, where a banking organization cannot identify the underlying positions, on model-eligible trading desks, the models-based measure for market risk includes a capital add-on equal to the risk-based capital requirement for such positions calculated under the standardized approach.

Question 105: What, if any, operational challenges could the proposed capital add-on calculation pose? What, if any, changes should the agencies consider making to the proposed exceptions to the capital add-on, such as to address additional circumstances in which the capital add-ons for re-designations should not apply, and why?

7. *Standardized measure for market risk*

Under the proposal, the standardized measure for market risk would consist of the standardized approach capital requirement and three additional components that would apply in more limited instances to specific positions: the fallback capital requirement, the capital add-on requirement for re-designations and any additional capital requirement established by the primary Federal supervisor.[301] The proposal would require a banking organization to calculate the standardized measure for market risk at least weekly.

a. *Sensitivities-based method (SBM)*

Conceptually, the proposed sensitivities-based method is similar to a simple stress test where a banking organization estimates the change in value of its market risk covered positions by applying standardized shocks to relevant market risk covered positions. The sensitivities-based method uses risk weights that represent the standardized shocks with each prescribed risk weight calibrated to a defined liquidity time horizon consistent with the expected shortfall measurement framework under stressed conditions. To help ensure consistency in the application of risk-based capital requirements across banking organizations, the proposal would establish the following process to determine the sensitivities-based capital requirement for the portfolio: (1) assign market risk covered positions to risk classes and establish the risk factors for market risk covered positions within the same risk class; (2) describe the method to calculate the sensitivity of a market risk covered position for each of the prescribed risk factors; (3) describe the shock applied to each risk factor, and (4) describe the process for aggregating the weighted sensitivities within each risk class and across risk classes.

Under the proposal, a banking organization would assign each market risk covered position to one or more risk buckets within appropriate risk classes for the position. The seven

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[301] *See* sections III.H.6.c and III.H.6.d of this Supplementary Information for a more detailed discussion on the fallback capital requirement and the capital add-on requirement for re-designations, respectively.

prescribed risk classes, based on standard industry classifications, are interest rate risk, credit spread risk for non-securitization positions, credit spread risk for correlation trading positions, credit spread risk for securitization positions that are not correlation trading positions, equity risk, commodity risk, and foreign exchange risk. The risk buckets represent common risk characteristics of a given risk class in recognition that positions sharing such risk characteristics are highly correlated and therefore affect the value of a market risk covered position in substantially the same manner. Further, the proposed risk buckets correspond to common industry practice as large trading banking organizations often use bucketing structures similar to those set forth in the proposal.

Once the risk buckets are identified for a position, the bank would have to map the positions to the appropriate risk factors within the risk bucket. For example, the price of a typical corporate bond fluctuates primarily due to changes in interest rates and issuer credit spreads. Therefore, a position in a corporate bond would be placed in two separate risk classes, one for interest rate risk and one for credit spread risk for non-securitization positions. [302] For positions within the credit spread risk class, a banking organization would group the corporate bond position and other positions with similar credit quality and operating in the same sector together in one risk bucket. Further, the banking organization would apply the proposed risk factors to each position within that bucket based on credit spread curves and tenors of each position. All market risk covered positions would be assigned to risk buckets within risk classes and mapped to risk factors based on that assignment.

For each risk bucket, the proposed risk factors reflect the specific market variables that impact the value of a position. The risk factors are separately defined to measure their individual impact on market risk covered positions' value from small changes in the value of a risk factor

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[302] Under the proposal, a banking organization would have to separately calculate the potential losses arising from the position's sensitivity to changes in interest rates and changes in the issuer's credit spread.

(the movement in price (delta) and, where applicable, the movement in volatility (vega)), and the additional change in the positions' value not captured by delta for each relevant risk factor (curvature) in stress.[303]

Under the proposal, a banking organization would calculate the sensitivity of a market risk covered position as prescribed under the proposal to each of the proposed risk factors for delta, vega, and curvature, as applicable. The proposed sensitivity calculations for delta, vega, and curvature risk factors are intended to estimate how much a market risk covered position's value might change as a result of a specified change in the risk factor, assuming all other relevant risk factors remain constant. For each risk factor, the banking organization would sum the resulting delta sensitivities (and separately the vega and curvature sensitivities) for all market risk covered positions within the same risk bucket to produce a net sensitivity for each risk factor, which is the potential value impact on all of the banking organization's market risk covered positions in the risk bucket as a result of a uniform change in a risk factor.[304]

To capture how much the risk factor might change over a defined time horizon in stress conditions and how that would change the value of the market risk covered position, a banking organization would multiply the net delta sensitivity and the net vega sensitivity, respectively, to each risk factor within the risk bucket by the proposed standardized risk weight for the risk

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[303] Vega and curvature risk estimates are required for instruments with optionality or embedded prepayment option risk. For example, for an equity option, the proposed delta risk factor (equity spot price) would capture the impact on the option's value from changes in the equity spot price, the proposed vega risk factor (implied volatility) would capture the impact from changes in the implied volatility, and the proposed curvature risk factors (equity spot prices for the issuer) would capture other higher-order factors from nonlinear risks.

[304] The proposed risk factors are intended to be sufficiently granular such that only long and short exposures without basis risk would be able to fully offset for purposes of calculating the net sensitivity to a risk factor. For example, by defining the risk factors for equity risk at the issuer level, the proposal would allow long and short equity risk exposures to the same issuer to fully offset for purposes of calculating the net equity risk factor sensitivity, but only partially offset (correlations less than one) for exposures to different issuers with the same level of market capitalization, the same type of economy, and the same market sector (such as those within the same equity risk bucket).

bucket. The proposed risk weights are intended to capture the amount that a risk factor would be expected to move during the liquidity horizon of the risk factor in stress conditions.[305] To capture curvature risk, a banking organization would be required to aggregate the incremental loss above the delta capital requirement from applying larger upward and downward shock scenarios to each risk factor.

To account for the potential price impact of interactions between the risk factors, the proposal would prescribe aggregation formulas for calculating the total delta, vega, and curvature capital requirements within risk buckets and across risk buckets. Specifically, the risk-weighted sensitivities for delta, vega, and curvature risk, respectively, first would be summed for a risk factor, then aggregated across risk factors with common characteristics within their respective risk buckets to arrive at bucket-level risk positions. These bucket-level risk positions would then be aggregated for each risk class using the prescribed aggregation formulas to produce the respective delta, vega, and curvature risk capital requirements.

The aggregation formulas prescribe offsetting and diversification benefits via correlation parameters. Under the proposal, the correlation parameters specified for each risk factor pair are intended to limit the risk-mitigating benefit of hedges and diversification, given that the hedge relationship between an underlying position and its hedge, as well as the relationship between different types of positions, could decrease or become less effective in a time of stress. Specifically, taking into account prescribed correlation parameters, the banking organization would need to calculate the aggregate requirements first within a risk bucket and then across risk

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[305] The prescribed risk weights represent the estimated change in the value of the market risk covered position as a result of a standardized shock to the risk factor based on characteristics of the position and historic price movements. Additionally, the proposed risk weights are intended to help ensure comparability with the proposed internal models approach described in section III.H.8 of this Supplementary Information, which generally would require banking organizations' internal models to follow a methodology similar to the one used to calibrate the risk weights when determining risk-based requirements for market risk covered positions under the standardized approach.

buckets within one risk class to produce the risk class-level capital requirement for delta, vega, and curvature risk. The resulting capital requirements for delta, vega, and curvature risk then would be summed across risk classes, respectively, with no recognition of any diversification benefits because in stress diversification across different risk classes may become less effective.

To capture the potential for risk factor correlations to increase or decrease in periods of stress, the calculation of risk bucket-level capital requirements and risk class-level capital requirements for each risk class would be repeated corresponding to three different correlation scenarios – assuming high, medium and low correlations between risk factor shocks – in order to calculate the overall delta, vega, and curvature capital requirements for all risk classes to determine the overall capital requirement for each scenario. The prescribed correlation parameters in the intra-bucket and inter-bucket aggregation formulas would be those used in the medium correlation scenario. For the high and low correlation scenarios, a banking organization generally would increase and decrease the medium correlation parameters by 25 percent, respectively, to appropriately reflect the potential changes in the historical correlations during a crisis. [306]

Finally, to determine the overall capital requirements for each of the three correlation scenarios, the banking organization would sum the separately calculated delta, vega, and curvature capital requirements for all risk classes without recognition of any diversification benefits, given that delta, vega, and curvature are intended to separately capture different risks. The sensitivities-based capital requirement would be the largest capital requirement resulting from the three scenarios.

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[306] As the degree to which a pair of variables are linearly related (the correlation) can only range from negative one to one, the proposal would cap the correlation parameters under the high scenario at no more than one (100 percent) and floor those under the low scenario at no less than negative one. For highly correlated positions, the low correlation scenario also would not always reduce the correlation parameter by 25 percent.

Question 106: The agencies seek comment on the sensitivities-based method for market risk. To what extent does the sensitivities-based method appropriately capture the risks of positions subject to the market risk capital requirement? What additional features, adjustments (such as to the treatment of diversification of risks), or alternative methodology could the sensitivities-based method include to reflect these risks more appropriately and why? Commenters are encouraged to provide supporting data.

i. *Risk factors*

Under the proposal, a banking organization would be required to map all market risk covered positions within each risk class to the specified risk factors in order to calculate the capital requirements for delta, vega, and curvature. The proposed risk factors differ for each risk class to reflect the specific market risk variables relevant for each risk class (for example, no tenor is specified for the delta risk factor for equity risk as equities do not have a stated maturity, whereas the proposed tenors for credit spread delta risk reflect the common maturities of positions within those risk classes). The granular level at which the proposed risk factors would be defined is intended to promote consistency and comparability in regulatory capital requirements across banking organizations and to help ensure the appropriate capitalization of market risk covered positions.

For risk classes that include specific tenors or maturities as risk factors (for example, delta risk factors for interest rate risk), the proposal would require a banking organization to assign the risk factors to the proposed tenors through linear interpolation or a method that is most consistent with the pricing functions used by the internal risk management models. The banking organization's internal risk management models, which are used by risk control units and reviewed by auditors and regulators, would provide an appropriate basis for determining regulatory capital requirements, without imposing the operational burden of the time-consuming methods used by the front-office models. Additionally, relying on banking organizations' internal risk management models, rather than the front-office models, to identify the relevant risk

factors would help ensure that a control function that is independent of business-line management would determine the regulatory capital requirement for market risk.

I. Interest rate risk

Under the proposal, the delta risk factors for interest rate risk would be separately defined for each currency along two dimensions: tenor and interest rate curve. To value market risk covered positions with interest rate risk, the proposal would require a banking organization to construct and use interest rate curves for the currency in which interest rate-sensitive market risk covered positions are denominated (for example, interest rate curves from the overnight index swap curve (OIS) or an alternative reference rate curve). The proposal would require each of these curves to be treated as a distinct interest rate curve due to the basis risk between them. Similarly, under the proposal, a banking organization would be required to treat an onshore currency curve (for example, locally traded contracts) and an offshore currency curve (for example, contracts with the same maturity that are traded outside the local jurisdiction) as two distinct curves. A banking organization would be allowed to treat such curves as a single curve only with the prior written approval from its primary Federal supervisor.

As interest rate curves incorporate nominal inflation, an additional delta risk factor would be required for instruments with cash flows that are functionally dependent on a measure of inflation (such as TIPS) to appropriately account for inflation risk. Furthermore, the proposal would require an additional delta risk factor for instruments with cash flows in different currencies to appropriately reflect the cross-currency basis risk of each currency over USD or EUR.[307] Under the proposal, a banking organization would not recognize the term structure when measuring delta capital requirements for inflation risk and cross-currency basis risk.

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[307] Cross-currency basis is a basis added to a yield curve in order to evaluate a swap for which the two legs are paid in two different currencies. Market participants use cross currency basis to price cross currency interest rate swaps paying a fixed or a floating leg in one currency, receiving a fixed or a floating leg in a second currency, and including an exchange of the notional amount in the two currencies at the start date and at the end date of the swap.

Additionally, a banking organization would be required to consider the inflation risk factor and the cross-currency basis risk factor, if applicable, in addition to the sensitivity for the other delta risk factors for the interest rate risk (currency, tenor and interest rate curve) of the market risk covered position. Accordingly, a banking organization would be required to allocate the sensitivities for inflation risk and cross-currency basis risk in the relevant interest rate curve for the same currency as other interest rate risk factors.

The vega risk factors for interest rate risk would be the implied volatilities of options referencing the interest rate of the underlying instrument. The implied volatilities of inflation rate risk-sensitive options and cross-currency basis risk-sensitive options would be defined along the maturity of the option, whereas the implied volatilities of interest-rate risk-sensitive options would be defined along two dimensions: the maturity of the option and the residual maturity of the underlying instrument at the expiration date of the option. For example, a banking organization would calculate the vega sensitivity of a European interest rate swaption that expires in 12 months referring to a one-year swap based on the maturity of the option (12 months) as well as the residual maturity of the underlying instrument (the swap's maturity of 12 months).

The proposal would define the curvature risk factors for interest rate risk along one dimension: the interest rate curve of each currency (no term structure would be considered).

Question 107: The agencies seek comment on the appropriateness of requiring banking organizations with material exposure to emerging market currencies to construct distinct onshore and offshore curves. What, if any, operational burden may arise from such requirement and why?

II. Credit spread risk

The proposal would separately define the credit spread risk factors for non-securitization positions,[308] securitization positions that are not correlation trading positions (securitization positions non-CTP), and correlation trading positions. The proposal would define the delta risk factors for credit spread risk for non-securitization positions along two dimensions: the credit spread curve of a relevant issuer and the tenor of the position; the delta risk factors for credit spread risk for securitization positions non-CTP would be defined also along two dimensions: the credit spread curve of the tranche and the tenor of the tranche; and the delta risk factors for credit spread risk for correlation trading positions would be defined along two dimensions: the credit spread curve of the underlying name and the tenor of the underlying name. Under the proposal, the vega risk factors for credit spread risk are the implied volatilities of options referencing the credit spreads,[309] defined along one dimension: the option's maturity.

The proposal would define the curvature risk factors for credit spread risk for non-securitization positions along one dimension: the credit spread curves of the issuer. The curvature risk factors for credit spread risk for securitization positions non-CTP would be defined along the relevant tranche credit spread curves of bond and CDS, while for correlation trading positions along the bond and CDS credit spread curve of each underlying name. The agencies recognize that requiring a banking organization to estimate the bond-CDS basis for each issuer would impose a significant operational burden with limited benefit in terms of risk capture. To simplify the sensitivities-based-method calculation for curvature risk in these cases,

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[308] Under the proposal, a non-securitization position would be defined as a market risk covered position that is not a securitization position or a correlation trading position and that has a value that reacts primarily to changes in interest rates or credit spreads.

[309] When calculating the sensitivity for securitization positions non-CTP, a banking organization would calculate the sensitivities for credit spread risk based on the embedded subordination of the position, such as the spread of the tranche. For correlation trading positions, the credit spread risk sensitivity would be based on the underlying names in the securitization position, or nth-to-default position.

the proposal would require banking organizations to ignore any bond-CDS basis that may exist between the bond and CDS spreads and to calculate the credit spread risk sensitivity as a single spread curve across the relevant tenor points.

III. Equity risk

Similar to interest rate risk, the delta risk factors for equity risk would be separately defined for each issuer as the spot prices of each equity (for example, for cash equity positions) and an equity repo rate (for example, for term repo-style transactions), as appropriate. Under the proposal, the vega risk factors for equity risk would be the implied volatilities of options referencing the equity spot price, defined along the maturity of the option. The curvature risk factors for equity risk would be the equity spot price. There are no curvature risk factors for equity repo rates.

IV. Commodity risk

Similar to interest rate and equity risk, the delta risk factors for commodity risk would be separately defined for each commodity type[310] along two dimensions: the contracted delivery location of the commodity and the remaining maturity of the contract. A banking organization could only treat separate contracts as having the same delivery location if both contracts allow delivery in all of the same locations.[311] Additionally, the proposal would follow the established pricing convention for commodities and require a banking organization to use the remaining maturity of the contract to measure the delta sensitivity for instruments with commodity risk. As

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[310] Under the proposal, any two commodities would be considered distinct if the underlying commodity to be delivered would cause the market to treat the two contracts as distinct (e.g., West Texas Intermediate oil and Brent oil).

[311] For example, a contract that can be delivered in four ports may have less sensitivity to each location defined risk factor than a contract that can only be delivered in three of those ports. If a banking organization has entered into a contract to deliver 1000 barrels of oil in port A, B, C or D, and a hedge contract to receive 1000 barrels of oil on the same date in port A, B or C, if on delivery day ports A, B and C are closed, the banking organization is exposed to commodity risk in that it must deliver 1000 barrels of oil to port D without receiving 1000 barrels. As a result, the two contracts would have different sensitivity to location defined risk factors.

the price impact of risk factor changes varies significantly between different types of commodities, the proposal would define the delta risk factors for each commodity type to limit offsetting across commodity types, as such offsetting could drastically understate the potential losses arising from those positions.

To measure the price sensitivity of a commodity market risk covered position, the proposal would require a banking organization to use either the spot price or the forward price, depending on which risk factor is used by the internal risk management models to price commodity transactions. For example, if the internal risk management model typically values electricity contracts based on forward prices (rather than spot prices), the proposal would require the banking organization to compute the delta capital requirement using the current prices for futures and forward contracts. Similar to equity risk, the proposal would define the commodity vega risk factors based on the implied volatilities of commodity-sensitive options as defined along the maturity of the option and the curvature risk factors based on the constructed curve per commodity spot price.

Question 108: What, if any, risk factors would better serve to appropriately capture the delta sensitivity for positions within the commodity risk class and why?

V. Foreign exchange risk

The proposal would define the delta risk factors for foreign exchange risk as the exchange rate between the currency in which the market risk covered position is denominated and the reporting currency of the banking organization. For market risk covered positions that reference two currencies other than the reporting currency, the banking organization generally would be required to calculate the delta risk factors for foreign exchange risk using the exchange rates between each of the non-reporting currencies and the reporting currency. For example, for a foreign exchange forward referencing EUR/JPY, the relevant risk factors for a USD-reporting banking organization to consider would be the exchange rates for USD/EUR and USD/JPY.

To reduce operational burden and help ensure the delta capital requirements reflect foreign exchange risk, the proposal would also allow a banking organization to calculate delta risk factors for foreign exchange risk relative to a base currency instead of the reporting currency, if approved by the primary Federal supervisor.[312] In this case, after designating a single currency as the base currency, a banking organization would calculate the foreign exchange risk for all currencies relative to the base currency, and then convert the foreign exchange risk into the reporting currency using the spot exchange rate (reporting currency/base currency). For example, if a USD-reporting banking organization receives approval to calculate foreign exchange risk using JPY as the base currency, for a foreign exchange forward referencing EUR/JPY, the banking organization would consider separate deltas for the EUR/JPY exchange rate risk and USD/JPY foreign exchange translation risk and then translate the resulting capital requirement to USD at the USD/JPY spot exchange rate.

The proposal would define the vega risk factors for foreign exchange risk as the implied volatility of options that reference exchange rates between currency pairs along one dimension: the maturity of the option. For curvature, the foreign exchange risk factors would be all exchange rates between the currency in which a market risk covered position is denominated and the reporting currency (or the base currency, if approved by the primary Federal supervisor).

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[312] A banking organization would have to demonstrate to its primary Federal supervisor that calculating foreign exchange risk relative to its base currency provides an appropriate risk representation of the banking organization's market risk covered positions and that the foreign exchange risk between the base currency and the reporting currency is addressed. In general, the base currency would be the functional currency in which the banking organization generates or expends cash. For example, a multinational banking organization headquartered in the United States that primarily transacts in and uses EUR to value its assets and liabilities for internal accounting and risk management purposes could use EUR as its base currency. As its consolidated financial statement must be reported in USD, this multinational banking organization would need to translate the value of those assets and liabilities from the base currency (EUR) to the reporting currency (USD). Since exchange rates fluctuate continuously, this conversion could increase or decrease the value of those assets and liabilities and thus generate foreign exchange gains (or losses) from non-operating activity.

The proposal would allow (but not require) a banking organization to treat a currency's onshore exchange rate and an offshore exchange rate as two distinct risk factors in the delta, vega and curvature calculations for foreign exchange risk. While in stress the foreign exchange risk posed by a currency's onshore exchange rate and an offshore exchange rate may differ, as U.S. banking organizations generally do not have material exposure to foreign exchange risk from a currency's onshore and offshore basis, the prudential benefit of requiring banking organizations to capture risk posed by such basis would be limited, relative to the potential compliance burden. Therefore, the agencies are proposing to allow, but not require, banking organizations with material exposure to emerging market currencies to recognize the different foreign exchange risks posed by onshore and offshore exchange rate curves when calculating risk-based capital requirements under the sensitivities-based method.

ii. *Risk factor sensitivities*

A fundamental element of the sensitivities-based method is the sensitivity calculation, which estimates the change in the value of a market risk covered position as a result of a regulatorily prescribed change in the value of a risk factor, assuming all other risk factors are held constant. To help ensure consistency and conservatism across banking organizations, the proposal would set requirements on the valuation models, currency, inputs, and sensitivity calculation, as applicable, that a banking organization could use to measure the risk factor sensitivity of a market risk covered position.

In general, the proposal would require a banking organization to calculate risk factor sensitivities using the valuation models used to report actual profits and losses for financial reporting purposes.[313] The valuation methods used by such models would provide an appropriate basis for determining risk-based capital requirements because such models are subject to

[313] Banking organizations would be required to have a prudent valuation process, including the independent validations of the valuation models used in the standardized approach.

requirements intended to enhance the accuracy of the financial data produced by the models.[314] The agencies recognize that a banking organization can calculate risk sensitivities for delta and vega or estimate curvature using valuation methods and systems from equivalent internal risk management models. The proposal would permit a banking organization with prior approval of the primary Federal supervisor to calculate delta and vega sensitivities and curvature scenarios using the valuation methods used in its internal risk management models.

For consistency and comparability in risk-based capital requirements across banking organizations, the proposal would require each banking organization to calculate all risk factor sensitivities in the reporting currency of the banking organization, except for the foreign exchange risk class where, with prior approval of the primary Federal supervisor, the banking organization may calculate the sensitivities relative to a base currency instead of the reporting currency. To appropriately capture a banking organization's exposure to market risk, the proposal would require banking organizations to use fair values that exclude CVA in the calculation of risk factor sensitivities.

I. Delta

Under the proposal, a banking organization would calculate the delta capital requirement using the steps previously outlined in section III.H.7.a of this Supplementary Information for its market risk covered positions except those whose value exclusively depends on risk factors not captured by any of the proposed risk classes (exotic exposures).[315] The proposal would require a banking organization to separately calculate the market risk capital requirements for such positions under the residual risk add-on as described in section III.H.7.c of this Supplementary Information.

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[314] Such requirements include the requirements from the Sarbanes-Oxley Act of 2002. Pub. L. 107-204.

[315] Examples of exotic exposures not captured by any of the proposed risk classes include but are not limited to longevity, weather, and natural disasters derivatives.

For purposes of calculating the delta capital requirement, the proposal would require a banking organization to calculate the delta sensitivity of a position using the sensitivity definitions provided in the proposal for each risk factor and the valuation models used for financial reporting, unless a banking organization receives prior written approval to define delta sensitivities based on internal risk management models.[316] Based on the proposed sensitivity definitions, the delta sensitivity would reflect the change in the value of a market risk covered position resulting from a small specified shift of one basis point or one percent change to a risk factor, assuming all other relevant risk factors are held at the current level, divided by the same specified shift to the risk factor.

For the equity spot price, commodity, and foreign exchange risk factors, the delta sensitivity would equal the change in value of a market risk covered position due to a one percentage point increase in the risk factor divided by one percentage point. For the interest rate, credit spread, and equity repo rate risk factors, the delta sensitivity would equal the change in value of a market risk covered position due to a one basis point increase in the risk factor divided by one basis point. In the case of credit spread risk for securitizations non-CTP, a banking organization would calculate the delta sensitivity for the positions with respect to the credit spread of the tranche rather than the credit spread of the underlying positions. For credit spread risk for correlation trading positions, the delta sensitivity for credit spread risk would be computed using a one basis point shift in the credit spreads of the individual underlying names of the securitization position or nth-to-default position.

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[316] The proposal would define internal risk management models as the valuation models that the independent risk control unit within the banking organization uses to report market risks and risk-theoretical profits and losses to senior management.

When calculating the delta sensitivity for positions with optionality, a banking organization would apply either the sticky strike rule,[317] the sticky delta rule,[318] or, with the prior approval from its primary Federal supervisor, another assumption.[319] Each of these methods, or various combinations of such methods, would measure appropriately the sensitivity of a risk factor within any of the risk classes.

II. Vega

For market risk covered positions with optionality, the vega sensitivity to a risk factor would equal the vega of an option multiplied by the volatility of the option, which represents approximately the change in the option's value as the result of a one percentage point increase in the value of the option's volatility. To measure the vega sensitivity of a market risk covered position, the proposal would require a banking organization to use either the at-the-money volatility of an option or the implied volatility of an option, depending on which is used by the valuation models used for financial reporting[320] to determine the intrinsic value of volatility in the price of the option.

The vega capital requirement would only apply to options or instruments with embedded optionality, including instruments with material prepayment risk. For purposes of calculating the vega capital requirement, a banking organization would follow the steps previously outlined and

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[317] Under the sticky strike rule, a banking organization would assume that the implied volatility for an option remains unaffected by changes in the underlying asset price for any given strike price.

[318] Under the sticky delta rule, the banking organization would assume that the implied volatility for a particular maturity depends only on the ratio of the price of the underlying asset to the strike price (sometimes called the moneyness of the option).

[319] With prior approval from the primary Federal supervisor, a banking organization could calculate risk factor sensitivities based on internal risk management models provided the method would be most consistent with the valuation methods.

[320] With the prior approval of the primary Federal supervisor, a banking organization could use the type of volatility used in the internal risk management models.

use the same risk buckets applied in the delta capital calculation and the proposed vega risk weights.

Callable and puttable bonds that are priced based on the yield to maturity of the instrument would not be subject to the vega capital requirement. The agencies recognize that in practice a banking organization may not be able to calculate vega risk for callable and puttable bonds, as implied volatility for credit spread typically is not used as an input for the pricing of such instruments, and thus implied volatility is not captured by the internal models. Therefore, the agencies are proposing to allow banking organizations to exclude from the vega capital requirement callable and puttable bonds that are priced based on the yield to maturity of the instrument, as the delta capital requirement in these cases would be sufficiently conservative to capture the potential vega risk arising from such exposures.

To calculate the vega sensitivity, the proposal would require a banking organization to assign options to buckets based on their maturity. As the proposal defines the vega risk factors for interest rate risk along two dimensions: the maturity (or expiry) of the option and the maturity of the option's underlying instrument – a banking organization would be required to group options within the interest rate risk class along both of these two dimensions. To help ensure appropriately conservative capital requirements, the proposal would require a banking organization to (1) assign instruments with optionality that either do not have a stated maturity (for example, cancellable swaps) or that have an undefined maturity to the longest prescribed maturity tenor for vega, and (2) subject such instruments to the residual risk add-on, as described in section III.H.7.c of this Supplementary Information. Similarly, for options that do not have a stated strike price or that have multiple strike prices, or that are barrier options, the proposal would require a banking organization to apply the maturity and strike price used in its valuation models for financial reporting, unless the banking organization has received approval to use

internal risk management models, to value the position and apply a residual risk add-on.[321] The agencies are proposing these constraints as a simple and conservative approach for market risk covered positions that are difficult to value in practice.

Question 109: As the pricing conventions for certain products (for example, callable and puttable bonds) do not explicitly use an implied volatility, the agencies seek comment on the merits of allowing banking organizations to ignore the optionality of callable and puttable bonds that are priced using yield-to-maturity of the instrument if the option is not exercised relative to the merits of specifying a value for implied volatility (for example, 35 percent) to be used in calculating the vega capital requirement for credit spread risk positions when the implied volatility cannot be measured or is not readily available in the market. What are the benefits and drawbacks of specifying a value for the implied volatility for such products and what should the specified value be set to and why? What, if any, alternative approaches would better serve to appropriately capture the vega sensitivity for positions within the credit spread risk class when the implied volatility is not available?

Question 110: The agencies solicit comment on the appropriateness of relying on a banking organization's internal pricing methods for determining the maturity and strike price of positions without a stated strike price or with multiple strike prices. What, if any, alternative approaches (such as using the average maturity of options with multiple exercise dates) would better serve to promote consistency and comparability in risk-based capital requirements across banking organizations? What are the benefits and drawbacks of such alternatives compared to the proposed reliance on the internal pricing models of banking organizations?

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[321] Tranches of correlation trading positions that do not have an implied volatility would not be subject to the vega risk capital requirement. Such instruments would not be exempt from delta and curvature capital requirements.

III. Curvature

The proposed curvature capital requirements are intended to capture the price risks inherent in instruments with optionality that are not already captured by delta (for example, the change in the value of an option that exceeds what can be explained by the delta of the option alone). Under the proposal, only options or positions that contain embedded optionality, including positions with material prepayment risk, which present material price risks not captured by delta, would be subject to the curvature capital requirement. While linear instruments may also exhibit a certain degree of non-linearity, it is not always material for such instruments. Therefore, to allow for a more accurate representation of risk, the proposal would permit a banking organization, at its discretion, to make an election for a trading desk[322] to include instruments without optionality risk in the curvature capital requirement, provided that the trading desk consistently includes such positions through time.

The proposal would require a banking organization to use the same risk buckets applied in the delta capital calculation to calculate curvature capital requirements. To calculate the risk-weighted sensitivity for each curvature risk factor within a risk bucket, the proposal would require a banking organization to fully revalue all of its market risk covered positions with optionality or that a banking organization has elected to include in the calculation of its curvature capital requirement after applying an upward shock and a downward shock to the current value of the market risk covered position. To avoid double counting, the banking organization would calculate the incremental loss in excess of that already captured by the delta capital requirement for all market risk covered positions subject to the curvature capital requirements. The larger

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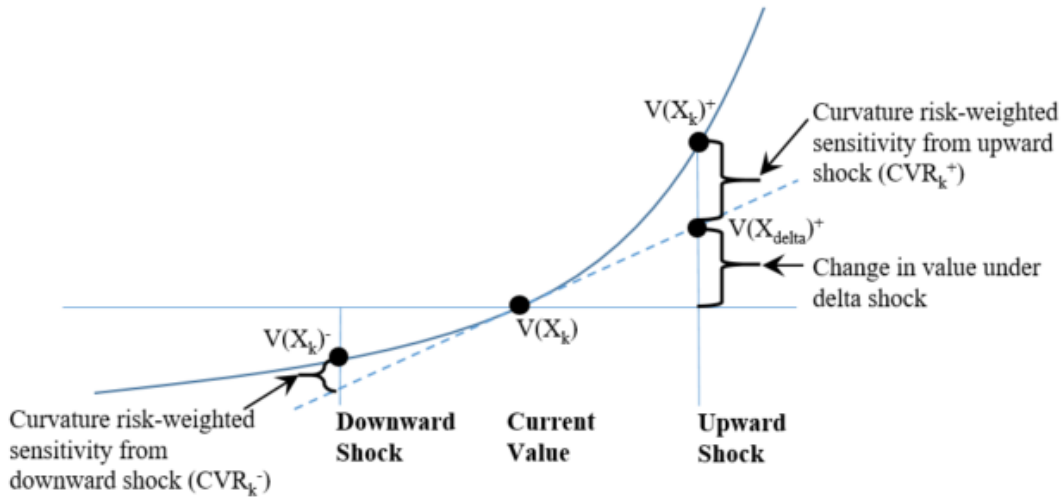
[322] For a banking organization that has established a trading desk structure with a single trading desk that uses the standardized measure to calculate market risk capital requirements, the proposal would allow such banking organization to make such an election for the entire organization rather than on a trading desk by trading desk basis. If such an election is made at the enterprise-wide level, the proposal would require the banking organization to consistently include positions without optionality within the curvature calculation.

incremental loss resulting from the upward and the downward shock would be the curvature risk-weighted sensitivity.[323] The below graphic provides a conceptual illustration of the calculation of the curvature risk-weighted sensitivity based on the upward and the downward shock scenarios.

Graphic 1: Calculation of curvature risk-weighted sensitivity in upward and downward shock scenarios



In calculating the curvature risk-weighted sensitivity for the interest rate, credit spread, and commodity risk classes, the banking organization would apply the upward and downward shocks assuming a parallel shift of all tenors for each curve based on the highest prescribed delta risk weight for the applicable risk bucket.[324,325] The proposal would require a banking

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[323] To promote consistency and comparability in regulatory capital requirements across banking organizations, the proposal would require that in cases where the incremental loss resulting from the upward and the downward shock is the same, the banking organization must select the scenario in which the sum of the capital requirements of the curvature risk factors is greater.

[324] As described in section III.H.7.a.iii.I of this Supplementary Information, the proposed risk bucket structure used to group the delta risk factors for interest rate risk (and the corresponding risk weight for each risk bucket) is solely based on the tenor of market risk covered position. For purposes of calculating the curvature sensitivity for interest rate risk, the proposal would require a banking organization to disregard the bucketing structure and apply the highest prescribed delta risk weight (the 1.7 percent risk weight applicable to the 0.25-year tenor, or 1.7 percent divided by $\sqrt{2}$ if the interest rate curve references a currency that is eligible for a reduced risk weight) to all tenors simultaneously for each yield curve.

[325] As the curvature capital requirements would capture an option's change in the value above that captured by delta, a banking organization would calculate the curvature sensitivity to credit spread risk for securitization positions non-CTP and correlation trading positions using the spread of the tranche and the spread of the underlying names, respectively.

organization to apply the highest risk weight across risk buckets to each tenor point along the curve (parallel shift assumption) for conservatism and to help ensure the curvature capital requirements reflect incremental losses from curvature and not those due to changes in the shape or slope of the curve. The proposal would require a banking organization to perform this calculation at the risk bucket level (not the risk class level). To the extent that applying the downward shocks results in negative credit spreads, the proposal would allow banking organizations to floor credit spreads at zero, which is the natural floor for credit spreads given that negative CDS spreads are not meaningful.

For the foreign exchange and equity risk classes, the upward and downward shocks represent a relative shift of the foreign exchange spot prices or equity spot prices, respectively, equal to the delta risk weight prescribed for the risk factor. The agencies recognize that the conversion of other currencies into either the reporting currency or base currency, if applicable, would capture exchange rate fluctuations, and thus overstate the sensitivity for foreign exchange risk. Thus, for options that do not reference the reporting or base currency of the banking organization as an underlying exposure, the proposal would allow the banking organization to divide the net curvature risk positions by a scalar of 1.5. The proposal would allow a banking organization to apply the scalar of 1.5 to all market risk covered positions subject to foreign exchange risk, provided that the banking organization consistently applies the scalar to all market risk covered positions with foreign exchange risk through time.

To aggregate the risk bucket-level capital requirements and risk class-level capital requirements for curvature, a banking organization would bifurcate positions into those with positive curvature and those with negative curvature. For the purposes of calculating risk-based capital requirements for curvature, positions with negative curvature represent a capital benefit – as they reduce rather than increase risk and thus risk-based capital requirements. For example, the downward shock as depicted in the above graphic produces less of an estimated price reduction under the curvature scenario than under the linear delta shock (negative curvature). To

prevent negative curvature capital requirements from decreasing the overall capital required under the sensitivities-based method, both the intra-bucket and inter-bucket aggregation formulas would floor the curvature capital requirement at zero. Additionally, both formulas include a variable[326] to allow a banking organization to recognize the risk-reducing benefits of market risk covered positions with negative curvature in offsetting those with positive curvature, while preventing the aggregation of market risk covered positions with negative curvature from resulting in an overall reduction in capital.

Question 111: The agencies solicit comment on the appropriateness of calculating the curvature risk-weighted sensitivity for the commodity risk class using the upward and downward shocks assuming a parallel shift of all tenors for each curve. Would a relative shift be more appropriate for calculating risk-weighted sensitivity for the commodity risk class and why?

iii. *Risk buckets and corresponding risk weights*

After determining the net sensitivity for each of the proposed risk factors within each risk class, a banking organization would calculate the risk-weighted sensitivity by multiplying the net sensitivity for each risk factor by the risk weight prescribed for each risk bucket.[327] The proposed risk buckets and corresponding risk weights are largely consistent with the framework issued by the Basel Committee. However, to reflect the potential systematic risks that positions may experience in a time of stress and avoid reliance on external ratings in accordance with U.S. law, the agencies are proposing to use alternative criteria to define the bucketing structure for risk factors related to credit spread risk and to clarify the application of the credit spread risk buckets for certain U.S. products, as described in section III.H.7.a.iii.II of this Supplementary

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[326] Specifically, this refers to the psi variable (Ψ) within the intra and inter-bucket aggregation formulas in §_.206(d)(2) and §_.206(d)(3) of the proposed rule.

[327] Vega and curvature capital requirements would use the same risk buckets as prescribed for delta. *See* §_.209(c) and (d) of the proposed rule. Table 11 to §_.209 of the proposed rule provides the proposed vega risk weights for each risk class, which incorporate the liquidity horizons for each risk class (risk of market illiquidity) from the Basel III reforms.

Information.[328] Additionally, to appropriately reflect a jurisdiction's stage of economic development, the agencies are proposing to use objective market economy criteria to define the bucketing structure for risk factors related to equity risk, as described in section III.H.7.a.iii.III of this Supplementary Information. Furthermore, the agencies are proposing to include electricity in the same risk bucket as gaseous combustibles in view of the inherent relationship between the price of electricity and natural gas and to simplify the proposal, as described in section III.H.7.a.iii.IV of this Supplementary Information.

The proposed risk weight buckets and associated risk weights would be appropriate to capture the specific, idiosyncratic risks of market risk covered positions (for example, negative betas or variations in capital structure). These components of the proposal also are largely consistent with the Basel III reforms and would promote consistency and comparability in market risk capital requirements among banking organizations domestically and across jurisdictions. The sections that follow describe the proposed risk buckets and associated risk weights for each risk factor.

I. Interest rate risk

Table 1 to §__.209 of the proposed rule sets forth the ten proposed risk buckets for the interest rate risk factors of market risk covered positions and the corresponding risk weight applicable to each risk bucket.[329] The proposal would require a banking organization to use separate risk buckets for each currency, for each of ten proposed tenors to capture most commonly traded instruments across market risk covered positions held by a banking organization and align with bucketing structures used by trading firms.

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[328] *See* 15 U.S.C. 78o-7 note.

[329] The buckets reflect that interest rates at a longer tenor have less uncertainty and thus lower volatility than interest rates at a shorter tenor that are more receptive to changes in interest rate risk.

By delineating interest rate risk factors based on currency[330] and tenor, the granularity of the proposed risk buckets is intended to appropriately balance the risk sensitivity of the proposed framework with providing consistency in risk-based requirements across banking organizations by assigning similar risk weights to similar kinds of positions.

Factors such as the stage of the economic cycle and the role of exchange rates can cause interest rate risk to diverge significantly across different currencies, particularly in stress periods. Accordingly, the proposal would require banking organizations to establish separate interest rate risk buckets for each currency.

OTC interest rate derivatives for liquid currencies have significant trading activity relative to non-liquid currencies, which means a banking organization faces a shorter liquidity horizon to offload exposure to interest rate risk factors in liquid currencies. Therefore, the proposal would allow a banking organization to divide the proposed risk weight applicable to each interest rate risk factor bucket by the square root of two if the interest rate risk factor relates to a liquid currency listed in §__.209(b)(1)(i) of the proposed rule or any other currencies specified by the primary Federal supervisor. This approach would allow a banking organization to apply a lower risk weight for purposes of the delta capital requirements for interest rate risk factors for the listed liquid currencies and any other currencies specified by the primary Federal supervisor.

II. Credit spread risk

Tables 3, 5, and 7 to §__.209 of the proposed rule set forth the risk buckets and corresponding risk weights for the credit spread risk factors of non-securitization positions, correlation trading positions, and securitization positions non-CTP, respectively. Under the proposal, a banking organization would group the credit spread risk factors for non-securitization

[330] As noted in section III.H.7.a.i.I of this Supplementary Information, under the proposal, each currency would represent a separate risk factor for interest rate risk.

positions, correlation trading positions, and securitization positions non-CTP into one of nineteen, seventeen, or twenty-five proposed risk buckets, respectively, based on market sector and credit quality. The credit quality of a market risk covered position in a given sector is inversely related to its credit spread. Accordingly, the risk buckets for credit spread risk consider the credit quality of a given market risk covered position.

More specifically with respect to the consideration of credit quality, the agencies are proposing to generally use the same approach to delta credit spread risk buckets and corresponding risk weights provided in the Basel III reforms for non-securitization positions, correlation trading positions, and securitization positions non-CTP, but to define the risk buckets using alternative criteria to capture the creditworthiness of the obligor. The delta credit spread risk buckets in the Basel III reforms are defined based on the applicable credit ratings of the reference entity. Section 939A of the Dodd-Frank Act required the agencies to remove references to credit ratings in Federal regulations.[331] Therefore, the agencies are proposing an approach that would allow for a level of risk sensitivity in the delta credit spread risk buckets and corresponding risk weights applicable to non-securitizations, correlation trading positions, and securitization positions non-CTP that would be generally consistent with the Basel III reforms and not rely on external credit ratings. Specifically, the agencies are proposing to define the delta credit spread risk buckets and corresponding risk weights for non-securitizations, correlation trading positions, and securitization positions non-CTP based on the definitions for investment

[331] 15 U.S.C. 78o-7 note.

grade as defined in the agencies' existing capital rule[332] and the definitions of speculative grade[333] and sub-speculative grade[334] as defined in the proposal.

The credit spread risks of industries within the proposed sectors react similarly to the same market or economic events by principle of shared economic risk factors (for example, technology and telecommunications). Furthermore, the proposal would provide sectors similar to those contained in the Basel III reforms and specify a treatment for certain U.S.-specific sectors (for example, GSE debt and public sector entities). Specifically, the proposal would include GSE debt and public sector entities in the sector for government-backed non-financials, education, and public administration to appropriately reflect the potential variability in the credit spreads of such positions in the industry. Accordingly, assigning the same risk weight to these positively correlated sectors would reduce administrative burden and not have a material effect on risk sensitivity.

Some proposed sectors consist of different industries, for example basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying. Positions within the same industry that are investment grade would be assigned to the same risk bucket because from a market risk perspective an economic event causing volatility in an industry tends to similarly affect all positions in the industry, even if there may be differences in credit quality between individual issuers within an industry.

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[332] *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

[333] The proposal would define speculative grade to mean that the entity to which a banking organization is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse economic conditions, such that should economic conditions deteriorate, the issuer or the reference entity would present an elevated default risk.

[334] The proposal would define sub-speculative grade to mean that the entity to which a banking organization is exposed through a loan or a security, or the reference entity with respect to a credit derivative, depends on favorable economic conditions to meet its financial commitments, such that should economic conditions deteriorate, the issuer or the reference entity likely would default on its financial commitments.

The agencies recognize that there may be sectors that are not expressly categorized by the proposed risk buckets, and that specifying all sectors for such purpose may not be possible. The proposed risk buckets would include an "other sector" category for market risk covered positions that do not belong to any of the other risk buckets.

The proposed risk weights are based on empirical data which reflect the historical stress period for which the risk factors within the risk bucket caused the largest cumulative loss at various liquidity horizons. As such, for speculative grade sovereigns and multilateral development banks, the agencies are proposing a 3 percent risk weight for such positions that are non-securitization positions (Table 3 to §__.209) and a 13 percent risk weight for such positions that are correlation trading positions (Table 5 to §__.209). Based on the agencies' quantitative analysis of the historical data, the credit spreads of speculative grade sovereign bonds have typically widened more than 2 percent after a downgrade, and significantly more for sub-speculative grade sovereigns.[335] Additionally, for non-securitization positions and correlation trading positions, the agencies are proposing a separate risk bucket with higher risk weights (7 percent and 16 percent, respectively) for sub-speculative grade sovereigns and multilateral development banks than for those of speculative grade, because of the additional risk posed by sub-speculative exposures.

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[335] The agencies are applying a similar methodology for calibration of credit spread risk weight for sovereigns as the Basel Committee used for calibrating risk weights for other asset classes, which aligns the sensitivities-based method risk weight calibration to the liquidity horizon adjusted stressed expected shortfall specified in the internal model approach. The Basel Committee used IHS Markit Credit Default Swap (CDS) data and calculated ten day overlapping returns (such as absolute changes in CDS spreads of sovereigns). For the period of stress, the agencies used the European sovereign crisis as it was more representative of stress risk for these exposures. The standard deviation obtained was multiplied by 2.34 to reflect the expected shortfall quantile of 97.5. In the last step, the estimate was adjusted to meet the sovereign liquidity horizon specified for internal models.

For non-securitization positions, the agencies are proposing a 2.5 percent risk weight for all investment grade covered bonds[336] to reduce variability in risk-based capital requirements across banking organizations and appropriately account for the preferential treatment provided in the standardized default risk capital requirement.[337] As most U.S. banking organizations hold limited or no covered bonds, the proposed 2.5 percent risk weight should have an immaterial impact on the sensitivities-based capital requirement.

For securitization positions non-CTP (Table 7 to §__.209), the proposal would clarify the treatment of personal loans and dealer floorplan loans within the delta credit spread risk buckets. Specifically, the proposal would require a banking organization to include personal loans within the risk bucket for credit card securitizations and dealer floorplans within the risk bucket for auto securitizations in order to appropriately reflect the lower credit spread risk of these positions relative to those within the other sector risk bucket.[338]

For securitization positions non-CTP, the proposal would also clarify the delta credit spread risk buckets for residential mortgage-backed securities to help ensure consistency in bucketing assignments across banking organizations. Specifically, the agencies are proposing to define prime residential mortgage-backed securities based on the definition of qualified residential mortgages in the credit risk retention rule[339] and to define sub-prime residential

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[336] As defined in §__.201 of proposed subpart F of the capital rule, a covered bond would mean a bond issued by a financial institution that is subject to a specific regulatory regime under the law of the jurisdiction governing the bond designed to protect bond holders and satisfies certain other criteria.

[337] *See* section III.H.7.b of this Supplementary Information for a more detailed description of the preferential treatment applied to covered bonds under the proposed standardized default risk capital requirement.

[338] The other sector risk bucket refers to bucket 25 in Table 7 to §_.209 of the proposed rule.

[339] The credit risk retention rule generally requires a securitizer to retain not less than 5 percent of the credit risk of certain assets that the securitizer, through the issuance of an asset-backed security, transfers, sells, or conveys to a third party. *See* 12 CFR part 43 (OCC); 12 CFR part 244 (Board); 12 CFR part 373 (FDIC).

mortgage-backed securities based on the definitions of higher-priced mortgage loans and high-cost mortgages in Regulation Z,[340] respectively.

Under the proposal, prime residential mortgage-backed securities would be defined as securities in which the underlying exposures consist primarily of qualified residential mortgages as defined under the credit risk retention rule. The eligibility criteria of the qualified residential mortgage definition are designed to help ensure the borrower's ability to repay.[341] Residential mortgage-backed securities that are primarily backed by qualified residential mortgage loans carry significantly lower credit risk than those backed primarily by non-qualifying loans. Therefore, the agencies are proposing to use the existing definition of qualified residential mortgage in the credit risk retention rule, which refers to the Regulation Z definition of qualified mortgage to identify residential mortgage-backed securities that are primarily backed by underlying loans with sufficiently low credit risk to be classified as prime.

Similarly, the proposal would define a sub-prime residential mortgage-backed security as a security in which the underlying exposures consist primarily of higher-priced mortgage loans as defined under Regulation Z (12 CFR 1026.35), high-cost mortgages as defined under Regulation Z (12 CFR 1026.32), or both. In general, Regulation Z defines higher-priced mortgage loans[342] and high-cost mortgages[343] to include consumer credit transactions secured by

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[340] To help ensure that credit terms are disclosed in a meaningful way so consumers can compare credit terms more readily and knowledgeably, Regulation Z mandates regulations on how lenders may calculate and disclose loan costs. *See* 12 CFR part 1026.

[341] Under the general definition for qualified mortgages in 12 CFR 1026.43(e)(2), a creditor must satisfy the statutory criteria restricting certain product features and points and fees on the loan, consider and verify certain underwriting requirements that are part of the general ability-to-repay standard, and meet certain other requirements.

[342] Under Regulation Z, a higher-priced mortgage loan is defined as a closed-end consumer credit transaction secured by the consumer's principal dwelling with an annual percentage rate that exceeds the average prime offer rate for a comparable transaction as of the date the interest rate is set by a certain amount of percentage points depending on the type of loan. *See* 12 CFR 1026.35(a)(1).

[343] Under Regulation Z, a high-cost mortgage is defined as a closed- or open-end consumer credit transaction secured by the consumer's principal dwelling and in which the annual percentage rate

the consumer's principal dwelling with an annual percentage rate[344] that exceeds the average prime offer rate (APOR)[345] for a comparable transaction. Consistent with Regulation Z, the best way to identify the subprime market is by loan price rather than by borrower characteristics, which could present operational difficulties and other problems. Therefore, the agencies are proposing to use the existing definitions in Regulation Z, which rely on a loan's annual percentage rate and other characteristics, to identify residential mortgage-backed securities that are primarily backed by underlying loans with sufficiently high credit risk to be classified as sub-prime. In addition, the proposal would reduce compliance burden for banking organizations by allowing them to leverage criteria already being used to evaluate mortgage loans for coverage under the prescribed Regulation Z thresholds.

The agencies recognize that a securitization vehicle that holds residential mortgage-backed securities may hold assets other than the residential mortgage loans, such as interest rate swaps, to support its liabilities. Furthermore, not all mortgage loans that satisfy the requirements of the proposed definitions when the securitization vehicle acquires the residential mortgage-backed securities will continue to do so throughout the lifecycle of the position. To minimize variability in risk-based capital requirements, reduce the operational burdens imposed on

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exceeds the average prime offer rate for a comparable transaction by a certain amount, or the transaction's total points and fees exceed a certain amount, or under the terms of the loan contract or open-end credit agreement, the creditor can charge a prepayment penalty more than 36 months after consummation or account opening, or prepayment penalties that can exceed, in total, more than 2 percent of the amount prepaid. *See* 12 CFR 1026.32(a).

[344] Annual percentage rates are derived from average interest rates, points, and other loan pricing terms currently offered to consumers by a representative sample of creditors for mortgage transactions that have low-risk pricing characteristics. Other pricing terms include commonly used indices, margins, and initial fixed-rate periods for variable-rate transactions. Relevant pricing characteristics include a consumer's credit history and transaction characteristics such as the loan-to-value ratio, owner-occupant status, and purpose of the transaction.

[345] Loans with higher annual percentage rates or that have higher points and fees or prepayment penalties generally are extended to less creditworthy borrowers (for example, weaker borrower credit histories, higher borrower debt-to-income ratios, higher loan-to-value ratios, less complete income or asset documentation, less traditional loan terms or payment schedules, or combinations of these or other risk factors) and thus pose higher credit risk.

banking organizations and help ensure consistency and comparability in risk-based capital requirements across banking organizations, the agencies are proposing to define prime and sub-prime as those vehicles that primarily hold qualified residential mortgages or high-priced mortgage loans and high-cost mortgages, respectively. All other mortgage-backed securities would be defined as mid-prime mortgage-backed securities.

Question 112: The agencies seek comment on the appropriateness of adding the sub-speculative grade category for non-securitizations and for correlation trading positions. What, if any, operational challenges might the proposed bucketing structure pose for banking organizations and why? What, if any, alternatives should the agencies consider to better capture the risk of these positions?

Question 113: The agencies seek comment on the risk weight for covered bonds. What, if any, alternative approaches would better serve to differentiate the credit quality of highly rated covered bonds without referring to credit ratings and why?

Question 114: The agencies seek comment on whether the proposed definitions for each sector bucket appropriately capture the characteristics to distinguish between the categories of residential mortgage-backed securities. What would be the benefits and drawbacks of using the definition of qualified residential mortgage in the credit risk retention rule? What, if any, alternative approaches should the agencies consider to more appropriately distinguish between the categories of residential mortgage-backed securities?

Question 115: The agencies seek comment on whether the proposed sector bucket definitions for residential mortgage-backed securities are sufficiently clear. What, if any, additional criteria should the agencies consider to define "primarily" in the context of residential mortgage-backed securities (for example, quantitative limits or other thresholds) and what are the associated benefits and drawbacks of doing so?

Question 116: What, if any, operational challenges might the proposed sector bucket definitions pose for banking organizations in allocating the credit spread risk sensitivities of existing mortgage exposures to the respective buckets and why? To what extent would using one metric (for example, average prime offer rate) to define the sector buckets address any such concerns?

Question 117: What, if any, other sector buckets require additional clarification, and why?

III. Equity risk

Table 8 to §_.209 of the proposed rule provides the proposed delta risk buckets and corresponding risk weights for market risk covered positions with equity risk, which would be generally consistent with those in the Basel III reforms.[346] Under the proposal, a banking organization would group the equity risk factors for market risk covered positions into one of thirteen risk buckets based on market capitalization, market economy, and sector.

The proposed risk buckets and associated risk weights for market capitalization would differentiate between large and small market capitalization issuers to appropriately reflect the relatively higher volatility and increased equity risk of small market capitalization issuers.[347] Under the proposal, issuers with a consolidated market capitalization equal to or greater than $2 billion would be classified as large market capitalization issuers, and all other issuers would be classified as small market capitalization issuers. The proposed large market capitalization

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[346] Vega and curvature capital requirements use the same risk buckets as prescribed for delta. *See* §_.209(c)(1), (d)(1) of the proposed rule.

[347] Relative to large market capitalization issuers, instruments issued by those with small market capitalization are typically less liquid and thus pose greater equity risk, as investors holding these instruments may encounter difficulty in buying or selling shares particularly during a stress event. Small market capitalization issuers also typically have less access to capital (such that they are less capable of obtaining sufficient financing to bridge gaps in cash flow) and have a relatively shorter operational history and thereby less evidence of a durable business model. During downturns in the economic cycle, such complications can increase the volatility (and therefore the equity risk) of investments in such issuers.

designation would help ensure an amount of information and trading activity related to an issuer that is suitable for the assignment of different risk weights relative to small market capitalization issuers. The market capitalization data of publicly-traded firms is readily available and therefore would not be burdensome to identify.

For purposes of the market economy criteria, the agencies are proposing to differentiate between "liquid market economy" countries and territorial entities and emerging market economy countries and territorial entities to appropriately reflect the higher volatility associated with emerging market equities. Under the proposal, a banking organization would use the following criteria to identify annually a country or territorial entity with a liquid market economy: $10,000 or more in per capita income, $95 billion or more in market capitalization of all domestic stock markets, no single export sector or commodity comprises more than 50 percent of the country or entity's total annual exports, no material controls on liquidation of direct investment, and free of sanctions imposed by the U.S. Office of Foreign Assets Control against a sovereign entity, public sector entity, or sovereign-controlled enterprise of the country or territorial entity.[348] Countries or territorial entities that satisfy all five criteria or that are in a currency union[349] with at least one country or territorial entity that satisfies all five criteria would be classified as liquid market economies, and all others would be classified as emerging market economies.

In relying on a set of objective criteria, the proposed approach for market economy risk buckets is designed to increase risk sensitivity by delineating equities with lower volatility or

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[348] According to the agencies' analysis of the data, the initial list of "Liquid Market Economies" would include: United States, Canada, Mexico, the 19 Euro area countries (Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain), non-Eurozone, western European nations (the United Kingdom, Sweden, Denmark and Switzerland), Japan, Australia, New Zealand, Singapore, Israel, South Korea, Taiwan, Chile, and Malaysia.

[349] The proposal would define a currency union as an agreement by treaty among countries or territorial entities, under which the members agree to use a single currency, where the currency used is described in § _.209(b)(1)(i) of the proposed rule.

higher volatility in a manner consistent with the Basel III reforms while also providing sufficient flexibility to a banking organization to reflect changes to the list of market economies as more data become available.

For market risk trading positions with exposure to large market capitalization issuers, the proposal would group trading positions into one of four sectors for equity risk for each of the emerging market and liquid market economy categories: (1) consumer goods and services, transportation and storage, administrative and support service activities, healthcare, and utilities; (2) telecommunications and industrials; (3) basic materials, energy, agriculture, manufacturing, and mining and quarrying; and (4) financials including government-backed financials, real estate activities, and technology.

The proposed equity risk buckets are intended to reflect differences in the extent to which equity prices in varying sectors are affected by the business cycle (such as GDP growth). Differentiating sectors for purposes of assigning risk weights to exposures to large market capitalization issuers is relevant because some sectors are more sensitive than others to the given phase in a business cycle. The proposal groups together industries into sectors that tend to have similar economic sensitivities, and therefore are sufficiently homogenous from a risk perspective.

Conversely, among small market capitalization issuers, volatility is more attributable to whether the trading position is related to an emerging market economy or liquid market economy, regardless of the sector. Therefore, the proposed risk buckets for small market capitalization issuers delineate emerging market economies from liquid market economies but do not delineate sectors.

In addition, the proposal includes three risk buckets representing other sectors; equity indices that are both large market capitalization and liquid market economy (non-sector specific); and other equity indices (non-sector specific). As is the case with credit spread risk buckets, the

agencies recognize that specifying all sectors for the purpose of applying risk buckets is infeasible. Accordingly, the last three risk buckets set forth in Table 8 to §_.209 are intended to strike a balance between the risk sensitivity of these risk buckets and operational burden. Equity indices aggregate risk across different sectors, and accordingly require separate treatment from sector-specific risk buckets. Nonetheless, equity indices that are both large market capitalization and liquid market economy are relatively less risky than other equity indices and can be identified in the course of determining large market capitalization issuers and liquid market economies, such that it would not impose a great burden to delineate them as a separate risk bucket.

Question 118: The agencies solicit comment on the proposed definition of liquid market economy. Specifically, would the proposed criteria sufficiently differentiate between economies that have liquid and deep equity markets? What, if any, alternative criteria should the agencies consider and why? What, if any, of the proposed criteria should the agencies consider eliminating and why?

Question 119: The agencies solicit comment related to the proposed risk bucket structure for equity risk. What, if any, other relationships should the agencies consider for highly correlated risks among different equity types that are currently in different risk buckets and why? Please describe the historical correlations between such equities, and historical price shocks for purposes of assigning the appropriate risk weight.

IV. Commodity risk

Table 9 to §_.209 of the proposed rule provides the proposed delta risk buckets and corresponding risk weights for positions with commodity risk. Under the proposal, a banking organization would group commodity risk factors into one of eleven risk buckets based on the following commodity classes: energy – solid combustibles; energy – liquid combustibles; energy – carbon trading; freight; metals – non-precious; gaseous combustibles and electricity; precious

metals (including gold); grains and oilseed; livestock and dairy; forestry and agriculturals; and other commodity.

The proposed risk buckets and associated risk weights for commodity risk would be distinguished by the underlying commodity types described above to appropriately reflect differences in volatility (and therefore market risk) between those commodity types. In general, the price sensitivity of a commodity to changes in global supply and demand can vary between commodity types due to production and storage cycles, along with other factors. For example, energy commodities are generally delivered year-round, whereas grain production is seasonal such that deliverable futures contracts are available on dates to coincide with harvest. Further, commodities within the proposed commodity types have historically similar levels of volatility. The proposed commodity risk buckets are intended to strike a balance between the risk sensitivity of measuring market risk for the delineated commodity groups and the operational burden of capturing the market risk of all commodities. As is the case with credit spread risk buckets and equity risk buckets, the agencies recognize that specifying all commodities for the purpose of applying risk buckets is operationally difficult. Accordingly, the proposal includes an additional "other commodity" risk bucket to include commodities that do not fall into the prescribed categories.

As is the case with other risk buckets, the proposed risk weights for commodity risk factors are based on empirical data during historical periods of stress. The agencies are proposing to align the delta risk factor buckets and corresponding risk weights with those provided in the Basel III reforms, with one exception. The Basel III reforms prescribe separate risk buckets with different risk weights for electricity and gaseous combustibles. The agencies are proposing to move electricity into the risk bucket for gaseous combustibles to allow for greater recognition of hedges between these two commodities. The proposed bucketing structure would reflect appropriately the inherent relationship between the price of electricity and natural gas, as

empirical evidence demonstrates a strong correlation between price movements of natural gas and electricity contracts.[350]

Question 120: The agencies solicit comment related to the proposed risk bucket structure and risk weights for commodities. What, if any, other relationships should the agencies consider for highly correlated risks among different commodity types that are currently in different risk buckets and why? Please describe the historical correlations between such commodities, and historical price shocks for purposes of assigning the appropriate risk weight.

Question 121: The agencies solicit comment on the risk bucket for energy – carbon trading. To what extent is the proposed 60 percent risk weight reflective of the risk in carbon trading under stressed conditions?

V. Foreign exchange risk

The proposal would require a banking organization to establish separate risk buckets for each exchange rate between the currency in which a market risk covered position is denominated and the reporting currency (or, as applicable, alternative base currency). To calculate the risk-weighted delta sensitivity for foreign exchange risk, the proposal would require a banking organization to apply a 15 percent risk weight to each currency pair, with one exception. Similar to the proposed risk weights for interest rate risk, the proposal would allow a banking organization to divide the proposed 15 percent risk weight by the square root of two for certain liquid currency pairs specified under the proposal,[351] as well as any additional currencies specified by the primary Federal supervisor. Given high trading activity and use of such liquid

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[350] The agencies are proposing to include electricity and gas in the same bucket based on an analysis of correlations between natural gas and electricity futures prices pairs across multiple geographical regions. The analysis shows that pairwise correlations between gas and electricity prices within the same region are high and stable and in excess of the inter bucket correlation that would be applied if the two financial instruments were bucketed separately.

[351] The proposal would allow a banking organization to apply a lower risk weight for any currency pair formed of the following currencies: USD, EUR, JPY, GBP, AUD, CAD, CHF, MXN, CNY, NZD, HKD, SGD, TRY, KRW, SEK, ZAR, INR, NOK, and BRL.

currency pairs relative to non-liquid pairs, the proposal incorporates the effect of a shorter liquidity horizon for liquid currency pairs and would allow a banking organization to appropriately reflect the lower foreign exchange risk posed by such liquid currency pairs.

iv. *Correlation parameters*

In general, the proposed correlation parameters closely follow those in the Basel III reforms, which are calibrated to capture market correlations observed over a long time horizon that included a period of stress based on empirical data.[352] To appropriately reflect the risk-mitigating benefits of hedges and diversification, the proposal would prescribe the correlation parameters that a banking organization would be required to use for each risk factor pair when calculating the aggregate risk bucket and risk class level capital requirements for delta, vega, and curvature.[353] To determine the applicable correlation parameter for purposes of calculating the risk bucket or risk class level capital requirements, a banking organization would apply the same criteria used to define the risk factors within each risk class, as described in section III.H.7.a.i of this Supplementary Information, with two exceptions.

First, in addition to the proposed risk factors for credit spread risk of non-securitizations, securitization positions non-CTP, and correlation trading positions,[354] the proposal would require a banking organization to consider the name (in the case of non-securitization positions and correlation trading positions) and tranche (in the case of securitization positions non-CTP) to determine the applicable correlation parameters for risk factors within the same risk bucket when calculating the aggregate risk bucket level capital requirements for delta and vega.

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[352] For example, the correlation parameters for vega, curvature, delta interest rate risk, and delta equity risk are identical to those in the Basel III reforms.

[353] As there is only one risk factor prescribed for foreign exchange risk, the proposal does not specify an intra-bucket correlation parameter.

[354] As described in section III.H.7.a.i.II of this Supplementary Information, the proposal would define the delta risk factors for credit spread risk along two dimensions: the credit spread curve of the reference entity and the tenor of the position.

In the case of credit spread risk for securitization positions non-CTP, the agencies generally are proposing to require a 100 percent intra-bucket correlation parameter for securitization positions in the same bucket and related to the same securitization tranche with more than 80 percent overlap in notional terms and a 40 percent intra-bucket correlation parameter otherwise. Furthermore, in the case of credit spread risk for non-securitization and correlation trading positions, banking organizations would need to apply a 35 percent intra-bucket correlation factor for Uniform Mortgage-Backed Securities (UMBS) as such positions would be treated as a separate name from Fannie Mae and Freddie Mac.[355]

Second, for risk factors allocated to the "other sector" bucket within the credit spread and equity risk classes,[356] the risk bucket level capital requirement would equal the sum of the absolute values of the risk-weighted sensitivities for both the delta capital requirement and the vega capital requirement (no correlation parameters would apply to such exposures). Additionally, the proposal would require a banking organization to assign a zero percent correlation parameter when aggregating the delta risk-weighted sensitivity of exposures within the "other sector" risk bucket with those in any of the other bucket-level capital requirements for credit spread and equity risk.

By requiring a banking organization to determine the maximum possible loss under three correlation scenarios, the proposed correlation parameters are sufficiently conservative to appropriately capture the potential interactions between risk factors that the market risk covered positions may experience in a time of stress.

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[355] In the to-be-announced (TBA) market, Freddie Mac and Fannie Mae securities are not interchangeable and would be treated as separate names under the proposal. As part of the single security initiative, UMBS allows for either Fannie Mae or Freddie Mac to deliver, thus creating the basis risk between the GSEs for such securities.

[356] The other sector buckets refer to buckets 17 in Tables 3 and 5 as well as buckets 25 and 11 in Tables 7 and 8, respectively, of §_.209 of the proposed rule.

Question 122: Related to securitization positions non-CTP, the agencies seek comments on requiring banking organizations to apply a 100 percent delta correlation parameter for cases where the securitization positions are in the same bucket, are related to the same securitization tranche, and have more than 80 percent overlap in notional terms. What, if any, alternative criteria should the agencies consider for application of the 100 percent correlation parameter and why? For example, what are benefits and drawbacks of allowing a banking organization to apply a 100 percent delta correlation parameter if the securitization tranches can offset all or substantially all of the price risk of the position? What challenges exist, if any, with respect to banking organizations' ability to implement such criteria? What quantitative measures can be used to implement these criteria? How would a market stress impact the basis risk between securitization tranches within the same risk buckets, and the ability to adequately hedge all or substantially all of the price risk using similar but unrelated securitized tranches?

Question 123: The agencies request comment on the appropriateness of allowing banking organizations to apply a higher intra-bucket correlation parameter of 99.5 percent to 99.9 percent for energy – carbon trading. What would be the benefits and drawbacks of such a higher correlation parameter relative to the correlation parameter of 40 percent currently contained in the proposal?

Question 124: The agencies request comment on requiring banking organizations to apply a 35 percent correlation parameter for Uniform Mortgage Backed Securities. What alternative correlation parameter should the agencies consider for Uniform Mortgage Backed Securities and why?

b. Standardized default risk capital requirement

The standardized default risk capital requirement is intended to capture the incremental loss if the issuer of an equity or credit position were to immediately default (the additional losses from jump-to-default risk), which are not captured by the credit spread or equity shocks under

the sensitivities-based method. Thus, the proposed standardized default risk capital requirement would apply only to non-securitization debt or equity positions (except for U.S. sovereigns and multilateral development banks), securitization positions non-CTP, and correlation trading positions.

Under the proposal, a banking organization would be required to separately calculate the standardized default risk capital requirement for each of the three default risk categories (three risk classes that could incur default risk) using the following five steps.

First, for each of the three default risk categories, the banking organization would be required to group instruments with similar risk characteristics throughout an economic cycle into the defined default risk buckets as described in more detail below.

Second, to estimate the position-level losses from an immediate issuer default, the banking organization would be required to calculate the gross default exposure separately for each default risk position. Additionally, the banking organization would be required to determine the long and short direction of the gross default exposure based on whether it would experience a loss (long) or gain (short) in the event of a default.

Third, to estimate the portfolio-level losses of a trading desk from an immediate issuer default, the banking organization would be required to calculate the net default exposure for each obligor by offsetting the gross long and short default exposures to the same obligor, where permitted.

Fourth, to estimate and recognize hedging benefit between net long and net short position of different issuers within the same default bucket, the banking organization would be required to calculate the hedge benefit ratio and apply the prescribed risk weights[357] to the net default

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[357] The proposal would require a banking organization to apply the highest risk weight that is applicable under the investment limits of an equity position in an investment fund that may invest in primarily high-yield or distressed names under the fund's mandate by first applying the highest risk weight that is applicable under the fund's investment limits to defaulted instruments,

exposures within the same default risk bucket for the class of instruments.[358] In general, the proposed risk buckets and associated risk weights closely follow those in the Basel III reforms, which are calibrated to reflect a through-the-cycle probability of default. The hedge benefit ratio is calculated based on the aggregate net long default positions and the aggregate net short default positions. It is intended to recognize the partial hedging of net long and net short default positions in distinct obligors due to systematic credit risk. The bucket-level default risk capital requirement would equal (1) the sum of the risk-weighted net long default positions minus (2) the product of the hedge benefit ratio and the sum of the risk-weighted absolute value of the net short default positions. For non-securitization debt and equity positions and securitization positions non-CTP, the results of this calculation would be floored at zero.

Fifth, to calculate the default risk capital requirement for each default risk category, the banking organization would sum the risk bucket-level capital requirements (except for correlation trading positions). The aggregation for correlation trading positions is not the simple sum but is the sum of the risk-bucket level capital requirements for the net long default exposures plus half of the sum of the risk-weighted exposures for the net short default exposures as further described in in section III.H.7.b.iii of this Supplementary Information. For conservatism, the proposal would require a banking organization to calculate the total standardized default risk capital requirement as the sum of each of the default risk category level capital requirements without recognizing any diversification benefits across different types of default risk categories.

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followed by sub-speculative grade, then speculative grade, then investment grade securities. A banking organization may not recognize any offsetting or diversification benefit when calculating the average risk weight of the fund. *See* §_.205(e)(3)(iii) of the proposed rule.

[358] Specifically, a banking organization would first calculate the hedge benefit ratio (the total net long jump-to-default risk positions (numerator) divided by the sum of the total net long jump-to-default risk positions and the sum of the absolute value of the total net short positions (denominator), and then calculate the risk-weighted exposure for each risk bucket by multiplying the aggregate total net jump-to-default exposure by the risk weight prescribed for the applicable risk bucket.

i. *Non-securitization debt or equity positions*

I. Gross default exposure

Under the proposal, the standardized default risk capital requirement for non-securitization debt or equity positions would generally follow the calculation steps described above. To calculate the gross default exposure for each non-securitization debt or equity position, the proposal would require a banking organization to multiply the notional amount (face value) of the instrument and the prescribed loss given default (LGD) rate[359] to determine the total potential loss of principal at default and then add the cumulative profits (losses) already realized on the position to avoid double-counting realized losses, with one exception.[360] For defaulted positions, the proposal would require a banking organization to multiply the current market value and the prescribed LGD rate to determine the gross default exposure for the position. The proposed calculation methodology is intended to appropriately quantify the gross default risk for most securities, including those that are less common.

For the purpose of calculating the gross default exposure for each non-securitization debt or equity position, the agencies are proposing the following LGD rates, which are generally consistent with those in the Basel III reforms: 100 percent for equity and non-senior debt instruments and defaulted positions, 75 percent for senior debt instruments, 75 percent for GSE debt issued but not guaranteed by the GSEs, 25 percent for GSE debt guaranteed by the GSEs, 25 percent for covered bonds, and zero percent for instruments whose value is not linked to the recovery rate of the issuer.[361] GSE debt issued and guaranteed by the GSEs is secured by residential properties that satisfy the rigorous underwriting standards of the GSEs (for example,

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[359] The loss rate from default is one minus the recovery rate.

[360] As losses are recorded as a negative value, effectively they would be subtracted from the overall exposure amount.

[361] For example, in the case of a call option on a bond, the notional amount to be used in the jump-to-default calculation would be zero given that in the event of default the call option would not be exercised (the default would extinguish the call option's value, with the loss captured through the reduced fair value of the position).

loan-to-value ratios of less than 80 percent), and include a guarantee on the repayment of principal by the GSE. As these characteristics are economically similar to the requirements for covered bonds, the agencies are proposing to extend the LGD rate applied to covered bonds to GSE debt issued and guaranteed by the GSEs to appropriately capture the expected losses of such positions in the event of default. As GSE debt instruments issued but not guaranteed by the GSEs are similarly secured by high-quality residential mortgages, the proposal would allow banking organizations to treat such exposures as senior debt (subject to a 75 percent LGD rate) rather than apply the higher proposed risk weight for equity and non-senior debt instruments. For credit derivatives, a banking organization would be required to use the LGD rate of the reference exposure.

For consistency across banking organizations, the proposal specifies that a banking organization would be required to reflect the notional amount of a non-securitization debt or equity position that gives rise to a long gross default exposure as a positive value and the corresponding loss as a negative value, and those that produce a short exposure as a negative value and the corresponding gain as a positive value. If the contractual or legal terms of a derivative contract allow for the unwinding of the instrument, with no exposure to default risk, the gross default exposure would equal zero.

Question 125: The agencies request comment on whether the proposed formula for calculating gross default exposure appropriately captures the gross default risk for all types of non-securitization debt and equity instruments. What, if any, positions exist for which the formula cannot be applied? What is the nature of such difficulties and how could such concerns be mitigated? In particular, the agencies seek comment on whether the proposed formula appropriately captures the gross default risk of convertible instruments.

Question 126: The agencies request comment on the appropriateness of the proposed LGD rates for non-securitization debt or equity positions. What, if any, changes should the

agencies consider making to the categories to appropriately differentiate the LGD rates for various instruments or for instruments with different seniority (for example, senior versus non-senior)?

II. Net default exposure

To calculate the net default exposure for non-securitization debt or equity positions, the proposal would permit a banking organization to recognize either full or partial offsetting of the gross default exposures for long and short positions if both reference the same obligor and the short positions have the same or lower seniority as the long positions.[362] To appropriately reflect the net default risk, the proposed calculation would not allow a banking organization to recognize any offsetting of the gross default exposure for market risk covered positions where the obligor is not identified, such as equity positions in an investment fund, index instruments, and multi-underlying options for which a banking organization elects to calculate a single risk factor sensitivity (not to apply the look-through approach).

As the GSEs can default independently of one another, the agencies are clarifying that banking organizations should treat Federal National Mortgage Association (Fannie Mae), Federal Home Loan Mortgage Corporation (Freddie Mac), and the Federal Home Loan Bank System as separate obligors. As the single security initiative led by Fannie Mae and Freddie Mac has homogenized the mortgage pool and security characteristics for Uniform Mortgage-Backed Securities (UMBS), the proposal would allow the banking organization to fully offset Uniform Mortgage Backed Securities that are issued by two different obligors.

Full offsetting would be permitted for short and long market risk covered positions with maturities greater than one year or positions with perfectly matching maturities provided other

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[362] For a market risk covered position that has an eligible guarantee, to determine if the exposure is to the underlying obligor or an exposure to the eligible guarantor, the credit risk mitigation requirements set out in the capital rule would apply. *See* 12 CFR 3.36, 3.134 and 3.135 (OCC); 12 CFR 217.36, 217.134 and 217.135 (Board); 12 CFR 324.36, 324.134 and 324.135 (FDIC).

criteria are met such as if both long and short positions reference the same obligor and the short positions have the same or lower seniority as the long positions. To determine the offsetting treatment for market risk covered positions with maturities of one year or less, a banking organization would be required to scale the gross default exposure by the fraction of a year corresponding to the maturity of the instrument, subject to a three-month floor. In the case where long and short gross default exposures both have maturities of one year or less, scaling would apply to both the long and short gross default exposure. By allowing only partial offsetting, the proposed scaling approach is intended to appropriately reflect the risk posed by maturity mismatch between exposures and their hedges within the one-year capital horizon. For example, under the proposal, the gross default exposure for an instrument with a six-month maturity would be weighted by one-half, whereas that for a one-week repurchase agreement would be prescribed a three-month maturity and weighted by one-fourth.

The proposal would permit a banking organization to assign a maturity of either three months or one year to cash equity positions that do not have a stated maturity. For derivative transactions, the proposal would require a banking organization to use the maturity of the derivative contract, rather than that of the underlying, to determine the applicable scaling factor. To prevent broken hedges for equity and derivative positions, the proposal would allow banking organizations to assign the same maturity to a cash equity position as the maturity of the derivative contract it hedges (permit full offsetting). Similarly, the proposal would allow a banking organization to align the maturity of an instrument with that of a derivative contract for which that instrument could be delivered to satisfy the derivative contract, and thus permit full offsetting between the instrument and the derivative. For example, a banking organization may assign the maturity of a derivative contract in the to-be-announced (TBA) market that is hedging a security interest in a pool of mortgages to that security interest provided that the delivery of the security interest would satisfy the delivery terms of the TBA derivative contract.

The net default exposure to an issuer would be the sum of the maturity-weighted default exposures to the issuer.

Question 127: The agencies request comment on the appropriateness of allowing banking organizations to net the gross default exposures of derivative contracts and the underlying positions that are deliverable to satisfy the derivative contract. What, if any, additional criteria should the agencies consider to further clarify the netting of gross default exposures and why? What, if any, positions should the agencies consider allowing to net that would not exhibit default risk? For example, what are the advantages and disadvantages of the agencies allowing Uniform Mortgage Backed Securities that are issued by two different obligors to fully offset, even though such a treatment would not eliminate the default risk of either obligor independently?

Question 128: The agencies seek comment on the appropriateness of the proposed treatment of GSE exposures. What, if any, alternative methods should the agencies consider to measure more appropriately the default risk associated with such positions? What would be the benefits and drawbacks of such alternatives compared to the proposed treatment?

Question 129: The agencies seek comment on the appropriateness of not allowing banking organizations to recognize any offsetting benefit for market risk covered positions where the obligor is not identified. What, if any, alternative methods should the agencies consider to measure more appropriately the default risk associated with such positions? What would be the benefits and drawbacks of such alternatives compared to the proposed treatment?

III. Risk buckets and corresponding risk weights

Table 1 to §_.210 of the proposed rule provides the proposed default risk buckets and corresponding risk weights for non-securitization debt or equity positions, which reflect counterparty type and credit quality, respectively. Under the proposal, the risk buckets and applicable risk weights would distinguish between the type of obligor based on whether the

exposure is to a non-U.S. sovereign, a public sector entity or GSE, or a corporate and include a single bucket for defaulted positions.

To capture the credit quality of the obligor, the agencies are proposing default risk buckets that are generally consistent with those provided in the Basel III reforms but defined using alternative criteria. The default risk buckets for non-securitization positions in the Basel III reforms are defined based on the applicable credit ratings of the reference entity. As discussed previously in section III.H.7.a.iii.II of this Supplementary Information, the agencies are proposing an approach that does not rely on external credit ratings but allows for a level of granularity in the default risk buckets (and corresponding risk weights) applicable to non-securitization positions and that is also generally consistent with the Basel III reforms. Specifically, the agencies are proposing to define the default risk buckets and corresponding risk weights for non-securitization positions based on the definition for Investment Grade in the agencies' existing capital rule and the proposed definitions of Speculative Grade and Sub-speculative Grade.[363]

Question 130: The agencies solicit comment on the appropriateness of the proposed risk weights and granularity in Table 1 to § __.210. What, if any, alternative approaches should the agencies consider for assigning risk weights that would be consistent with the prohibition on the use of credit ratings? Commenters are encouraged to provide specific details on the mechanics of and rationale for any suggested methodology.

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[363] Specifically, the agencies are proposing to apply a methodology similar to prior rules, where the risk weights in the Basel III reforms are adjusted based on a weighted average risk weight calculated from the notional amount of issuance since 2007 for each category. For this analysis, the agencies used the Mergent Fixed Income Securities database to identify notional issuance amounts for several lookback periods. The weighted average risk weight for each category was then slightly modified to account for rounding, to reflect internal consistency (so that a corporate or PSE exposure would not have a lower risk weight than a sovereign) and to help ensure risk weights were stable through an entire credit cycle. The agencies believe the amended risk weight table appropriately satisfies the requirements of the Dodd-Frank Act, while also meeting the intent of the Basel III reforms. *See* 15 U.S.C. 78o-7 note.

ii. Securitization positions non-CTP

For securitization positions non-CTP, the process to calculate the standardized default risk capital requirement would be identical to that for non-securitization positions, except for the gross default exposure calculation, the offsetting of long and short exposures in the net default exposure calculation, and the proposed risk buckets and corresponding risk weights.

I. Gross default exposure

Under the proposal, the gross default exposure for a securitization position non-CTP equals the position's fair value. As the proposed bucket-level risk weights described in section III.H.7.a.iii of this Supplementary Information would already reflect the LGD rates for such positions, a banking organization would not apply an LGD rate to calculate the gross default exposure.

II. Net default exposure

First, the proposal would allow offsetting between securitization exposures with the same underlying asset pool and belonging to the same tranche. No offsetting would be permitted between securitization exposures with different underlying asset pools, even where the attachment and detachment points are the same.

Second, the proposal would permit a banking organization to offset the gross default exposure of a securitization position non-CTP with one or more non-securitization positions by decomposing the exposure of non-tranched index instruments and replicating the exposures that make up the entire capital structure of the securitized position. Additionally, a banking organization would be required to exclude non-securitization positions that are recognized as offsetting the gross default exposure of a securitization position non-CTP from the calculation of the standardized default risk capital requirement for non-securitization debt and equity positions.

Third, the proposal would allow a banking organization to offset the gross default exposure of a securitization position non-CTP through decomposition if a collection of short

securitization positions non-CTP replicates a collection of long securitization positions non-CTP. For example, if a banking organization holds a long position in the securitization, and a short position in a mezzanine tranche that attaches at 3 percent and detaches at 10 percent, the proposal would permit the banking organization to decompose the securitization into three tranches and offset the gross default exposures for the common portion of the securitization (3 - 10 percent). In this case, the net default exposure would reflect the long positions in the 0 - 3 percent tranche and in the 10 - 100 percent tranche.

Question 131: The agencies seek comment on the proposed netting and decomposition criteria for calculating the net default exposure for securitization positions non-CTP. What, if any, alternative non-model-based methodologies should the agencies consider that would conservatively recognize some hedging benefits but still capture the basis risk between non-identical positions?

III. Risk buckets and corresponding risk weights

To promote consistency and comparability in risk-based capital requirements across banking organizations, the proposal would define the risk bucket structure that a banking organization would be required to use to group securitization positions non-CTP. Specifically, the proposal would require a banking organization to classify securitization positions non-CTP as corporate positions or based on the asset class and the region of the underlying assets, following market convention.[364] Under the proposal, a banking organization would assign each position to one risk bucket, and those with underlying exposures in the same asset class and region to the same risk bucket. Additionally, the proposal would require a banking organization to assign any

[364] The proposal would define the asset class buckets along two dimensions: asset class and region. The region risk buckets would include Asia, Europe, North America, and other. The asset class risk buckets would include asset-backed commercial paper, auto loans/leases, residential mortgage-backed securities, credit cards, commercial mortgage-backed securities, collateralized loan obligations, collateralized debt obligations squared, small and medium enterprises, student loans, other retail, and other wholesale.

position that is not a corporate position and that it cannot assign to a specific asset class or region to one of the "other" buckets.[365]

For consistency in the capital requirements for securitizations under either subpart D or subpart E of the capital rule and to recognize credit subordination,[366] the proposed risk weights for securitization positions non-CTP are based on the risk weights calculated for securitization exposures under either subpart D or subpart E of the capital rule.[367]

To calculate the standardized default risk capital requirement for securitization positions non-CTP, a banking organization would sum the risk bucket-level capital requirements, except that a banking organization could cap the standardized default risk capital requirement for an individual cash securitization position non-CTP at its fair value. For cash positions, the maximum loss on the exposure would not exceed the fair value of the position even if each of the underlying assets of the securitization were to immediately default. Furthermore, the proposed treatment would align with the maximum potential capital requirement for securitizations under either subpart D or the proposed subpart E of the capital rule.[368]

Question 132: The agencies request comment on the proposed risk buckets. What are the potential benefits and drawbacks of aligning the default risk bucketing structure with the proposed delta risk buckets for securitization positions non-CTP in the sensitivities-based method? Commenters are encouraged to provide information regarding any associated burden, complexity, and capital impact of such an alignment.

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[365] Under the proposal, the other buckets would include other retail and other wholesale (for asset class) and other (for region).

[366] For example, the general credit risk framework would apply the SSFA to calculate the risk weight. The SSFA calculates the risk weight based on characteristics of the tranche, such as the attachment and detachment points and quality of the underlying collateral.

[367] 12 CFR 3.43, 3.143, 3.144 (OCC); 12 CFR 217.43, 217.143, 217.144 (Board); 12 CFR 324.43, 324.143, 324.144 (FDIC).

[368] 12 CFR 3.44(a) (OCC); 12 CFR 217.44(a) (Board); 12 CFR 324.44(a) (FDIC).

iii. *Correlation trading positions*

The process to calculate the standardized default risk capital requirement for correlation trading positions would be the same as that for non-securitization debt and equity positions, except for the metrics used to measure gross default exposure, the offsetting of long and short exposures in the net default exposure calculation, the risk buckets, and the aggregation of the bucket level exposures across risk buckets.

I. Gross default exposure

Under the proposal, the gross default exposure for a correlation trading position equals the position's market value. To calculate the gross default exposure for correlation trading positions that are nth-to-default positions, the proposal would require a banking organization to treat such positions as tranched positions and to calculate the attachment point as (N-1) divided by the total number of single names in the underlying basket or pool and the detachment point as N divided by the total number of single names in the underlying basket or pool. The proposed calculation is intended to appropriately reflect the credit subordination of such positions.

II. Net default exposure

Similar to securitization positions non-CTP, to increase risk sensitivity and permit greater offsetting of substantially similar exposures, the proposal would permit banking organizations to offset gross long and short default exposures in specific cases.

First, the proposal would allow a banking organization to offset the gross default exposure of correlation trading positions that are otherwise identical except for maturity, including index tranches of the same series. This means the offsetting positions would need to have the same underlying index family of the same series, and the same attachment and detachment points.

Second, the proposal would allow a banking organization to offset the gross default exposure of long and short exposures of tranches that are perfect replications of non-tranched

correlation trading positions. For example, the proposal would allow a banking organization to offset the gross default exposure of a long position in the CDX.NA.IG.24 index with short positions that together comprise the entire index position (for example, three distinct tranches that attach and detach at 0 - 3 percent, 3 - 10 percent, and 10 - 100 percent, respectively).

Third, the proposal would allow a banking organization to offset the gross default exposure of indices and single-name constituents in the indices through decomposition when the long and the short gross default exposures are otherwise equivalent except for a residual component. Under the proposal, a banking organization would account for the residual exposure in the calculation of the net default exposure. In such cases, the proposal would require that the decomposition into single-name equivalent exposures account for the effect of marginal defaults of the single names in the tranched correlation trading position, where in particular the sum of the decomposed single name amounts would be required to be consistent with the undecomposed value of the tranched correlation trading position. Such decomposition generally would be permissible for correlation trading positions (for example, vanilla CDOs, index tranches or bespoke indices), but would be prohibited for exotic securitizations (for example, CDO squared).

Fourth, the proposal would allow a banking organization to offset the gross default exposure of different series (non-tranched) of the same index through decomposition when the long and the short gross default exposures are otherwise equivalent except for a residual component. Under the proposal, a banking organization would account for the residual exposure in the calculation of the net default exposure. For example, assume that a banking organization holds a long position in a CDS index that references 125 underlying credits and a short position in the next series of the index that also references 125 credits. The two indices share the same 123 reference credits, such that there are two unique credits in each index. Under the proposal, a banking organization could offset the 123 names through decomposition, in which case the net default exposure would reflect only the two unique credits for the long index position and the two unique credits for the short index position. Similarly, a banking organization could offset the

long exposure in 125 credits by selling short an index that contains 123 of those same credits. In this case, only the two residual names would be reflected in the net default exposure.

Fifth, the proposal would allow a banking organization to offset different tranches of the same index and series through replication and decomposition and calculate a net default exposure on the unique component only, if the residual component has the attachment and detachment point nested with the original tranche or the combination of tranches. For example, assume that a banking organization holds long positions in two tranches, one that attaches at 5 percent and detaches at 10 percent and another that attaches at 10 percent and detaches at 15 percent. To hedge this position, the banking organization holds a short position in a tranche on the same index that attaches at 5 percent and detaches at 20 percent. In this case, the banking organization's net default exposure would only be for the residual portion of the tranche that attaches at 15 percent and detaches at 20 percent.

III. Risk buckets and corresponding risk weights

For correlation trading positions, the proposal would define risk buckets by index, each index would comprise its own risk bucket.[369] Under the proposal, a bespoke correlation trading position would be assigned to its own unique bucket, unless it is substantially similar to an index instrument, in which case the bespoke position would be assigned to the risk bucket corresponding to the index. For a non-securitization position that hedges a correlation trading position, a banking organization would be required to assign such position and the correlation trading position to the same bucket.

[369] A non-exhaustive list of indices include: the CDX North America IG, iTraxx Europe IG, CDX HY, iTraxx XO, LCDX (loan index), iTraxx LevX (loan index), Asia Corp, Latin America Corp, Other Regions Corp, Major Sovereign (G7 and Western Europe) and Other Sovereign.

For consistency in the capital requirements for securitizations under either subpart D or subpart E of the capital rule and to recognize credit subordination,[370] the proposed risk weights corresponding to the proposed risk buckets for correlation trading positions are based on the treatment under either subpart D or subpart E of the capital rule.[371]

The agencies recognize that the granularity of the proposed risk bucket structure could result in several individual risk buckets containing only net short exposures and thus overstate the offsetting benefits of non-identical exposures if the total standardized default risk capital requirement for correlation trading positions was calculated as a sum of the bucket-level capital requirements. To appropriately limit the benefit of risk buckets with short default exposures offsetting those with long exposures, the total standardized default risk capital requirement for correlation trading positions would be calculated as the sum of the risk-bucket level capital requirements for the net long default exposures plus half of the sum of the risk-weighted exposures for the net short default exposures.

c. Residual risk capital requirement

It is not possible in a standardized approach to sufficiently specify all relevant distinctions between different market risks to capture appropriately existing and future financial products. Accordingly, the agencies are proposing the residual risk add-on capital requirement (residual risk add-on) to reflect risks that would not be fully reflected in the sensitivities-based capital requirement or the standardized default risk capital requirement. Specifically, the residual risk add-on is intended to capture exotic risks, such as weather, longevity, and natural disasters,

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[370] For example, the general credit risk framework would apply the SSFA to calculate the risk weight. The SSFA calculates the risk weight based on characteristics of the tranche, such as the attachment and detachment points and quality of the underlying collateral.

[371] 12 CFR 3.43, 3.143, 3.144 (OCC); 12 CFR 217.43, 217.143, 217.144 (Board); 12 CFR 324.43, 324.143, 324.144 (FDIC).

as well as other residual risks, such as gap risk, correlation risk, and behavioral risks such as prepayments.

To calculate the residual risk add-on, the proposal would require a banking organization to risk weight the gross effective notional amount of a market risk covered position by 1 percent for market risk covered positions that are not subject to the standardized default risk capital requirement and that have an exotic exposure and by 0.1 percent for other market risk covered positions with residual risks (described in the next section). The total residual risk add-on capital requirement would equal the sum of such capital requirements across subject market risk covered positions.

i. *Positions subject to the residual risk add-on*

The proposal would require a banking organization to calculate a residual risk add-on for market risk covered positions that have an exotic exposure, and certain market risk covered positions that carry residual risks. As the potential losses of market risk covered positions with exotic exposures (longevity risk, weather, natural disaster, among many) would not be adequately captured under the sensitivities-based method, the agencies are proposing a capital requirement equal to 1 percent of the gross effective notional amount of the market risk covered position, as an appropriately conservative capital requirement for such exposures.

In contrast, market risk covered positions with other residual risks would include those for which the primary risk factors are mostly captured under the sensitivities-based method, but for which there are additional, known risks that are not quantified in the sensitivities-based method. Specifically, the proposal would include: (1) correlation trading positions with three or more underlying exposures that are not hedges of correlation trading positions; (2) options or positions with embedded optionality, where the payoffs could not be replicated by a finite linear combination of vanilla options or the underlying instrument; and (3) options or positions with embedded optionality that do not have a stated maturity or strike price or barrier, or that have

multiple strike prices or barriers.[372] As the residual risk add-on is intended as a supplement to the capital requirement under the sensitivities-based method for these known risks, the agencies are proposing a capital requirement equal to 0.1 percent of the gross effective notional amount for market risk covered positions with other residual risks.

In addition to positions with exotic or other residual risks, a primary Federal supervisor may require a banking organization to subject other market risk covered positions to the residual risk add-on, if the proposed framework would not otherwise appropriately capture the material risks of such positions. While the agencies believe that the proposed definitions would reasonably identify positions with risks not appropriately captured by other aspects of the proposed framework, there could be instances where a market risk covered position should be subject to the residual risk add-on in order to capture appropriately the associated market risk of the exposure in risk-based capital requirements. To allow the agencies to address such instances on a case-by-case basis, the proposal would allow the primary Federal supervisor to make such determinations, as appropriate.

ii. *Excluded positions*

To promote appropriate capitalization of risk, the proposal would allow certain positions to be excluded from the calculation of the residual risk add-on if such positions would meet the following set of exclusions. Specifically, the proposal would permit a banking organization to exclude positions, other than those that have an exotic exposure, from the residual risk add-on, if the position is either (1) listed on an exchange; (2) eligible to be cleared by a CCP or QCCP; or (3) an option that has two or fewer underlying positions and does not contain path dependent pay-offs. The proposed exclusions would permit a banking organization to exclude simple

[372] As proposed, the criteria are intended to capture (1) correlation risks for basket options, best of options, basis options, Bermudan options, and quanto options; (2) gap risks for path dependent options, barrier options, Asian options and digital options; and (3) behavior risks that might arise from early exercise (call or put features, or pre-payment).

options, such as spread options, which have two underlying positions, but not those for which the payoffs cannot be replicated by a combination of traded financial instruments. As spread options would be subject to the vega and curvature requirements under the sensitivities-based method, the agencies believe that subjecting spread options to the residual risk add-on would be incommensurate with the risks of such positions and could increase inappropriately the cost of hedging without a corresponding reduction in risk. Additionally, as most agency mortgage-backed securities and certain convertible instruments (for example, callable bonds) are eligible to be cleared, the proposal would allow a banking organization to exclude these instruments that are eligible to be cleared from the residual risk add-on, despite the pre-payment risk of such instruments.[373]

The proposal would also allow a banking organization to exclude positions, including those with exotic exposures, from the residual risk add-on if the banking organization has entered into a third-party transaction that exactly matches the market risk covered position (a back-to-back transaction). As the long position and short position of two identical trades would completely offset, excluding such transactions from the residual risk add-on would appropriately reflect the lack of residual risk inherent in such transactions.

Furthermore, the proposal would allow a banking organization to exclude certain offsetting positions that may exhibit insignificant residual risks and for which the residual risk add-on would be overly punitive. Specifically, the proposal would allow a banking organization to exclude the following from the residual risk add-on: (1) positions that can be delivered into a derivative contract where the positions are held as hedges of the banking organization's obligation to fulfill the derivative contract (for example, TBA and security interests in associated mortgage pools) as well as the associated derivative exposure; (2) any GSE debt issued or

[373] As discussed in section III.H.7.c.ii of this Supplementary Information, callable bonds that are priced as yield-to-maturity would not be subject vega risk, as the risk factors for such instruments would already be sufficiently captured under the sensitivities-based method.

guaranteed by GSEs or any securities issued and guaranteed by the U.S. government; (3) internal transactions between two trading desks, if only one trading desk is model-eligible; (4) positions subject to the fallback capital requirement; and (5) any other types of positions that the primary Federal supervisor determines are not required to be subject to the residual risk add-on, as the material risks would be sufficiently captured under other aspects of the proposed market risk framework. For example, the agencies consider the following risks sufficiently captured under the proposed market risk framework such that banking organizations would not need to calculate a residual risk add-on for positions that exhibit these risks: risks from cheapest-to-deliver options; volatility smile risk; correlation risk arising from multi-underlying European or American plain vanilla options; dividend risk; and index and multi-underlying options that are well-diversified or listed on exchanges for which sensitivities are captured by the capital requirement under the sensitivities-based method.

Question 133: The agencies seek comment on all aspects of the proposed residual risk add-on. Specifically, the agencies request comment on whether there are alternative methods to identify more precisely exotic exposures and other residual risks for which the residual risk capital requirement is appropriate. What, if any, additional instruments and offsetting positions should be excluded from the residual risk add-on and why? What, if any, quantitative measures should the agencies consider to identify or distinguish residual risks and why?

Question 134: Would characterizing volatility and variance swaps as bearing other residual risk more appropriately reflect the risks of such exposures and why?

d. Treatment of certain market risk covered positions

To promote consistency in risk-based capital requirements across banking organizations and to help ensure appropriate capitalization under the market risk capital rule, the proposal would prescribe the treatment of market risk covered positions that are hybrid instruments, index instruments, and multi-underlying options under the standardized approach, as described below.

i. *Hybrid instruments*

Hybrid instruments are instruments that have characteristics in common with both debt and equity instruments, including traditional convertible bonds. As hybrid instruments primarily react to changes in interest rates, issuer credit spreads, and equity prices, the proposal would require a banking organization to assign risk sensitivities for these instruments into the interest rate risk class, credit spread risk class for non-securitization positions, and equity risk class, as applicable, when calculating the delta, curvature, and vega under the sensitivities-based method. For the standardized default risk capital requirement, the proposal would require a banking organization to decompose a hybrid instrument into a non-securitization position and an equity position and calculate default risk capital for each position respectively. For example, a convertible bond can be decomposed into a vanilla bond and an equity call option. The notional amount to be used in the default risk capital calculation for the vanilla bond is the notional amount of the convertible bond. The notional amount to be used in the default risk capital calculation for the call option is zero (because, in the event of default, the call option will not be exercised). In this case, a default of an issuer of the convertible bond would extinguish the call option's value and this loss would be captured through the profit and loss component of the gross default exposure amount calculation. The standardized default risk capital requirement for the convertible bond would be the sum of the default risk capital of the vanilla bond and the default risk capital requirement for the equity option.

ii. *Index instruments and multi-underlying options*

When calculating the delta and curvature capital requirements under the sensitivities-based method for index instruments and multi-underlying options, the proposal generally would require a banking organization to apply a look-through approach. However, it could treat listed

and well-diversified credit or equity indices[374] as a single position. The look-through approach would require a banking organization to identify the underlying positions of the index instrument or multi-underlying option and calculate market risk capital requirements as if the banking organization directly held the underlying exposures. Under the proposal, a banking organization would be required to apply consistently the look-through approach through time and consistently for all positions that reference the same index. The proposed look-through approach would align the treatment of such instruments with that of single-name positions and thus provide greater hedging recognition by allowing such instruments to net with single-name positions issued by the same company. Specifically, a banking organization would be able to net the risk factor sensitivities of such positions of the index instrument or multi-underlying option and single-name positions without restriction when calculating delta and curvature capital requirements under the sensitivities-based method.

In certain situations, a banking organization may choose not to apply a look-through approach to listed and well-diversified indices, in which case a single sensitivity for the index would be used to calculate the delta and curvature capital requirements. To assign the sensitivity of the index to the relevant sector or index bucket, the agencies are proposing a waterfall approach as a simple and risk-sensitive method to appropriately capture the risk of such positions based on the risk and diversification of the underlying assets. For indices where at least 75 percent of the notional value of the underlying constituents relate to the same sector (sector-specific indices), taking into account the weightings of the index, the sensitivity would be assigned to the corresponding sector bucket. For equity indices that are not sector specific, the sensitivity would be assigned to the large market cap and liquid market economy (non-sector specific) bucket if least 75 percent of the market value of the index constituents met both the

[374] An equity or credit index would be considered well diversified if it contains a large number of individual equity or credit positions, with no single position representing a substantial portion of the index's total market value.

large market cap and liquid market economy criteria, and to the other equity indices (non-sector specific) bucket otherwise. For credit indices that are not sector specific, the sensitivity would be assigned to the investment grade indices bucket if the credit quality of at least 75 percent of the notional value of the underlying constituents was investment grade, and to the speculative grade and sub-speculative grade indices bucket otherwise.[375] To the extent a credit or an equity index spans multiple risk classes, the proposal would require the banking organization to allocate the index proportionately to the relevant risk classes following the above methodology.

When calculating vega capital requirements for multi-underlying options (including index options), the proposal would permit, but not require, a banking organization to apply the look-through approach required for delta and calculate the vega capital requirements based on the implied volatility of options on the underlying constituents. Alternatively, under the proposal, a banking organization could calculate the vega capital requirement for multi-underlying options based on the implied volatility of the option, which typically is the method used by banking organizations' financial reporting valuation models for multi-underlying options. For indices, the proposal would require a banking organization to calculate vega capital requirements based on the implied volatility of the underlying options by applying the same approach used for delta and curvature and using the same sector-specific bucket or index bucket.

The default risk of multi-underlying options that are non-securitization debt or equity positions is primarily a function of the idiosyncratic default risk of the underlying constituents. Accordingly, to capture appropriately the default risk of such positions, the proposal would require a banking organization to apply the look-through approach when calculating the standardized default risk capital requirement for multi-underlying options that are non-securitization debt or equity positions. When decomposing multi-underlying exposures or index

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[375] *See* section III.H.7.a of this Supplementary Information for a more detailed description on the assignment of delta sensitivities to the prescribed risk buckets under the proposed sensitivities-based method.

options, a banking organization would be required to set the gross default exposure assigned to a single name, referenced by the instrument, equal to the difference between the value of the instrument assuming only the single name defaults (with zero recovery) and the value of the instrument assuming none of the single names referenced by the instrument default.

Similarly, for positions in credit and equity indices, the proposal would allow a banking organization to decompose the index position when calculating the standardized default risk capital requirement. By aligning the treatment of positions in credit and equity indices with that of single-name positions, the proposal would provide greater hedging recognition as the banking organization would be able to offset the gross default exposure of long and short positions in indices with that of single-name positions included in the index. Alternatively, as the underlying assets of credit and equity indices could react differently to the same market or economic event, the proposal would also allow a banking organization to treat such indices as a single position for purposes of calculating the standardized default risk capital requirement.

Question 135: The agencies seek comment on the proposed threshold of 75 percent for assigning a credit or equity index to the corresponding sector or the investment grade indices bucket. What would be the benefits and drawbacks of the proposed threshold? What, if any, alternative thresholds should the agencies consider that would more appropriately measure the majority of constituents in listed and well-diversified credit and equity indices?

Question 136: The agencies seek comment on all aspects of the proposed treatment of index instruments and multi-underlying options under the standardized measure for market risk. Specifically, the agencies request comment on any potential challenges from requiring the look-through approach for all index instruments and multi-underlying options that are non-securitization debt or equity positions for the standardized default risk capital calculation. What, if any, alternative methods should the agencies consider that would more appropriately measure

the default risk associated with such positions? What would be the benefits and drawbacks of such alternatives compared to the proposed look-through requirement?

8. Models-based measure for market risk

The core components of the proposed models-based measure for market risk capital requirements are internal models approach capital requirements for model-eligible trading desks ($IMA_{G,A}$), the standardized approach capital requirements for model-ineligible trading desks (SA_U), and the PLA add-on that addresses deficiencies in the banking organization's internal models, if applicable.

a. Internal models approach

The internal models approach capital requirements for model-eligible trading desks ($IMA_{G,A}$) would consist of four components: (1) the internally modelled capital calculation for modellable risk factors (IMCC); (2) the stressed expected shortfall for non-modellable risk factors (SES); (3) the standardized default risk capital requirement as described in section III.H.7.b of this Supplementary Information; and (4) the aggregate trading portfolio backtesting capital multiplier.

The first two components, IMCC and SES, would capture risk and distinguish between risk factors for which there are sufficient real price observations to qualify as modellable risk factors and those for which there are not (non-modellable risk factors or NMRFs).[376] The proposal would require banking organizations to separately calculate the capital requirement for both types of risk factors using an expected shortfall methodology. Under the proposal, the capital requirement for both modellable and non-modellable risk factors would reflect the losses

[376] To be deemed modellable, a risk factor must pass the Risk Factor Eligibility Test (RFET) and satisfy data quality requirements, as described in more detail in section III.H.8.a.i of this Supplementary Information.

calibrated to a 97.5 percent threshold over a period of substantial market stress and incorporate the prescribed liquidity horizons applicable to each risk factor.

Relative to the IMCC for modellable risk factors, the SES calculation for non-modellable risk factors would provide significantly less recognition for hedging and portfolio diversification due to the lower quality inputs to the model; for example, limited data are available to estimate the correlations between non-modellable risk factors used by the model. These data limitations also increase the possibility that a banking organization's internal models overstate the diversification benefits (and therefore, understate the magnitude of potential losses), as correlations increase during periods of stress relative to levels in normal market conditions. Furthermore, the conservative treatment of non-modellable risk factors under the SES calculation would provide appropriate incentives for banking organizations to enhance the quality of model inputs.

The third component of the internal models approach is the standardized default risk capital requirement, as described in section III.H.7.b of this Supplementary Information.

To calculate the overall capital required under the internal models approach at the trading desk level, a banking organization would add the standardized default risk capital requirement (DRC_{SA}) to the greater of (i) the sum of the capital requirements for modellable and non-modellable risk factors as of the most recent reporting date ($IMCC_{t-1}$ *and* SES_{t-1}, respectively), or (ii) the sum of the average capital requirements for non-modellable risk factors over the prior 60 business days ($SES_{average}$) and the product of the average capital requirements for modellable risk factors over the prior 60 business days ($IMCC_{average}$) and a multiplication factor (m_c) of at least 1.5, which serves to capture model risk (the aggregate trading portfolio backtesting

multiplier).[377] The overall capital requirement under the internal models approach can be expressed by the following formula:

$$IMA_{G,A} = DRC_{SA} + \left(max \left((IMCC_{t-1} + SES_{t-1}), \left(\left(m_c \times IMCC_{average} \right) + SES_{average} \right) \right) \right)$$

Due to the capital multiplier (m_c), the agencies generally expect the capital requirements for modellable and non-modellable risk factors to reflect those based on the prior 60 business day average, which would reduce quarterly variation. The proposal would require a banking organization to take into account the capital requirements as of the most recent reporting date to capture situations where the banking organization has significantly increased its risk taking. Thus, the max function in the above formula would capture cases where risk has risen significantly throughout the quarter so that the average over the quarter is significantly less than the risk the banking organization faces at the end of the quarter.

Question 137: The agencies seek comment on the internal models approach for market risk. To what extent does the approach appropriately capture the risks of positions subject to the market risk capital requirement? What additional features, adjustments (such as to the treatment of diversification of risks), or alternative methodology could the approach include to reflect these risks more appropriately and why? Commenters are encouraged to provide supporting data.

i. *Risk factor identification and model eligibility*

Under the proposal, a banking organization that intends to use the internal models approach would be required to identify an appropriate set of risk factors that is sufficiently representative of the risks inherent in all of the market risk covered positions held by model-eligible trading desks. Specifically, the proposal would require a banking organization's

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[377] The size of the multiplication factor could vary from 1.5 to 2 based on the results of the entity-wide backtesting. *See* section III.H.8.c. of this Supplementary Information for further discussion on the entity-wide backtesting, otherwise known as the aggregate trading portfolio backtesting multiplier.

expected shortfall models to include all the applicable risk factors specified in the sensitivities-based method under the standardized approach, with one exception, as well as those used in either the banking organization's internal risk management models or in the internal valuation models it uses to report actual profits and losses for financial reporting purposes. If the risk factors specified in the sensitivities-based method are not included in the expected shortfall models used to calculate risk-based capital for market risk under the internal models approach, the banking organization would be required to justify the exclusions to the satisfaction of its primary Federal supervisor. As a check on the greater flexibility provided under the internal models approach,[378] in comparison to the proposed sensitivities-based method, model-eligible trading desks would be subject to PLA add-on and backtesting requirements, which would help ensure the accuracy and conservativism of the risk-based capital requirements estimated by the expected shortfall models.

For the identified risk factors, the proposal would require a banking organization to conduct the risk factor eligibility test to determine which risk factors are modellable, and thus subject to the IMCC, and which are non-modellable, and thus subject to the SES capital requirements. For a risk factor to be classified as a modellable risk factor, a banking organization would be required to identify a sufficient number of real prices that are representative of the risk factor (those that could be used to infer the value of the risk factor), as described in section III.H.8.a.i.I of this Supplementary Information. Evidence of a sufficient number of real prices demonstrates the liquidity of the underlying risk factor and helps to ensure there is a sufficient

[378] Unlike the proposed standardized approach, which would require a banking organization to obtain a prior written approval of its primary Federal supervisor to calculate risk factor sensitivities using the banking organization's internal risk management models, as described in section III.H.7.a.ii of this Supplementary Information, the internal models approach would allow a banking organization to use either the banking organization's internal risk management models or the internal valuation models used to report actual profits and losses for financial reporting purposes.

quantity of historical data to appropriately capture the risk factor under expected shortfall models used in the IMCC calculation.

Question 138: The agencies request comment on the appropriateness of the proposed requirements for the risk factors included in the internal models approach. What, if any, alternative requirements should the agencies consider, such as requiring risk factor coverage to align with the front office models, and why? Specifically, please describe any operational challenges and impact on banking organizations' minimum capital requirements that requiring the expected shortfall model to align with the front-office models would create relative to the proposal.

I. Real price

To perform the risk factor eligibility test, a banking organization would be required to map real prices observed to the risk factors that affect the value of the market risk covered positions held by model-eligible trading desks. For example, a banking organization could map the price of a corporate bond to a credit spread risk factor. The proposal would define a real price as a price at which the banking organization has executed a transaction, a verifiable price for an actual transaction between third parties transacting at arm's length, or a price obtained from a committed quote made by the banking organization itself or another party, subject to certain conditions discussed below. Prices obtained from collateral reconciliations or valuations would not be considered real price observations for purposes of the risk factor eligibility test because these transactions do not indicate market liquidity of the position.

The agencies recognize that a banking organization may need to obtain pricing information from third parties to demonstrate the market liquidity of the underlying risk factors, and this may pose unique challenges for validation and other model risk management activities. Therefore, the proposed definition of a real price would limit recognition of prices obtained from third-party providers to prices (1) from a transaction or committed quote that has been processed

through a third-party provider[379] or (2) for which there is an agreement between the banking organization and the third party that the third party would provide evidence of the transaction or committed quote to the banking organization upon request.

In certain cases, obtaining information on the prices of individual transactions from third parties may raise legal concerns for the banking organization, the third-party provider, or both.[380] Therefore, the proposal would allow a banking organization to consider information obtained from a third party on the number of corresponding real prices observed and the dates at which they have been observed in determining the model eligibility of risk factors, if the banking organization is able to appropriately map this information to the risk factors relevant to the market risk covered positions held by model-eligible trading desks. For a banking organization to be able to use such information for determining the model eligibility of risk factors, the proposal would require that either the third-party provider's internal audit function or another external party audit the validity of the third-party provider's pricing information. Additionally, the proposal would require the results and reports of the audit to either be made public or available upon request to the banking organization.[381]

The additional requirements for prices or other information obtained from third parties to qualify as a real price under the proposed definition would allow banking organizations to appropriately demonstrate the market liquidity of a risk factor, while also ensuring there is

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[379] Prices from a transaction or quote processed through a trading platform or exchange would satisfy this requirement for purposes of the proposed definition of real price.

[380] Banking organizations must ensure that exchanges of price information among competitors or with third parties are not likely to include acts or omissions that could result in a violation of Federal antitrust laws, including the Sherman Act, 15 U.S.C. 1 *et seq.*, and the Federal Trade Commission Act, 15 U.S.C. 41 *et seq.*

[381] If the audit on the third-party provider is not satisfactory to the primary Federal supervisor (for example, the auditor does not meet the independence or expertise standards of U.S. securities exchanges), the supervisor may determine that data from the third-party provider may not be used for purposes of the risk factor eligibility test.

sufficient documentation for the banking organization and the primary Federal supervisor to assess the validity of the prices or other information obtained from a third party.

Question 139: What, if any, other information should the agencies consider in defining a real price that would better demonstrate the market liquidity for risk factors, such as valuations provided by an exchange or central counterparty or valuations of individual derivative contracts for the purpose of exchanging variation margin? What, if any, conditions or limitations should the agencies consider applying to help ensure the validity of such information, such as only allowing information related to individual derivative transactions to qualify as a real price and not information provided on a pooled basis?

II. Bucketing approach

To determine whether a risk factor satisfies the risk factor eligibility test, a banking organization would be required to (1) map real prices to each relevant risk factor or set of risk factors, such as a curve, and (2) define risk buckets at the risk factor level. Under the proposal, a banking organization could choose either its own bucketing approach or the standard bucketing approach. As the choice of approach is at the risk factor level, the proposal would allow a banking organization to adopt its own bucketing approach for some risk factors and the standard bucketing approach for others. The number of risk factor buckets should be driven by the banking organization's trading strategies. For example, a banking organization with a complex portfolio across many points on the yield curve could elect to define more granular risk factor buckets for interest rate risk, such as separate 3-month and 6-month buckets, than those prescribed under the standard bucketing approach, which puts all maturities of less than 9 months in one bucket. Conversely, a banking organization with less complex products could elect to use the less granular standard bucketing approach.

Table 1 to § __.214 of the proposal provides the proposed risk factor buckets a banking organization would be required to use to group real prices under the standard bucketing

approach. The proposal would define the risk factor buckets under the standard bucketing approach based on the type of risk factor, the maturity of the instruments used for the real prices, and the probability that an option has value (is "in the money") at the maturity of the instrument.[382] The proposed buckets are intended to balance between the granularity of the risk factors allocated to each standardized bucket and the compliance burden of tracking and mapping the allocation of real prices to more granular buckets, especially as market conditions change. Too frequent re-allocation of real prices may lead to artificial and unwarranted regulatory capital requirement volatility.

When using its own bucketing approach, a banking organization would be able to define more granular risk factor buckets than those prescribed under the standard bucketing approach, provided that the internal risk management model uses the same buckets or segmentation of risk factors to calculate profits and losses for purposes of the PLA test.[383] While the use of more granular buckets could facilitate a model-eligible trading desk's ability to pass the proposed PLA test, it would also render the risk factor eligibility test more challenging as the banking organization would need to source a sufficient number of real prices for each additional risk factor bucket. Therefore, the proposal would provide the banking organization the flexibility to define its own bucketing structures and would place an additional operational burden on the banking organization to demonstrate the appropriateness of using a more granular bucketing structure.

As positions mature, a banking organization could continue to allocate real prices identified within the prior 12 months to the risk factor bucket that the banking organization

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[382] Whether an option has value (is "in the money") at the maturity of the instrument depends on the relationship between the strike price of the option and the market price for the underlying instrument (the spot price). A call option has value at maturity if the strike price is below the spot price. A put option has value at maturity if the strike price is above the spot price.

[383] §_.213(c) of the proposed rule describes trading desk-level profit and loss attribution test requirements.

initially used to reflect the maturity of such positions. Alternatively, the banking organization could re-allocate the real prices for maturing positions to the adjacent (shorter) maturity bucket. To avoid overstating the market liquidity of a risk factor, the proposal would allow the banking organization to count a real price observation only once, either in the initial bucket or the adjacent bucket to which it was re-allocated, but not in both.

To enable banking organizations' internal models to capture market-wide movements for a given economy, region, or sector, the proposal would allow, but not require, a banking organization to decompose risks associated with credit or equity indices into systematic risk factors[384] within its internal models.[385] The proposal would only allow the banking organization to include idiosyncratic risk factors[386] related to the credit spread or equity risk of a specific issuer if there are a sufficient number of real prices to pass the risk factor eligibility test. Otherwise, such idiosyncratic risk factors would be a non-modellable risk factor. The proposal would allow a banking organization, where possible, to consider real prices of market indices (for example, CDX.NA.IG and S&P 500 Index) and instruments of individual issuers as representative for a systematic risk factor as long as they share the same attributes (for example, economy, region, sector, and rating) as the systematic risk factor. The proposed treatment would allow the banking organization to align the treatment of real prices for market indices with those for single-name positions and, thus, provide greater hedging recognition.

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[384] The proposal would define systematic risk factors as categories of risk factors that present systematic risk, such as economy, region, and sector. Systematic risk would be defined as the risk of loss that could arise from changes in risk factors that represent broad market movements and that are not specific to an issue or issuer.

[385] As a banking organization may not always be able to model each constituent of the index, the agencies are not proposing to require the banking organization to always decompose credit spread and equity risk factors.

[386] Idiosyncratic risk factors would be defined as categories of risk factors that present idiosyncratic risk. Idiosyncratic risk would be defined as the risk of loss in the value of a position that arise from changes in risk factors unique to the issuer. These risks would include the inherent risks associated with a specific issuance or issuer that would change a position's value but are not correlated with broader market movements (for example, the impact on the position's value from departure of senior management or litigation).

To determine whether the risk factors in a bucket pass the risk factor eligibility test, the proposal would require a banking organization to allocate a real price to any risk bucket for which the price is representative of the risk factors within the bucket and to count all real prices mapped to a risk bucket. A real price may often be used to infer values for multiple risk factors. By requiring real prices to evidence the model eligibility of all risk factors related with the observation, the proposal would more accurately capture the market liquidity for the relevant risk factors.

Question 140: The agencies request comment on what, if any, modifications to the proposed bucketing structure should be considered to better reflect the risk factors used to price certain classes of products. What would be the benefits or drawbacks of such alternatives compared to the proposed bucketing structure?

III. Model eligibility of risk factors

For a risk factor to pass the risk factor eligibility test, a banking organization would be required on a quarterly basis to either identify for each risk factor (i) at least 100 real prices in the previous twelve-month period or (ii) at least 24 real prices in the previous twelve-month period, if each 90-day period contains at least four real prices.[387] The proposed criteria are intended to help ensure real prices capture products that exhibit either a minimum level of trading activity throughout the year, or seasonal periods of liquidity, such as commodities.

For any market risk covered position, the banking organization could not count more than one real price observation in any single day and would be required to count the real price as an observation for all of the risk factors for which it is representative. Together, these requirements

[387] As described in section III.H.8.a.i.I of this Supplementary Information, in certain cases, a banking organization would be allowed to obtain information on the prices of individual transactions from third parties in determining the model eligibility of risk factors.

are intended to help ensure that real prices capture more accurately the market liquidity for the relevant risk factors and prevent outdated prices from being used as model inputs.[388]

The agencies recognize that the banking organization may use a combination of internal and external data for the risk factor eligibility test. When a banking organization relies on external data, the real prices may be provided with a time lag. Therefore, the proposal would allow the banking organization to use a different time period for purposes of the risk factor eligibility test than that used to calibrate the current expected shortfall model, if such difference is not greater than one month. For consistency in the time periods used for internal and external data, the proposal would also allow the period used for internal data for purposes of the risk factor eligibility test to differ from that used to calibrate the expected shortfall model, but only if the period used for internal data is exactly the same as that used for external data.

For risk factors associated with new issuances, the observation period for the risk factor eligibility test would begin on the issuance date and the number of real prices required to pass the risk factor eligibility test would be pro-rated until 12 months after the issuance date. For example, a bond that was issued six months prior would require 50 real prices over the prior six-month period to pass the risk factor eligibility test or at least 12 real price observations with no 90-day period in which fewer than four real price observations were identified for the risk factor. For market risk covered positions that reference new reference rates, the proposal would allow the banking organization to use quotes of discontinued reference rates that the new reference rate is replacing to pass the risk factor eligibility test until the new reference rate liquidity improves.

If a standard or own bucket for risk factor eligibility contains a sufficient number of real prices to pass the risk factor eligibility test and the risk factors also satisfy the data quality requirements for modellable risk factors described in the following section, all risk factors within

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[388] For example, if several transactions occur on day one, followed by a long period for which there are no real price observations, the proposal would prevent a banking organization from using the outdated day-one prices to estimate the fair value of its current holdings.

the bucket would be deemed modellable. Risk factors within a bucket that fail to pass the risk factor eligibility test or that do not satisfy the data qualify requirements would be classified as non-modellable risk factors.

Question 141: What, if any, restrictions on the minimum observation period for new issuances should the agencies consider and why?

Question 142: The agencies request comment on whether certain types of risk factors should be considered to pass the risk factor eligibility test based on sustained volume over time and through crisis periods. What if any conditions should be met before these can be considered real price observations and why?

IV. Data quality requirements

Under the proposal, once a risk factor has passed the risk factor eligibility test, the banking organization would be required to choose the most appropriate data for calculating the IMCC for modellable risk factors. In calculating the IMCC, a banking organization could use other data than that used to demonstrate the market liquidity of a risk factor for purposes of the risk factor eligibility test, provided that such data meet the data quality requirements listed below. Alternative sources may provide updated data more frequently than would otherwise be available from those used to obtain real prices. For example, banking organizations may be able to obtain updated data more frequently from internal systems than from third-party providers. Additionally, in certain cases, a banking organization may not be able to use the real prices to calculate the IMCC. For example, a banking organization may receive data from a third-party provider on the dates and number of real prices, as described in section III.H.8.a.i.I of this Supplementary Information. While such data demonstrates the liquidity of a risk factor for purposes of the risk factor eligibility test, without the transaction prices, such real prices would not provide any value to calibrate potential losses for a particular risk factor.

To help ensure the appropriateness of the data and other information used to calibrate the expected shortfall models for IMCC, the proposal would establish data quality requirements for risk factors to be deemed modellable risk factors. Under the proposal, any risk factor that passes the risk factor eligibility test but subsequently fails to meet any of the following seven proposed data quality requirements would be a non-modellable risk factor.

First, the proposal would generally require that the data reflect prices observed or quoted in the market. For any data not derived from real prices, the proposal would require the banking organization to demonstrate that such data are reasonably representative of real prices. A banking organization should periodically reconcile the price data used to calibrate its expected shortfall models for IMCC with that used by the front office and internal risk management models, to confirm the validity of the price data used to calculate the IMCC under the internal models approach.[389]

Second, the proposal would require the data used in the expected shortfall models for IMCC to capture both the systematic risk and idiosyncratic risk (as applicable) of modellable risk factors so that the IMCC appropriately reflects the potential losses arising from modellable risk factors.

Third, the proposal would require the data used to calibrate the IMCC expected shortfall model to appropriately reflect the volatility and correlation of risk factors of market risk covered positions. Different data sources can provide dramatically different volatility and correlation estimates for asset prices. When selecting the data sources to be used in calculating the IMCC, a banking organization should assess the quality and relevance of the data to ensure it would be appropriately representative of real prices, not understate price volatility, and accurately reflect the correlation of asset prices, rates across yield curves, and volatilities within volatility surfaces.

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[389] If real prices are not widely available, a banking organization may use the prices estimated by the front office and risk management models for this comparison.

Fourth, the proposal would allow the data used to calibrate the IMCC expected shortfall model to include combinations of other modellable risk factors. However, a risk factor derived from a combination of modellable risk factors would be modellable only if this risk factor also passes the risk factor eligibility test. Alternatively, banking organizations may decompose the derived risk factor into two components: a modellable component and a non-modellable component that represents the basis between the modellable component and the non-modellable risk factor. To derive modellable risk factors from combinations of other modellable risk factors, banking organizations could use common approaches, such as interpolation or principal component analysis, if such approaches are conceptually sound. In connection with implementation of any final rule based on this proposal, the agencies would intend to use the supervisory process to supplement the proposal through horizontal reviews to evaluate the appropriateness of banking organizations' use of combinations of risk factors to determine whether a risk factor is modellable. For example, the agencies could require risk factors to be treated as non-modellable if the banking organization were to use unsound extrapolation or irregular bucketing approaches for modellable risk factors.

Fifth, the proposal would require a banking organization to update the data inputs at a sufficient frequency and on at least a weekly basis. While generally the banking organization should strive to update the data inputs as frequently as possible, the agencies would require the data to be updated weekly as requiring large data sets to be updated more frequently may pose significant operational challenges. For example, a banking organization that relies on a third-party provider may not be able to receive updated data on a real time or daily basis. The proposal would require a banking organization that uses regressions to estimate risk factor parameters to re-estimate the parameters on a regular basis. In addition, the agencies would expect a banking organization to calibrate its expected shortfall models to current market prices at a sufficient frequency, ideally no less frequently than the calibration of front office models. A banking

organization would be required to have clear policies and procedures for backfilling and gap-filling missing data.

Sixth, in determining the liquidity horizon-adjusted expected shortfall-based measure, a banking organization would be required to use data that are reflective of market prices observed or quoted in periods of stress. Under the proposal, banking organizations should source the data directly from the historical period, whenever possible. Even if the characteristics of the market risk covered positions currently being traded differ from those traded during the historical stress period, the proposal would require a banking organization to empirically justify the use of any prices in the expected shortfall calculation in a stress period that differ from those actually observed during a historical stress period. For market risk covered positions that did not exist during a period of significant financial stress, the proposal would require banking organizations to demonstrate that the prices used match changes in the prices or spreads of similar instruments during the stress period.

Seventh, the data for modellable risk factors could include proxies if the banking organization were able to demonstrate the appropriateness of such proxies to the satisfaction of the primary Federal supervisor. At a minimum, a banking organization would be required to have sufficient evidence demonstrating the appropriateness of the proxies, such as an appropriate track record for their representation of a market risk covered position. Additionally, any proxies used would be required to (1) exhibit sufficiently similar characteristics to the transactions they represent in terms of volatility level and correlations and (2) be appropriate for the region, credit spread cohort, quality, and type of instrument they are intended to represent. Under the proposal, a banking organization's proxying of new reference rates would be required to appropriately capture the risk-free rate as well as credit spread, if applicable.

Even if a risk factor passes the risk factor eligibility test and satisfies each of the seven proposed data quality requirements, the primary Federal supervisor may determine the data

inputs to be unsuitable for use in calculating the IMCC. In such cases, the proposal would require a banking organization to exclude the risk factor from the expected shortfall model and subject it to the SES capital requirements for non-modellable risk factors.

Question 143: The agencies request comment on the appropriateness of the proposed data quality requirements for modellable risk factors. What, if any, challenges might the proposed requirements pose for banking organizations? What, if any, additional requirements should the agencies consider to help ensure the data used to calculate the IMCC appropriately capture the potential losses arising from modellable risk factors?

Question 144: The agencies request comment on the appropriateness of requiring banking organizations to update the data inputs used in calculating the IMCC on at least a weekly basis. What, if any, challenges might this pose for banking organizations? How could such concerns be mitigated while ensuring the integrity of the data inputs used to calculate regulatory capital requirements for modellable risk factors?

Question 145: The agencies request comment on the appropriateness of requiring banking organizations to re-estimate parameters in line with the frequency specified in their policies and procedures. What, if any, challenges might this pose for banking organizations?

Question 146: The agencies request comment on the operational burden of requiring banking organizations to model the idiosyncratic risk of an issuer that satisfies the risk factor eligibility test and data quality requirements using data inputs for that issuer. What, if any, alternative approaches should the agencies consider such as allowing banking organizations to use data from similar names that would appropriately capture the idiosyncratic risk of the issuer? What would be the benefits and drawbacks of such alternatives relative to the proposal?

ii. *Internally modelled capital calculation (IMCC) for modellable risk factors*

The IMCC for modellable risk factors is intended to capture the estimated losses for market risk covered positions on model-eligible trading desks arising from changes in

modellable risk factors during a period of substantial market stress. As described in this section, the IMCC for modellable risk factors would begin with the calculation each business day of the expected shortfall-based measure for an entity-wide level for each risk class and across risk classes for all model-eligible trading desks, and also for a trading desk level throughout a twelve-month period of stress, which then would be adjusted using risk-factor specific liquidity horizons.

The proposal would require a banking organization to use one or more internal models to calculate on an entity-wide level for each risk class and across risk classes a daily expected shortfall-based measure under stressed market conditions.[390] While the proposal would allow a banking organization's expected shortfall internal models to use any generally accepted modelling approach (for example, variance-covariance models, historical simulations,[391] or Monte Carlo simulations) to measure the expected shortfall for modellable risk factors, the proposal would require the models to satisfy the proposed backtesting and PLA testing requirements to demonstrate on an on-going basis that such models are functioning effectively and to assess their performance over time as conditions and model applications change.[392]

Additionally, the proposal would require a banking organization's expected shortfall internal models to appropriately capture the risks associated with options, including non-linear price characteristics, within each of the risk classes as well as correlation and relevant basis risks,

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[390] As discussed in section III.H.8.a.ii.I of this Supplementary Information, a banking organization may elect to either use (1) the full set of risk factors employed by its internal risk management models and directly calculate the daily expected shortfall measure under the selected twelve-month period of stress or (2) an appropriate subset of modellable risk factors to estimate the potential losses that would be incurred throughout the selected stress period, which would require the banking organization to estimate a daily expected shortfall measure for both the current and stress period.

[391] The proposal would allow a banking organization to use filtered historical simulation, as the approach generally reflects current volatility and would maintain equal weighting of the observations by rescaling all of the observations.

[392] *See* sections III.H.8.b and III.H.8.c of this Supplementary Information for further discussion on the PLA testing and backtesting requirements, respectively.

such as basis risks between credit default swaps and bonds. For options, at a minimum, the proposal would require a banking organization's expected shortfall internal models to have a set of risk factors that capture the volatilities of the underlying rates and prices and model the volatility surface across both strike price and maturity, which are necessary inputs for appropriately valuing the options.

I. Expected shortfall-based measure

To reflect the potential losses arising from modellable risk factors on model-eligible trading desks throughout an appropriately severe twelve-month period of stress (as described in section III.H.8.a.ii.III of this Supplementary Information), the proposal would require a banking organization to use one or more internal models to calculate each business day an expected shortfall-based measure using a one-tail, 97.5th percentile confidence interval at the entity-wide level for each risk class and across all risk classes for all model-eligible trading desks.[393]

Under the proposal, the requirement to exclude non-modellable risk factors from expected shortfall-based internal models used to calculate the IMCC could pose significant operational burden for entity-wide backtesting and may also cause anomalies in the expected shortfall-based calculation that render the IMCC relatively unstable.[394] Accordingly, the proposal would allow a banking organization, with approval from its primary Federal supervisor, to also capture in its internal models the non-modellable risk factors on model-eligible trading desks, though such positions would still be required to be included in the SES measure for non-modellable risk factors, described in section III.H.8.a.iii of this Supplementary Information. The agencies view that this will provide a banking organization an appropriate incentive to integrate

[393] The proposal would also require banking organizations to calculate a daily expected shortfall-based measure at the trading desk level for the purposes of backtesting and PLA testing to determine whether a model-eligible trading desk is subject to the PLA add-on. *See* sections III.H.8.b and III.H.8.c of this Supplementary Information for further discussion.

[394] For example, when a single tenor point is excluded from the shock to an interest rate curve, the resulting shock across the curve may be unrealistic.

the expected shortfall-based internal models used to calculate the IMCC into its daily risk management processes,[395] which may not distinguish between modellable and non-modellable risk factors.

To calculate the daily expected shortfall-based measure, a banking organization would apply a base liquidity horizon of 10 days (the shortest liquidity horizon for any risk factor bucket in each risk factor class) to either the full set of modellable risk factors on its model-eligible trading desks or an appropriate subset of modellable risk factors throughout a twelve-month stress period (base expected shortfall).

The agencies view that requiring a banking organization to directly estimate the potential change in value of each of its market risk covered positions held by model-eligible trading desks arising from the full set of modellable risk factors throughout a twelve-month period of stress may pose significant operational challenges. For example, a banking organization may not be able to source sufficient data for all modellable risk factors during the identified twelve-month stress period. Thus, the proposal would allow a banking organization to use either the full set of modellable risk factors employed by the expected shortfall model (direct approach) or an appropriate subset (indirect approach) of the entire portfolio of modellable risk factors for the stress period.

Under the direct approach, the banking organization would directly calculate the expected shortfall measure at the entity-wide level for each risk class and across all risk classes throughout a twelve-month period of stress and then apply the liquidity horizon adjustments discussed in the following section.

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[395] As described in more detail in section III.H.5.d.ii of this Supplementary Information, the proposal would require a banking organization that calculates the market risk capital requirements under the models-based measure for market risk to incorporate its internal models, including its expected shortfall internal models, into its daily risk management process.

Under the indirect approach, a banking organization would use a reduced set of modellable risk factors to estimate the losses that would be incurred throughout the stress period for the full set of modellable risk factors. The proposal would require a banking organization using the indirect approach to perform three separate expected shortfall calculations at the entity-wide level for each risk class and at the entity-wide level across risk classes: one using a reduced set of risk factors for the stress period, one using the same reduced set of risk factors for the current period, and one using the full set of risk factors for the current period. Similar to the direct approach, the proposal would require the banking organization to apply the liquidity horizon adjustments discussed in the following section to each of the three expected shortfall calculations to approximate the entity-wide liquidity horizon-adjusted expected shortfall-based measures for the full set of risk factors in stress.

Under the proposal, the banking organization would multiply the liquidity horizon-adjusted expected shortfall-based measure for the stress period based on the reduced set of risk factors ($ES_{R,S}$) by the ratio of the liquidity horizon-adjusted expected shortfall-based measure in the current period based on the full set of risk factors ($ES_{F,C}$) to the lesser of the current liquidity-horizon adjusted expected shortfall-based measure using the reduced set of risk factors or $ES_{F,C}$ ($ES_{R,C}$), as provided according to the following formula under §__.215(b)(6)(ii)(B) of the proposed rule, *ES*:

$$ES = ES_{R,S} \cdot max\left(1, \frac{ES_{F,C}}{ES_{R,C}}\right)$$

The proposal would floor this ratio at one to prevent a reduction in capital requirements due to using the reduced set of risk factors.

Additionally, the proposal would require the entity-wide liquidity horizon-adjusted expected shortfall-based measure for the current period based on the reduced set of risk factors

($ES_{R,C}$),to explain at least 75 percent of the variability of the losses estimated by the liquidity horizon-adjusted expected shortfall-based measure in the current period for the full set of risk factors ($ES_{F,C}$) over the preceding 60 business days. Under the proposal, compliance with the 75 percent variation requirement would be determined based on an out-of-sample R^2 measure, as defined according to the following formula under §__.215(b)(5)(ii)(C) of the proposed rule:

$$1 - \frac{\sum_t^{60}\left(ES_{F,C,t} - ES_{R,C,t}\right)^2}{\sum_t^{60}\left(ES_{F,C,t} - Mean\left(ES_{F,C}\right)\right)^2}$$

$Mean(ES_{F,C})$ would be the mean of $ES_{F,C}$ over the previous 60 business days. This formula is intended to help ensure that the potential losses estimated under the indirect approach appropriately reflect those that would be produced by the full set of modellable risk factors, if such a stress were to occur in the current period.

Furthermore, to help ensure the accuracy of this comparison, the proposal would require a banking organization that uses the indirect approach to update the reduced set of risk factors whenever it updates its twelve-month stress period, as described in section III.H.8.a.ii.III of this Supplementary Information. The proposal would also require the reduced set of modellable risk factors used to calculate the liquidity horizon-adjusted expected shortfall-based measure for the stress period to have a sufficiently long history of observations that satisfies the data quality requirements for modellable risk factors, as described in section III.H.8.a.i.IV of this Supplementary Information. In this manner, the proposal would hold the inputs used for the indirect approach to the same data quality requirements as those required of the inputs used in the direct approach.

Question 147: What operational difficulties, if any, would be posed by requiring banking organizations to exclude non-modellable risk factors from the expected shortfall models for the purpose of the IMCC calculation and entity-wide daily backtesting requirement?

Question 148: The agencies request comment on the appropriateness of requiring the election of either the direct or the indirect approach to apply to the entire portfolio of modellable risk factors for market risk covered positions on model-eligible trading desks. What, if any, alternatives should the agencies consider that would enable banking organizations' expected shortfall models to more accurately measure potential losses under the selected stress period, such as allowing banking organizations to make this election at the level of the trading desk, risk class, or risk factor? If this election is allowed at a more granular level, how should the agencies consider addressing the operational challenges associated with aggregating the various direct and indirect expected shortfall measures into a single entity-wide expected shortfall measure? What would be the benefits and drawbacks of such alternatives compared to the proposed entity-wide election?

II. Liquidity horizon adjustments

To capture appropriately the potential losses from the longer periods of time needed to reduce the exposure to certain risk factors (for example, by selling assets or entering into hedges), a banking organization would assign each modellable risk factor to the proposed liquidity horizons specified in Table 2 to § __.215 of the proposed rule.

Table 2 to § __.215. Liquidity horizon, *n* (number of days), by risk factor

Risk factor category	*n*	Risk factor category	*n*
Interest rate: specified currencies - EUR, USD, GBP, AUD, JPY, SEK, CAD, and the domestic currency of the banking organization	10	Equity (small market cap): volatility	60
Interest rate: unspecified currencies	20	Equity: other types	60
Interest rate: volatility	60	Foreign exchange rate: specified currency pairs[396]	10
Interest rate: other types	60	Foreign exchange rate: currency pairs	20

[396] Any currency pair formed by the following list of currencies: USD, EUR, JPY, GBP, AUD, CAD, CHF, MXN, CNY, NZD, HKD, SGD, TRY, KRW, SEK, ZAR, INR, NOK, BRL, and any additional currencies specified by the primary Federal supervisor.

Credit spread: GSE debt (guaranteed) and sovereign positions (investment grade)	20	Foreign exchange: volatility	40
Credit spread: GSE debt (non-guaranteed) and sovereign positions (speculative grade and sub-speculative grade)	40	Foreign exchange: other types	40
Credit spread: corporate positions (investment grade)	40	Energy and carbon emissions trading price	20
Credit spread: corporate positions (speculative grade and sub-speculative grade)	60	Precious metals and non-ferrous metals price	20
Credit spread: volatility	120	Other commodities	60
Credit spread: other types	120	Energy and carbon emissions trading price: volatility	60
Equity (large market cap or index)	10	Precious metals and non-ferrous metals price: volatility	60
Equity (small market cap)	20	Other commodities: volatility	120
Equity (large market cap or index): volatility	20	Commodity: other types	120

The proposed liquidity horizons (10, 20, 40, 60, and 120 days) would vary across risk factors, with longer horizons assigned to those that would require longer periods of time to sell or hedge, except for instruments with a maturity shorter than the respective liquidity horizon. For instruments with a maturity shorter than the respective liquidity horizon assigned to the risk factor, the banking organization would be required to use the next longer liquidity horizon compared to the maturity of the market risk covered position. For example, if an investment grade corporate bond matures in 19 days, the proposal would require a banking organization to assign the associated credit spread risk factor a liquidity horizon of 20 days rather than the proposed 40-day liquidity horizon. To map liquidity horizons for multi-underlying instruments, such as credit and equity indices, the proposal would require a banking organization to take a weighted average of the liquidity horizons of risk factors corresponding to the underlying constituents and the respective weighting of each within the index and use the shortest liquidity

horizon that is equal to or longer than the weighted average.[397] Furthermore, the proposal would require a banking organization to apply a consistent liquidity horizon to both the inflation risk factors and interest rate risk factors for a given currency.

In general, the proposed liquidity horizons closely follow the Basel III reforms. The proposal would clarify the applicable liquidity horizon for non-securitization positions issued or guaranteed by the GSEs. Under the proposal, a banking organization would assign a liquidity horizon of 20 days to GSE debt guaranteed by a GSE, and a liquidity horizon of 40 days to all other positions issued by the GSEs. The proposed 20-day liquidity horizon would recognize that GSE debt instruments guaranteed by the GSEs consistently trade in very large volumes and, similar to U.S. Treasury securities, have historically been able to rapidly generate liquidity for a banking organization, including during periods of severe market stress. Consistent with the agencies' current capital rule, the proposal would assign a longer 40-day liquidity horizon to all other positions issued by the GSEs, as such positions are not as liquid or readily marketable as those that are guaranteed by the GSEs. Together, the proposed treatment is intended to promote consistency and comparability in regulatory capital requirements across banking organizations and to help ensure appropriate capitalization of such positions under subpart F of the capital rule.

To encourage sound risk management and enable a banking organization and the agencies to appropriately evaluate the conceptual soundness of the expected shortfall models used to calculate the IMCC, the proposal would require a banking organization to establish and document procedures for performing risk factor mappings consistently over time. Additionally, the proposal would require a banking organization to map each of its risk factors to one of the risk factor categories and the corresponding liquidity horizon in a consistent manner on a

[397] A weighted average would be based on the market value of the instruments with the same liquidity horizon.

quarterly basis to help ensure that the selected stress period continues to appropriately reflect potential losses for the risk factors of model-eligible trading desks over time.

To conservatively recognize empirical correlations across risk factor classes, the proposal would require a banking organization to calculate the liquidity horizon-adjusted expected shortfall-based measure both at the entity-wide level for each risk class and across risk classes for all model-eligible trading desks. To calculate the entity-wide liquidity horizon-adjusted expected shortfall-based measure for each risk class, the banking organization would be required to scale up the 10-day base expected shortfall measure using the longer proposed liquidity horizons for modellable risk factors within the same risk class and assign either the same or a longer liquidity horizon; all other modellable risk factors, including those within the same risk class but assigned a shorter liquidity horizon, would be held constant to appropriately reflect the incremental losses attributable to the specific risk factors over the longer proposed liquidity horizon. The banking organization would calculate separately the liquidity horizon-adjusted expected shortfall-based measure for modellable risk factors within the same risk class at each proposed liquidity horizon consecutively, starting with the shortest (10 days). Specifically, a banking organization would first compute the potential loss over the 0- to 10-day period,[398] then the potential loss over the subsequent 10- to 20-day period—assuming that its exposure to risk factors within the 10-day liquidity horizon has been eliminated—and continue this calculation for each of the proposed liquidity horizons, as described in Table 1 to § __.215 of the proposed rule. A banking organization would then aggregate the losses for each period to determine the total liquidity horizon-adjusted expected shortfall-based measure for the risk class.

[398] When computing losses over the 0- to 10-day period, the proposal would require a banking organization to floor the time period for extinguishing its exposure to a risk factor exposure at 10 days. For example, if an instrument would mature in two days, the banking organization must still calculate the potential losses assuming a 10-day liquidity horizon.

The liquidity horizon-adjusted expected shortfall-based measure for each risk class would reflect both the losses under the expected shortfall-based measure and the incremental losses at each proposed liquidity horizon, according to the following formula, as provided under §__.215(b)(3) of the proposed rule:

$$ES = \sqrt{\left(ES_T(P)\right)^2 + \sum_{j \geq 2}\left(ES_T(P,j)\sqrt{\frac{\left(LH_j - LH_{j-1}\right)}{T}}\right)^2}$$

where,

ES is the regulatory liquidity horizon-adjusted expected shortfall;

T is the length of the base liquidity horizon, 10 days;

$ES_T(P)$ is the *ES* at base liquidity horizon *T* of a portfolio with market risk covered positions *P*;

$ES_T(P,j)$ is the *ES* at base liquidity horizon *T* of a portfolio with market risk covered positions *P* for all risk factors whose liquidity horizon corresponds to the index value, *j*, specified in Table 1 to § __.215 of the proposed rule;

LH_j is the liquidity horizon corresponding to the index value, *j*, specified in Table 1 to § __.215 of the proposed rule.

To calculate the liquidity horizon-adjusted expected shortfall-based measure at the entity-wide level across risk classes, the banking organization would scale up the 10-day expected shortfall-based measure for all modellable risk factors assigned either the same or a longer liquidity horizon, without distinguishing between risk classes. Otherwise, the process to calculate the entity-wide liquidity horizon-adjusted expected shortfall-based measure would be the same as the risk-class level calculation.

For example, assume that a banking organization would be required to calculate the liquidity horizon-adjusted expected shortfall-based measure for a single, USD denominated,

investment grade corporate bond, whose price is only driven by two risk factors, interest rate risk and credit spread risk. Under the proposal, the banking organization would calculate the expected shortfall-based measure for both interest rate risk and credit risk factors using the 10-day liquidity horizon, as expressed by $ES_T(P)$ in the above formula. According to Table 2 to § __.215 in the proposed rule, the liquidity horizon for interest rate risk denominated in USD is 10 days and the liquidity horizon for credit spread risk of investment grade issuers is 40 days. Therefore, the banking organization would not extend the liquidity horizon for interest rate risk but would for the credit spread risk. To determine the liquidity horizon-adjusted expected shortfall-based measure for credit spread risk, the banking organization would (1) scale the credit spread risk by the square root of the incremental increase in time (1 for liquidity horizon from 10 days to 20 days and the square root of 2 for liquidity horizon from 20 days to 40 days),[399] (2) add the resulting liquidity horizon adjustment for credit spread risk, as expressed by the second term in the above formula and repeated below, to the base 10-day liquidity horizon squared, and (3) calculate the square root of the sum of (1) and (2):

$$\sum_{j \geq 2} \left(ES_T(P,j) \sqrt{\frac{(LH_j - LH_{j-1})}{T}} \right)^2$$

As described above, the proposal would require the banking organization to perform this calculation at the aggregate level, which combines the risk factors for all risk classes and separately for each risk class, such as interest rate risk and credit spread risk. The proposal would require the banking organization to use the results of these calculations as inputs into the overall capital calculation, described in more detail below in section III.H.8.a.ii.IV of this Supplementary Information.

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[399] The incremental increase in time is represented by the difference in the liquidity horizons, $LH_j - LH_{j-1}$. In the example, from liquidity horizon 20 days to 40 days, this amount is 20 days, or 40 days – 20 days. The incremental increase in time is divided by the base horizon of 10 days. Thus, the time scaling factor for credit spread risk is the square root of 2.

Question 149: What, if any, risk factors exist that would not be captured by the proposal for which the agencies should consider designating a specific liquidity horizon and why?

Question 150: The agencies request comment on the appropriateness of assigning a liquidity horizon for multi-underlying instruments based on the weighted average of the liquidity horizons for the risk factors corresponding to the underlying constituents and the respective weighting of each within the index. What, if any, alternative methodologies should the agencies consider, such as assigning the liquidity horizon for credit and equity indices based on the longest liquidity horizon applicable to the risk factors corresponding to the underlying constituents? What would be the benefits and drawbacks of such alternatives compared to the proposal? Commenters are encouraged to provide data to support their responses.

Question 151: The agencies request comment on the appropriateness of requiring banking organizations to use the next longer liquidity horizon for instruments with a maturity shorter than the respective liquidity horizon assigned to the risk factor. What, if any, operational challenges might this pose for banking organizations? How could such concerns be mitigated while still ensuring consistency and comparability in regulatory capital requirements across banking organizations?

III. Stress period

To appropriately account for potential losses in stress, the proposal would require a banking organization to calculate the entity-wide expected shortfall-based measures for each risk class and across risk classes described in section III.H.8.a.ii.I of this Supplementary Information using the twelve-month period of stress for which its market risk covered positions on model-eligible trading desks would experience the largest cumulative loss. To identify the appropriate period of stress, the proposal would require a banking organization to consider all twelve-month periods spanning back to at least 2007 and, depending on whether the banking organization elected to employ the direct or indirect approach, select that in which either the full or reduced

set of risk factors would incur the largest cumulative loss.[400] The proposal would require a banking organization to equally weight observations within each twelve-month stress period when selecting the appropriate stress period.

To help ensure that the stress period continues to appropriately reflect potential losses for the modellable risk factors of model-eligible trading desks over time, the proposal would require a banking organization to review and update, if appropriate, the twelve-month stress period on at least a quarterly basis or whenever there are material changes in the risk factors of model-eligible trading desks.

Question 152: The agencies seek comment on the appropriateness of requiring banking organizations to use the same reduced set of risk factors to both identify the appropriate stress period and calculate the IMCCs. To what extent does the proposed approach provide banking organizations sufficient flexibility to appropriately capture the risk factors that may be present in some, but not all stress periods? What, if any, alternative approaches should the agencies consider that would better serve to capture such risk factors relative to the proposal?

IV. Total internal models capital calculations (IMCC)

The proposal would require a banking organization to use the liquidity horizon-adjusted expected shortfall-based measures calculated throughout the stress period at the entity-wide level for each risk ($IMCC(C_i)$) and at the entity-wide level across risk classes ($IMCC(C)$) to calculate the IMCC for the modellable risk factors of model-eligible trading desks. To constrain the empirical correlations and provide an appropriate balance between perfect diversification and no diversification between risk factor classes, the IMCC would equal half of the entity-wide liquidity horizon-adjusted expected shortfall-based measure across all risk classes plus half of the

[400] Under the proposal, a banking organization that has elected to use the direct approach would select the relevant stress period using the full set of modellable risk factors, while that using the indirect approach would use the reduced set of risk factors to select the stress period.

sum of the liquidity horizon-adjusted expected shortfall measures for each risk class, according to the following formula, as provided under §__.215(c)(4) of the proposed rule:

$$IMCC = 0.5 * \left(IMCC(C)\right) + 0.5 * \left(\sum_{i=1} IMCC(C_i)\right)$$

Where,

i indexes the following risk classes: interest rate risk, credit spread risk, equity risk, commodity risk and foreign exchange risk.

iii. *Stressed expected shortfall (SES) for non-modellable risk factors*

Under the proposal, the SES capital requirement for non-modellable risk factors would be similar to the IMCC for modellable risk factors, except that the SES calculation would provide significantly less recognition for hedging and portfolio diversification relative to the IMCC.

Under the proposal, a banking organization would have to use a stress scenario that is calibrated to be at least as prudent as the expected shortfall-based measure for modellable risk factors and calculate the liquidity horizon-adjusted expected shortfall-based measure for non-modellable risk factors in stress using the same general process as proposed for modellable risk factors, with three key differences. First, the proposal would require a banking organization to separately carry out such calculation for each non-modellable risk factor, as opposed to at the risk class level. Second, the proposal would require a banking organization to apply a minimum liquidity horizon adjustment of at least 20 days, rather than 10 days. Third, the proposal would require a banking organization to separately identify for each risk class the stress period for which its market risk covered positions on model-eligible trading desks would experience the largest cumulative loss, except that a common twelve-month period of stress could be used for all non-modellable risk factors arising from idiosyncratic credit spread or equity risk due to spot, futures and forward prices, equity repo rates, dividends and volatilities.

To calculate the aggregate SES capital requirement for non-modellable risk factors, the proposal would require a banking organization to separate non-modellable risk factors (the ES_{NMRF}) into those with idiosyncratic credit spread risk, those with idiosyncratic equity risk, and those with systematic risk, according to the following formula as provided under §__.215(d)(2) of the proposed rule:

$$SES = \sqrt{\sum_{i=1}^{I} ISES_{NM,i}^2} + \sqrt{\sum_{j=1}^{J} ISES_{NM,j}^2} + \sqrt{\left(\rho \sum_{k=1}^{K} SES_{NM,k}\right)^2 + (1-\rho^2)\sum_{k=1}^{K} SES_{NM,k}^2}$$

Where:

$ISES_{NM,i}$ is the stress scenario capital measure for non-modellable idiosyncratic credit spread risk, *i,* aggregated with zero correlation, and where I is a non-modellable idiosyncratic credit spread risk factor;

$ISES_{NM,j}$ is the stress scenario capital measure for non-modellable idiosyncratic equity risk, *j,* aggregated with zero correlation, and where J is a non-modellable idiosyncratic equity risk factor;

$SES_{NM,k}$ is the stress scenario capital measure for the remaining non-modellable systematic risk factors, *k*, and where K is the remaining non-modellable risk factors in a model-eligible trading desk; and

ρ is equal to 0.6.

For non-modellable risk factors with systematic risk, the third term would allow for a limited and appropriate diversification benefit that depends on the level of ρ parameter. For idiosyncratic non-modellable risk factors that the banking organization demonstrates are not

related to broader market movements,[401] the proposal would provide greater diversification benefit by allowing such non-modellable risk factors to be aggregated with zero correlation.

Given the limited data available for non-modellable risk factors from which to estimate correlations between such factors, the proposed conservative capital treatment would address the potential risk of lower quality inputs being used in calculating market risk capital requirements for non-modellable risk factors (for example, the limited data set overstates the diversification benefits and, therefore, understates the magnitude of potential losses of non-modellable risk factors).

In recognition of the data limitations of non-modellable risk factors, the proposal would allow a banking organization to use proxies in designing the stress scenario for each risk class of non-modellable risk factors, as long as such proxies satisfy the data quality requirements for modellable risk factors. Additionally, with approval from its primary Federal supervisor, a banking organization may use an alternative approach to design the stress scenario for each risk class of non-modellable risk factors. However, when a banking organization is not able to model a stress scenario for a risk factor class, or a smaller subset of non-modellable risk factors, that is acceptable to the primary Federal supervisor, the proposal would require the banking organization to use a methodology that produces the maximum possible loss.

Question 153: The agencies seek comment on the treatment of non-modellable risk factors. Specifically, is the treatment for non-modellable risk factors appropriate and commensurate with their risks? What other treatments should the agencies consider and why? Should the agencies consider scaling the resulting aggregate SES capital requirement for non-modellable risk factors by a multiplier to better reflect the risk profile of these risk factors and, if so, how should that multiplier be calibrated and why?

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[401] One way to show this is to regress equity return or changes in credit spreads on systematic risk factors and show that the residuals of these regressions are uncorrelated with each other.

iv. *Aggregate trading portfolio backtesting capital multiplier*

Under subpart F of the current capital rule, each quarter, a banking organization must compare each of its most recent 250 business days of entity-wide trading losses (excluding fees, commissions, reserves, net interest income, and intraday trading) with the corresponding daily VaR-based measure calibrated to a one-day holding period and at a one-tail, 99.0 percent confidence level. Depending on the number of exceptions in the entity-wide backtesting results, a banking organization must apply a multiplication factor, which can range from 3 to 4, to a banking organization's VaR-based and stressed VaR-based capital requirements for market risk.

The proposal generally would retain the backtesting requirements in subpart F of the current capital rule, with two modifications. First, the proposal would require backtesting of VaR-based measures against both actual profit and loss as well as against hypothetical profit and loss. [402] Specifically, for the most recent 250 business days,[403] a banking organization would be required to separately compare each business day's aggregate actual profit and loss for transactions on model-eligible trading desks and aggregate hypothetical profit and loss for transactions on model-eligible trading desks with the corresponding aggregate VaR-based measures for that business day calibrated to a one-day holding period at a one-tail, 99.0 percent confidence level for market risk covered positions on all model-eligible trading desks. Second, the proposal generally would require a banking organization to apply a lower capital multiplier (m_c), that could range from a factor of 1.5 to 2, to the 60-day average estimated capital required

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[402] The proposal would define hypothetical profit and loss as the change in the value of the market risk covered positions that would have occurred due to changes in the market data at end of current day if the end-of-previous-day market risk covered positions remained unchanged. Valuation adjustments that are updated daily would have to be included, unless the banking organization receives approval from its primary Federal Supervisor to exclude them. Valuation adjustments for which separate regulatory capital requirements have been otherwise specified, commissions, fees, reserves, net interest income, intraday trading, and time effects would have to be excluded. *See* § __.202 of the proposed rule.

[403] In its first year of backtesting, a banking organization would count the number of exceptions that have occurred since it began backtesting.

for modellable risk factors, based on the number of exceptions in the entity-wide backtesting results.[404]

$$C_A = max\left((IMCC_{t-1} + SES_{t-1}), \left(\left(m_c \times IMCC_{average}\right) + SES_{average}\right)\right)$$

The proposed backtesting requirements would measure the conservatism of the forecasting assumptions and the valuation methods in the expected shortfall models used for determining risk-based capital requirements by comparing the daily VaR-based measure against the actual and hypothetical profits and losses. Such comparisons are a critical part of a banking organization's ongoing risk management, as they improve a banking organization's ability to make prompt adjustments to the internal models used for determining risk-based capital requirements to address factors such as changing market conditions and model deficiencies. A high number of exceptions could indicate modeling issues (for example, insufficiently conservative risk factor shocks) and warrant increased capital requirements.

The proposed PLA add-on, as described in section III.H.8.b of this Supplementary Information, would require a banking organization's market risk capital requirement to reflect an additional capital requirement for deficiencies in the accuracy of a banking organization's internal models. Accordingly, the backtesting requirements and associated multiplication factor provide appropriate incentives for banking organizations to regularly update the internal models used for determining regulatory capital requirements.

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[404] The mechanics of the backtesting requirements for the aggregate trading portfolio backtesting multiplier would be the same as those at the trading desk level. Consistent with the trading desk level backtesting requirements, the proposal would allow banking organizations to disregard backtesting exceptions related to official holidays and, in certain instances, those related to non-modellable risk factors and technical issues. *See* section III.H.8.c of this Supplementary Information for a detailed description of the mechanics of the proposed backtesting requirements, including circumstances in which a banking organization may disregard a backtesting exemption.

Question 154: What, if any, alternative techniques should the agencies consider that would render the capital multiplier a more appropriate measure of the robustness of a banking organization's internal models? What are the benefits and drawbacks of such alternatives compared to the proposed calculation for the aggregate trading portfolio backtesting capital multiplier?

v. *Default risk capital requirement under the internal models approach*

The agencies propose to require all banking organizations to use the standardized default risk capital requirement regardless of whether they use the IMCC plus SES or the sensitivities-based method plus the residual risk add-on for non-default market risk factors. The agencies propose this simplification to the internally modelled approach for market risk in order to reduce the operational burden for a banking organization and to further promote consistency in risk-based capital requirements across banking organizations and within the capital rule.

b. PLA add-on

Under the proposal, use of the internal models approach for a model-eligible trading desk fundamentally would depend on the accuracy of the potential future profits or losses estimated under the banking organization's expected shortfall models relative to those produced by the valuation methods used to report actual profits and losses for financial reporting purposes (front office models). The proposed profit and loss attribution test metrics[405] would help ensure that the theoretical changes in a model-eligible trading desk's revenue produced by the internal risk management models are sufficiently close to the hypothetical changes produced by valuation methods used by the banking organization in the end-of-day valuation process and adequately capture the risk factors used in such models. Thus, the proposed PLA test metrics would measure

[405] The proposed PLA test metrics include (1) the Spearman correlation metric which assesses the correlation between the risk-theoretical profit and loss and the hypothetical profit and loss; and (2) the Kolmogorov-Smirnov metric which assesses the similarity of the distributions of the risk-theoretical profit and loss and the hypothetical profit and loss.

the materiality of the simplifications of the internal risk management models used by a model-eligible trading desk relative to the front-office models and remove the eligibility of any trading desk for which such simplifications are deemed material from using the internal models approach to calculate its regulatory capital requirement for market risk.

The proposal would impose an additional capital requirement (the PLA add-on) on model-eligible trading desks for which either or both of the two desk-level PLA test metrics demonstrate deficiencies in the ability of the banking organization's internal models to appropriately capture the market risk of a model-eligible trading desk's market risk covered positions. The PLA add-on would help ensure that model-eligible trading desks with model deficiencies, but not disqualifying failures of the PLA test metrics, are subject to more conservative capital requirements relative to model-eligible trading desks without model deficiencies. Additionally, the PLA add-on provides appropriate incentives for such trading desks to address the potential gaps in data and model deficiencies. However, a model-eligible trading desk that passes both of the PLA test metrics could still be subject to the PLA add-on if the primary Federal supervisor determines that the trading desk no longer complies with all applicable requirements, as described in section III.H.5.d of this Supplementary Information.

i. *PLA test*

To measure the materiality of the simplifications (for example, missing risk factors and differences in the way positions are valued) within the expected shortfall models used by each model-eligible trading desk, the PLA test would require a banking organization, for each model-eligible trading desk, to compare the daily profit and loss values produced by its internal risk management models (risk-theoretical profit and loss)[406] against the hypothetical profit and loss produced by the front office models.

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[406] The proposal would define risk-theoretical profit and loss as the daily trading desk-level profit and loss on the end-of-previous-day market risk covered positions generated by the banking

I. Data input requirements

For the sole purpose of the PLA test, the proposal would permit a banking organization to align the risk factor input data used in the valuations calculated by the internal risk management models with that used in the front office models, if the banking organization demonstrates that such an alignment would be appropriate. If the input data for a given risk factor that is common to both the front office models and the internal risk management models differs due to data acquisition complications (specifically, different market data sources, time fixing of market data sources, or transformations of market data into input data suitable for the risk factors of the underlying valuation engines), a banking organization may adjust the input data used by the front office models into a format that can be used by the internal risk management models. When transforming the input data of the front office models into a format that can be applied to the risk factors used in internal risk management models, the banking organization would be required to demonstrate that no differences in the risk factors or in the valuation models have been omitted. The proposal would require a banking organization to assess the effect of these input data alignments on both the valuations produced by the internal risk management models and the PLA test when designing or changing the input data alignment process, or at the request of the primary Federal supervisor.

Additionally, the proposal would require a banking organization to treat time effects[407] in a consistent manner in the hypothetical profit and loss and the risk-theoretical profit and loss.[408]

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organization's internal risk management models. The risk-theoretical profit and loss would have to take into account all risk factors, including non-modellable risk factors, in the banking organization's internal risk management models.

[407] Time effects can include various elements such as the sensitivity to time, or theta effect, and carry or costs of funding.

[408] In particular, when time effects are included in (or excluded from) the hypothetical profit and loss, they must also be included in (or excluded from) the risk-theoretical profit and loss.

The proposed flexibility would allow the results of the PLA test metrics to more accurately assess the consistency of the risk-theoretical and hypothetical profit and loss for a particular model-eligible trading desk, by focusing on differences due to the pricing function and risk factor coverage rather than those arising from use of different data inputs.

Furthermore, the proposal would allow, subject to approval by the primary Federal supervisor, a banking organization, for a model-eligible trading desk that holds a limited amount of securitization positions or correlation trading positions pursuant to its trading or hedging strategy, to include such positions for the purposes of the PLA tests. Allowing such positions to be included would enable securitization positions held as hedges to be recognized with the underlying positions they are intended to hedge and thus minimize the potential of PLA testing to incorrectly identify model deficiencies for model-eligible trading desks due solely to the bi-furcation of such hedges. For model-eligible trading desks with approval of the primary Federal supervisor to incorporate securitization positions in their PLA test metrics, the proposal would require the banking organization to calculate the market risk capital requirements for such positions using the more conservative capital treatment under the standardized approach or the fallback capital requirement, as described in sections III.H.7 and III.H.6.c of this Supplementary Information, respectively.

II. PLA test metrics

For the PLA test, the banking organization, for each model-eligible trading desk, would be required to compare, for the most recent 250 business days, the risk-theoretical profit and loss and the hypothetical profit and loss using two test metrics: the Spearman correlation and the Kolmogorov-Smirnov metric.

To calculate the Spearman correlation metric, the banking organization, for each model-eligible trading desk, must compute, for each of the most recent 250 business days, the rank order of the daily hypothetical profit and loss, (R_{HPL}), and the rank order of the daily risk-

theoretical profit and loss, (R_{RTPL}), with the lowest profit and loss value in the time series receiving a rank of 1, the next lowest value receiving a rank of 2, etc. The Spearman correlation coefficient for the two rank orders, R_{HPL} and R_{RTPL}, would be based on the following formula:

$$r_S = \frac{cov(R_{HPL}, R_{RTPL})}{\sigma_{R_{HPL}} \times \sigma_{R_{RTPL}}}$$

where $cov(R_{HPL}, R_{RTPL})$ is the covariance between R_{HPL} and R_{RTPL} and $\sigma_{R_{HPL}}$ and $\sigma_{R_{RTPL}}$ are the standard deviations of rank orders R_{HPL} and R_{RTPL}, respectively.

As a testing metric, the Spearman correlation coefficient is intended to support sound risk management by assessing the correlation between the daily risk-theoretical profit and loss and the hypothetical profit and loss for a model-eligible trading desk. A high degree of correlation would indicate directional consistency between the two measures.

To calculate the Kolmogorov-Smirnov metric, the banking organization, for each model-eligible trading desk, would identify the number of daily observations over the most recent 250 business days where the risk-theoretical profit and loss or separately the hypothetical profit and loss is less than or equal to the specified value. To appropriately weight the probability of each daily observation,[409] the proposal would define the empirical cumulative distribution function as the number of daily observations multiplied by 0.004 (1/250). Under the proposal, the Kolmogorov-Smirnov metric would be the largest absolute difference observed between these two empirical cumulative distributions of profit and loss at any value, which could be expressed as:

$$KS = max\big(abs(D_{HPL} - D_{RTPL})\big)$$

[409] For example, if the internal risk management model generates the same value for the model-eligible trading desk's portfolio on two separate days, the proposal would require the banking organization to assign a larger probability by requiring each daily observation to be weighted at 0.004.

where D_{HPL} is the empirical cumulative distribution of hypothetical profit and loss produced by the front office models and D_{RTPL} the empirical cumulative distribution of risk-theoretical profit and loss produced by the internal risk management models.

As a testing metric, the Kolmogorov-Smirnov metric is intended to support good risk management by requiring banking organizations to assess the similarity of the distribution of the daily portfolio values for a model-eligible trading desk generated by the internal risk management models and the front office models. The closeness of the distributions would indicate how accurately the internal risk-management models capture the range of losses experienced by the model-eligible trading desk across different market conditions with closer distributions indicating greater accuracy with respect to pricing and risk factor coverage. Applying this process over a given period would provide information about the accuracy of the internal risk management model's ability to appropriately reflect the shape of the whole distribution of values for the model-eligible trading desk's portfolio compared to the distribution of values generated by the front office models, including information on the size and number of valuation differences.

Based on the PLA test results for the two above metrics, a banking organization would be required to allocate each model-eligible trading desk to a PLA test zone as set out in Table 1 to § __.213 of the proposed rule.

The proposal would permit a banking organization to consider a model-eligible trading desk to be in the green zone only if both of the PLA test metrics fall into the green zone. Conversely, a banking organization would consider a model-eligible trading desk to be in the red zone if either of the PLA test metrics fall within the red zone. The proposal would require a banking organization to consider all other model-eligible trading desks (such as those with both metrics in the amber zone or one metric in the amber zone and the other in the green zone) in the amber zone. Additionally, under the proposal, the primary Federal supervisor could require a

banking organization to assign a different PLA test zone to a model-eligible trading desk than that based on PLA test metrics of the model-eligible trading desk.[410]

Question 155: The agencies seek comment on all aspects of the PLA test metrics. What, if any, modifications should the agencies consider that would enable the PLA tests to more appropriately measure the robustness of a banking organization's internal models?

Question 156: The agencies seek comment on the appropriateness of allowing banking organizations to align the risk input data between the internal risk management models and the front-office models. What other instances, if any, should the agencies consider to ensure accurate and consistent assessment of the profit and losses produced by the internal risk management models with those produced by the front office models for a particular model-eligible trading desk?

Question 157: The agencies request comment on the benefits and drawbacks of allowing banking organizations, with regulatory approval, to include non-modellable risk factors for purposes of the PLA tests. Should non-modellable risk factors be excluded from the PLA tests? Why or why not? What, if any, further conditions should the agencies consider including to appropriately limit the inclusion of non-modellable risk factors for purposes of the PLA tests? Commenters are encouraged to provide data to support their responses.

ii. *Calculation of the PLA add-on*

Under the proposal, a banking organization would consider model-eligible trading desks in the green zone or amber zone as passing the PLA test for model eligibility purposes but would

[410] As discussed in more detail in section III.H.5.d.iv. of this Supplementary Information, if for initial or on-going model eligibility, the primary Federal supervisor subjects a model-eligible trading desk to the PLA add-on, the model-eligible trading desk would remain subject to the PLA add-on until either the model-eligible trading desk (1) provides at least 250 business days of backtesting and PLA test results that pass the trading-desk level backtesting requirements and produce PLA metrics in the green zone, or (2) receives written approval from the primary Federal supervisor that the PLA add-on no longer applies.

be required to apply the PLA add-on to model-eligible trading desks within the amber zone. The proposal would require a banking organization to calculate the PLA add-on as the greater of zero and the aggregate capital benefit to the banking organization from the internal models approach (the difference between the capital requirements for all model-eligible trading desks[411] in the green or amber zone under the standardized approach ($SA_{G,A}$) and those under the internal models approach ($IMA_{G,A}$)), multiplied by a multiplication factor of *k,* as defined according to the following formula under §__.213(c)(4) of the proposed rule:

$$PLA\ add-on = k \times max\left(\left(SA_{G,A} - IMA_{G,A}\right), 0\right)$$

Under the proposal, the value of *k* would equal half of the ratio of the sum of the standardized approach capital requirements for each model-eligible trading desk within the amber zone and those for each of the model-eligible trading desks within either the green or amber zone as defined according to the following formula under §__.213(c)(4)(i) of the proposed rule:

$$k = 0.5 \times \frac{\sum_{i \in A} SA_i}{\sum_{i \in G,A} SA_i}$$

Thus, the value of *k* would gradually increase from 0 to 0.5 as the number of model-eligible trading desks within the amber zone increases, which is intended to mitigate the potential cliff effect of significantly increasing market risk capital requirements as a model-eligible trading desk transitions from using the internal models approach to the standardized approach.

iii. *Application of the PLA add-on*

If, in the most recent 250 business day period, a trading desk that the primary Federal supervisory previously approved to use the internal models approach produces results in the PLA

[411] In calculating the PLA add-on, a banking organization must exclude any securitization positions, including correlation trading positions, held by a model-eligible desk, as such positions must be subject to either the standardized approach or the fallback capital requirement.

test red zone, the proposal would require the banking organization to use the standardized approach and calculate market risk capital requirements for the positions held by the trading desk together with all other trading desks subject to the standardized approach.[412] Under the proposal, since deficiencies identified by the PLA test metrics relate solely to the expected shortfall models, if the expected shortfall model used by a trading desk subsequently fails the PLA test, the banking organization would calculate the market risk capital requirement for the trading desk using the sensitivities-based method and the residual risk add-on, as applicable. The proposal would not permit the banking organization to use the internal models approach to calculate market risk capital requirements for the trading desk until the trading desk (i) produces PLA test results in either the green or amber zone and passes specific trading desk level backtesting requirements over the most recent 250 business days, or (ii) receives approval from the primary Federal supervisor.

c. Backtesting requirements for model-eligible trading desks

Under the proposal, a banking organization may treat a trading desk that conducts and successfully passes both backtesting and the PLA test at the trading desk level on an ongoing quarterly basis as a model-eligible trading desk. For determining the model eligibility of a trading desk, the proposal would require the banking organization to perform backtesting at the trading desk level. For the purpose of desk-level backtesting, for each trading desk, a banking organization would be required to compare each of its most recent 250 business days' actual profit and loss and hypothetical profit and loss produced by the front office models with the corresponding daily VaR-based measure calculated by the banking organization's expected shortfall model under the internal models approach. The proposal would require the banking

[412] As discussed in section III.H.5.d.i of this Supplementary Information, model-eligible trading desks that hold limited amounts of securitization and correlation trading positions must calculate regulatory capital requirements for such positions under the standardized approach or fallback capital requirement, as applicable. With regulatory approval, a banking organization may include such positions within its internal models for the purposes of the PLA tests and backtesting.

organization, for each trading desk, to calibrate the VaR-based measure to a one-day holding period and at both the 97.5th percentile and the 99.0th percentile one-tail confidence levels.

Under the proposal, a backtesting exception would occur when the daily actual profit and loss or the daily hypothetical profit and loss of the trading desk exceeds the corresponding daily VaR-based measure calculated by the banking organization's expected shortfall model. A banking organization must count separately the number of backtesting exceptions that occurred in the most recent 250 business days for actual profit and loss at each confidence level and those that occurred for hypothetical profit and loss at each confidence level. A trading desk would become model-ineligible if, in the most recent 250 business day period, the trading desk experiences any of the following: (1) 13 or more exceptions for actual profit and loss at the 99.0th percentile; (2) 13 or more exceptions for hypothetical profit and loss at the 99.0th percentile; (3) 31 or more exceptions for actual profit and loss at the 97.5th percentile; or (4) 31 or more exceptions for hypothetical profit and loss at the 97.5th percentile. In the event that either the daily actual or hypothetical profit and loss is unavailable or the banking organization is unable to compute them, or the banking organization is unable to compute the VaR-based measure for a particular business day, the proposal would require the banking organization to treat such an occurrence as a backtesting exception unless related to an official holiday, in which case the banking organization may disregard the backtesting exception. In addition, with approval of the primary Federal supervisor, the banking organization must disregard the backtesting exception if the banking organization could demonstrate that the backtesting exception is due to technical issues that are unrelated to the banking organization's internal model; or if the banking organization could show that a backtesting exception relates to one or more non-modellable risk factors and the market risk capital requirement for these non-modellable risk factors exceeds either (a) the difference between the banking organization's VaR-based measure and actual loss or (b) the difference between the banking organization's VaR-based measure and hypothetical

loss for that business day. In these cases, the banking organization must demonstrate to the primary Federal supervisor that the non-modellable risk factor has caused the relevant loss.

If in the most recent 250 business day period a trading desk experiences either 13 or more backtesting exceptions at the 99.0th percentile, or 31 or more backtesting exceptions at the 97.5th percentile, the proposal would require the banking organization to use the standardized approach to determine the market risk capital requirements for the market risk covered positions held by the trading desk. If a model-eligible trading desk is approved with less than 250 business days of trading desk level backtesting and PLA test results, the proposal would require a banking organization to use all backtesting data for the model-eligible trading desk and to prorate the number of allowable exceptions by the number of business days for which backtesting data are available for the model-eligible trading desk. The proposal would allow the banking organization to return to using the full internal models approach to calculate market risk capital requirements for the trading desk if the banking organization (1) remediates the internal model deficiencies such that the trading desk successfully passes trading desk-level backtesting and reports PLA test metrics in the green or amber zone or (2) receives approval of the primary Federal supervisor.

Question 158: Should non-modellable risk factors be excluded from the proposed backtesting requirements? Why or why not? What, if any, further conditions should the agencies consider including to limit appropriately the inclusion of non-modellable risk factors for purposes of the backtesting requirements? Commenters are encouraged to provide data to support their responses.

Question 159: The agencies invite comment on what, if any, challenges requiring banking organizations to directly calculate the internally modelled capital requirement for modellable risk factors using a 10-day liquidity horizon for the purposes of the daily expected shortfall-based measure for modellable risk factors could pose and a 1-day VaR for the purposes of backtesting could pose. What, if any, alternative methodologies should the agencies consider?

9. *Treatment of certain market risk covered positions*

To promote consistency and comparability in the risk-based capital requirements across banking organizations and to help ensure appropriate capitalization of positions subject to subpart F of the capital rule, the proposal would clarify the treatment of certain market risk covered positions under the standardized and models-based measures for market risk.

a. *Net short risk positions*

The proposal would require a banking organization to calculate on a quarterly basis its exposure arising from any net short credit or equity position.[413] A banking organization would be required to include net short risk positions exceeding $20 million in its total market risk capital requirement for the entire quarter, under both the standardized measure for market risk and the models-based measure for market risk, as applicable.

The proposed quarterly approach is intended to reduce operational burden of requiring a banking organization to capture temporary or small differences arising from fluctuations in the value of positions subject to the credit risk framework. Further, the proposed quarterly calculation requirement should help ensure that banking organizations are appropriately managing and monitoring net short risk positions arising from exposures subject to subpart D or E of the capital rule at intervals of sufficient frequency to prevent the formation of non-negligible net short risk positions.

As proposed it may be difficult for a banking organization to apply the standardized approach or internal models approach to net short risk positions given that the composition of any particular net short position could contain a different combination of various underlying instruments. Therefore, if unable to calculate a risk factor sensitivity for a net short risk position, the proposal would require the banking organization to calculate market risk capital requirements

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[413] *See* section III.H.3.c of this Supplementary Information for a more detailed discussion on net short risk positions.

using the fallback capital requirement as described in section III.H.6.c of this Supplementary Information.

b. Securitization positions and defaulted and distressed market risk covered positions

The proposal would require a banking organization to calculate market risk capital requirements for securitization positions using the standardized approach or the fallback capital requirement, as applicable. The proposed treatment would address regulatory arbitrage concerns as well as deficiencies in the modelling of securitization positions that became more evident during the course of the financial crisis that began in mid-2007.

The proposal would require a banking organization to include defaulted and distressed market risk covered positions in only the standardized default risk capital requirement. Such positions are not required to be included in the sensitivities-based method or the residual risk add-on of the standardized approach, or in the non-default capital requirement for modellable and non-modellable risk factors. Generally, distressed and defaulted positions trade based on recovery, which is not driven by or reflective of the credit spread of the issuer. Therefore, in addition to being operationally difficult, requiring a banking organization to calculate the sensitivity of such positions to changes in credit spreads may not be appropriate for the purposes of quantifying the risk posed by such positions. Additionally, subjecting defaulted and distressed positions to capital requirements under the sensitivities-based method, residual risk add-on, or expected shortfall measures for modellable and non-modellable risk factors would increase the capital requirements for such positions beyond the maximum potential loss of such holdings, as the standardized default risk capital requirement already assigns a 100 percent risk weight and LGD to such exposures. If unable to calculate the standardized default risk capital requirement

for such positions, the proposal would require the banking organization to calculate market risk capital requirements using the fallback capital requirement.[414]

As the amount of regulatory capital required under the fallback capital requirement would equal the absolute fair value of the position, the proposal would cap the overall market risk capital requirement for defaulted, distressed, and securitization positions at the maximum loss of the position. By capping the amount of regulatory capital requirement for such positions at the total potential loss that a banking organization could incur from holding such positions, the proposal would align the risk-based requirements under the standardized and internal models approaches, as applicable, with those under the fallback capital requirement.

c. Equity positions in an investment fund

i. *Standardized approach*

For equity positions in an investment fund for which the banking organization is able to use the look-through approach to calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund, the proposal would require a banking organization to apply the look-through approach under the standardized measure for market risk. Alternatively, a banking organization could elect not to apply the look-through approach for such positions if the investment fund closely tracks an index benchmark or holds a listed and well-diversified index position. Generally, the agencies would consider an equity position in an investment fund to closely track the index if the standard deviation of the returns of the investment fund (ignoring fees and commissions) over the prior year differs from those of the index by only a small percentage (for example, less than 1 percent). For an equity position in an investment fund that closely tracks an index benchmark, the proposal would allow a banking

[414] As described in more detail in section III.H.6.c of this Supplementary Information, the fallback capital requirement would apply in instances where a banking organization is unable to apply the internal models approach and the standardized approach to calculate market risk capital requirements.

organization to treat the equity position in the investment fund as if it was the tracked index in calculating the delta, vega, and curvature capital requirements, given the high correlation of the equity position with that of the index.[415] Further, for equity positions in an investment fund that holds a listed and well-diversified index, the proposal would allow a banking organization to calculate the delta, vega, and curvature capital requirements for the underlying index position using the treatment for indices[416] and apply the look-through approach to the other underlying exposures of the investment fund.

For equity positions in an investment fund for which the banking organization is not able to use the look-through approach to calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund, but where the banking organization has access to daily price quotes for the investment fund and to the information contained in the fund's mandate, the proposal would allow the banking organization to calculate capital requirements in one of three ways under the standardized measure for market risk. For equity positions in an investment fund that closely tracks an index benchmark, the banking organization could assume that the investment fund is the tracked index and treat the equity position as an index instrument when calculating the delta, vega, and curvature capital requirement.[417] Alternatively, the proposal would allow the banking organization to calculate the delta, vega, and curvature capital requirements for the equity position based on the hypothetical portfolio of the investment fund or allocate the equity position in the investment fund to the other sector risk bucket.

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[415] In this situation, the banking organization would apply the treatment for index instruments described in section III.H.7.d.ii of this Supplementary Information.

[416] In this situation, the banking organization would apply the treatment for index instruments described in section III.H.7.d.ii of this Supplementary Information.

[417] In this situation, the banking organization would apply the treatment for index instruments described in section III.H.7.d.ii of this Supplementary Information.

Under the proposed hypothetical portfolio approach, the banking organization would need to assume that the investment fund invests to the maximum extent permitted under its mandate in those exposures with the highest applicable risk weight and continues to make investments in the order of the exposure type with the next highest applicable risk weight until the maximum total investment level is reached. If more than one risk weight can be applied to a given exposure, the proposal would require the banking organization to use the maximum applicable risk weight in calculating the sensitivities-based method requirement. Alternatively, the banking organization may assume that the investment fund invests based on the most recent quarterly disclosure of the fund's historical holdings of underlying positions. The proposal would require a banking organization to weight the constituents of the investment fund based on the hypothetical portfolio. Further, the proposal would require a banking organization to calculate market risk-based capital requirements for the hypothetical portfolio on a stand-alone basis for all positions in the fund, separate from any other position subject to market risk capital requirements.

Alternatively, the proposal's fallback method would allow a banking organization to allocate equity positions in an investment fund to the applicable other sector risk bucket.[418] Under this approach, the banking organization would determine whether, given the mandate of the investment fund, to apply a higher risk weight in calculating the standardized default risk capital requirement and whether to apply the residual risk add-on. For example, if a banking organization determines that the residual risk add-on applies, the banking organization must assume that the investment fund has invested in such exposures to the maximum extent permitted under its mandate. For equity positions in publicly traded real estate investment trusts, the proposal would require a banking organization to treat such exposures as a single exposure and apply the risk weight applicable to exposures allocated to the other sector risk bucket when

[418] Table 8 to § __.209 of the proposed rule provides the proposed delta risk buckets and corresponding risk weights for positions within the equity risk class.

calculating the delta, vega, and curvature capital requirements under the sensitivities-based method.[419] While equity positions in publicly traded real estate investment trusts are traded on the market, the underlying assets of such trusts generally are not. Thus, often a banking organization will not be able to calculate the risk factor sensitivity for each of the underlying assets of the real estate investment trust. Requiring a banking organization to treat equity positions in real estate investment trusts as a single position would help ensure that market risk capital requirements appropriately capture a banking organization's market risk exposure arising from such positions in a manner that minimizes compliance burden and enhances risk-capture. As each of the proposed alternative approaches would reflect a highly conservative capital requirement, the agencies consider that the proposed alternatives would help ensure a banking organization maintains sufficient capital against potential losses arising from equity positions in an investment fund for which the banking organization is unable to identify the underlying positions held by the fund.

Similar to index instruments and multi-underlying options that are non-securitization debt or equity positions, the default risk of equity positions in an investment fund is primarily a function of the idiosyncratic default risk of the underlying constituents. Accordingly, to capture appropriately the default risk of such positions, the proposal would require a banking organization to apply the look-through approach when calculating the standardized default risk capital requirement for equity positions in an investment fund that are non-securitization debt or equity positions, with one exception. For equity positions in an investment fund for which the banking organization applies the hypothetical portfolio approach or the fallback method described above, a banking organization would have to assume that the fund invests in exposure types with the highest applicable risk weights to the maximum extent permitted by the fund's mandate. For equity positions in publicly traded real estate investment trusts that are non-

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[419] Under the proposal, such exposures would receive the 70 percent risk weight applicable to equity risk factors allocated to bucket 11 in Table 8. *See* § __.209(b)(5) of the proposed rule.

securitization debt or equity positions, the proposal would require a banking organization to treat the exposures as a single exposure. As discussed above, often a banking organization will not be able to calculate the default risk for each of the underlying assets of the real estate investment trust due to the idiosyncratic nature of the underlying assets. The proposed treatment would help ensure the risk-based requirements appropriately capture the default risk of such positions in a manner that is consistent across banking organizations and minimizes operational burden.

Question 160: The agencies seek comment on whether a banking organization's ability under the proposal to treat an equity position in an investment fund as an index position when the investment fund closely tracks an index benchmark provides sufficient specificity to help ensure consistent application across banking organizations. To what extent would a specific quantitative measure more appropriately capture the types of positions that should be treated as index positions? What, if any, alternatives should the agencies consider (such as specifying an absolute value of one percent) to better capture the types of positions whose risks would more appropriately be captured by the proposed market risk capital requirements for index positions and why? Commenters are encouraged to provide specific details on the mechanics, capital implications and rationale for any suggested methodology.

Question 161: The agencies seek comment on requiring banking organizations to calculate the residual risk add-on for equity positions in investment funds, if, based on its mandate, the fund would invest in the types of exposures that would be subject to the residual risk add-on to the maximum extent permitted under the mandate. What, if any, alternatives – such as allowing banking organizations to use the historical risk characteristics of the fund – should the agencies consider to better capture the residual risks of such positions? Commenters are encouraged to provide specific details on the mechanics, capital implications and rationale for any suggested methodology.

ii. *Internal models approach*

The proposal would only allow a banking organization to use the internal models approach for equity positions in an investment fund for which the banking organization is able to identify the underlying positions held by the fund on a quarterly basis. Otherwise, these positions would be calculated using the standardized approach or the fallback capital requirement. Under the proposal, a banking organization would be required to calculate the market risk capital requirement for such positions held by a model-eligible desk by applying the look-through approach or the hypothetical portfolio approach based on the most recent quarterly disclosure of the investment fund's historical holdings of underlying positions. In addition, a banking organization also may use any other modelling approach to calculate the internal models approach capital requirement after receiving a prior approval from its primary Federal supervisor.

Question 162: What would be the advantages and drawbacks of allowing banking organizations to decompose equity positions in investment funds into the underlying holdings of the fund or based on the hypothetical portfolio, for purposes of calculating capital requirements under the internal models approach? Please provide specific details on the mechanics, capital implications and rationale for any suggested methodology, in particular the extent to which the proposed backtesting and PLA requirements would help ensure appropriate risk capture for positions in which the banking organization is only able to perform a look-through on a quarterly basis.

d. Treatment of term repo-style transactions

Subpart F of the current capital rule permits a banking organization to calculate a market risk capital requirement for securities subject to repurchase and lending agreements with an original maturity of more than one business day (term repo-style transactions), regardless of whether such transactions meet the short-term trading intent criterion of the definition of a

market risk covered position.[420] Under the current capital rule, this optionality is only available for term repo-style transactions for which the banking organization separately calculates risk-based requirements for counterparty credit risk using the collateral haircut approach under subpart D or subpart E of the capital rule.[421] Subparts D and E of the capital rule permit a banking organization to recognize the credit risk mitigation benefits of non-financial collateral under the collateral haircut approach for these term repo-style transactions.

The proposal similarly would permit a banking organization to include term repo-style transactions in market risk covered positions, where the transactions are marked to market and provided that it includes all of such term repo-style transactions in market risk covered positions consistently over time. To help ensure appropriate calibration of the market risk capital requirements, under the proposal, a banking organization with the operational capability to capture the market risk of both the collateral leg and the cash leg of the transaction could opt into this treatment. In such cases, the proposal would permit a banking organization to include term repo-style transactions in the sensitivities-based method or the expected shortfall model if held by a model-eligible trading desk. For purposes of calculating market risk capital requirements under the sensitivities-based method, the proposal would require a banking organization to capture the risk factor sensitivities of the cash leg to general interest rate risk and of the security leg to credit spread risk, equity risk, commodity risk, and foreign exchange risk, as applicable. The proposal would also require a banking organization to separately calculate the standardized

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[420] While such transactions are similar to trading activities, not all such transactions meet the short-term trading intent criterion of the definition of covered position. For example, certain repo-style transactions operate in economic substance as secured loans and do not in normal practice represent trading positions.

[421] Under subpart F of the capital rule, a banking organization that uses the simple VaR approach for purposes of calculating counterparty credit risk capital requirements may also include term repo-style transactions within the VaR-based measure for market risk. As noted in section III.C.5.b.ii of this Supplementary Information, the proposal would eliminate the simple VaR approach for calculating risk-based requirements for counterparty credit risk – and thus this optionality would only apply in the context of the collateral haircut approach.

default risk capital requirement to capture losses on the underlying reference exposure in the event of issuer default as described in section III.H.7.b.i of this Supplementary Information and the risk-based capital requirements for counterparty credit risk using the collateral haircut approach as described in section III.H.9.d of this Supplementary Information.

10. Reporting and disclosure requirements

The reporting and public disclosures required under the proposal would strike a balance between the information necessary for ensuring that a banking organization is conforming to the requirements of the proposed market risk rule, the public policy benefits that result from transparency of information, and a banking organization's compliance burden. The proposal does not change the requirements under subpart F regarding public disclosure policy and attestation, the frequency of required disclosures, the location of disclosures, or the treatment of proprietary and confidential information except that each of these aspects of the proposal is discussed not only in regard to a banking organization's public disclosures, but also in regard to its reporting (public regulatory reports and, as applicable, confidential supervisory reports).

a. Scope

The quantitative and qualitative disclosures required by this section would not apply to a banking organization that is a consolidated subsidiary of a bank holding company, savings and loan holding company, or a depository institution that is subject to these requirements, or of a non-U.S. banking organization subject to comparable public disclosure requirements in its home jurisdiction.

The information contained within both public regulatory reports and, as applicable, confidential supervisory reports described in the proposal would be necessary for the primary Federal supervisor to assess whether a banking organization has adequately implemented the proposed market risk capital framework. Therefore, under the proposal, any banking organization that is subject to the proposed market risk capital requirements must provide public regulatory reports in the manner and form prescribed by its primary Federal supervisor, including

any additional information and reports that the primary Federal supervisor may require. Any such banking organization that also uses the models-based measure for calculating market risk capital requirements must provide confidential supervisory reports as discussed below to its primary Federal supervisor in a manner and form prescribed by that supervisor.

b. Quantitative and qualitative disclosures

The current capital rule requires a banking organization subject to the market risk capital framework to disclose information related to the composition of portfolios of covered positions as well as the internal models used to calculate the market risk of covered positions. The proposal would eliminate the existing quantitative disclosures related to the calculations of VaR and incremental and comprehensive risk capital requirements, which would no longer be necessary for calculating risk-based capital requirements for market risk under the proposal. The proposal would, however, retain existing quantitative disclosures related to the aggregate amount of on-balance sheet and off-balance sheet securitization positions by exposure type, as well as the aggregate amount of correlation trading positions. Together, these disclosures would ensure transparency regarding a banking organization's securitizations, which have historically been sources of uncertainty for regulators and market participants during periods of financial stress. Finally, the proposal would add a quantitative disclosure requiring a banking organization that uses the models-based measure for calculating market risk capital requirements to disclose a comparison of VaR-based estimates to actual gains or losses for each material portfolio of market risk covered positions with an analysis of important outliers. In addition to the requirement to disclose a general description of a banking organization's internal capital adequacy assessment methodology, a banking organization that uses the models-based measure for calculating market risk capital requirements would also be required to include such assessment for categories of non-modellable risk factors.[422] These additional disclosures, along

[422] The agencies would expect a banking organization to have sound internal capital assessment processes which would include, but not be limited to, identification of capital adequacy goals

with the retained disclosures, would support the agencies' efforts to supervise banking organizations subject to the market risk framework.

The proposal would also retain the existing qualitative disclosures for material portfolios but with certain revisions reflecting the changes to the market risk framework under the proposal. Specifically, the requirement that a banking organization disclose characteristics of internal models would be revised to also require that the banking organization disclose information related to the models used to calculate expected shortfall (ES), the frequency with which data is updated, and a description of the calculation based on current and stress observations. The existing requirement that a banking organization disclose its internal capital adequacy assessment, including a description of the methodologies used to achieve a capital adequacy assessment consistent with the soundness standard, would be subsumed into the quarterly quantitative disclosure requirements described above. Qualitative disclosures that typically do not change each quarter may be disclosed annually, provided any significant changes are disclosed in the interim.

The proposal would add new qualitative disclosures related to a banking organization's processes and policies for managing market risk. Specifically, the proposed qualitative disclosures include (i) a description of the structure and organization of the market risk management system, including a description of the market risk governance structure established to implement the strategies and processes described below; (ii) a description of the polices and processes for determining whether a position is designated as a market risk covered position and the risk management policies for monitoring market risk covered positions; (iii) a description of the scope and nature of risk reporting and/or measurement systems and the strategies and processes implemented by the banking organization to identify, measure, monitor, and control

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with respect to risks, taking into account the strategic focus and business plan of the banking organization, risk identification, measurement, and documentation, as well as a process of internal controls, reviews and audits.

the banking organization's market risks, including polices for hedging; and (iv) a description of the trading desk structure and the types of market risk covered positions included on the trading desks or in trading desk categories, including a description of the model-eligible trading desks for which a banking organization calculates the non-default risk capital requirement and any changes in the scope of model-ineligible trading desks and the market risk covered positions on those desks. Together, the additional disclosure requirements in the proposal would increase transparency, encourage sound risk management practices, and assist the regulatory review process of a banking organization subject to the proposed market risk framework by providing clear information on the policies and procedures that each banking organization has adopted to manage and mitigate potential losses arising from market fluctuations.

c. Public reports

In addition to the public disclosure requirements, the proposal would require that a banking organization provide a quarterly public regulatory report of its measure for market risk. This public report, the form of which would be specified by the agencies, would contain information that the agencies deem necessary for assessing the manner in which a banking organization has implemented the proposed market risk rule. This, in turn, would help ensure the safety and soundness of the financial system by facilitating the identification of problems at a banking organization and ensuring that a banking organization has implemented any corrective actions imposed by the agencies.

d. Confidential supervisory reports

Under the proposal, a banking organization using the models-based measure to calculate market risk capital requirements would be required to submit, via confidential regulatory reporting in the manner and form prescribed by the primary Federal supervisor, data pertaining to its backtesting and PLA testing.

To reflect the proposed changes to the market risk framework, the proposal would require a banking organization to submit backtesting information at both the aggregate level for model-

eligible trading desks as well as for each trading desk and PLA testing information for model-eligible trading desks at the trading desk level on a quarterly basis. This information would cover the previous 500 business days, or all business days if 500 business days are not available, and would have to be reported with no more than a 20-day lag. At the aggregate level, the data would include the daily VaR-based measures calibrated to the 99.0th percentile; the daily ES-based measure calibrated at the 97.5th percentile; the actual profit and loss; the hypothetical profit and loss; and the p-value of the profit or loss for each day. At the trading desk level, the data would include the daily VaR-based measure for the trading desk calibrated at both the 97.5th and 99.0th percentile; the daily ES-based measure calibrated at the 97.5th percentile; the actual profit and loss; the hypothetical profit and loss; the risk-theoretical profit and loss; and the p-values of the profit or loss for each day.

The information in the proposed report would enable the agencies to identify changes to the risk profiles of reporting banking organizations as well as to monitor the risk inherent in the broader banking system. Specifically, the collection of backtesting and PLA data included in the proposed reports would enable the agencies to determine the validity of a banking organization's internal models, and whether these models accurately account for the risk associated with exposure to price movements, changes in market structure, or market events that affect specific assets. If the agencies find these models to be flawed, the banking organization must then use the standardized approach for calculating its market risk capital requirements, thereby preventing divergence between a banking organization's risk profile and its capital position. In addition, the proposed report would be a valuable tool for a banking organization subject to the market risk capital requirements under the proposal to verify that the proposed market risk framework has been appropriately implemented.

11. Technical amendments

a. Definition of securitization

The proposal would streamline the definitions related to securitizations in subpart F with those in subparts D and E of the capital rule. Specifically, the proposal would eliminate the definition of "securitization" from subpart F of the capital rule and revise the definitions of "securitization position" and "resecuritization position" to refer to the terms "securitization exposure" and "resecuritization exposure," which are defined in §__.2 of the capital rule."[423] These modifications would not change the scope of positions that would be considered securitization positions and resecuritization positions under subpart F of the capital rule, as further described below. Rather, the proposed revisions would clarify that the same types of positions are captured under subpart F as under subparts D and E of the capital rule, which currently use substantially similar, but separate definitions.

As discussed in section III.D. of this Supplementary Information, only exposures that involve tranching of credit risk would qualify as securitization exposures. The designation of securitization exposures or resecuritization exposures and the calculation of risk-based requirements for securitization exposures would generally depend upon the economic substance of the transaction rather than its legal form. Provided there is tranching of credit risk, securitization exposures could include, among other things, asset-backed securities and mortgage-backed securities, loans, lines of credit, liquidity facilities, financial standby letters of credit, credit derivatives and guarantees, loan servicing assets, servicer cash advance facilities, reserve accounts, credit-enhancing representations and warranties, and credit-enhancing interest-

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[423] Section 2 of the capital rule defines a securitization exposure as an on- or off-balance sheet credit exposure (including credit-enhancing representations and warranties) that arises from a traditional or synthetic securitization (including a resecuritization), or an exposure that directly or indirectly references a securitization exposure. The agencies' capital rule defines a traditional securitization, in part, as a transaction in which all or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties (other than through the use of credit derivatives or guarantees), where the credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority. The definition includes certain other conditions, such as requiring all or substantially all of the underlying exposures to be financial exposures. *See* 12 CFR 3.2 s.v. securitization exposure, traditional securitization (OCC); 12 CFR 217.2 securitization exposure, traditional securitization (Board); and 12 CFR 324.2 securitization exposure, traditional securitization (FDIC).

only strips (CEIOs). Securitization exposures would also include assets sold with retained tranches. In contrast, mortgage-backed pass-through securities (for example, those guaranteed by the Federal Home Loan Mortgage Corporation or the Federal National Mortgage Association) that feature various maturities but do not involve tranching of credit risk do not meet the definition of a securitization exposure. This treatment would not change under the proposal, and consistent with subpart F of the capital rule, only those securities that involve tranching of credit risk would be considered securitization positions.

I. Credit valuation adjustment risk

1. Background

In general, OTC derivative contracts are bilateral agreements either to make or receive payments or to buy or sell an underlying asset on a certain date, or dates, in the future. The value of an OTC derivative contract, and thus a party's exposure to its counterparty, changes over the life of the contract based on movements in the value of the reference rates, assets, commodity prices, or indices underlying the contract. In addition to the exposure to changes in the market value of OTC derivative contracts, there is also credit risk associated with such contracts. Specifically, if a counterparty to an OTC derivative contract, or a portfolio of such contracts subject to a QMNA,[424] defaults prior to the contract's expiration, the non-defaulting party will experience a loss if the market value of the contract, or of the portfolio of contracts under a QMNA, is positive at the time of default. The risk of such a loss, known as counterparty credit risk, exists even if the current market value of the contract, or the portfolio under a QMNA, is negative because the future market value may become positive if market conditions change.

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[424] "Qualifying master netting agreement" (QMNA) is defined in §__.2 of the capital rule. In order to recognize an agreement as a QMNA, a banking organization must meet the operational requirements in §__.3(d) of the capital rule. *See* 12 CFR 3.2, and 3.3(d) (OCC); 12 CFR 217.2 and 217.3(d) (Board); and 12 CFR 324.2, and 324.3(d) (FDIC). In general, a QMNA means a netting agreement that permits a banking organization to accelerate, terminate, close-out on a net basis and promptly liquidate or set off collateral upon default of the counterparty. The proposal would retain these definitions.

Under the current capital rule, a banking organization determines risk-based capital requirements for counterparty credit risk using the credit risk framework, with exposure amounts determined via either the SA-CCR, current exposure method (CEM), or internal models methodology, as applicable.[425]

The valuation change of OTC derivative contracts resulting from the risk of the counterparty's defaulting prior to the expiration of the contracts, known as the credit valuation adjustment (CVA), depends on (1) counterparty credit spreads, which reflect the creditworthiness of the counterparty perceived by the market; and (2) credit exposure generated by CVA risk covered positions[426] that the market would expect at various future points in time. Thus, CVA risk has two components: a counterparty credit spread component (CVA increases as a result of the deterioration in the creditworthiness of a counterparty perceived by the market) and an exposure component (CVA increases as a result of an increase in the expected future exposure).

The proposal would require a banking organization subject to Category I, II, III or IV standards to reflect in risk-weighted assets the potential losses on OTC derivative contracts resulting from increases in CVA for all OTC derivative contract counterparties, subject to certain exceptions.[427] The proposal would provide two measures for calculating CVA risk capital requirements: (1) the basic measure for CVA risk which includes the basic CVA approach (BA-CVA) capital requirement, which recognizes only the credit spread component of CVA risk and is similar to the current capital rule's simple CVA approach, and (2) a standardized measure for CVA risk which includes a new standardized CVA approach (SA-CVA) capital requirement and

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[425] *See* §§__.34 and __.132 of the current capital rule.

[426] CVA risk covered positions are described in section III.I.3 of this Supplementary Information.

[427] The proposal would allow a banking organization to exclude certain OTC derivative contracts recognized as a credit risk mitigant and that receive substitution treatment under §__.36 of the current capital rule or §_.120 of the proposed rule from the portfolio of OTC derivative contracts that are subject to the CVA risk capital requirements (under both BA-CVA and SA-CVA).

the basic CVA approach capital requirement. The SA-CVA would account for both credit spread and exposure components of CVA risk and would allow a banking organization to recognize hedges for the exposure component of CVA risk. The proposal would require a banking organization to receive a prior approval from the primary Federal supervisor to calculate the CVA risk capital requirements under the standardized measure for CVA risk.

2. Scope of application

The proposed capital requirements for CVA risk would apply to large banking organizations and their subsidiary depository institutions subject to Category I standards, and to large banking organizations subject to Category II, III or IV standards. Under the proposal, these banking organizations would be required to calculate a risk-weighted asset amount for the CVA risk arising from their portfolio of OTC derivative transactions that would be subject to the CVA risk capital requirement, as described in the following section of this Supplementary Information. The proposed scope would apply CVA risk capital requirements to all large, complex banking organizations that, due to their significant trading activity, operational scale, and domestic and global presence, are subject to more stringent capital requirements.

Under the proposal, the primary Federal supervisor of a banking organization that does not meet the proposed scoping criteria for CVA risk capital requirements could require the banking organization to apply the risk-based capital requirements for CVA risk if the supervisor deems it necessary or appropriate because of the level of CVA risk of the banking organization's portfolio of OTC derivative contracts or to otherwise ensure safe and sound banking practices. The primary Federal supervisor could also exclude from application of the proposed CVA risk capital requirements a banking organization that meets the scoping criteria if the supervisor determines that (1) the exclusion is appropriate based on the level of CVA risk of the banking organization's CVA risk covered positions, and (2) such an exclusion would be consistent with safe and sound banking practices. While the agencies believe that the proposed scoping criteria for application of CVA risk capital requirements would reasonably identify a banking

organization with significant CVA risk given the current risk profile of a banking organization, there may be unique instances where a banking organization either should or should not be required to reflect CVA risk in its risk-based capital requirements. As such, the proposal would allow the primary Federal supervisor to exercise its authority to address such instances on a case-by-case basis.

3. CVA risk covered positions and CVA hedges

a. Definition of CVA risk covered position

The proposal would define a CVA risk covered position as a derivative contract that is not a cleared transaction. In addition, the proposal would allow a banking organization to choose to exclude an eligible credit derivative for which the banking organization recognizes credit risk mitigation benefits from the calculation of CVA risk.[428] This approach would align the scope of the CVA framework with the scope of instruments that present CVA risk. The proposal would allow a banking organization to exclude certain OTC derivative contracts that are credit risk mitigants from the CVA risk covered position definition in order not to create a disincentive to hedge against credit default risk in subpart D and E of the capital rule. For example, a CDS on a loan that is recognized as a credit risk mitigant and receives substitution treatment under §__.120 of the proposed rule would not be included in the portfolio of OTC derivative contracts that are subject to the CVA risk capital requirements.

The proposed definition of CVA risk covered position would also exclude cleared derivative transactions because the primary risk of a banking organization facing a CCP lies in

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[428] A cleared transaction includes an exposure resulting from a transaction that a CCP has accepted. For purposes of the CVA risk capital requirement, a banking organization that is not a clearing member may treat its exposure as directly facing the CCP (that is, the banking organization would have no exposure to the clearing member) and may exclude that cleared transaction from CVA risk covered positions. However, in a client-facing derivative contract, where a clearing member banking organization either is acting as a financial intermediary and enters into an offsetting transaction with a QCCP or where it provides a guarantee on the performance of its client to a QCCP, the exposures would be included in CVA risk covered positions. *See* the definitions of cleared transaction and client-facing derivative transaction in 12 CFR 3.2 (OCC), 12 CFR 217.2 (Board), 12 CFR 324.2 (FDIC).

the risk that a CCP participant, not the CCP itself, defaults.[429] Clearing members of the CCP would be responsible for covering losses of a defaulted clearing member's portfolio with the CCP; clearing member banking organizations are subject to a capital requirement for such risk in §__.35 of the current capital rule.

A banking organization generally does not calculate CVA for cleared transactions or for securities financing transactions (SFTs) for financial reporting purposes. Consistent with this industry practice, the proposal would not consider a cleared transaction or an SFT to be a CVA risk covered position and therefore would not extend the CVA risk-based capital requirements to such positions.

The proposed definition of a CVA risk covered position would include client-facing derivative transactions and would recognize the potential CVA risk of such exposures through the risk-based requirements for these exposures, as described in sections III.I.3.a and III.I.4 of this Supplementary Information.

b. Recognition of CVA hedges

The proposal would set forth general requirements for the recognition of CVA hedges, as well as specific requirements under BA-CVA and SA-CVA. The proposal would allow a banking organization to include certain CVA hedges as risk-reducing elements in risk-weighted asset calculations for CVA risk (eligible CVA hedges). The proposal would define a CVA hedge as a transaction the banking organization enters into with a counterparty that is a third party (external CVA hedge) or an internal trading desk (internal CVA hedge),[430] as described in section III.I.3.b of this Supplementary Information and manages for the purpose of mitigating

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[429] A CCP could only default if a sufficient number of members default at the same time and the remaining clearing members of this CCP are unable to contribute sufficient funds to make the counterparties to the defaulting members whole.

[430] Both BA-CVA and SA-CVA would recognize internal CVA hedges that satisfy eligibility requirements of the specific approach and require that a banking organization have a CVA risk management function to manage internal CVA risk transfers as described in section III.H.4. of this Supplementary Information.

CVA risk. An internal CVA hedge is an internal derivative transaction that is usually executed between a CVA risk management function, such as a CVA desk (or a functional equivalent thereof), and a trading desk of the banking organization. Every such internal CVA hedge has two offsetting positions: the position of the CVA risk management function (the CVA segment) and the position of the trading desk (the trading desk segment). In addition to its ability to reduce CVA risk, a CVA hedge may also contribute to CVA risk arising from the counterparty of the hedge, in which case the CVA hedge, a derivative contract that is not a cleared transaction, could also be a CVA risk covered position. Whether a CVA hedge is a CVA risk covered position has no impact on its qualification as an eligible CVA hedge. Specifically, a non-CVA risk covered position could be an eligible CVA hedge if it meets the proposed eligibility criteria as described below. For example, a banking organization could hedge its CVA risk using a cleared transaction; in such cases, the CVA hedge would effectively reduce the CVA risk of the banking organization, though the transaction itself would not be a CVA risk covered position. The proposed treatment of CVA hedges intends to provide better alignment between the economic risks posed by such transactions and the risk-based capital requirement for CVA risk. In this manner, the proposal would provide incentives for a banking organization to manage CVA risk prudently.

As described below, the proposal would include two approaches for calculating CVA capital requirements: the basic approach or BA-CVA[431] and the standardized approach or SA-CVA.[432] The BA-CVA is simpler, but less risk sensitive, than the SA-CVA. For this reason, these two approaches have different eligibility requirements for recognizing the risk-mitigating benefits of CVA hedges.

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[431] The basic approach capital requirement is discussed below in section III.I.5.a of this Supplementary Information.

[432] The standardized approach capital requirement is discussed below in section III.I.5.b of this Supplementary Information.

Under the BA-CVA, the proposal would allow a banking organization to recognize in the CVA risk capital calculation the risk-mitigating benefit of hedges of the counterparty credit spread component of CVA risk. The only instruments that could be recognized as eligible hedges under the BA-CVA are the following instruments that hedge credit spread risk: index CDS, single-name CDS, and single-name contingent CDS. The proposal would expand the set of instruments recognized as eligible CVA hedges in the current capital rule. In addition to single-name CDS and single-name contingent CDS that reference the counterparty directly, the proposal would allow a banking organization to recognize as an eligible CVA hedge a single-name credit instrument that references an affiliate of the counterparty or that references an entity that belongs to the same sector and region[433] as the counterparty (together, eligible indirect single-name CVA hedges). Although a banking organization generally can hedge the credit spread risk of a counterparty whose credit risk is actively traded (that is, liquid counterparties) by using credit instruments that directly reference that counterparty, instruments referencing illiquid counterparties are thinly traded, if at all. For illiquid counterparties, a banking organization typically uses credit instruments that reference a sufficiently liquid entity whose credit spread is highly correlated with the credit spread of the illiquid counterparty such as counterparties that belong to the same sector and region. For this reason, the BA-CVA would allow a banking organization to recognize the risk-mitigating benefit of eligible indirect single-name CVA hedges, but, given the potentially significant basis risk between the counterparty and the hedge reference name, the BA-CVA would require a banking organization to use a non-perfect correlation parameter between the counterparty credit spread and the hedge reference name credit spread in order to constrain the risk-mitigating benefit of such indirect but eligible CVA

[433] Under the proposal, for BA-CVA purposes, a region would refer to a country or territorial entity.

hedges.[434] The restrictions on hedging instruments as stated above apply to both external and internal hedging transactions. Additionally, for a banking organization to recognize an internal CVA hedging transaction as an eligible CVA hedge under the BA-CVA, the transaction would have to satisfy the requirements of an eligible internal risk transfer of CVA risk, as described in section III.H.4.c of this Supplementary Information.

Under the SA-CVA, hedges of the counterparty credit spread component of CVA risk would be recognized without the BA-CVA restriction on eligible instrument types described above. Furthermore, the SA-CVA would recognize as eligible CVA hedges instruments that are used to hedge the exposure component of CVA risk. The SA-CVA would also recognize both external and internal CVA hedging transactions as eligible CVA hedges. Similar to the BA-CVA, a banking organization would be able to recognize an internal CVA hedging transaction as an eligible CVA hedge under the SA-CVA if the transaction satisfies the requirements of an eligible internal risk transfer of CVA risk, as described in section III.H.4.c of this Supplementary Information.

Under both the BA-CVA and SA-CVA, the proposal would not allow a banking organization to recognize a fraction of an actual transaction as an eligible CVA hedge. Instead, a banking organization would only be permitted to recognize whole transactions as eligible CVA hedges. For example, if a banking organization for internal risk management purposes uses an interest rate swap to hedge interest rate risk for both CVA and margin valuation adjustment, the banking organization would either have to recognize the entire swap when calculating its risk-based capital requirements for CVA risk or exclude the entire swap. The proposed treatment

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[434] The aggregation formula in the BA-CVA calculation would introduce new regulatory correlation parameters that quantify the relationship between the credit spreads of the counterparty and of the entity referenced by the hedge, thus restricting hedging benefits. *See* section III.I.5.a.i of this Supplementary Information for a more detailed description of the BA-CVA calculation.

intends to prevent a banking organization from choosing a fraction of a hedging transaction to minimize its capital charge.

Finally, under both the BA-CVA and SA-CVA, the proposal would not allow a banking organization to recognize the risk mitigating benefits of CVA hedges that are securitization positions or correlation trading positions when calculating risk-based capital requirements for CVA risk. As reliably pricing such instruments is difficult, the agencies are concerned with the ability of a banking organization to measure reliably the price sensitivity of such positions to the proposed risk factors under the SA-CVA. The BA-CVA, as a very simplistic approach, is even less suitable than the SA-CVA for adequately capturing the risk of such instruments.

Question 163: The agencies seek comments on the proposed interpretation of region for the purposes of BA-CVA. Would limiting a region to a country or a territorial entity pose any challenges for hedge recognition under BA-CVA? What, if any, other criteria or interpretations should the agencies consider and why?

4. General risk management requirements

The proposal would require a banking organization to satisfy certain general risk management requirements related to the identification and management of CVA risk covered positions and eligible CVA hedges and also to comply with additional operational requirements as described in section III.I.4.c. of this Supplementary Information.

a. Identification and management of CVA risk covered positions and CVA hedges

Identification of CVA risk covered positions and CVA hedges is the prerequisite of prudent CVA risk management. The proposal would therefore require a banking organization subject to the proposed CVA framework to identify all CVA risk covered positions, all transactions that hedge or are intended to hedge CVA risk, and all eligible CVA hedges. A banking organization that received approval from its primary Federal supervisor to use the standardized measure for CVA risk would be required to identify all eligible CVA hedges for the purposes of calculating the BA-CVA and all eligible CVA hedges for the purpose of calculating

the SA-CVA. Furthermore, a banking organization that hedges its CVA risk must have a clearly defined hedging policy for CVA risk that is reviewed and approved by senior management at least annually. The hedging policy would be required to quantify the level of CVA risk that the banking organization is willing to accept and detail the instruments, techniques, and strategies that the banking organization would use to hedge CVA risk.

b. Documentation

The proposal would also require a banking organization to have policies and procedures for determining its CVA risk capital requirement and to document adequately all material aspects of its management and identification of CVA risk covered positions and eligible CVA hedges, and its control, oversight, and review processes. Such general documentation requirements are intended to facilitate regulatory review and a banking organization's internal risk management and oversight processes.

The proposed requirements are intended to appropriately support the active risk management and monitoring of CVA risk under the proposed framework.

c. Additional risk management requirements for use of the standardized measure for CVA risk

In addition to the general risk management requirements, a banking organization that has received approval from its primary Federal supervisor to use the standardized measure for CVA risk would be required to comply with additional operational requirements on documentation, initial approval and ongoing performance of regulatory CVA models as described below.

i. *Documentation*

The proposal would require a banking organization using the SA-CVA to adequately document policies and procedures of the CVA desk, or similar dedicated function, and the independent risk control unit. Furthermore, the banking organization would be required to document the internal auditing process; the internal policies, controls, and procedures concerning the banking organization's CVA calculations for financial reporting purposes; the initial and

ongoing validation of models used to calculate regulatory CVA (including exposure models); and the banking organization's process to assess the performance of models used for calculating regulatory CVA (including exposure models) and implement remedies to mitigate model deficiency. The agencies expect that a banking organization would document any adjustments, if applicable, made to the CVA models to satisfy the operational requirements described in section III.I.4.c. of this Supplementary Information under SA-CVA. These enhanced documentation requirements are designed to help ensure that exposure models under the SA-CVA appropriately capture the CVA risk of CVA risk covered positions and that a banking organization has effective and sound risk management and oversight processes.

ii. *Initial approval*

To receive approval from its primary Federal supervisor to use the SA-CVA for any of its CVA risk covered positions, a banking organization must be capable of calculating, on at least a monthly basis, regulatory CVA (as described in section III.I.5.b.i of this Supplementary Information), as well as the sensitivities of regulatory CVA to counterparty credit spreads and market risk factors. Due to the computational intensity associated with calculating regulatory CVA and its sensitivities, the proposal would permit a banking organization to choose to recognize in its risk-based capital requirement certain netting sets of CVA risk covered positions under BA-CVA and other netting sets under SA-CVA. Furthermore, the prior approval from the primary Federal supervisor could specify which CVA risk covered positions must be included in the calculation of the BA-CVA, and which could be included in the calculation of the SA-CVA. If a banking organization were to use both SA-CVA and BA-CVA for the calculations of risk-based capital requirements for CVA risk, the proposal would require the banking organization to assign each CVA hedge that the banking organization intends to recognize in these calculations to one of the two approaches (SA-CVA or BA-CVA). This assignment would have to satisfy the eligibility requirements of the SA-CVA or the BA-CVA. For example, a single-name CDS hedging the counterparty credit spread component of CVA risk could be assigned to either the

SA-CVA or the BA-CVA, while an interest rate swap hedging the interest rate component of CVA risk could only be assigned to the SA-CVA. With this proposed requirement, the agencies intend to support appropriate risk measurement and monitoring of CVA risk and help ensure that a banking organization appropriately reflects the respective hedges in the calculation of risk-based capital requirements for CVA risk.

To better align regulatory CVA with accounting CVA and to help ensure that CVA capital requirements more accurately reflect CVA risk, the proposal would require a banking organization to use CVA models that it uses for financial reporting purposes (accounting CVA models) to calculate regulatory CVA under the SA-CVA, adjusted, if necessary, to satisfy the additional requirements as described in section III.I.5.b of this Supplementary Information.

Furthermore, to support active management of CVA risk, the proposal would require a banking organization that intends to use the SA-CVA to have a CVA desk, or similar dedicated function, responsible for risk management and hedging of CVA risk consistent with the banking organization's CVA risk management and hedging policies and procedures. The agencies view a designated CVA desk or designated function as the best mechanism to support the active management of CVA risk.

The primary Federal supervisor may rescind its approval of the use of the standardized measure for CVA risk in whole or in part, if it determines that the banking organization's model no longer complies with all applicable requirements or fails to reflect accurately the CVA risk. If the primary Federal supervisor determines that a banking organization's implementation of the SA-CVA risk no longer complies with proposed requirements or fails to accurately reflect CVA risk, the primary Federal supervisor could specify one or more CVA risk covered positions or eligible CVA hedges must be included in the BA-CVA or prescribe an alternative capital requirement.

iii. *Ongoing eligibility*

For a banking organization approved to use the standardized measure for CVA risk, the proposal would require the exposure models used in the calculation of regulatory CVA to be part of a CVA risk management framework that includes the identification, management, measurement, approval, and internal reporting of CVA risk.

I. Control and oversight

A banking organization that receives prior written approval from its primary Federal supervisor to use the standardized measure for CVA risk would be required to maintain an independent risk control unit that is responsible for the effective initial and ongoing validation of the models used for calculating regulatory CVA (including exposure models), reports directly to senior management, and is independent of the banking organization's trading desks and CVA desk, or similar dedicated function, as well as the business unit that evaluates counterparties and sets limits.

Senior management of the banking organization would be required to have oversight of the CVA risk control process. In addition, the banking organization would be required to have a regular independent audit review of the overall CVA risk management process, including both the activities of the CVA desk (or similar dedicated function) and of the independent risk control unit. The agencies intend that, together, the independent risk control unit and internal audit would provide appropriate review and credible challenge of the effectiveness of CVA risk management function.

II. Exposure model eligibility

The proposal would introduce requirements for a banking organization that calculates the CVA risk-based capital requirements under SA-CVA to further strengthen its CVA risk management processes and promote effective CVA risk management pertaining specifically to CVA exposure models. Such requirements would guide the banking organization's internal CVA risk control unit and audit functions in providing appropriate review and challenge of CVA risk management. In particular, the proposal would require the banking organization to (1) include

exposure models for the regulatory CVA calculation in its CVA risk management framework and (2) define criteria on which to assess the exposure models and their inputs and have a written policy in place describing the process for assessing the performance of exposure models and for remedying unacceptable performance.

To help ensure that the CVA capital requirements are commensurate with CVA risk, the proposal would require a banking organization to have the exposure models used in regulatory CVA calculation be part of its ongoing CVA risk management framework, including identification, measurement, management, approval, and internal reporting of CVA risk. Such requirements would subject the regulatory CVA exposure models to ongoing effective measurement and management.

Specifically, the proposal would require a banking organization to document the process for initial and ongoing validation of its models used for calculating regulatory CVA, including exposure models, with sufficient detail to enable a third party to understand the model's operations, limitations, and key assumptions. A banking organization would be required to validate, no less than annually, its CVA models including exposure models, and would account for other circumstances, such as a sudden change in market behavior, under which additional validation would need to be conducted more frequently. In addition, a banking organization would be required to sufficiently document how the validation is conducted with respect to data flows and portfolios, what analyses are used, and how representative counterparty portfolios are constructed. As part of the independent model validation, a banking organization would be required to test the pricing models used to calculate exposure for given paths of market risk factors against appropriate independent benchmarks for a wide range of market states as part of the initial and ongoing model validation process. The proposal would require the pricing models for CVA risk covered positions that are options to account for the non-linearity of option value with respect to market risk factors.

Additionally, a banking organization would be required to obtain current and historical market data that are either independent of the line of business or validated independently of the line of business, to be used as an input for an exposure model, as well as comply with applicable financial reporting standards. The proposal would require well-developed data integrity processes to handle the data of erroneous and anomalous observations, and that data be input into exposure models in a timely and complete fashion and maintained in a secure database that is subject to formal periodic audits. Where data used in the exposure model are proxies for actual market data, the proposal would require a banking organization to set internal policies to identify suitable proxies and be able to demonstrate, empirically on an ongoing basis, that the proxy data are a conservative representation of the underlying risk under adverse market conditions.

To accurately calculate simulated paths of a discounted future exposure required for regulatory CVA calculations as discussed below, a banking organization's exposure models would need to capture and accurately reflect transaction-specific information (for example, terms and specifications). A banking organization would be required to verify that transactions are assigned to the appropriate netting set within the model. The terms and specifications would need to reside in a secure database subject to at least annual formal audit. The transmission of the transaction terms and specifications data to the exposure model would also be subject to internal audit. The proposal would require a banking organization to establish formal reconciliation processes between the internal model and source data systems to verify on an ongoing basis that transaction terms and specifications are being reflected correctly or at least conservatively.

5. Measure for CVA risk

To calculate the risk-based capital requirement for CVA risk, the proposal would provide a basic measure for CVA risk and a standardized measure for CVA risk. Under the proposal, the basic measure for CVA risk would include risk-based capital requirements for all CVA risk covered positions and eligible CVA hedges calculated using the BA-CVA, and any other additional capital requirement for CVA risk established by a banking organization's primary

Federal supervisor if the primary Federal supervisor determines that the capital requirement for CVA risk as calculated under the BA-CVA is not commensurate with the CVA risk of the banking organization's CVA risk covered positions. The standardized measure for CVA risk would include risk-based capital requirements calculated under (1) the SA-CVA for all standardized CVA risk covered positions[435] and standardized CVA hedges, (2) the BA-CVA for all basic CVA risk covered positions[436] and basic CVA hedges, and (3) any additional capital requirement for CVA risk established by a banking organization's primary Federal supervisor if the primary Federal supervisor determines that the capital requirement for CVA risk as calculated under the SA-CVA and BA-CVA is not commensurate with the CVA risk of the banking organization's CVA risk covered positions. The primary Federal supervisor may require the banking organization to maintain an overall amount of capital that differs from the amount otherwise required under the proposal, if the primary Federal supervisor determines that the banking organization's CVA risk capital requirements under the rule are not commensurate with the risk of the banking organization's CVA risk covered positions, a specific CVA risk covered position, or portfolios of such positions, as applicable.

A banking organization would be required to use the basic measure for CVA risk unless it has received prior written approval from the primary Federal supervisor to use the standardized measure for CVA risk.

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[435] The proposal would define standardized CVA risk covered positions as all CVA risk covered positions that are not basic CVA risk covered positions; these terms are used in the standardized measure for CVA risk.

[436] The proposal would define basic CVA risk covered positions as CVA risk covered positions that must be included in the BA-CVA because: (i) the banking organization does not have supervisory approval to use the SA-CVA for these CVA risk covered positions; (ii) the banking organization chooses to exclude the netting sets with these CVA risk covered positions from the SA-CVA; or (iii) these CVA risk covered positions are in a partial netting set designated for inclusion in the BA-CVA by the banking organization with prior approval from its primary Federal supervisor.

A banking organization that has received prior written approval from its primary Federal supervisor to use the standardized measure for CVA risk would be required to include all CVA risk covered positions that are outside of the approval scope of the SA-CVA in the BA-CVA. Furthermore, a banking organization could choose to exclude any number of in-scope netting sets from SA-CVA calculations and recognize them instead in the BA-CVA. Given that the calculation of CVA sensitivities to market risk factors in the SA-CVA is computationally intensive for large netting sets, the proposal would allow a banking organization to restrict application of the SA-CVA only to netting sets with the most material CVA risk, for example. A banking organization may also bifurcate CVA risk covered positions of a single netting set between SA-CVA and BA-CVA, subject to a prior written supervisory approval for each such case. Thus, for a banking organization that has received prior written approval from its primary Federal supervisor to use the standardized measure for CVA risk, the CVA capital requirement generally would equal the SA-CVA capital requirement for its CVA risk covered positions and eligible CVA hedges recognized under SA-CVA (these CVA risk covered positions and eligible CVA hedges are referred to as "standardized" in the proposal), plus the BA-CVA capital requirement for its CVA risk covered positions and eligible CVA hedges recognized under BA-CVA (these CVA risk covered positions and eligible CVA hedges are referred to as "basic" in the proposal), if applicable.

After calculating the CVA capital requirement using either the basic measure for CVA risk or the standardized measure for CVA risk, a banking organization's total capital requirements for CVA risk would equal the CVA capital requirement multiplied by 12.5. Additionally, the primary Federal supervisor could require the banking organization to maintain an amount of regulatory capital that differs from the amounts required under the basic measure for CVA risk or the standardized measure for CVA risk.

a. Basic approach for CVA risk

Similar to the simple CVA approach in the current capital rule, the capital requirement for CVA risk under the BA-CVA would be calculated according to a formula, described below, that approximates CVA expected shortfall, which replaces value-at-risk in the simple CVA approach, assuming fixed expected exposure profiles and based on a set of simplifying assumptions. The assumptions provide that: (1) all credit spreads have a flat term structure; (2) all credit spreads at the time horizon have a lognormal distribution; (3) each single name credit spread is driven by the combination of a single systematic risk factor and an idiosyncratic risk factor; (4) the correlation between any single name credit spread and the systematic risk factor is 0.5, and (5) the single systematic risk factor drives all credit indices without any idiosyncratic risk component.

The BA-CVA would improve upon the simple CVA approach in the capital rule by: (1) providing limited recognition for the risk-mitigating benefit of eligible single-name credit instruments that do not reference a counterparty directly; (2) putting a restriction on hedge effectiveness; (3) relying on risk weights derived from the SA-CVA; and (4) introducing a new method of calculating risk weights for credit indices.

Under the proposal, the risk-based capital requirement under the BA-CVA would be calculated according to the following formula, as provided under §__.222(a) of the proposed rule:

$$K_{basic} = 0.65 \cdot \left(\beta \cdot K_{unhedged} + (1 - \beta) \cdot K_{hedged}\right)$$

where:

K_{basic} is the risk-based capital requirement under the BA-CVA;

$K_{unhedged}$ is the risk-based capital requirement for CVA positions before recognizing the risk mitigating effect of eligible CVA hedges;

K_{hedged} is the risk-based capital requirement after recognizing such hedges; and

β is a regulatory parameter set to 0.25.

The formula sets the capital requirement under the BA-CVA equal to the weighted average of $K_{unhedged}$ and K_{hedged} scaled by a factor of 0.65 in order to ensure that the simpler and less risk-sensitive BA-CVA method is calibrated appropriately relative to the SA-CVA. Applying the weighted average in the BA-CVA capital requirement formula is a conservative measure that implicitly recognizes the presence of the expected exposure component of CVA risk by reducing the effectiveness of eligible CVA hedges to 75 percent (preventing a banking organization's eligible CVA hedges from fully offsetting the CVA risk of its CVA risk covered positions).[437] Thus, even if a banking organization perfectly hedges the counterparty credit spread component of CVA risk, the BA-CVA capital requirement would be equal to $0.65 \cdot (0.25 \cdot K_{unhedged})$ For a banking organization that does not hedge CVA risk, eliminating the recognition of eligible CVA hedges would result in $K_{hedged} = K_{unhedged}$, so that the BA-CVA calculation would become:

$$K_{basic} = 0.65 \cdot \left(K_{unhedged}\right)$$

i. *Calculation of $K_{unhedged}$*

Under BA-CVA, the proposal would first require a banking organization to calculate the risk-based capital requirements for CVA risk covered positions without recognizing the risk mitigating effect of eligible CVA hedges, $K_{unhedged}$, for each counterparty on a stand-alone basis ($SCVA_C$) and then aggregate the respective standalone counterparty capital requirements across counterparties, as expressed by the following formula:

$$K_{unhedged} = \sqrt{\left(\rho \cdot \sum_c SCVA_c\right)^2 + \left((1-\rho^2) \cdot \sum_c SCVA_c^2\right)}$$

[437] Suppose, for example, that a banking organization perfectly offsets the counterparty credit spread component of CVA risk, so that $K_{hedged} = 0$. Allowing the banking organization to set the BA-CVA to zero in this case would not be prudent because there is also the exposure component of CVA risk, which is not explicitly captured by the BA-CVA.

The first term under the square root in the formula $((\rho \cdot \sum_C SCVA_C)^2)$ aggregates the systematic components of CVA risk, while the second term under the square root in the formula $((1-\rho^2) \cdot \sum_C(\mathrm{SCVA}_C^2))$ aggregates the idiosyncratic components of CVA risk. The purpose of the $K_{unhedged}$ formula is intended to reflect the potential losses arising from unhedged CVA risk.

I. Regulatory correlation parameter

One of the basic assumptions underlying the BA-CVA is that a single risk factor drives systematic credit spread risk. This assumption is important because it simplifies the credit spread correlation structure. The proposed regulatory correlation parameter ρ of 0.5 approximates the correlation between the credit spread of a counterparty and the systematic risk factor. The square of the regulatory correlation parameter (0.25) approximates the correlation between credit spreads of any two counterparties. The proposed value of the regulatory correlation parameter is consistent with historically observed correlations between credit spreads and would appropriately recognize the diversification of CVA risk by ensuring that a banking organization's exposure would be less than the sum of the CVA risks for each counterparty.

II. Standalone CVA capital requirement for each counterparty ($SCVA_C$)

$SCVA_C$ represents the capital requirement a banking organization would be subject to under the BA-CVA if a single counterparty were the only counterparty with which the banking organization has CVA risk covered positions (that is ignoring the existence of the other counterparties), and there are no eligible CVA hedges to consider. For purposes of calculating $SCVA_C$, the proposal first would require a banking organization to calculate for each netting set the product of the effective maturity M_{NS}, the exposure at default amount EAD_{NS}, and the regulatory discount factor DF_{NS}, and sum the resulting products across all netting sets with the same counterparty. The banking organization would multiply the resulting quantity for each

counterparty by the supervisory risk weight of the counterparty RW_C from Table 1 to § __.222 and divide by alpha (α), discussed below, as expressed by the following formula:[438]

$$SCVA_c = \frac{1}{\alpha} \cdot RW_c \cdot \sum_{NS} (M_{NS} \cdot EAD_{NS} \cdot DF_{NS})$$

The proposal would set the exposure at default amount, EAD_{NS}, for the netting set, *NS*, equal to the exposure amount calculated by the banking organization for the same netting set for counterparty credit risk capital requirements according to §__. 113 of the proposal, which captures the potential losses in the event of the counterparty's default. The effective maturity of the netting set, M_{NS}, would equal the weighted-average remaining maturity, measured in whole or fractional years, of the individual CVA risk covered positions in the netting set, *NS*, with the weight of each individual position set equal to the ratio of the notional amount of the position to the aggregate notional amount of all CVA risk covered positions in the netting set.[439] As the proposal would define the effective maturity of a netting set as an average of the actual CVA risk covered position maturities, the regulatory discount factor, DF_{NS}, would scale down the potential losses projected over the effective maturity of the netting set to their net present value, using a 5 percent interest rate. The proposed interest rate would be a reasonable discount factor and consistent with the long-term historically observed average of long-term interest rates. The proposal would define components of the $SCVA_c$ calculation at a netting set level, thus clarifying the use of counterparty-level exposure at default and effective maturity calculated in the same way as the banking organization calculates it for minimum capital requirements for counterparty credit risk.

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[438] The above formula for $SCVA_c$ is a simplified representation of how the expected shortfall of the counterparty credit spread component of CVA risk of a single counterparty can be calculated.

[439] For a netting set consisting of a single transaction (for example, a derivative contract that is not subject to a QMNA), the effective maturity would equal the remaining contractual maturity of the derivative contract.

A. *Supervisory Risk Weights* (RW_c)

Table 1 to § __.222 of the proposed rule provides the proposed supervisory risk weights for each counterparty, RW_c, which reflect the potential variability of credit spreads based on a combination of the sector and credit quality of the counterparty or of the eligible hedge reference entity. With the exception of sovereigns and MDBs, each sector would have two risk weights, one for counterparties that are investment grade, as defined in the current rule,[440] and one for counterparties that are speculative grade or sub-speculative grade, each as defined in the proposal.[441] Sovereigns and MDBs would have separate risk weights for counterparties that are speculative grade and counterparties that are sub-speculative grade. The proposed supervisory risk weights match the risk weights set out in the SA-CVA for counterparty credit spread risk class.

The proposal would provide counterparty sectors similar to those contained in the Basel III reforms and a treatment for certain U.S.-specific counterparties (for example, GSEs and public sector entities). Specifically, the proposal would include GSE debt and public sector entities for government-backed non-financials, education, and public administration to appropriately reflect the potential variability in the credit spreads of such counterparties.

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[440] *See* the definition of Investment Grade in the capital rule. 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); 12 CFR 324.2 (FDIC).

[441] *See* the definitions of Speculative Grade and Sub-Speculative Grade in § __.2 of the proposed rule.

Table 1 to § __.222 Supervisory Risk Weights, RW_c

Sector of counterparty	Credit quality of counterparty		
	Investment grade	Speculative grade / sub-speculative grade	
Sovereign exposures and MDBs	0.5%	3.0%	7.0%
PSE,[442] government-backed non-financials, GSE debt, education, and public administration	1.0%	4.0%	
Financials including government-backed financials	5.0%	12.0%	
Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	3.0%	7.0%	
Consumer goods and services, transportation and storage, administrative and support service activities	3.0%	8.5%	
Technology and telecommunications	2.0%	5.5%	
Health care, utilities, professional and technical activities	1.5%	5.0%	
Other sector	5.0%	12.0%	

Question 164: The agencies seek comments on the appropriateness of the proposed risk weights of Table 1 to § __.222 for financials, including government-backed financials. What, if any, alternative risk weights should the agencies consider? Please provide specific details and supporting evidence on the alternative risk weights.

Question 165: The agencies seek comments on the appropriateness of treating the counterparty credit risks of public-sector entities and the GSEs in the same way as those of government-backed non-financials, education, and public administration. What, if any, alternatives should the agencies consider to more appropriately capture the counterparty credit risk for such entities?

Question 166: The agencies seek comments on the appropriateness of applying a 0.65 calibration factor in the formula setting the capital requirement under the BA-CVA to ensure that CVA risk capital requirements appropriately reflect CVA risk. What other level of the calibration should the agencies consider and why?

B. *Alpha factor (α)*

As previously discussed, when calculating a standalone CVA counterparty-level capital requirement, the proposal would require a banking organization to use the exposure amount that

[442] Under §__.2 of the current capital rule, *public sector entity (PSE)* means a state, local authority, or other governmental subdivision below the sovereign level.

it uses in the counterparty credit risk framework. The exposure amount determined in the counterparty credit risk framework would be the sum of replacement cost and potential future exposure multiplied by a multiplication factor (the alpha factor) to capture certain risks (for example, wrong-way risk[443] and risks resulting from non-perfect granularity).[444] CVA calculations are based on expected exposure, which in SA-CCR is proxied by the sum of replacement cost and potential future exposure. Accordingly, the proposal would remove the effect of this multiplication factor from the risk-based capital requirement for CVA risk by dividing the exposure at default amount used in the $SCVA_c$ formula by the alpha factor. Specifically, the proposal would require such banking organization to use the same alpha factor in calculating the risk-based capital required under the BA-CVA as required in exposure amount calculations under SA-CCR by setting the alpha factor at 1.4 for derivative contracts with counterparties that are not commercial end-users and at 1 for derivative contracts with commercial end-users.

Question 167: The agencies seek comment on using the counterparty credit risk framework to calculate the exposure amount for the standalone CVA counterparty-level capital requirement. Does the CVA capital requirement pose particular issues in the case of nonfinancial counterparties? If so, what modifications should the agencies consider to mitigate such issues?

ii. *Calculation of K_{hedged}*

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[443] Wrong-way risk reflects the situation where exposure is positively correlated with the counterparty's probability of default – that is, the exposure amount of the derivative contract increases as the counterparty's probability of default increases.

[444] *See* 85 FR 4362 (January 24, 2020). Under SA-CCR, the alpha factor generally is set at 1.4. However, for a derivative contract with a commercial end-user counterparty, the alpha factor is removed from the exposure amount formula. This is equivalent to applying an alpha factor of 1 to these contracts.

The second component of the BA-CVA calculation, K_{hedged}, represents the risk-based capital requirements for CVA risk after recognizing the risk mitigation benefits of eligible counterparty credit spread hedges, as expressed by the following formula:

$$K_{hedged} = \sqrt{\left(\rho \cdot \sum_c (SCVA_c - SNH_c) - IH\right)^2 + (1-\rho^2) \cdot \sum_c (SCVA_c - SNH_c)^2 + \sum_c HMA_c}$$

In general, the calculation of K_{hedged} follows that of $K_{unhedged}$, but introduces new terms to reflect the risk-mitigating effect of eligible CVA hedges.[445] The first term, $((\rho \cdot \sum_C (SCVA_c - SNH_c) - IH)^2)$, recognizes the risk mitigating effect of single-name hedges (SNH_c) and index hedges (IH) on the systematic component of a banking organization's aggregate CVA risk. The second term, $((1-\rho^2) \cdot \sum_c (SCVA_c - SNH_c)^2)$, recognizes the risk mitigating effect of single-name hedges on the aggregate idiosyncratic component of aggregate CVA risk. The third term, $\sum_c HMA_c$, aggregates the components of indirect single-name hedges that are not aligned with counterparty credit spreads and is designed to limit the regulatory capital reduction a banking organization may realize from indirect hedges given that such hedges will not fully offset movements in a counterparty's credit spread (that is, indirect hedges cannot reduce K_{hedged} to zero).

I. Single-name hedges of credit spread risk (SNH_c)

Under the proposal, to calculate the capital reduction for a single-name hedging instrument, a banking organization would multiply the supervisory prescribed correlation (r_{hc}) between the credit spread of the counterparty and the hedging instrument, the supervisory risk weight of the reference name of the hedging instrument (RW_h), the remaining maturity of the

[445] The standalone CVA capital, $SCVA_c$, and regulatory correlation parameter, ρ, are defined in exactly the same way as in the formula for CVA risk covered positions $K_{unhedged}$. *See* section III.I.5.a.i. of this Supplementary Information.

hedging instrument in years (M_h^{SN}), the notional amount of the hedging instrument (B_h^{SN})[446] and the supervisory discount factor (DF_h^{SN}). The offsetting benefit of all single-name hedges of credit spread risk on the CVA risk of each counterparty (SNH_c) would equal the simple sum of the capital reduction for each eligible CVA hedge that a banking organization uses to hedge the counterparty credit spread component of CVA risk of a given counterparty as expressed by the following formula:

$$SNH_c = \sum_{h \in c} (r_{hc} \cdot RW_h \cdot M_h^{SN} \cdot B_h^{SN} \cdot DF_h^{SN})$$

Risk weights (RW_h) would be based on a combination of the sector and the credit quality of the reference name of the hedging instrument as prescribed in Table 1 to § __.222 included above. Parameter r_{hc} is the regulatory value of the correlation between the credit spread of the counterparty and the credit spread of the reference name of an eligible single-name hedge as prescribed in Table 2 to § __.222 below.

Table 2 to § __.222 Correlations between credit spread of counterparty, *c*, and a single-name hedge, *h*

Single-name hedge, *h*, of counterparty, *c*	Value of r_{hc}
References counterparty, *c*, directly	100%
References an affiliate of counterparty, *c*	80%
References an entity that belongs to the same sector and region as the counterparty, *c*	50%

II. Hedge mismatch adjustment for indirect single-name hedges (HMA_c)

Under the proposal, the portion of the indirect hedges that are not recognized in SNH_c due to the imperfect regulatory prescribed correlation would be reflected in the hedge mismatch adjustment, HMA_c, as expressed by the following formula:

$$HMA_c = \sum_{h \in c} \left((1 - r_{hc}^2) \cdot (RW_h \cdot M_h^{SN} \cdot B_h^{SN} \cdot DF_h^{SN})^2 \right)$$

[446] Under the proposal, the notional amount for single-name contingent CDS would be determined by the current market value of the reference portfolio or instrument.

While the summation would cover all single-name hedges assigned to counterparty *c*, only indirect hedges for which correlation with the counterparty spread is non-perfect (that is, the regulatory prescribed correlation (r_{hc}) is less than one) would contribute to HMA_c

III. Index Hedges of Credit Spread Risk (IH)

Under the proposal, the total amount by which index hedges of credit spread risk reduce the systematic component of the aggregate CVA risk across all counterparties, *IH*, would equal the simple sum of the capital reduction amounts for eligible CVA hedges that are index hedges, which would be calculated for each such hedge as the product of the supervisory risk weight (RW_i), the remaining maturity in years (M_i^{ind}), notional amount (B_i^{ind}), and the supervisory discount factor (DF_i^{ind}) – as expressed by the following formula:

$$IH = \sum_i \left(RW_i \cdot M_i^{ind} \cdot B_i^{ind} \cdot DF_i^{ind}\right)$$

Each term in the summation in the formula for *IH* above is a simplified representation of how the expected shortfall for the market value of a given index hedge can be calculated. Because of the BA-CVA's underlying assumption that each credit index is driven by the same systematic factor without any idiosyncratic risk component, the expected shortfall of each individual index hedge would be aggregated via simple summation across all such hedges, and the result of this aggregation *(IH)* would appear only in the systematic risk component in the formula for K_{hedged} above.

To determine the appropriate supervisory risk weight (RW_i) for each index hedge, the proposal would require a banking organization to adjust the supervisory risk weights in Table 1 to § __.222. Specifically, for index hedges where all the underlying constituents belong to the same sector and are of the same credit quality, a banking organization would assign the index hedge to the corresponding bucket used for single-name positions and multiply the supervisory risk weight by 0.7. For index hedges where the underlying constituents span multiple sectors or are not of the same credit quality, the banking organization would calculate the notional-weighted average of the risk weights assigned to each underlying constituent in the index based

on the risk weights provided in Table 1 to § __.222 and multiply the result by 0.7. Multiplication by a factor of 0.7 is intended to recognize diversification of idiosyncratic risk of individual index constituents.

b. Standardized approach for CVA risk

The SA-CVA is an adaptation of the sensitivities-based method used in the standardized measure for market risk as described in section III.H.7.a of this Supplementary Information. The inputs to the SA-CVA calculations are sensitivities of the aggregate regulatory CVA (discussed in the following subsection) and of the market value of all eligible CVA hedges under SA-CVA (discussed below in this section) to delta and vega risk factors specified in the proposal. In general, the proposed SA-CVA would closely follow the sensitivities-based method for market risk with some exceptions. Broadly, the SA-CVA calculation would reflect capital requirements for only delta and vega (but not curvature), apply slightly different steps in the calculation of the risk-weighted net sensitivity, use less granular risk factors and risk buckets, and include a capital multiplier to account for model risk.

There are other specific differences between the SA-CVA and the sensitivities-based method for market risk. Unlike the market risk of trading instruments, CVA risk always depends on two types of risk factors: the term structure of credit spreads of the counterparty and a set of market risk factors that drives the expected exposure of the banking organization to the counterparty. For this reason, the SA-CVA would have six distinct risk classes for the CVA delta capital requirement: counterparty credit spread and the five risk classes for exposure-related market risk factors which are the interest rate, foreign exchange, reference credit spread, equity, and commodity risk classes. Regulatory CVA is approximately linear in counterparty credit spreads and does not depend on their volatilities. Accordingly, calculation of the CVA vega capital requirement would not be required in the counterparty credit spread risk class. Expected exposure, on the other hand, is always sensitive to volatilities of market risk factors that drive market values of CVA risk covered positions. Because of this, a banking organization would be

required to calculate the CVA vega capital requirements for the five exposure-related risk classes regardless of the presence of options in CVA risk covered positions.

Regulatory CVA would require simulating future exposure that depends on multiple market risk factors over long time horizons. Calculation of each CVA sensitivity to an exposure-related market risk factor would involve a separate regulatory CVA calculation, which could limit the number of CVA sensitivities to market risk factors that a banking organization could realistically calculate. Accordingly, the agencies would reduce the granularity of both delta and vega risk factors in the five exposure-related risk classes in the SA-CVA compared to the sensitivities-based method for market risk. Curvature calculations would not be required. For the five exposure-related risk classes, the SA-CVA would use the same risk buckets, regulatory risk weight calibrations, and correlation parameters as are used in the sensitivities-based method for market risk, with necessary adjustments for the SA-CVA's reduced granularity of market risk factors.

In contrast to market risk factors that drive exposure, CVA sensitivities to counterparty credit spreads can be calculated based on a single regulatory CVA calculation. In the counterparty credit spread risk class, the SA-CVA would use the same granularity of risk factors as are used in the sensitivities-based method for market risk. Vega and curvature calculations would not be required in the counterparty credit spread risk class because regulatory CVA would be approximately linear with respect to counterparty credit spreads. For counterparty credit spreads, the SA-CVA would adjust risk buckets and correlations based on the role that counterparty credit spreads play in CVA calculations.

i. *Regulatory CVA*

Under the proposal, the aggregate regulatory CVA would equal the simple sum of counterparty-level regulatory CVAs. Counterparty-level regulatory CVA is intended to reflect an estimate of the market expectation of future loss that a banking organization would incur on its portfolio of derivatives with a counterparty in the event of the counterparty's default, assuming

that the banking organization survives until the maturity of the longest instrument in the portfolio. For consistency in the calculation of risk-based capital across banking organizations, the proposal would require a banking organization to apply a positive sign to non-zero losses, so that regulatory CVA is always a positive quantity. The proposal would require a banking organization to base the calculation of regulatory CVA for each counterparty on at least three sets of inputs: the term structure of market-implied probability of default (market-implied PD) of the counterparty, the market-consensus expected loss-given-default (ELGD), and the simulated paths of discounted future exposure. In addition to the three specified inputs, the proposal would also allow a banking organization to use models that incorporate additional inputs for purposes of calculating regulatory CVA.

I. Term structure of market-implied PD

The proposal would require a banking organization to use credit spreads observed in the markets, if available, to estimate the term structure of the market-implied PD based on market expectations of the likelihood that the counterparty will default by a certain point in the future. Relative to historical default probabilities, market-implied PDs are typically substantially higher as they reflect the premium that investors demand for accepting default risk.

As many counterparties' credit is not actively traded, the proposal would allow a banking organization to use proxies to estimate the term structure of market-implied PD. For these illiquid counterparties, a banking organization would be required to estimate proxy credit spreads from credit spreads observed in the market for the counterparty's liquid peers, determined using, at a minimum, credit quality, industry, and region. Alternatively, the proposal would permit a banking organization to map an illiquid counterparty to a single liquid reference name if a banking organization provides a justification to its primary Federal supervisor for the

appropriateness of such mapping.[447] In addition, for illiquid counterparties for which there are no available credit spreads of liquid peers, the proposal would permit a banking organization to use an estimate of credit risk to proxy the credit spread of an illiquid counterparty (for example, to use a more fundamental analysis of credit risk based on balance sheet information or other approaches). To be able to use the fundamental analysis of credit risk or similar approaches, a banking organization would need the prior approval of its primary Federal supervisor and be subject to supervisory review of its policies and procedures that reasonably demonstrate that the analysis of credit risk produces a credible proxy of the credit spread of the counterparty. While historical default probabilities may form part of this analysis, the resulting spread would have to relate to credit markets as well. This requirement would ensure the estimated term structure of market-implied PD reflects the market risk premium for counterparty credit risk.

II. Market-consensus ELGD

In general, the proposal would require a banking organization to use the market-consensus ELGD value that is used to calculate the market-implied PDs from the counterparty's credit spreads. The fraction of exposure that a banking organization would lose in the event of a counterparty default (that is, loss given default) depends on the seniority of the derivative contracts that the banking organization has with the counterparty at the time of default. Most CDS contracts, which are used to calculate the market-implied PD, allow for delivery of senior unsecured bonds and thus have the same seniority as senior unsecured bonds in bankruptcy. By generally requiring a banking organization to use the same market-consensus ELGD as the one used in calculations of the market-implied PD from the credit spreads, the proposal would require a banking organization to generally assume that derivative contracts' seniority is the same as the seniority of senior unsecured bonds. If a banking organization's derivative contracts

[447] For example, a banking organization may be permitted to use the credit spread curve of the home country as a proxy for that of a municipality in the home country (that is, setting the municipality credit spread equal to the sovereign credit spread plus a premium).

with the counterparty are more or less senior to senior unsecured bonds, the proposal would allow a banking organization to adjust the market-consensus ELGD to appropriately reflect the lower or higher losses arising from such exposures. However, the proposal would not allow a banking organization to use collateral provided by the counterparty as the justification for changing the market-consensus ELGD as the banking organization would already have considered collateral in determining its exposure to the counterparty.

III. Simulated paths of discounted future exposure

To align regulatory CVA with industry practices, the regulatory CVA calculation in the SA-CVA would generally be based on the exposure models that a banking organization uses to calculate CVA for purposes of financial reporting. Specifically, a banking organization would obtain the simulated paths of discounted future exposure by using the exposure models the banking organization uses for calculating CVA for financial reporting, adjusted, if needed, to meet the requirements imposed for regulatory CVA calculation, as described below. The proposal would require that these exposure models be subject to the same model calibration processes (with the exception of the margin period of risk, which would have to meet the regulatory floors), and use the same market and transaction data as the exposure models that the banking organization uses for calculating CVA for financial reporting purposes.

To produce the simulated paths of discounted future exposure, a banking organization would price all standardized CVA risk covered positions with the counterparty along simulated paths of relevant market risk factors and discount the prices to today using risk-free interest rates along the path. The banking organization would be required to simulate all market risk factors material to the transactions as stochastic processes for an appropriate number of paths defined on an appropriate set of future time points extending to the maturity of the longest transaction. The proposal would require drifts of risk factors to be consistent with a risk-neutral probability measure and would not permit historical calibration of drifts. The banking organization would be required to calibrate volatilities and correlations of market risk factors to current market data

whenever sufficient data exist in a given market, although the proposal would permit a banking organization to use historical calibration of volatilities and correlations if sufficient current market data are not available. A banking organization's assumed distributions for modelled risk factors would be required to account for the possible non-normality of the distribution of exposures, including the existence of leptokurtosis (that is, "fat tails"), where appropriate. The banking organization would be required to use the same netting recognition as in its CVA calculations for financial reporting. Where a transaction has a significant level of dependence between exposure and the counterparty's credit quality, the banking organization would be required to take this dependence into account.

The proposal would permit a banking organization to recognize financial collateral as a risk mitigant for margined counterparties if the financial collateral would be included in the net independent collateral amount or variation margin amount and the collateral management requirements in the SA-CCR are satisfied.

The proposal would require that (1) simulated paths of discounted future exposure capture the effects of margining collateral that is recognized as a risk mitigant along each exposure path; and (2) the exposure model appropriately captures all the relevant contractual features such as the nature of the margin agreement (that is, unilateral versus bilateral), the frequency of margin calls, the type of collateral, thresholds, independent amounts, initial margins, and minimum transfer amounts.[448] To determine collateral available to a banking organization at a given exposure measurement time, the proposal would require a banking organization's exposure model to assume that the counterparty will not post or return any collateral within a certain time period immediately prior to that time, known as the margin period of risk (MPoR). The proposal specifies a minimum length of time for the MPoR.

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[448] Minimum transfer amount means the smallest amount of variation margin that may be transferred between counterparties to a netting set pursuant to the variation margin agreement.

For client-facing derivative transactions, the minimum MPoR would be equal to 4+N business days, where N is the re-margining period specified in the margin agreement. In particular, for margin agreements with daily or intra-daily exchange of margin, the minimum MPoR would be 5 business days. For all other CVA risk covered positions, the minimum MPoR is equal to 9 + N business days, or 10 business days for margin agreements with daily or intra-daily exchange of margin.

ii. *Calculation of the SA-CVA approach*

Conceptually, the proposed SA-CVA approach is similar to the proposed sensitivities-based method under the market risk framework, as described in section III.H.7.a of this Supplementary Information, in that a banking organization would estimate the changes in regulatory CVA arising from CVA risk covered positions and, if applicable, eligible CVA hedges resulting from applying standardized shocks to the relevant risk factors. As in the case of the proposed sensitivities-based method, to help ensure consistency in the application of risk-based capital requirements across banking organizations, the proposal would establish the applicable risk factors, the method to calculate the sensitivity of regulatory CVA and CVA hedges to each of the prescribed risk factors, the shock applied to each risk factor, and the process for aggregating the net weighted sensitivities within each risk class and across risk classes to arrive at the total CVA risk-based capital requirement for the portfolio under the SA-CVA. First, under the proposal, a banking organization would identify one or more of the specified risk classes that, in addition to counterparty credit spread risk class, would be applicable to its CVA risk covered positions and its CVA hedges. Based on standard industry classifications, the proposed exposure-related risk classes represent the common, yet distinct market variables that impact the value of CVA risk covered positions and CVA hedges. The proposed sensitivity calculations for delta and vega risk factors would estimate how much the aggregate regulatory CVA arising from CVA risk covered positions and separately the market value of all standardized CVA hedges would change as a result of a small change in a given risk

factor, while all other relevant risk factors remain constant. For the sensitivity calculation, a banking organization would be able to use either the standard risk factor shifts or smaller values of risk factor changes, if such smaller values are consistent with those used by the banking organization for internal risk management.

Second, for each delta (and, separately, vega) risk factor, the banking organization would multiply the measured sensitivity of the aggregate CVA arising from CVA risk covered positions to that risk factor and, separately, that of the market value of the aggregate eligible CVA hedges to that risk factor by the standardized risk weight proposed for that risk factor. A banking organization would then subtract the resulting weighted sensitivity for the eligible CVA hedges from the weighted sensitivity for the aggregate CVA arising from the CVA risk covered positions to obtain the net weighted sensitivity to a given risk factor. The agencies intend the proposed risk weights to capture the amount that a risk factor would be expected to move during the liquidity horizon of the risk factor in stress conditions and generally would be consistent with the risk weights in the proposed sensitivities-based method for market risk outlined in section III.H.7.a.ii of the Supplementary Information.

Third, to aggregate CVA risk contributions of individual risk factors, the proposal would provide aggregation formulas for calculating the total delta and vega capital requirements for the entire CVA portfolio. Within each risk class, the proposal would group similar risk factors into risk buckets. Similar to the sensitivities-based method for market risk, a banking organization would aggregate the net risk-weighted sensitivities for delta (and, separately, for vega) risk factors first within each risk bucket and then across risk buckets within each risk class using the prescribed aggregation formulas to produce the respective delta and vega risk-based capital requirements. The agencies' intention is that the aggregation formulas limit offsetting and diversification benefits via the prescribed correlation parameters. Under the proposal, the correlation parameters specified for each risk factor pair would limit the risk-mitigating benefit of hedges and diversification, given that the hedge relationship between the underlying position

and the hedge as well as the relationship between different types of positions could decrease or become less effective in a time of stress.

Fourth, a banking organization would aggregate the resulting delta and vega risk-class-level capital requirements as the simple sum across risk classes with no recognition of any diversification benefits because in stress diversification across different risk classes may become less effective.

Finally, the overall risk-based capital requirement for CVA risk would be the simple sum of the separately calculated delta and vega capital requirements without recognition of any diversification benefits as these measures are intended to capture different types of risk and because in stress diversification may become less effective.

I. Delta and vega

To appropriately capture linear CVA risks, the proposal would require a banking organization to separately calculate the risk-based capital requirements for delta and vega using the above steps. As the sensitivity to vega risk is always material for CVA (as discussed further below), the proposal would require a banking organization to always measure the sensitivity of regulatory CVA to vega risk factors, regardless of whether the CVA risk covered positions include positions with optionality. When a banking organization calculates a sensitivity of regulatory CVA to a vega risk factor, it would apply the appropriate volatility shift to both types of volatilities that appear in exposure models: volatilities used for generating risk factor paths and volatilities used for pricing options.

II. Risk classes

Under the proposal, a banking organization would be required to identify all of the relevant risk factors for which it would calculate sensitivities for delta risk and vega risk. Based on the identified risk factors, a banking organization would be required to identify the corresponding risk buckets within relevant risk classes. CVA of a single counterparty can be represented as the product of counterparty credit spread and expected exposure for various future

time points, aggregated across these time points. Because of this structure, counterparty credit spread risk naturally presents itself as a separate delta risk class that is always present in CVA risk regardless of the type of CVA risk covered positions in the portfolio.[449] The risk classes specified for delta and vega risk factors related to expected exposure under SA-CVA are generally consistent with those under the sensitivities-based method for market risk and include interest rate, foreign exchange, credit spread, equity, and commodity.

For credit spread risk, the proposal would specify two distinct risk classes that may share the same risk factors but would need to be treated separately: (i) counterparty credit spread risk; and (ii) reference credit spread risk. Reference credit spread risk would be defined as the risk of loss that could arise from changes in the underlying credit spread risk factors that drive the exposure component of CVA risk. For example, a banking organization could have a portfolio of derivatives with Firm X as a counterparty and, at the same time, have a CDS referencing credit of Firm X in a portfolio of derivatives with Firm Y. In such cases, under the SA-CVA, the same credit spreads of Firm X would be treated as distinct risk factors in two sets of sensitivity calculations: one within the counterparty credit spread risk class calculations, and the other within the reference credit spread risk class calculations. To incorporate credit spread hedges of CVA risk properly, each such hedge would be designated as either a counterparty credit spread hedge or a reference credit spread hedge and included only in one calculation according to the designation.

Each risk class used for delta would also apply to vega, except for counterparty credit spread risk. The regulatory CVA is approximately linear in counterparty credit spreads and does not depend on their volatilities. Accordingly, calculation of the CVA vega capital requirement would not be required in the counterparty credit spread risk class. On the other hand, expected exposure is always sensitive to volatilities of market risk factors that drive market values of CVA

[449] This is a fundamental distinction between CVA risk and market risk, which, in the latter case, is entirely determined by market risk covered positions.

risk covered positions.[450] Accordingly, for each of the five exposure-related risk classes, a banking organization would be required to compute vega risk factor sensitivities of the aggregate regulatory CVA, in addition to delta risk factor sensitivities, regardless of whether the portfolio includes options.

III. Risk factors

Under the proposal, a banking organization would be required to identify all of the relevant risk factors for which it would calculate sensitivities for delta risk and vega risk. The proposed risk factors differ for each risk class to appropriately reflect the specific market risk variables relevant for each risk class.

To measure the impact of a small change in each of the risk factors on the aggregate regulatory CVA and the market value of eligible CVA hedges, the proposal would specify the sensitivity calculations that a banking organization may use to calculate the CVA sensitivity to small changes in each of the specified delta or vega risk factors, as applicable.[451] Specifically, for the equity, commodity, and foreign exchange delta risk factors, the sensitivity would equal the change in the aggregate regulatory CVA arising from CVA risk covered positions and separately the market value of all eligible CVA hedges due to a one percentage point increase in the delta risk factor divided by one percentage point. For the interest rate, counterparty credit spread, and reference credit spread delta risk factors, the sensitivity would equal the change in the aggregate regulatory CVA arising from CVA risk covered positions and separately the market value of all

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[450] CVA expected exposure profile can be characterized as today's price of a call option on the portfolio market value at that time point (or on the increment of the portfolio market value over the MPoR for a margined portfolio). Since the price of an option depends both on the price and volatility of the underlying asset, both delta and vega risk factor sensitivities materially contribute to expected exposure variability, even when the portfolio of CVA risk covered positions with a counterparty does not include options.

[451] As previously noted, for the sensitivity calculation, a banking organization would be able to use either the standard risk factor shifts or smaller values of risk factor changes, if such smaller values are consistent with those used by the banking organization for internal risk management (for example, using infinitesimal values of risk factor shifts in combination with algorithmic differentiation techniques).

eligible CVA hedges due to a one basis point increase in the risk factor divided by one basis point. The sensitivity to a vega risk factor would equal the change in the aggregate regulatory CVA arising from CVA risk covered positions and separately the market value of all eligible CVA hedges due to a one percentage point increase in the volatility risk factor divided by one percentage point. When a banking organization calculates the sensitivity of regulatory CVA arising from CVA risk covered positions and separately of the market value of all eligible CVA hedges to a vega risk factor, the banking organization would apply the shift to the relevant volatility used for generating risk factor simulation paths for regulatory CVA calculations. If there are options in the portfolio with the counterparty, the shift would also be applied to the relevant volatility used to price options along the simulation paths.

In cases where a CVA risk covered position or an eligible CVA hedge references an index, the proposal would require a banking organization to calculate the sensitivities of the aggregate regulatory CVA arising from the CVA risk covered positions or the market value of the eligible CVA hedges to all risk factors upon which the value of the index depends. The sensitivity of the aggregate regulatory CVA or the market value of the eligible CVA hedges to a risk factor would be calculated by applying the shift of the risk factor to all index constituents that depend on this risk factor and recalculating the aggregate regulatory CVA or the market value of the eligible CVA hedges.

For the risk classes of counterparty credit spread risk, reference credit spread risk, and equity risk, the SA-CVA would allow a banking organization to introduce a set of additional risk factors that directly correspond to qualified credit and equity indices.[452] For a CVA risk covered position or an eligible CVA hedge whose underlying is a qualified index, its contribution to

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[452] For delta risk, a credit or equity index would be qualified if it is listed and well-diversified; for vega risk, any credit or equity index would be qualified. If a banking organization chooses to introduce such additional risk factors, the banking organization would be required to calculate CVA sensitivities to the qualified index risk factors in addition to sensitivities to the non-index risk factors.

sensitivities to the index constituents would be replaced with its contribution to a single sensitivity to the underlying index, provided that (1) for listed and well-diversified indices that are not sector specific where 75 percent of notional value for credit indices or market value for equity indices of the qualified index's constituents on a weighted basis are mapped to the same sector, the entire index would have to be mapped to that sector and treated as a single-name sensitivity in that bucket, and (2) in all other cases, the sensitivity would have to be mapped to the applicable index bucket. The proposal would provide this option because some popular credit and equity indices involve a large number of constituents[453] and calculating sensitivities to each constituent may be impractical for such indices.

A. *Counterparty credit spread risk*

The proposal would define the counterparty credit spread delta risk factors as the absolute shifts of credit spreads of individual entities (counterparties and reference names for counterparty credit spread hedges) and qualified indices (under the optional treatment of qualified indices) for the following tenors: 0.5 years, 1 year, 3 years, 5 years, and 10 years.

In addition to single-name CVA counterparty credit spread hedges, banking organizations use index hedges to hedge the systematic component of counterparty credit spread risk. If an eligible CVA counterparty credit spread risk hedge references a credit index, a banking organization would be required to calculate delta sensitivities of the market value of all eligible CVA hedges of counterparty credit spread risk to the credit spread of each constituent entity included in the index. In these calculations, a banking organization would be required to shift the credit spread of each of the underlying constituents of the index while holding the credit spreads of all others constant.

The SA-CVA would offer an alternative, optional approach that introduces additional index risk factors for qualified indices. Specifically, for each qualified index referenced by

[453] For example, the credit index CDX has 125 constituents, equity index S&P 500 has 500 constituents.

eligible CVA counterparty credit spread risk hedges, delta risk factors would be absolute shifts of the qualified index for the following tenor points: 0.5 years, 1 year, 3 years, 5 years, and 10 years. Under this optional approach, when a banking organization calculates sensitivities to single-name credit spread risk factors, the qualified indices would remain unchanged. For each distinct qualified credit index referenced by an eligible CVA counterparty credit spread risk hedge, the banking organization would perform a separate delta sensitivity calculation where the entire credit index is shifted. The qualified index sensitivity calculations would only affect eligible CVA hedges of counterparty credit spread risk that reference the qualified indices. This alternative is designed to reduce the complexity of constituent-by-constituent calculations, as many popular credit indices have more than a hundred constituents of sensitivities.

B. *Risk factors for market risk classes*

As noted above, given the computational intensity of calculating the sensitivity of CVA to market risk factors and the less material impact of such risk factors on the volatility of CVA, the proposal would define the delta and vega risk factors for all five market risk classes (interest rate risk, foreign exchange risk, reference credit spread risk, equity risk, and commodity risk) in a much less granular way than under the sensitivity-based method for market risk.

1. Interest rate risk

For both delta and vega risk factors in the interest rate risk class, the proposal would define individual buckets by currency, which would consist of interest rate risk factors and inflation rate risk factors. For specified currencies (USD, EUR, GBP, AUD, CAD, SEK, or JPY), the delta interest rate risk factors would be defined as the simultaneous absolute change in all risk-free yields in a given currency at each specified tenor point (1 year, 2 years, 5 years, 10 years, and 30 years) and the absolute change in the inflation rate of a given currency. For all other currencies, the delta risk factors for interest rate risk would be defined along two dimensions: the simultaneous parallel shift in all risk-free yields in a given currency and the absolute change in the inflation rate of a given currency.

As the specified currencies are intended to capture the set of liquid currencies that would likely dominate a banking organization's portfolios, the proposal would require a banking organization to identify and apply more granular delta risk factors for such exposures relative to those for all other currencies. Of the ten tenors used under the sensitivities-based method in market risk, the proposed five tenors are intended to capture the most commonly used tenors based on the liquidity in interest rate OTC derivative markets.

For all currencies, the interest rate vega risk factors for each currency would be defined along two dimensions: the simultaneous relative change of all interest rate volatilities for a given currency and the simultaneous relative change of all inflation rate volatilities for a given currency. For vega risk factors, the proposal would reduce the granularity in the tenor dimension in the same manner for all currencies given the computational intensity of calculating the vega risk sensitivity and the less material impact of such risk factors on the volatility of CVA.

2. Foreign exchange risk

The proposal would specify delta and vega risk buckets for foreign exchange risk as individual foreign currencies. For each foreign exchange risk bucket, the proposal would define one delta risk factor and one vega risk factor. Specifically, the proposal would define (1) the foreign exchange delta risk factor as the relative change in the foreign exchange spot rate[454] between a given foreign currency and the reporting currency (or base currency); and (2) the foreign exchange vega risk factor as the simultaneous, relative change of all volatilities for an exchange rate between a banking organization's reporting currency (or base currency) and another given currency. For transactions that reference an exchange rate between a pair of non-reporting currencies, the sensitivities to the foreign exchange spot rates between the bank's reporting currency and each of the referenced non-reporting currencies must be measured.

[454] Under the proposal, the foreign exchange spot rate would be defined for purposes of CVA risk as the current market price of one unit of another currency expressed in the units of the banking organization's reporting (or base) currency.

3. Reference credit spread risk

The proposal would define risk buckets for the delta and vega risk factors by sector and credit quality which is consistent with the definitions of risk buckets for non-securitization credit spread risk that are used in the proposed sensitivities-based method for market risk. The proposal would define one reference credit spread risk factor per delta or vega risk bucket under the SA-CVA. Specifically, the proposal would define (1) the delta risk factor as the simultaneous absolute shift of all credit spreads of all tenors for all reference entities in the bucket; and (2) the vega risk factor as the simultaneous relative shift of the volatilities of all credit spreads of all tenors for all reference entities in the bucket. In addition, similar to the counterparty credit spread risk as described above in section III.I.5.b.ii.III.A of the Supplementary Information, the SA-CVA would offer an alternative, optional approach that introduces additional index risk factors for qualified indices and allows a banking organization to calculate delta and vega sensitivities of aggregate regulatory CVA and eligible CVA hedges with respect to the qualified indices instead of each constituent of the indices.

4. Equity risk

The proposal would set the risk buckets for delta and vega risk factors generally matching the risk buckets for equity risk in the proposed sensitivities-based method for market risk. The proposal would define one equity risk factor per delta or vega risk bucket to reduce the complexity of calculating CVA sensitivities to equity risk factors. The proposal would define (1) the delta risk factor as the simultaneous relative change of all equity spot prices for all entities in the bucket and (2) the vega risk factor as the simultaneous relative change of all equity price volatilities for all entities in the bucket. In addition, similarly to the counterparty credit spread risk and reference credit spread risk as described in sections III.I.5.b.ii.III and III.I.5.b.ii.III.B.3 of the Supplementary Information, the SA-CVA would offer an alternative, optional approach that introduces additional index risk factors for qualified indices and allows a banking

organization to calculate delta and vega sensitivities of aggregate regulatory CVA and eligible CVA hedges with respect to the qualified indices instead of each constituent of the indices.

5. Commodity risk

The proposal would set the risk buckets for delta and vega risk factors matching the risk buckets for commodity risk in the proposed sensitivities-based method for market risk. The proposal would define one commodity risk factor per delta or vega risk bucket under the SA-CVA. Specifically, the proposal would define (1) the delta risk factor as the simultaneous relative shift of all commodity spot prices for all commodities in the bucket and (2) the vega risk factor as the simultaneous relative shift of all commodity price volatilities for all commodities in the bucket.

IV. Risk buckets, risk weights, and correlations

As noted above, there are six risk classes for delta risk factors in the SA-CVA: the counterparty credit spread risk class and the five risk classes for market risk factors that drive expected exposure (interest rate, foreign exchange, reference credit spread, equity, and commodity). In addition, there are five exposure-related risk classes for vega risk factors. The granularity of risk factors in the counterparty credit spread risk class matches the one in the non-securitization credit spread risk class in the sensitivities-based method for market risk, while the granularity of both delta and vega risk factors in the exposure-related risk classes is greatly reduced.

A. *Exposure-related risk classes*

The exposure component of regulatory CVA of a portfolio of CVA risk covered positions is affected by delta and vega market risk factors in a similar way as a portfolio of options on future market values (or their increments). Therefore, there is no compelling reason for the exposure-related risk classes in the SA-CVA to deviate from the bucket structure, risk weights, and correlations used in the corresponding risk classes in the sensitivities-based method for market risk, except for accommodating the reduced granularity of exposure-related risk factors in

the SA-CVA. Accordingly, for both delta and vega risk factors in the exposure-related risk classes, the SA-CVA would use the bucket structure that matches the bucket structure of the corresponding risk classes in the sensitivities-based method for market risk. Furthermore, the proposal would set the values of all cross-bucket correlations, γ_{bc}, used for aggregation of bucket-level capital requirements across risk buckets within each exposure-related risk class equal to the corresponding values used in the sensitivities-based method for market risk.

For the foreign exchange, reference credit spread, equity, and commodity risk classes, the SA-CVA would assign one delta (and, separately, one vega) risk factor per risk bucket. Therefore, in contrast to the sensitivities-based method for market risk, the SA-CVA does not need to provide intra-bucket correlations, ρ_{kl}, for these risk classes. Furthermore, because the sensitivities-based method for market risk provides no more than one risk weight per risk bucket for the corresponding risk classes (foreign exchange, non-securitization credit spread, equity, and commodity), the SA-CVA would generally match the values of these risk weights for both delta and vega risk factors.[455]

For the interest rate risk class, similar to the market risk, the SA-CVA would have two groups of risk buckets/currencies: the "specified" currencies (USD, EUR, GBP, AUD, CAD, SEK, and JPY) and the other currencies. However, while in the sensitivities-based method for market risk the two groups only differ in the values of the risk weights (the general risk weights can be divided by √2 when applied to the specified currencies), in the SA-CVA they would differ both in the value of risk weights and in the level of granularity for delta risk factors. As mentioned above, the SA-CVA would specify delta risk factors for the specified currencies as the absolute changes of the inflation rate and of the risk-free yields for the following five tenors: 1 year, 2 years, 5 years, 10 years, and 30 years. Risk weights for these risk factors would be set

[455] The only exception would be foreign exchange delta risk: the sensitivities-based method for market risk would use two values for the delta risk weight (depending on the currencies), while the SA-CVA would use a single delta risk weight (set approximately equal to the lower of the two) regardless of the currency.

approximately equal to the general risk weights for the inflation rate and for the corresponding tenors of risk-free yields in the sensitivities-based method for market risk divided by √2. The intra-bucket correlations, ρ_{kl}, for the specified currencies in the SA-CVA would approximately match the ones between the corresponding tenors and the inflation rate in the sensitivities-based method for market risk. For each of the non-specified currencies, the SA-CVA would provide two delta risk factors per bucket/currency: the absolute change of the inflation rate and the parallel shift of the entire risk-free yield curve for a given currency. The risk weights for these risk factors would approximately match the ones for the inflation rate and for the 1-year risk free yield in the sensitivities-based method for market risk. The intra-bucket correlation between the two risk factors for the non-specified currencies would be set equal to the value of the correlation between the inflation rate and any tenor of the risk-free yield specified in the sensitivities-based method for market risk. As stated above, the SA-CVA would specify two vega risk factors for the interest rate risk class for each bucket/currency: a simultaneous relative change of all inflation rate volatilities and a simultaneous relative change of all interest rate volatilities for a given currency. The SA-CVA would set the vega risk weights for both risk factors equal to the single value of the vega risk weight used for all interest rate vega risk factors in the sensitivities-based method for market risk. The SA-CVA would set the only intra-bucket interest rate vega correlation equal to the value of the SA-CVA intra-bucket interest rate delta correlation for the non-specified currencies.

Question 168: The agencies seek comment on the appropriateness of the proposed risk buckets, risk weights and correlations for the exposure-related risk classes. What, if any, alternative risk bucketing structures, risk weights, or correlations should the agencies consider and why?

B. *Counterparty credit spread risk class*

Fundamentally, counterparty credit spreads are no different from reference credit spreads and, therefore, should follow the same dynamics. Accordingly, the risk weights for counterparty

credit spread risk factors under the SA-CVA would exactly match those for reference credit spread delta risk factors (and, thus, match the ones for non-securitization credit spread delta risk factors in the sensitivities-based method for market risk). While the common dynamics might suggest using the same set of buckets for counterparty credit spread risk class and the reference credit spread risk class, the proposal would modify risk bucket definitions for non-securitization credit spread delta risk factors in the sensitivities-based method for market risk in their application to the counterparty credit spread risk class based on the different role counterparty credit spreads play in CVA risk management.

The counterparty credit spread component of CVA risk is usually substantially greater than the exposure component, and, therefore, is the primary focus of CVA risk management by banking organizations. Banking organizations often use single-name credit instruments to hedge the counterparty credit spread component of CVA risk of individual counterparties with large CVA and use index credit instruments to hedge the systematic part of the counterparty credit spread component of the aggregate (across counterparties) CVA risk. In order to improve recognition of both single-name and index hedges of the counterparty credit spread component of CVA risk and thus promote prudential CVA risk management, the agencies propose, for the application in the counterparty credit spread risk class, to modify the bucket structure that is used for the non-securitization credit spread risk class in the sensitivities-based method for market risk, as described below. These modifications do not affect the risk weights in the counterparty credit spread risk class that match exactly the corresponding risk weights in the sensitivities-based method for market risk.

In the non-securitization credit spread risk class in the sensitivities-based method for market risk, (1) investment grade entities and (2) speculative and sub-speculative grade entities from the same sector generally form two separate risk buckets based on credit quality. This, however, could undermine the efficiency of hedges of the counterparty credit spread component

of CVA risk. In order to prevent this, the proposal would merge the investment grade bucket and speculative and sub-speculative grade bucket of each sector into a single bucket.

Furthermore, banking organizations often use single-name sovereign CDS as indirect single-name counterparty credit spread hedges of CVA risk of illiquid counterparties such as GSEs and local governments. However, in the non-securitization credit spread risk class in the sensitivities-based method for market risk, such entities would belong to the PSE, government-backed non-financials, GSE debt, education, and public administration sector, which form a risk bucket separate from sovereign exposures and MDBs. Thus, following the non-securitization credit spread risk bucket structure of the sensitivities-based method for market risk would result in a situation where the counterparty and the reference entity of the hedge reside in different risk buckets, thus substantially reducing the effectiveness of the hedge. In order to prevent a such scenario, the proposal would merge the sovereign exposures and MDBs sector and the PSE, government-backed non-financials, GSE debt, education, and public administration sector into a single risk bucket. To preserve hedging efficiency, the proposal would move government-backed financials from the "financials" bucket to the combined bucket that includes sovereign exposures.

The agencies propose to set the cross-bucket correlations, γ_{bc}, equal to the corresponding correlations that would be applicable under the assumption of the same credit quality in the non-securitization credit spread risk class as in the sensitivities-based method for market risk. The agencies propose to change both the structure and the values of the intra-bucket correlations used in the sensitivities-based method to better recognize indirect single-name hedges where the reference name is in the same risk bucket as the counterparty. Similar to the non-securitization credit spread risk class in the sensitivities-based method for market risk, the intra-bucket correlations, ρ_{kl}, proposed for the counterparty credit spread risk class would be equal to the product of three correlation parameters. Two of the SA-CVA parameters—for tenor difference and name difference—are the same as in the sensitivities-based method if risk factors are

identical but have higher values for non-identical risk factors for better hedge recognition. The third SA-CVA parameter—for credit quality difference—would replace the basis correlation parameter of the sensitivities-based method. This parameter would equal 100 percent if the credit quality of the two names is the same (treating speculative and sub-speculative grade as one credit quality category) and 80 percent otherwise. The basis correlation parameter is not needed in the SA-CVA because the SA-CVA does not make a distinction between different credit curves referencing the same entity. On the other hand, reference entities of the same sector, but different credit quality would be in different risk buckets under the sensitivities-based method, so the sensitivities-based method does not need the credit quality difference correlation parameter.

Question 169: To what extent are the proposed risk buckets, risk weights, and correlations for counterparty credit spread risk class appropriate? What, if any, alternative risk bucketing structures, risk weights, or correlations should the agencies consider and why?

V. Intra- and inter-bucket aggregation

Consistent with the sensitivities-based method for market risk, the proposal would require a banking organization first to separately aggregate the risk-weighted net sensitivities for CVA delta and CVA vega within their respective risk buckets and then across risk buckets within each risk class using the prescribed aggregation formulas to produce respective delta and vega risk capital requirements for CVA risk.

First, for each risk bucket *b*, a banking organization would aggregate all net weighted sensitivities for all risk factors within this risk bucket according to the following formula:

$$K_b = \sqrt{\left(\sum_{k\in b} {WS_k}^2 + \sum_{k\in b}\sum_{l\in b, l\neq k} \rho_{kl}\cdot WS_k \cdot WS_l\right) + R\cdot \sum_{k\in b}\left(WS_k^{Hdg}\right)^2}$$

where WS_k is the net weighted sensitivity to risk factor *k*, WS_k^{Hdg}, is the weighted sensitivity of the market value of all standardized CVA hedges to risk factor *k*, ρ_{kl} is the regulatory correlation

parameter between risk factors k and l within risk bucket b, and R is the hedging disallowance parameter set at 0.01. While this formula is similar to the intra-bucket aggregation formula in the sensitivities-based method for market risk, it differs by the presence of an additional term under the square root, proportional to the hedging disallowance parameter R. The purpose of this term is to prevent extremely small levels of K_b when most of the risk factors k are perfectly hedged. For the case of perfect hedging ($WS_k = 0$ for all k), the term provides a floor equal to 10 percent of weighted sensitivities of the standardized CVA hedges, aggregated as idiosyncratic risks.

Second, a banking organization would aggregate bucket-level capital requirements across risk buckets within the same risk class according to the following formula:

$$K = m_{CVA} \cdot \sqrt{\sum_b {K_b}^2 + \sum_b \sum_{c \neq b} \gamma_{bc} \cdot S_b \cdot S_c}$$

where γ_{bc} is the regulatory correlation parameter between bucket b and bucket c; S_b is the sum of the net weighted sensitivities WS_k over all risk factors k in bucket b, floored by $-K_b$ and capped by K_b; and S_c is the sum of the net weighted sensitivities WS_k over all risk factors k in bucket c, floored by $-K_c$ and capped by K_c as given by the following formulas:[456]

$$S_b = max\left(min\left(\sum_{k \in b} WS_k\,, K_b\right), -K_b\right)$$

$$S_c = max\left(min\left(\sum_k WS_k\,, K_c\right), -K_c\right)$$

This aggregation formula differs from the one used in the sensitivities-based method for market risk. In order to compensate for a higher level of model risk in the calculation of sensitivities for the aggregate regulatory CVA arising from the CVA risk covered positions relative to that for

[456] Note that this definition of S_b differs from the one used in the sensitivities-based method for market risk, where the floor and the cap apply only when the quantity under the square root in the aggregation formula is negative.

market risk covered positions, the proposed inter-bucket aggregation formula includes a multiplication factor (m_{cva}) with a default value equal to one but would allow the primary Federal supervisor to increase the multiplier and scale up risk-based capital required for each risk class (K), if the supervisor determines that the banking organization's CVA model risk warrants such an increase.[457] The primary Federal supervisor would notify the banking organization in writing that a different value must be used.

Finally, as with the sensitivities-based method for market risk, the overall risk-based capital requirement for CVA risk would be the simple sum of the separately calculated risk-class level delta and vega capital requirements across risk classes without any recognition of any diversification benefits given that delta and vega are intended to separately capture different risks.

Question 170: To what extent are the proposed intra- and inter-bucket aggregation methodologies appropriate? What, if any, alternative methodologies should the agencies consider and why?

Question 171: What, if any, alternative methods should the agencies consider for recognizing diversification across risk classes in the calculation of the SA-CVA, and why?

Question 172: To what extent is the default value of one for the multiplier appropriate or should the agencies consider a higher or lower default value for the multiplier and why?

IV. Transition provisions

The agencies are proposing a three-year transition period for two provisions of the proposal: the expanded risk-based approach and, for banking organizations subject to Category III or IV capital standards, the AOCI regulatory capital adjustments described in section III.B of this Supplementary Information. The main goal of the transition provisions is to provide

[457] For example, the SA-CVA calculation does not fully account for the dependence between the banking organization's exposure to a counterparty and the counterparty's credit quality.

applicable banking organizations sufficient time to adjust to the proposal while minimizing the potential impact that implementation could have on their ability to lend.[458]

A. Transitions for expanded total risk-weighted assets

As described in Table 9 below, a banking organization's expanded total risk-weighted assets would be phased-in starting July 1, 2025, until June 30, 2028. Specifically, a banking organization would multiply expanded total risk-weighted assets as defined in the proposal by the phase-in amount for each transition period provided in Table 9 and use that amount as the denominator of its risk-based capital ratios in place of expanded total risk-weighted assets during the transition period.

Table 9— Transition of Expanded Total Risk-Weighted Assets

Transition period	Percentage of expanded total risk-weighted assets
July 1, 2025 to June 30, 2026	80
July 1, 2026 to June 30, 2027	85
July 1, 2027 to June 30, 2028	90
July 1, 2028 and thereafter	100

B. AOCI regulatory capital adjustments

From July 1, 2025 until June 30, 2028, for a banking organization subject to Category III or IV capital standards, the aggregate amount of net unrealized gains or losses on AFS debt securities and HTM securities included in AOCI, accumulated adjustments related to defined benefit pension obligations, and accumulated net gains or losses on cash flow hedges related to items that are reported on the balance sheet at fair value included in AOCI (AOCI adjustment amount) would be transitioned as set forth in Table 10 below. Therefore, if a banking organization's AOCI adjustment amount is positive, it would multiply its AOCI adjustment amount by the percentage of the transition provided in Table 10 below and subtract the resulting

[458] Any banking organization not subject to Category I, II, III, or IV standards that becomes subject to Category I, II, III, or IV standards during the proposed transition period, would be eligible for the remaining time that the transition provisions provide. Beginning July 1, 2028, no transitions under this proposal would be provided to banking organizations that become subject to Category I, II, III, or IV standards.

amount from its common equity tier 1 capital.[459] If a banking organization's AOCI adjustment amount is negative, it would perform the same calculation and subtract the resulting amount from its common equity tier 1 capital. All other elements of the calculation of regulatory capital would apply upon the effective date of the rule.

Table 10— Transition of AOCI Adjustment Amount

Transition Period	Percentage of the AOCI Adjustment Amount Recognized in Regulatory Capital Ratios
July 1, 2025 to June 30, 2026	75
July 1, 2026 to June 30, 2027	50
July 1, 2027 to June 30, 2028	25
July 1, 2028 and thereafter	0

Question 173: What are the advantages and disadvantages of the proposed transition provisions? What alternatives to the proposed implementation should the agencies consider and why, including to the length and amounts of the proposed transitions? What, if any, additional transitions should the agencies consider in connection with the proposal, such as for aspects of the calculation of regulatory capital other than related to AOCI? For example, if warranted, how could the transitions be applied relative to the standardized approach?

Question 174: What are the advantages and disadvantages of providing a transition for any increase in market risk capital requirements, as described in the proposal? How should the transitional amount be determined and what would be the appropriate time frame for a transition and why? How should the transitional provision be designed to ensure banking organizations do not have lower market risk capital requirements during the transition period relative to the current rule, while accounting for operational burden?

V. Impact and economic analysis

[459] The proposal would require a banking organization to subtract the percentage of the AOCI adjustment amount from the sum of its common equity tier 1 capital elements before applying the deductions for investments in capital instruments, covered debt instruments, MSAs and temporary difference DTAs, if applicable. *See* 12 CFR 3.22(c) and (d) (OCC); 12 CFR 217.22(c) and (d) (Board); 12 CFR 324.22(c) and (d) (FDIC).

The agencies assessed the impact of the proposal on banking organization capital requirements and its likely effect on economic activity and resilience. The proposal is expected to strengthen risk-based capital requirements for large banking organizations by improving their comprehensiveness and risk sensitivity. Better alignment between capital requirements and risk-taking helps to ensure that banks internalize the risk of their operations. The agencies expect that the benefits of strengthening risk-based capital requirements for large banking organizations outweigh the costs.

Under the proposal, capital requirements for lending activities would be determined by a combination of the credit risk and operational risk frameworks. This would have the effect of modestly increasing capital requirements for lending activity. Although a slight reduction in bank lending could result from the increase in capital requirements, the economic cost of this reduction would be more than offset by the expected economic benefits associated with the increased resiliency of the financial system. Additionally, the relative capital requirements associated with different types of bank lending would change slightly, which could lead to small changes in loan portfolio allocations.

Capital requirements for trading activities would be determined by the market risk, CVA risk, and operational risk frameworks, and are estimated to increase substantially, though the specific outcome will depend on banking organizations' implementation of internal models. The proposed market risk framework would capture a larger range of risks and improve the resiliency of banking organizations relative to the current capital rule, although it could also increase banking organizations' costs of engaging in market making activities.

The remainder of this section reviews the agencies' analyses, starting with a description of the banking-organization scope of the proposal and the data used, followed by the resulting estimates of the impact the proposed rule would have on the risk-weighted assets and capital requirements of affected banking organizations. It then discusses the economic impact of the

proposal—cost and benefits—on lending activity and trading activity respectively. This section concludes with a discussion of the impact of the proposal on other connected rules and regulations.

A. Scope and data

The proposal would apply revised capital requirements to banking organizations subject to Category I, II, III, or IV capital standards, and to banking organizations with significant trading activity, while retaining the current U.S. standardized approach for all banking organizations. As of December 31, 2022, there were 37 top-tier U.S. depository institution holding companies and 62 U.S.-based depository institutions that report risk-based capital figures and are subject to Category I, II, III, or IV standards. The 37 top-tier depository institution holding companies include 25 U.S.-domiciled holding companies (8 in Category I, 1 in Category II, 5 in Category III, and 11 in Category IV) and 12 U.S. intermediate holding companies of foreign banking organizations (6 in Category III and 6 in Category IV).

To estimate the impact of the proposal on these large banking organizations, the agencies utilized data collected in Quantitative Impact Study (QIS) reports from the Basel III monitoring exercises as well as regulatory financial reports (Call Report, FR Y-9C, FR Y-14, and FFIEC 101). The year-end 2021 reports are used for estimating the impact of the proposal on risk-weighted assets calculation and its consequence on capital requirements and potential capital shortfalls.[460] Data over a longer time period - 2015 to 2022 - are used to estimate the effect of AOCI recognition and the threshold deductions.

B. Impact on risk-weighted assets and capital requirements

[460] The number of entities considered for the purpose of impact estimates, based on year-end 2021 reports, may differ from the number of entities reported above as in-scope, based on year-end 2022 reports.

To improve the risk sensitivity and robustness of risk-based capital requirements, the proposal would revise calculations of risk-weighted assets for large banking organizations. Consequently, a large banking organization's risk-based capital requirements would change even though the minimum capital ratios would not. The impact of the proposal depends on each banking organization's exposures. The current binding risk-based capital requirement serves as the baseline relative to which impacts are measured in the following analysis.

The impact estimates come with several caveats. First, these estimates heavily rely on banking organizations' Basel III QIS submissions. The Basel III QIS was conducted before the introduction of a U.S. notice of proposed rulemaking, and therefore is based on banking organizations' assumptions on how the Basel III reforms would be implemented in the United States. For market risk, the impact of the proposal further depends on banking organizations' assumptions on the degree to which they will pursue the internal models versus the standardized approach and their success in obtaining approval for modeling. Second, for banking organizations that do not participate in Basel III monitoring exercises, the agencies' estimates are primarily based on banking organizations' regulatory filings, which do not include sufficient granularity for precise estimates.[461] In cases where the proposed capital requirements are difficult to calculate because there is no formula to apply (in particular, the proposed market risk rule revisions), impact estimates are based on projections of the other banking organizations that submitted QIS reports. Third, estimates are based on banking organizations' balance sheets as of year-end 2021, and do not account for potential changes in banking structure, banking organization behavior, or market conditions since that point.

[461] For credit risk revisions, almost all banking organizations subject to Category I or II capital standards, as well as two banking organizations subject to Category III capital standards, report their estimated impacts. For market risk revisions, only the top trading firms report their estimated impacts.

In aggregate across holding companies subject to Category I, II, III or IV standards, the agencies estimate that the proposal would increase total risk-weighted assets by 20 percent relative to the currently binding measure of risk-weighted assets. Across depository institutions subject to Category I, II, III or IV standards, the agencies estimate that the proposal would increase risk-weighted assets by 9 percent. Estimated impacts vary meaningfully across banking organizations, depending on each banking organization's activities and risk profile.[462]

As described previously, the proposal would replace the current advanced approaches with the new expanded risk-based approach, consisting of the new standardized approaches for credit, operational, and CVA risk, and the new market risk framework. At the same time, the proposal would not change the current U.S. standardized approach, other than through the revisions to market risk. Table 11 provides risk-weighted assets aggregated across holding companies, for both the current U.S. standardized and advanced approaches as well as estimated values under this proposal. Because banking organizations subject to Category III or IV capital standards are not currently subject to the advanced approaches, the table separates those banking organizations from the ones subject to Category I or II capital standards.[463]

Table 11. Risk-weighted Assets (RWA) by Risk Category ($ Billion, year-end 2021)

Risk Category	**Aggregate RWA ($ Billion) for Cat I and II Holding Companies**			**Aggregate RWA ($ Billion) for Cat III and IV Holding Companies**	
	Current U.S. Standardized	**Current U.S. Advanced**	**Basel III Proposal (Estimated)**	**Current U.S. Standardized**	**Basel III Proposal (Estimated)**
Credit Risk	6,900	4,300	6,700	4,000	3,800
Market Risk	430	430	760	130	220

[462] The estimated increase in risk-weighted assets is 25 percent for holding companies subject to Category I or II standards, 6 percent for domestic holding companies subject to Category III or IV standards, and 25 percent for intermediate holding companies of foreign banking organizations subject to Category III and IV standards.

[463] For brevity, the decomposition at the depository institution level is omitted here. The comparison of risk-weighted assets by risk category would look similar at the depository institution level except that CVA risk and market risk risk-weighted assets are considerably smaller because trading assets are largely outside of the depository institutions.

Operational Risk	--	1,700	1,400	--	550
CVA Risk	--	240	260	--	28
Total	7,400	6,700	9,200	4,200	4,600

Note: Values are rounded to 2 significant digits. Column values may not sum to total due to rounding. Data source for current U.S. standardized approach is FR Y-9C; for U.S. advanced approach is FFIEC101; for Basel III proposal is QIS reports and staff estimates. Credit risk RWA in current U.S. standardized approach for Category I and II holding companies has been adjusted to reflect SA-CCR.

In general, the expanded risk-based framework would produce greater overall risk-weighted assets than either of the current approaches. The overall increase would lead to the expanded risk-based framework becoming the binding risk-based approach for most large banking organizations. As a result, the most commonly binding capital requirement would shift from the current standardized approach to the expanded risk-based approach. For a number of reasons, this would result in capital requirements becoming more sensitive to the specific risks of large banking organizations. The risk weights applicable to credit risk exposures would be more granular under the expanded risk-based approach than under the current standardized approach. Additionally, the inclusion of an operational and CVA risk component in the binding requirement ensures that large banking organizations are more attuned to managing these risks. Finally, the new market risk rule would be applicable under both the U.S. standardized and expanded risk-based approaches, improving capture of tail risks and other features that are difficult to model.

While the proposal would not generally change the minimum required capital ratios, the amount of required capital would change due to changes to the calculation of risk-weighted assets. As a result of the increases in risk-weighted assets, the agencies estimate that the proposal would increase the binding common equity tier 1 capital requirement, including minimums and buffers, of large holding companies by around 16 percent.[464] The aggregate percentage increase

[464] Further breakdown by category shows that the proposal would increase binding common equity tier 1 capital requirements by an estimated 19 percent for holding companies subject to Category I or II capital standards, by an estimated 6 percent for Category III and IV domestic holding companies, and by an estimated 14 percent for Category III and IV intermediate holding companies of foreign banking organizations. The impact assessment focuses on common equity

is smaller for capital than for risk-weighted assets because for some banking organizations in the sample, the stress capital buffer requirement is determined by the dollar amount of the stress losses from the supervisory stress tests and therefore does not increase with the change in risk-weighted assets.[465] Across depository institutions subject to Category I, II, III or IV standards, the agencies estimate that the proposal would increase the binding common equity tier 1 capital requirement by an estimated 9 percent, consistent with the increase in risk-weighted assets for the depository institutions. The percentage impact of the proposal on binding tier 1 capital requirements would be smaller than for common equity tier 1 because the supplementary leverage ratio, which is calculated as tier 1 capital divided by total leverage exposure, binds in some large banking organizations.

At year-end 2021, five holding companies that were subject to Category I or II capital standards had less common equity tier 1 capital than what the agencies estimate would have been required under the proposal. To meet the proposed capital requirement, these five holding companies would have needed to increase capital ratios between 16 and 105 basis points relative to their risk-weighted assets prior to Basel III reforms. For comparison, the largest U.S. bank holding companies annually earned an average of 180 basis points of capital ratio between 2015 and 2022.[466] All of the depository institutions, as well as all holding companies that were subject to Category III or IV capital standards, would have met the common equity tier 1 capital requirements under the proposal.

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tier 1 capital because it is the highest quality of regulatory capital and its minimum regulatory requirements are risk-based.

[465] This analysis assumes that the stress test losses projected under the supervisory stress tests are unchanged by the proposal, although the stress capital buffer requirement for each banking organization is floored by 2.5 percent of risk-weighted assets which would be generally higher due to the proposal.

[466] Earned capital is computed as net income relative to risk-weighted assets.

While most large banking organizations already have enough capital to meet the proposed requirements, the proposal would likely result in an increase in equity capital funding maintained by these banking organizations. There is extensive academic literature on the impact of bank capital on economic activity which typically focuses on the tradeoff of safer individual banks and improved macroeconomic stability against reduced credit supply and investment.[467] Some studies further consider the financial stability implications of potential migration of banking activities to nonbanks.[468] While quantification of the economic costs and benefits of changes in bank capital is difficult and highly contingent on the assumptions made, current capital requirements in the United States are toward the low end of the range of optimal capital levels described in the existing literature.[469] On balance, this literature concludes that there is room to increase capital requirements from their current levels while still yielding positive net benefits.

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[467] *See* Basel Committee on Banking Supervision, 2010, "An assessment of the long-term economic impact of stronger capital and liquidity requirements;" (BCBS, 2010) Slovik, Patrick and Boris Cournède, 2011, "Macroeconomic Impact of Basel III", *OECD Economics Department Working Papers* 844; Booke, Martin et al., 2015, "Measuring the macroeconomic costs and benefits of higher UK bank capital requirements," *Bank of England Financial Stability Paper* 35; Dagher, Jihad, Giovanni Dell'Ariccia, Luc Laeven, Lev Ratnovski, and Hui Tong, 2016, "Benefits and Costs of Bank Capital," *IMF Staff Discussion Note* 16/04 (Dagher et al., 2016); Firestone, Simon, Amy Lorenc, and Ben Ranish, 2019, "An Empirical Economic Assessment of the Costs and Benefits of Bank Capital in the US," *St. Louis Review* Vol. 101 (3) (Firestone, Lorenc, and Ranish, 2019).

[468] *See* Begenau, Juliane and Tim Landvoigt, 2022, "Financial Regulation in a Quantitative Model of the Modern Banking System," *The Review of Economic Studies* 89(4): 1748–1784 (Begenau and Landvoigt, 2022). *See also* Irani, Rustom M., Rajkamal Iyer, Ralf R. Meisenzahl, and Jose-Luis Peydro, 2021, "The Rise of Shadow Banking: Evidence from Capital Regulation." *The Review of Financial Studies* 34: 2181-2235.

[469] Studies suggesting generally higher optimal capital requirements include Miles, David, Jing Yang, and Gilberto Marcheggiano, 2013, "Optimal Bank Capital," *The Economic Journal* 123: 1-37; Dagher et al. (2016); Firestone, Lorenc, and Ranish (2019); Begenau and Landvoigt (2022); and Van den Heuvel, Skander, 2022, "The Welfare Effects of Bank Liquidity and Capital Requirements," *FEDS Working Paper*. Some studies suggest somewhat lower optimal capital requirements, for example, BCBS (2010) and Elenev, Vadim, Tim Landvoight, Stijn van Nieuwerburgh, 2021, "A Macroeconomic Model with Financially Constrained Producers and Intermediaries," *Econometrica* 89(3): 1361-1418.

C. Economic impact on lending activity

This subsection discusses the proposal's potential impact on lending. Lending activity creates credit risk-weighted assets and increases banking organizations' net interest income, which is a significant driver of operational risk-weighted assets under the expanded risk-based approach. Therefore, the agencies quantified how the proposal would impact risk-weighted assets associated with lending activity by adding changes to credit risk-weighted assets and the interest income-related part of operational risk-weighted assets.

The agencies estimate that risk-weighted assets (RWA) associated with banking organizations' lending activities would increase by $380 billion for holding companies subject to Category I, II, III, or IV capital standards due to the proposal. This increase is roughly equivalent to an increase of 30 basis points in required risk-based capital ratios across large banking organizations. While this increase in requirements could lead to a modest reduction in bank lending, with possible implications for economic growth, the benefits of making the financial system more resilient to stresses that could otherwise impair growth are greater.[470] Historical experience has demonstrated the severe impact that distress or failure at individual banking organizations can have on the stability of the U.S. banking system, in particular banking organizations that would have been subject to the proposal. The banking organizations that experience an increase in their capital requirements under the proposal would be better able to absorb losses and continue to serve households and businesses through times of stress. Enhanced resilience of the banking sector supports more stable lending through the economic cycle and diminishes the likelihood of financial crises and their associated costs.

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[470] *See* Macroeconomic Assessment Group, 2010, "Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements," *Final Report*; Brooke, Martin et al., 2015, "Measuring the macroeconomic costs and benefits of higher UK bank capital requirements," *Bank of England Financial Stability Paper* 35; Slovik, Patrick and Boris Cournède, 2011, "Macroeconomic Impact of Basel III", *OECD Economics Department Working Papers* 844; Firestone, Lorenc, and Ranish (2019).

Similarly, while increases in market risk capital requirements could have some spillover impact on lending, increases in capital requirements in general should also enhance the resilience of the banking system, supporting lending and economic activity in downturns.

The agencies further analyzed asset class-level funding costs and incentives for reallocation within banking organizations' lending activities. The agencies estimate that the proposal would slightly decrease marginal risk-weighted assets attributable to retail and commercial real estate exposures and slightly increase marginal risk-weighted assets attributable to corporate, residential real estate and securitization exposures.[471] From the marginal risk-weighted assets, the agencies derive the marginal required capital for each asset class under the proposal. The changes in required capital drive the cost of funding for each asset class, which may in turn influence banking organizations' portfolio allocation decisions. Based on the estimated sensitivity of lending volumes to capital requirements found in the existing literature,[472] the agencies estimate that changes in asset class-specific risk weights would change banking organizations' portfolio allocations only by a few percentage points.

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[471] The agencies estimate the marginal RWA under the expanded risk-based approach and compare it to the marginal RWA under the current U.S. standardized approach. Marginal RWA for each asset class are defined as the incremental risk-weighted assets resulting from an incremental dollar of exposure invested pro rata within the asset class. This analysis considers the contribution of risk exposures to risk-weighted assets holistically, accounting both for their credit risk RWA as well as the incremental operational risk RWA resulting from the exposures. The estimates derive from the aggregate balance sheet of all holding companies subject to Category I, II, III, or IV capital standards and, therefore, represent the average exposure within each asset class at such banking organizations.

[472] *See* Aiyar, Shekhar, Charles W. Calomiris, and Tomasz Wieladek, 2014, "Does Macro-prudential Regulation Leak? Evidence from a UK Policy Experiment," *Journal of Money, Credit and Banking* 46 (s1), 181–214; Behn, Markus, Rainer Haselmann, and Paul Wachtel, 2016, "Procyclical Capital Regulation and Lending." *Journal of Finance* 71 (2), 919–956; Bridges, Jonathan, David Gregory, Mette Nielsen, Silvia Pezzini, Amar Radia, and Marco Spaltro, 2014, "The Impact of Capital Requirements on Bank Lending," Bank of England Working Paper 486; Fraisse, Henri, Mathias Lé, and David Thesmar, 2020, "The Real Effects of Bank Capital Requirements," *Management Science* 66 (1), 5–23; Gropp, Reint, Thomas Mosk, Steven Ongena, and Carlo Wix, 2020, "Banks Response to Higher Capital Requirements: Evidence from a Quasi-natural Experiment," *Review of Financial Studies* 32 (1), 266–299; Plosser, Matthew C. and João A. C. Santos, 2018, "The Cost of Bank Regulatory Capital," FRB of New York Staff Report 853.

The proposal may have second-order effects on other banking organizations, as a result of potential changes in large banking organizations' lending decisions. Large banking organizations may shift asset allocation toward assets that are assigned lower risk weights under the proposal relative to current capital rule, which would affect other lenders that compete in the same lending markets. The proposal mitigates potential competitive benefits for large banking organizations first by requiring that they continue to be subject to the current standardized approach. This requirement guarantees that a large banking organization covered by the proposal would maintain equity capital funding at a level at least as high as that required by the U.S. standardized approach for a banking organization not covered by the proposal.

In addition, the proposal attempts to mitigate potential competitive effects between U.S. banking organizations by adjusting the U.S. implementation of the Basel III reforms, specifically by raising the risk weights for residential real estate and retail credit exposures. Without the adjustment relative to Basel III risk weights in this proposal, marginal funding costs on residential real estate and retail credit exposures for many large banking organizations could have been substantially lower than for smaller organizations not subject to the proposal. Though the larger organizations would have still been subject to higher overall capital requirements, the lower marginal funding costs could have created a competitive disadvantage for smaller firms.

D. Economic impact on trading activity

The agencies estimate that capital requirements primarily affecting trading activities would increase substantially, though the actual outcome will depend on banking organizations' particular exposures and implementation of internal models. Based on the year-end of 2021 data and QIS reports of large banking organizations, the agencies estimate that the increase in RWA associated with trading activity (market risk RWA, CVA risk RWA, and attributable operational risk RWA) would be around $880 billion for large holding companies. Consequently, the increase in RWA associated with trading activity would raise required capital ratios by as much

as roughly 67 basis points across large holding companies subject to Category I, II, III, or IV capital standards.

The academic literature documents important roles that financial intermediaries play in lowering transaction costs and improving market efficiency.[473] Several banking organizations subject to the proposal are major market makers in securities trading and important liquidity providers in over-the-counter markets. Higher capital requirements for trading activity could enhance the resilience of bank-affiliated broker dealers and, therefore, benefit the provision of market liquidity, especially during stress periods. Higher capital requirements in normal times could also discourage the type of excessive risk-taking that resulted in large losses during the 2007-09 financial crisis. Over the long run, risk-weighted assets calibrated to better capture risks could support a larger role for bank-affiliated dealers in market making and enhance financial stability.

On the other hand, higher capital requirements on trading activity may also reduce banking organizations' incentives to engage in certain market making activities and may impair market liquidity. The identification of causal effects of tighter capital requirements on market liquidity is challenging, partly because historical changes in capital regulations have often happened at the same time as changes in other factors affecting market liquidity, such as other regulatory changes, liquidity demand shocks, or the development of electronic trading platforms. The observable effects of changes in capital requirements can also vary depending on the measurements of market liquidity.[474] Therefore, existing empirical studies on the relationship

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[473] *See, e.g.*, Grossman, Sanford and Merton Miller, 1988, "Liquidity and Market Structure," *Journal of Finance* 43: 617–633; Duffie, Darrell, Nicolae Gârleanu, and Lasse Pedersen, 2005, "Over-the-Counter Markets," *Econometrica* 73: 1815–1847; and Duffie, Darrell and Bruno Strulovici, 2012, "Capital Mobility and Asset Pricing," *Econometrica* 80: 2469–2509.

[474] For a discussion on difficulties in detangling impacts of capital regulation on market liquidity, see Adrian, Tobias, Michael Fleming, Or Shachar, and Erik Vogt, 2017, "Market Liquidity after the Financial Crisis," *Annual Review of Financial Economics*, Vol. 9 (1): 43–83. For time-varying bond market liquidity and mixed evidence on the liquidity changes post the 2007-09

between capital requirements and market liquidity are limited and empirical evidence on causal effects of higher capital requirements on liquidity is mixed.[475] The overall effect of higher capital requirements on market making activity and market liquidity remains a research question needing further study.

E. Additional impact considerations

In addition to the impact on risk-weighted assets examined in previous subsections, the proposal would also affect large banking organizations through changes in the calculation of regulatory capital, total loss-absorbing capacity (TLAC) and long-term debt (LTD) requirements, single counterparty credit limits, as well as the calculation of method 2 GSIB scores.

First, the proposal would revise the regulatory capital calculation of banking organizations subject to Category III or IV capital standards through the recognition of AOCI and the application of lower deduction thresholds. Under the current capital framework, most banking organizations subject to Category III or IV capital standards have opted to exclude AOCI from their regulatory capital. The proposal would withdraw this option and require AOCI to be included in regulatory capital.

Notably, for holding companies subject to Category III or IV capital standards that opted out of the AOCI inclusion, the majority (at the end of 2022, more than 80 percent) of AOCI is

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financial crisis, see Anderson, Mike and René M. Stulz, 2017, "Is Post-crisis Bond Liquidity Lower?" *National Bureau of Economic Research, Working Paper*, No. 23317.

[475] Empirical research on causal effects of banking regulation generally compares liquidity provision between bank-affiliated dealers and non-bank dealers. For evidence that bank dealers commit less capital to market-making activities, see Bessembinder, H., S. Jacobsen, W. Maxwell, and K. Venkataraman, 2018, "Capital Commitment and Illiquidity in Corporate Bonds," *Journal of Finance* 73(4): 1615–1661, although this paper confirms that postcrisis transaction costs have not increased materially. For evidence that bank dealers did not differentially decrease intermediation activity relative to non-bank dealers, see Boyarchenko, Nina, Anna Kovner, and Or Shachar, 2022, "It's What You Say and What You Buy: A Holistic Evaluation of the Corporate Credit Facilities," *Journal of Financial Economics*, Vol. 144(3): 695–731. For evidence based on German bank data that largely confirms findings in Bessembinder (2018), see Haselmann, Rainer, Thomas Kick, Shikhar Singla, and Vikrant Vig, 2022, "Capital Regulation, Market-Making, and Liquidity," Goethe University LawFin Working Paper No. 44.

attributable to substantial unrealized losses on current or former available-for-sale securities. Capital market and yield curve developments can at times lead to substantial AOCI fluctuation. In recent years, the aggregate AOCI related to the security holdings of holding companies subject to Category III or IV capital standards fluctuated between an unrealized gain of $25 billion and an unrealized loss of $108 billion. Therefore, the agencies assessed the impact of AOCI inclusion and threshold deduction changes from a long-run perspective, which provides a more representative measure of the risk and portfolio management practices of banking organizations over time.

The agencies used quarterly FR Y-9C data from 2015 Q1 to 2022 Q4 to estimate the effect of AOCI recognition and quarterly FR Y-14Q data from 2020 Q3 to 2022 Q4 for the estimation of the threshold deduction effect. The impact of the proposal would generally be driven by the AOCI recognition, albeit threshold deduction changes would dominate for the U.S. intermediate holding companies of foreign banking organizations subject to Category III capital standards. The differential impact holds for both risk-based capital and leverage ratios. The agencies estimate that the average long-run effect of both proposed changes on domestic holding companies subject to Category III standards would be equivalent to a 4.6-percent and 3.8-percent relative increase in the common equity tier 1 and leverage capital requirements, respectively. For the U.S. intermediate holding companies of foreign banking organizations subject to Category III capital standards, the average long-run effect of both proposed changes would be equivalent to a 13.2-percent and 9.7-percent relative increase in the respective requirements. For the holding companies of banking organizations subject to Category IV capital standards, the average long-run effect of both proposed changes would be equivalent to a 2.6-percent and 2.5-percent relative increase in the respective capital requirements. Finally, if affected banking organizations do not adjust their AOCI management, for example by adjusting the relative size, fair value hedging, or interest rate sensitivity of their available-for-sale security

portfolios, AOCI recognition could increase variation in regulatory capital ratios over time and make them more correlated with market cycles.

Second, the RWA changes under the proposal would affect the risk-based TLAC and LTD requirements applicable to Category I bank holding companies. While the leverage-based TLAC requirement was binding for half of the bank holding companies subject to Category I capital standards at the end of 2021, the RWA increases under this proposal would make the risk-based TLAC requirement binding for all these companies. The Board estimates[476] that the average TLAC requirement for bank holding companies subject to Category I capital standards would increase by 15.2 percent as a result of the proposed RWA changes, which would have created a moderate shortfall in TLAC for three of these companies at the end of 2021. Similarly, while the leverage-based LTD requirement was binding for all bank holding companies subject to Category I capital standards at the end of 2021 Q4, the proposal would make the risk-based LTD requirement binding for some of these companies. The Board estimates that the average LTD requirement for bank holding companies subject to Category I capital standards would increase by 2.0 percent as a result of the RWA changes, which would not have created a shortfall in LTD for any of these companies at the end of 2021. Lastly, the RWA changes under the proposal could also increase the TLAC and LTD requirements for the U.S. intermediate holding companies of some globally systemically important foreign banking organizations.

Third, the proposed elimination of the internal models method for calculating derivatives exposures would require all large banking organizations to use the standardized approach for counterparty credit risk to calculate their single-counterparty credit limits. The agencies estimate that the standardized approach for counterparty credit risk would generally result in higher derivative exposures than the internal models method. Therefore, credit limits for counterparties

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[476] In these paragraphs, the term "Board estimates" is used instead of the term "agencies estimate" to reflect that the impact assessment is related to Board rules, such as the TLAC, LTD, and GSIB capital surcharge requirements.

to which a banking organization has derivatives exposure are likely to become more stringent under the proposal.

Fourth, the proposed RWA changes would affect the method 2 scores of U.S. GSIBs through the Short-Term Wholesale Funding component score, which is based on the ratio of average weighted short-term wholesale funding to average RWA. The Board estimates that the proposal would decrease the method 2 scores by 32 points on average across U.S. GSIBs, which would reduce their GSIB capital surcharges by about 16 basis points. This effect would reduce the overall impact of the proposal on the binding capital requirements of banking organizations subject to Category I capital standards.

VI. Technical amendments to the capital rule

The proposal would make certain technical corrections and clarifications to several provisions of the capital rule, as described below. Most of these proposed corrections or technical changes are self-explanatory, such as updates to terminology to align with the proposal, and would apply only to banking organizations that would be subject to subpart E. In addition, there are several transition provisions and temporary provisions that have expired or no longer apply that the proposal would remove from the capital rule. The proposal would also make technical updates to various aspects of the capital rule to account for the proposed changes to subparts E and F of the capital rule related to the removal and replacement of the current internal model-based approaches for credit risk, operational risk, and market risk. Also, the proposal would make certain technical corrections to the rule to address errors, such updating the numbering of footnotes in certain sections and correcting the definition of qualifying master netting agreement to include criteria that were originally included and inadvertently deleted. These revisions are not all applicable to each agency and would only apply to a given agency as appropriate.

In §__.2, the proposal would remove references to subpart E for purposes of the internal models approach in the definition of residential mortgage exposure and the treatment of residential mortgages managed as part of a segment of exposures with homogenous risk characteristics.

In §__.2 of the Board's and the OCC's capital rule, the proposal would correct the definition of qualifying master netting agreement to put back certain paragraphs related to a walkaway clause. Under the 2013 capital rule,[477] the definition of QMNA required that the agreement not contain a walkaway clause and that a banking organization must comply with certain operational requirements with respect to the agreement. When the Board and OCC finalized the restrictions in the qualified financial contracts stay rule[478] and made conforming amendments to the capital rule, certain paragraphs related to a walkaway clause in the definition of QMNA were removed in error. The Board and OCC propose to correct the error by inserting back the two sub-paragraphs for the definition of QMNA.

In §__.10(c)(2)(i) of the capital rule, the proposal would clarify in the definition of total leverage exposure that total leverage exposure amount could be reduced by any AACL for on-balance sheet assets. The capital rule defines total leverage exposure to include the carrying value of on-balance sheet assets without any adjustment for AACL. The definition of carrying value does not allow for the reduction in the on-balance sheet amount by any credit loss allowances, except for allowances related to AFS securities and purchased credit deteriorated assets. In the numerator of the supplementary leverage ratio, the AACL flows through earnings and is reflected in Tier 1 capital. To align the numerator and the denominator of the SLR, the proposed change would allow banking organizations to net the AACL from the denominator of the SLR.

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[477] *See* 78 FR 62018 (October 11, 2013).

[478] *See* 82 FR 42882 (September 12, 2017).

The proposal would require banking organizations subject to Category III or IV standards to use SA-CCR, including for purposes of calculating total leverage exposure for derivatives under the supplementary leverage ratio. In §__.10(c) of the capital rule, banking organizations subject to Category III or IV capital standards are allowed to use the current exposure method when calculating the total leverage exposure. The proposal would remove §__.10(c)(2)(ii)(A) and (iii)(A), which describe how total leverage exposure is calculated when a banking organization uses the current exposure method, since under the proposal only SA-CCR would be permitted under the proposal.

The proposal would make a technical correction to §__.10(c)(2)(ix) of the capital rule to clarify the treatment of a guarantee by a clearing member banking organization of the performance of a clearing member client on repo-style transaction that the clearing member client has with a central counterparty. Consistent with the treatment of such exposures under the risk-based framework, the proposal would require the clearing member banking organization to treat the guarantee of client performance on a repo-style transaction as a repo-style style transaction, just as it must treat such a guarantee of client performance on a derivative contract as a derivative contract.

Under the capital rule, §__.300(a) covers the 2016 to 2018 transition for the capital conservation buffer and countercyclical capital buffer. §__.300(c) covers the transition for non-qualifying capital instruments that expired in calendar year 2022. §__.300(e) covers the transition for prompt corrective action. §__.300(f) covers simplifications early adoption and has expired by its terms.[479] §__.300(g) of the capital rule covers SA-CCR transition and §__.300(h) covers the default fund contribution transition, both of which expired on January 1, 2022. The

[479] See 84 FR 61804 (November 13, 2019).

proposal would update the terminology in §__.300(a) and (c) of the capital rule and would remove §__.300(f) to (h).

§__.303 of the capital rule covers a temporary exclusion from total leverage exposure that ended March 31, 2021. §__.304 of the capital rule covers temporary changes to the community bank leverage ratio framework that applied until December 31, 2021. The proposal would remove §__.303 and §__.304 of the capital rule. Similarly, §__.12(a)(4) of the capital rule covers temporary relief for the community bank leverage ratio that applied until December 31, 2021, and would therefore be removed from the capital rule.

A. Additional OCC technical amendments

Enhanced Supplementary Leverage Ratio

In addition to the technical amendments described above, the OCC is proposing to revise the methodology it uses to identify which national banks and Federal savings associations are subject to the enhanced supplementary leverage ratio (eSLR) standard to ensure that the standard applies only to those national banks and Federal savings associations that are subsidiaries of a Board-identified U.S. GSIB.

In 2014, the agencies adopted a final rule that established the eSLR standard for the largest, most interconnected U.S. banking organizations (eSLR rule) in order to strengthen the overall regulatory capital framework in the United States.[480] The eSLR rule, as adopted in 2014, applied to U.S. top-tier bank holding companies with consolidated assets over $700 billion or more than $10 trillion in assets under custody, or that are insured depository institution (IDI) subsidiaries of holding companies that meet those thresholds. The eSLR rule also provides that any subsidiary depository institutions of those bank holding companies must maintain a 6 percent supplementary leverage ratio to be deemed "well capitalized" under the prompt

[480] *See* 79 FR 24528 (May 1, 2014).

corrective action (PCA) framework of each agency.[481]

Subsequently, in 2015, the Board adopted a final rule establishing a methodology for identifying a bank holding company as a U.S. GSIB and applying a risk-based capital surcharge on such an institution (GSIB surcharge rule).[482] Under the GSIB surcharge rule, a U.S. top-tier bank holding company that is not a subsidiary of a foreign banking organization and that is an advanced approaches banking organization must determine whether it is a U.S. GSIB by applying a multifactor methodology based on size, interconnectedness, substitutability, complexity, and cross-jurisdictional activity.[483] As part of the GSIB surcharge rule, the Board revised the application of the eSLR standard to apply to any bank holding company identified as a U.S. GSIB and to each Board-regulated subsidiary depository institution of a U.S. GSIB.[484]

The OCC's current eSLR rule applies to national banks and Federal savings associations that are subsidiaries of U.S. top-tier bank holding companies with more than $700 billion in total consolidated assets or more than $10 trillion total in assets under custody. In order to align with the Board's regulations for identifying U.S. GSIBs and measuring the eSLR standard for holding companies and their subsidiary depository institutions, the OCC is proposing to revise its eSLR rule to ensure that the eSLR standard will apply to only those national banks and Federal savings associations that are subsidiaries of holding companies identified as U.S. GSIBs under the GSIB surcharge rule.

Definition of Financial Collateral

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[481] *See* 12 CFR part 6 (national banks) and 12 CFR part 165 (Federal savings associations) (OCC).

[482] 12 CFR 217.402; 80 FR 49082 (August 14, 2015).

[483] 12 CFR part 217, subpart H. The methodology provides a tool for identifying as GSIBs those banking organizations that pose elevated risks.

[484] The eSLR rule does not apply to intermediate holding companies of foreign banking organizations as such banking organizations are outside the scope of the GSIB surcharge rule and cannot be identified as U.S. GSIBs.

In §__.2 of the OCC's capital rule, the proposed rule would correct an error in the definition of financial collateral by changing the word "and" in paragraph (2) "in which the national bank *and* Federal Savings association has a perfected… [emphasis added]" to "or." The proposed correction would clarify that this requirement in the definition of financial collateral applies to national banks or Federal Savings associations, as relevant.

B. Additional FDIC technical amendments

In addition to the joint technical amendments described above, the FDIC is proposing technical amendments to certain provisions of the capital rule in part 324 of the FDIC's regulations. Specifically, the FDIC proposes to correct a spelling error in the definition of "financial institution" in §324.2. Additionally, the FDIC proposes to correct the footnote numbering in part 324 so that each section with any footnote would begin with footnote 1. This would affect the footnotes in §§324.2, 324.4, 324.11, 324.20, and 324.22.

The FDIC also proposes removing expired or obsolete provisions from various sections in part 324, including section 324.1(f), footnote 10 in §324.4, §324.10(b)(5), and §324.10(d)(4).

Finally, the FDIC proposes amending §§324.401 and 324.403 of the prompt corrective action provisions of subpart H to remove outdated transitions and obsolete references to part 325, and to replace references to the advanced approaches consistent with the proposal.

VII. Proposed amendments to related rules and related proposals

A. OCC amendments

Lending Limits Rule

The OCC's lending limit rule[485] includes a definition of eligible credit derivative, which references the definition of eligible guarantee in the capital rule.[486] This proposed rule would

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[485] 12 CFR part 32.

[486] *See* 12 CFR 32.2(m)(1).

revise the definition of eligible guarantee in 12 CFR part 3 to add a requirement that an eligible guarantee must be provided by an eligible guarantor, also as defined in 12 CFR part 3. To avoid imposing this additional requirement of an eligible guarantor for eligible credit derivatives, as defined for lending limit purposes, the OCC is proposing to revise the definition of eligible credit derivative in 12 CFR part 32 to scope out the new proposed requirement of an eligible guarantor.

B. Board amendments

In connection with this proposal, the Board is proposing amendments to various regulations that reference the capital rule in order to make appropriate conforming amendments to reflect this proposal. For example, references to advanced approaches risk-weighted assets would be removed and replaced with expanded total risk-weighted assets, consistent with the proposal. Such conforming changes would be made to Regulation H (12 CFR part 208), Regulation Y (12 CFR part 225), Regulation LL (12 CFR part 238), and Regulation YY (12 CFR part 252). To the extent that other Board rules rely on items determined under the capital rule, changes to the capital rule could impact the effective requirements of such other Board rules. In addition to these proposed amendments, as discussed elsewhere in this document , the proposal would amend Regulation Y, Regulation LL, and Regulation YY as appropriate to reflect the proposed stress capital buffer framework.

Question 175: What modifications, if any, should the Board consider to this proposal or to other Board rules indirectly affected by this proposal?

C. Related proposals

The Board is separately issuing a proposal (the GSIB surcharge proposal) that would amend the Board's framework under the capital rule for identifying and establishing risk-based surcharges for global systemically important bank holding companies (GSIBs). The GSIB surcharge proposal would also amend the FR Y-15, which is the source of inputs to the implementation of the GSIB framework under the capital rule. The changes set forth in the GSIB

surcharge proposal would improve the sensitivity of the GSIB surcharge to changes in a GSIB's systemic footprint and better measure systemic risk under the framework.

As discussed in section II of this Supplementary Information, the current proposal would broaden the scope of application of the supplementary leverage ratio requirement. To account for this aspect of the proposal, the GSIB surcharge proposal would require all banking organizations that file the FR Y-15 to report data for the total exposures systemic indicator as the average of daily values for on-balance sheet items and the average of month-end values for off-balance sheet items, to align with the calculation of total leverage exposure for purposes of the supplementary leverage ratio requirement.

Question 176: What modifications, if any, should the Board consider to this proposal due to the Board's separate GSIB proposal and why?

VIII. Administrative law matters

A. Paperwork Reduction Act

Certain provisions of the proposed rule contain "collections of information" within the meaning of the Paperwork Reduction Act of 1995 (PRA).[487] In accordance with the requirements of the PRA, the agencies may not conduct or sponsor, and a respondent is not required to respond to, an information collection unless it displays a currently valid Office of Management and Budget (OMB) control number. The information collection requirements contained in this joint notice of proposed rulemaking have been submitted to OMB for review and approval by the OCC and FDIC under section 3507(d) of the PRA (44 U.S.C. 3507(d)) and §1320.11 of OMB's implementing regulations (5 CFR part 1320). The Board reviewed the proposed rule under the authority delegated to the Board by OMB.

The proposed rule contains revisions to current information collections subject to the PRA. To implement these requirements, the agencies would revise and extend for three years the

[487] 44 U.S.C. 3501-3521.

(1) Reporting, Recordkeeping, and Disclosure Requirements Associated with Regulatory Capital Rules (OMB Nos. 1557-0318, 3064-0153, and 7100-0313) and (2) Reporting, Recordkeeping, and Disclosure Requirements Associated with Market Risk Capital Rules (OMB Nos. 1557-0247, 3064-0178, and 7100-0314). The Board would also revise and extend for three years the (1) Financial Statements for Holding Companies (FR Y-9; OMB No. 7100-0128), (2) the Capital Assessments and Stress Testing (FR Y-14A/Q/M; OMB No. 7100-0341), and (3) the Systemic Risk Report (FR Y-15; OMB No. 7100-0352).

The agencies, under the auspices of the FFIEC, would also propose related revisions to (1) all versions of the Consolidated Reports of Condition and Income (Call Reports) (FFIEC 031, FFIEC 041, and FFIEC 051; OMB Nos. 1557-0081; 3064-0052, and 7100-0036), (2) the Regulatory Capital Reporting for Institutions Subject to the Advanced Capital Adequacy Framework (FFIEC 101; OMB Nos. 1557-0239, 3064-0159, and 7100-0319), and (3) the Market Risk Regulatory Report for Institutions Subject to the Market Risk Capital Rule (FFIEC 102; OMB Nos. 1557-0325, 3064-0199, and 7100-0365), including by adding a new sub report, the FFIEC 102a. The proposed revisions to these FFIEC reports will be addressed in one or more separate *Federal Register* notices.

Comments are invited on the following:

(a) Whether the collections of information are necessary for the proper performance of the agencies' functions, including whether the information has practical utility;

(b) the accuracy of the agencies estimates of the burden of the information collections, including the validity of the methodology and assumptions used;

(c) ways to enhance the quality, utility, and clarity of the information to be collected;

(d) ways to minimize the burden of the information collections on respondents, including through the use of automated collection techniques or other forms of information technology; and

(e) estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Comments on aspects of this document that may affect reporting, recordkeeping, or disclosure requirements and burden estimates should be sent to the addresses listed in the ADDRESSES section of the Supplementary Information. A copy of the comments may also be submitted to the OMB desk officer for the Agencies: By mail to U.S. Office of Management and Budget, 725 17th Street NW, #10235, Washington, DC 20503 or by facsimile to (202) 395-5806, Attention, Federal Banking Agency Desk Officer.

1. *Proposed Revisions, With Extension, of the Following Information Collections*

   a. *(1) Collection title: Reporting, Recordkeeping, and Disclosure Requirements Associated with Regulatory Capital Rules.*

OCC	*OMB control number:* 1557-0318.
Frequency: Quarterly, annually, event-generated. *Affected Public:* Businesses or other for-profit. *Estimated number of respondents:* 48 (48 expanded risk based approach). *Estimated average hours per response:*	*Respondents:* National banks and Federal savings associations.
One-Time *Standardized Approach* **Recordkeeping** Section 3.35(b)(3)(i)(A) - 2. Section 3.37(c)(4)(i)(E) - 80. Sections 3.41(b)(3) and 3.41(c)(2)(i) - 40.	**Disclosure** Sections 3.42(e)(2), 3.62(a) through (c), 3.63(a) and (b), and 3.63 tables - 226.25.
Expanded Risk Based Approach **Recordkeeping** Section 3.120(e)(1) - 40. Sections 3.130(c)(2)(i) and (ii) - 81. Sections 3.150(f)(1) and (2) - 70.	**Disclosure** Sections 3.162 and 3.162 Tables 1-14 - 328,
Ongoing *Minimum Capital Ratios* **Reporting** Sections 3.22(b)(2)(iv), 3.22(c)(4), 3.22(c)(5)(i), 3.22(c)(6), 3.22(d)(2)(i)(C), and 3.22(d)(2)(iii) - 6. Section 3.22(h)(2)(iii)(A) - 2.	**Recordkeeping** Section 3.3(d) - 8.
Standardized Approach	

Reporting Section 3.34(a)(1)(ii) - 2. Section 3.37(c)(4)(i)(E) - 1. **Disclosure** Section 3.42(e)(2) - 20. Sections 3.62(a) through (c), 3.63(a) and (b), and 3.63 tables - 111.25.	**Recordkeeping** Section 3.35(b)(3)(i)(A) - 2. Section 3.37(c)(4)(i)(E) - 16. Section 3.41(c)(2)(ii) - 2.
Expanded Risk Based Approach **Reporting** Section 3.113(i)(3)(ii)(C) - 2. Section 3.114(d)(6)(vi) - 2. Section 3.150(d)(5) - 20. Sections 3.150(e)(3)(i) and (ii) - 40. **Disclosure** Sections 3.20(c)(1)(xiv) and 3.20(d)(1)(xi) - 2. Sections 3.162 and 3.162 Tables 1-14 - 90.	**Recordkeeping** Section 3.114(b)(3)(i)(A) - 1. Section 3.120(e)(1) - 1. Section 3.121(d)(2)(ii)(C) - 1. Section 3.130(b)(3) - 39. Section 3.130(c)(2)(ii) - 2. Sections 3.150(f)(1) and (2) - 22. Section 3.161(b) - 1.
Estimated annual burden hours: 20,535 (11,818 initial setup and 8,717 ongoing).	
Board *Collection identifier:* FR Q.	*OMB control number:* 7100-0313.
Frequency: Quarterly, annually, event-generated. *Affected Public:* Businesses or other for-profit. *Estimated number of respondents:* 1,004 (48 expanded risk based approach). *Estimated average hours per response:*	*Respondents:* State member banks, certain bank holding companies, U.S. intermediate holding companies, certain covered savings and loan holding companies.
One-Time *Standardized Approach* **Recordkeeping** Section 217.35(b)(3)(i)(A) - 2. Section 217.37(c)(4)(i)(E) - 80. Sections 217.41(b)(3) and 217.41(c)(2)(i) - 40.	**Disclosure** Sections 217.42(e)(2), 217.62(a) through (c), 217.63(a) and (b), and 217.63 tables - 226.25.
Expanded Risk Based Approach **Recordkeeping** Section 217.120(e)(1) - 40. Sections 217.130(c)(2)(i) and (ii) - 81. Sections 217.150(f)(1) and (2) - 70.	**Disclosure** Sections 217.162, 217.162 Tables 1-14 – 328, 217.162 Table 15 (Board only) - 30.
Ongoing *Minimum Capital Ratios* **Reporting** Section 217.22(b)(2)(iv), (c)(4), (c)(5)(i), (c)(6), (d)(2)(i)(C), and (d)(2)(iii) - 6. Section 217.22(h)(2)(iii)(A) - 2.	**Recordkeeping** Section 217.3(d) - 8.

Standardized Approach **Reporting** Section 217.34(a)(1)(ii) - 2. Section 217.37(c)(4)(i)(E) - 1. **Disclosure** Section 217.42(e)(2) - 20. Sections 217.62(a) through (c), 217.63(a) and (b), and 217.63 tables - 111.25.	**Recordkeeping** Section 217.35(b)(3)(i)(A) - 2. Section 217.37(c)(4)(i)(E) - 16. Section 217.41(c)(2)(ii) - 2.
Expanded Risk Based Approach **Reporting** Section 217.113(i)(3)(ii)(C) - 2. Section 217.114(d)(6)(vi) - 2. Section 217.150(d)(5) - 20. Sections 217.150(e)(3)(i) and (ii) - 40. **Disclosure** Sections 217.20(c)(1)(xiv) and 217.20(d)(1)(xi) - 2. Sections 217.162 and 217.162 Tables 1-14 - 90. Section 217.162 Table 15 (Board only) - 30.	**Recordkeeping** Section 217.114(b)(3)(i)(A) - 1. Section 217.120(e)(1) - 1. Section 217.121(d)(2)(ii)(C) - 1. Section 217.130(b)(3) - 39. Section 217.130(c)(2)(ii) - 2. Sections 217.150(f)(1) and (2) - 22. Section 217.161(b) - 1.
Estimated annual burden hours: 77,001 (17,956 initial setup and 59,045 ongoing).	

FDIC

OMB control number: 3064-0153.

Frequency: Quarterly, annually, event-generated.

Affected Public: Businesses or other for-profit.

Respondents: State nonmember banks, state savings associations, and certain subsidiaries of those entities.

Estimated number of respondents: 3,038 (9 expanded risk based approach).

Estimated average hours per response:

One-Time

Standardized Approach

Recordkeeping

Section 324.35(b)(3)(i)(A) - 2.

Section 324.37(c)(4)(i)(E) - 80.

Sections 324.41(b)(3) and 324.41(c)(2)(i) - 40.

Disclosure

Sections 324.42(e)(2), 324.62(a) through (c), 324.63(a) and (b), and 324.63 tables - 226.25.

Expanded Risk Based Approach

Recordkeeping

Section 324.120(e)(1) - 40.

Sections 324.130(c)(2)(i) and (ii) - 81.

Sections 324.150(f)(1) and (2) - 70.

Disclosure

Sections 324.162 and 324.162 Tables 1-14 - 328,

Ongoing

Minimum Capital Ratios

Reporting

Sections 324.22(b)(2)(iv), 324.22(c)(4), 324.22(c)(5)(i), 324.22(c)(6), 324.22(d)(2)(i)(C), and 324.22(d)(2)(iii) - 6.

Section 324.22(h)(2)(iii)(A) - 2.

Recordkeeping

Section 324.3(d) - 8.

Standardized Approach

Reporting

Section 324.34(a)(1)(ii) - 2.

Section 324.37(c)(4)(i)(E) - 1.

Recordkeeping

Section 324.35(b)(3)(i)(A) - 2.

Section 324.37(c)(4)(i)(E) - 16.

Section 324.41(c)(2)(ii) - 2.

Disclosure

Section 324.42(e)(2) - 20.

Sections 324.62(a) through (c), 324.63(a) and (b), and 324.63 tables - 111.25.

Expanded Risk Based Approach

Reporting

Section 324.113(i)(3)(ii)(C) - 2.

Section 324.114(d)(6)(vi) - 2.

Section 324.150(d)(5) - 20.

Sections 324.150(e)(3)(i) and (ii) - 40.

Recordkeeping

Section 324.114(b)(3)(i)(A) - 1.

Section 324.120(e)(1) - 1.

Section 324.121(d)(2)(ii)(C) - 1.

Section 324.130(b)(3) - 39.

Section 324.130(c)(2)(ii) - 2.

Sections 324.150(f)(1) and (2) - 22.

Section 324.161(b) - 1.

Disclosure

Sections 324.20(c)(1)(xiv) and 324.20(d)(1)(xi) - 2.

Sections 324.162 and 324.162 Tables 1-14 - 90.

Estimated annual burden hours: 118,392 (4,371 initial setup and 114,021 ongoing).

Current Actions: The proposal would modify the reporting, recordkeeping, and disclosure requirements of the regulatory capital rules by adding new requirements and revising existing

reporting, recordkeeping, and disclosure requirements. The citations for the requirements retained from the current rule have been revised in keeping with the broader proposal.

The proposed revisions would include new recordkeeping requirements related to the legal status in bankruptcy of collateral posted to a QCCP; the management of hedged exposures during bankruptcy, reorganization, or restructuring; and the monitoring of operational risk. The proposal would include new reporting requirements related to the exclusion of certain operational loss data from a banking organization's operational risk calculation. The proposal would also revise existing disclosure requirements and add new disclosure requirements. The disclosure requirements are laid out in 15 tables, and the overall number of disclosure requirements has dropped by 54 line items, including all quantitative disclosures, which are now included in regulatory reporting. Please see the disclosure section III.G of this Supplementary Information for a detailed description of the proposed revisions.

b. *(2) Collection title: Reporting, Recordkeeping, and Disclosure Requirements Associated with Market Risk Capital Rules.*

OCC

OMB control number: 1557-0247.

Frequency: Quarterly, annually, weekly, event-generated.

Affected Public: Businesses or other for-profit.

Respondents: National banks and Federal savings associations.

Estimated number of respondents: 49.

Estimated average hours per response:

Reporting

Sections 3.201(b)(5)(i) and (ii), 3.202 Market risk covered position (1)(ii)(A)(2), 3.204(d)(1), 3.204(d)(3)(i), 3.204(e)(1), 3.204(e)(2)(v), 3.204(e)(3), 3.204(g)(2), 3.204(g)(4), 3.205(f)(1)(ii), 3.205(h)(1)(ii)(B), 3.205(h)(1)(ii)(A)(3), 3.207(a)(3), (4), and (5), 3.207(a)(8), 3.208(b)(4),

3.208(h)(3)(ii), 3.212(a)(2), 3.212(b)(1)(iii)(C), 3.212(b)(3), 3.215(c)(1), 3.215(d)(1)(i), 3.221(a), 3.221(c)(2)(iii), 3.221(3), 3.223(a)(1), and 3.224(d)(3)(iii) - 1,200.

Sections 3.204(g)(1)(iii), 3.212(b)(2), and 3.212(c) - 300.

Section 3.224(d)(3)(ii) - 2.

Recordkeeping

Section 3.203(a)(1) - 96.

Section 3.203(a)(2) - 16.

Section 3.203(b)(2) - 16.

Sections 3.203(c), 3.203(h), 3.208(h)(1)(ii)(B), and 3.214(b)(7)(iv),(vi), and (vii) - 96.

Section 3.203(e)(1) - 12.

Section 3.203(e)(3) - 12.

Section 3.203(f) - 12.

Section 3.203(g) - 12.

Sections 3.203(h)(2)(i) - 80.

Section 3.203(h)(2)(ii) - 12.

Sections 3.203(i) and 3.205(h) - 48.

Sections 3.213 - 128.

Section 3.214(b)(7)(v) - 12.

Section 3.217(c) - 40.

Section 3.220(b) - 40.

Sections 3.223(b)(4), 3.223(b)(7), and 3.223(b)(9), - 40.

Section 3.223(b)(10) - 12.

Disclosure

Section 3.217(d) - 12.

Section 3.217(e) - 12.

Sections 3.217(f)(1) and 3.217(f)(3) - 16.

Section 3.217(f)(2) - 8.

Estimated annual burden hours: 127,254.

Board

Board *Collection identifier:* FR 4201.	*OMB control number:* 7100-0314.
Frequency: Quarterly, annually, weekly, event-generated. *Respondents:* Bank holding companies, savings and loan holding companies, intermediate holding companies, and state member banks that meet certain risk thresholds. *Estimated average hours per response:*	*Affected Public:* Businesses or other for-profit. *Estimated number of respondents: 33.*
Reporting Sections 217.201(b)(5)(i) and (ii), 217.202 Market risk covered position (1)(ii)(A)(2), 217.204(d)(1), 217.204(d)(3)(i), 217.204(e)(1), 217.204(e)(2)(v), 217.204(e)(3), 217.204(g)(2), 217.204(g)(4). 217.205(f)(1)(ii), 217.205(h)(1)(ii)(B), 217.205(h)(1)(ii)(A)(3), 217.207(a)(3), (4), and (5), 217.207(a)(8), 217.208(b)(4), 217.208(h)(3)(ii), 217.212(a)(2), 217.212(b)(1)(iii)(C), 217.212(b)(3), 217.215(c)(1), 217.215(d)(1)(i), 217.221(a), 217.221(c)(2)(iii), 217.221(3), 217.223(a)(1), and 217.224(d)(3)(iii) - 1,200. Sections 217.204(g)(1)(iii), 217.212(b)(2), and 217.212(c) - 300. Section 217.224(d)(3)(ii) – 2. **Disclosure** Section 217.217(d) - 12. Section 217.217(e) - 12. Sections 217.217(f)(1) and 217.217(f)(3) - 16. Section 217.217(f)(2) - 8.	**Recordkeeping** Section 217.203(a)(1) - 96. Section 217.203(a)(2) - 16. Section 217.203(b)(2) - 16. Sections 217.203(c), 217.203(h), 217.208(h)(1)(ii)(B), and 217.214(b)(7)(iv), (vi), and (vii) - 96. Section 217.203(e)(1) - 12. Section 217.203(e)(3) - 12. Section 217.203(f) - 12. Section 217.203(g) - 12. Section 217.203(h)(2)(i) - 80. Section 217.203(h)(2)(ii) - 12. Sections 217.203(i) and 217.205(h) - 48. Sections 217.213 - 128. Section 217.214(b)(7)(v) - 12. Section 217.217(c) - 40. Section 217.220(b) - 40. Sections 217.223(b)(4), 217.223(b)(7), and 217.223(b)(9) - 40. Section 217.223(b)(10) - 12.
Estimated annual burden hours: 89,622.	

FDIC	*OMB control number:* 3064-0178.

Frequency: Quarterly, annually, weekly, event-generated.

Affected Public: Businesses or other for-profit.

Estimated average hours per response:

Respondents: State nonmember banks, state savings associations, and certain subsidiaries of those entities.

Estimated number of respondents: 9.

Reporting

Sections 324.201(b)(5)(i) and (ii), 324.202 Market risk covered position (1)(ii)(A)(2), Sections 324.204(d)(1), 324.204(d)(3)(i), 324.204(e)(1), 324.204(e)(2)(v), 324.204(e)(3), 324.204(g)(2), 324.204(g)(4), 324.205(f)(1)(ii), 324.205(h)(1)(ii)(B), 324.205(h)(1)(ii)(A)(3), 324.207(a)(3), (4), and (5),

Sections 324.207(a)(8), 324.208(b)(4), 324.208(h)(3)(ii), 324.212(a)(2), 324.212(b)(1)(iii)(C), 324.212(b)(3), 324.215(c)(1), 324.215(d)(1)(i), 324.221(a), 324.221(c)(2)(iii), 324.221(3), 324.223(a)(1), and 324.224(d)(3)(iii) - 1,200.

Sections 324.204(g)(1)(iii), 324.212(b)(2), and 324.212(c) - 300.
Section 324.224(d)(3)(ii) - 2.

Recordkeeping

Section 324.203(a)(1) - 96.
Section 324.203(a)(2) - 16.
Section 324.203(b)(2) - 16.
Sections 324.203(c), 324.203(h), 324.208(h)(1)(ii)(B), and 324.214(b)(7)(iv),(vi), and (vii) - 96.
Section 324.203(e)(1) - 12.
Section 324.203(e)(3) - 12.
Section 324.203(f) - 12.
Section 324.203(g) - 12.

Sections 324.203(h)(2)(i) - 80.
Section 324.203(h)(2)(ii) - 12.
Sections 324.203(i) and 324.205(h) - 48.
Sections 324.213 - 128.
Section 324.214(b)(7)(v) - 12.
Section 324.217(c) - 40.
Section 324.220(b) - 40.
Sections 324.223(b)(4), 324.223(b)(7), and 324.223(b)(9), - 40.
Section 324.223(b)(10) - 12.

Disclosure

Section 324.217(d) - 12.
Section 324.217(e) - 12.
Sections 324.217(f)(1) and 324.217(f)(3) - 16.
Section 324.217(f)(2) - 8.

Estimated annual burden hours: 22,370.

Current Actions: The agencies are proposing to amend their market risk information collections to reflect the proposed recordkeeping, disclosure, and reporting requirements associated with the proposed market risk capital requirements. In addition, the agencies are

proposing to add recordkeeping requirements to this information collection associated with the proposed credit valuation adjustment.

Under the proposal, a banking organization that is subject to the proposed market risk capital requirements would have to provide public regulatory reports in the manner and form prescribed by its primary Federal supervisor, including any additional information and reports that the supervisor may require. A banking organization would have to receive a prior written approval of its primary Federal supervisor for calculating market risk capital requirements using internal models. Section _.212(b)(2)(i) of the market risk rule requires a banking organization that is subject to the market risk capital requirements to obtain the prior written approval of the primary Federal supervisor before using any internal model to calculate its risk-based capital requirements.

Any such banking organization that received a prior written approval from its primary Federal supervisor to calculate market risk capital requirements under the models-based measure would have to provide confidential supervisory reports to its primary Federal supervisor in a manner and form prescribed by that supervisor. Specifically, under the proposal, a banking organization using the models-based measure to calculate market risk capital requirements would be required to submit, via confidential regulatory reporting in the manner and form prescribed by the primary Federal supervisor, data pertaining to a trading desk's backtesting and PLA testing results. To reflect the proposed changes to the market risk framework, the proposal would require a banking organization to submit backtesting information at both the aggregate level for model-eligible trading desks as well as for each trading desk and profit and loss attribution (PLA) testing information for model-eligible trading desks at the trading desk level on a quarterly basis. Section _.203(h)(1) of the market risk rule requires that a subject banking organization demonstrate to the satisfaction of the primary Federal supervisor a comprehensive understanding of the features of a securitization position that would materially affect the

performance of the position by conducting and documenting the analysis set forth in §_.203(h)(2).

The proposal would also include recordkeeping requirements for banking organizations subject to the credit valuation adjustment. Those include that a banking organization must 1) have a clear documented hedging policy for credit valuation adjustment (CVA) risk, 2) document identification and management of CVA risk covered positions and eligible CVA hedges, 3) document the initial and ongoing validation of models used for calculating regulatory CVA, and 4) maintain current and historical data inputs to exposure models.

Disclosure requirements related to the proposed CVA are included in section _.162, which would be part of subpart E of Regulation Q. Therefore, those requirements are included in the Reporting, Recordkeeping, and Disclosure Requirements Associated with Regulatory Capital Rules information collections.

2. *Proposed Revisions, With Extension, of the Following Information Collections (Board only)*

a. *(1) Collection title: Financial Statements for Holding Companies.*

Collection identifier: FR Y-9C, FR Y-9LP, FR Y-9SP, FR Y-9ES, and FR Y-9CS.

OMB control number: 7100-0128.

General description of report: The FR Y-9 family of reporting forms continues to be the primary source of financial data on holding companies (HCs) on which examiners rely between on-site inspections. Financial data from these reporting forms is used to detect emerging financial problems, review performance, conduct pre-inspection analysis, monitor and evaluate capital adequacy, evaluate HC mergers and acquisitions, and analyze an HC's overall financial condition to ensure the safety and soundness of its operations. The FR Y-9C, FR Y-9LP, and FR Y-9SP serve as standardized financial statements for the consolidated HC. The Board requires HCs to provide standardized financial statements to fulfill the Board's statutory obligation to supervise these organizations. The FR Y-9ES is a financial statement for HCs that

are Employee Stock Ownership Plans. The Board uses the FR Y-9CS (a free-form supplement) to collect additional information deemed to be critical and needed in an expedited manner. HCs file the FR Y-9C on a quarterly basis, the FR Y-9LP quarterly, the FR Y-9SP semiannually, the FR Y-9ES annually, and the FR Y-9CS on a schedule that is determined when this supplement is used.

Frequency: Quarterly, semiannually, and annually.

Affected Public: Businesses or other for-profit.

Respondents: Bank holding companies (BHCs), savings and loan holding companies (SLHCs), securities holding companies (SHCs), and U.S. Intermediate Holding Companies (IHCs) (collectively, holding companies (HCs)).

Total estimated number of respondents:

Reporting

FR Y-9C (non-advanced approaches holding companies with less than $5 billion in total assets): 107; FR Y-9C (non-advanced approaches with $5 billion or more in total assets) 236; FR Y-9C (advanced approached holding companies): 9; FR Y-9LP: 411; FR Y-9SP: 3,596; FR Y-9ES: 73; FR Y-9CS: 236.

Recordkeeping

FR Y-9C: 352; FR Y-9LP: 411; FR Y-9SP: 3,596; FR Y-9ES: 73; FR Y-9CS: 236.

Total estimated average hours per response:

Reporting

FR Y-9C (non-advanced approaches holding companies with less than $5 billion in total assets): 35.34; FR Y-9C (non-advanced approaches holding companies with $5 billion or more in total assets): 44.59, FR Y-9C (advanced approached holding companies): 49.81; FR Y-9LP: 5.27; FR Y-9SP: 5.45; FR Y-9ES: 0.50; FR Y-9CS: 0.50.

Recordkeeping

FR Y-9C: 1; FR Y-9LP: 1; FR Y-9SP: 0.50; FR Y-9ES: 0.50; FR Y-9CS: 0.50.

Total estimated change in burden: 49.

Total estimated annual burden hours: 114,538.

Current Actions: The Board is proposing to amend the FR Y-9C report form and instructions to align with the proposal. The Board proposes to revise Schedule HC-R, Part I, Regulatory Capital Components and Ratios, to align, subject to certain transition provisions, the calculation of regulatory capital for HCs subject to Category III and IV standards with the calculation for HCs subject to Category I and II standards. The Board proposes to make updates to Schedule HC-R, Part I, Line item 60, a, b and c to apply the stress capital buffer requirement to the risk-based capital ratios derived from the expanded risk-based approach, in addition to the standardized approach, as described in the proposal. Additionally, the Board proposes to add one new memorandum item to Schedule HC-D, Trading Assets and Liabilities, to capture information about customer and proprietary reserve balances of broker-dealers for purposes of determining the market-risk rule applicability and revise Schedule HC-R, Part II, line item 27 to conform to changes under the Board's market risk rule proposal. The Board would also apply other minor conforming edits to the FR Y-9C report. The revisions are proposed to be effective for the September 30, 2025, as of date.

The Board estimates that revisions to the FR Y-9C would increase the estimated annual burden by 49 hours. The respondent count for the FR Y-9C would not change because of these changes. The draft reporting forms and instructions are available on the Board's public website at *https://www.federalreserve.gov/apps/reportingforms.*

b. (2) Collection title: Capital Assessments and Stress Test Reports.

Collection identifier: FR Y-14A/Q/M.

OMB control number: 7100-0341.

General description of report: This family of information collections is composed of the following three reports:

- The annual FR Y-14A collects quantitative projections of balance sheet, income, losses, and

capital across a range of macroeconomic scenarios and qualitative information on methodologies used to develop internal projections of capital across scenarios.[488]

- The quarterly FR Y-14Q collects granular data on various asset classes, including loans, securities, trading assets, and pre-provision net revenue (PPNR) for the reporting period.
- The monthly FR Y-14M is comprised of three retail portfolio- and loan-level schedules, and one detailed address-matching schedule to supplement two of the portfolio- and loan-level schedules.

The data collected through the FR Y-14A/Q/M reports (FR Y-14 reports) provide the Board with the information needed to help ensure that large firms have strong, firm-wide risk measurement and management processes supporting their internal assessments of capital adequacy and that their capital resources are sufficient, given their business focus, activities, and resulting risk exposures. The data within the reports are used to set firms' stress capital buffer requirements. The data are also used to support other Board supervisory efforts aimed at enhancing the continued viability of large firms, including continuous monitoring of firms' planning and management of liquidity and funding resources, as well as regular assessments of credit risk, market risk, and operational risk, and associated risk management practices. Information gathered in this data collection is also used in the supervision and regulation of respondent financial institutions. Respondent firms are currently required to complete and submit up to 17 filings each year: one annual FR Y-14A filing, four quarterly FR Y-14Q filings, and 12 monthly FR Y-14M filings. Compliance with the information collection is mandatory.

Frequency: Annually, quarterly, and monthly.

Affected Public: Businesses or other for-profit.

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[488] In certain circumstances, a firm may be required to re-submit its capital plan. See 12 CFR 225.8(e)(4); 12 CFR 238.170(e)(4). Firms that must re-submit their capital plan generally also must provide a revised FR Y-14A in connection with their resubmission.

Respondents: These collections of information are applicable to bank holding companies (BHCs), U.S. intermediate holding companies (IHCs), and covered savings and loan holding companies (SLHCs) with $100 billion or more in total consolidated assets, as based on: (i) the average of the firm's total consolidated assets in the four most recent quarters as reported quarterly on the firm's Consolidated Financial Statements for Holding Companies (FR Y-9C); or (ii) if the firm has not filed an FR Y-9C for each of the most recent four quarters, then the average of the firm's total consolidated assets in the most recent consecutive quarters as reported quarterly on the firm's FR Y-9C. Reporting is required as of the first day of the quarter immediately following the quarter in which the respondent meets this asset threshold, unless otherwise directed by the Board.

Estimated number of respondents: FR Y-14A/Q: 36; FR Y-14M: 34;[489] FR Y-14 On-going Automation Revisions: 36; FR Y-14 Attestation On-going: 8.

Estimated average hours per response: FR Y-14A: 1,341; FR Y-14Q: 2,002; FR Y-14M: 1,071; FR Y-14 On-going Automation Revisions: 480; FR Y-14 Attestation On-going: 2,560.

Estimated annual burden hours: FR Y-14A: 48,276; FR Y-14Q: 288,288; FRY-14M: 436,968; FR Y–14 On-going Automation Revisions: 17,280; FR Y-14 Attestation On-going: 20,480.

Current actions: The Board proposes several conforming revisions to the FR Y-14A/Q/M reports based on the proposed rule. Specifically, the Board proposes revisions related to capital, operational risk, and credit risk mitigation. All revisions are proposed to be effective for the July 31, 2025, as of date for the FR Y-14M, the September 30, 2025, as of date for the FR Y-14Q, and the December 31, 2025, as of date for the FR Y-14A.

Capital

Capital Ratios and Buffers

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[489] The estimated number of respondents for the FR Y-14M is lower than for the FR Y-14Q and FR Y-14A because, in recent years, certain respondents to the FR Y-14A and FR Y-14Q have not met the materiality thresholds to report the FR Y-14M due to their lack of mortgage and credit activities. The Board expects this situation to continue for the foreseeable future.

Banking organizations subject to Category I, II, or III standards are required to project capital ratios and capital buffer requirements assuming various scenarios under the generally applicable standardized approach on FR Y-14A, Schedule A (Summary). Under the proposed rule, a banking organization subject to Category I, II, III or IV standards would be required to calculate its risk-based capital ratios under both the new expanded risk-based approach and the current, generally applicable standardized approach, and the lower of the two for each ratio would be binding. In addition, all capital buffer requirements, including the stress capital buffer, would apply regardless of whether the expanded risk-based approach or the existing standardized approach produces the binding ratio.

Since the binding capital ratios could be based on either the standardized approach or the expanded risk-based approach, banking organizations would be required to calculate both version of capital ratios and capital buffers under the proposed rule. To allow banking organizations to report values using either calculation method, the Board proposes to revise FR Y-14A, Schedule A.1.d (Capital) to require banking organizations subject to Category I, II, or III standards to report certain items depending on which common equity tier 1 ratio is binding as of the report date. Specifically, banking organizations subject to Category I, II, or III standards that are also subject to the expanded risk-based approach would be required to report the following items if the common equity tier 1 ratio for a banking organization under the expanded risk-based approach is binding as of the report date:

- Item 55 (Adjusted allowance for credit losses includable in tier 2 capital);
    - As described in the preamble, the concept of eligible credit reserves includable in tier 2 capital would be replaced by adjusted allowance for credit losses includable in tier 2 capital for banking organizations subject to the expanded risk-based approach. Therefore, the Board proposes to revise item 55 to capture the adjusted allowance for credit losses includable in tier 2 capital.

- Item 58 (Expanded risk-based approach: Tier 2 capital before deductions);
- Item 59.b (Expanded risk-based approach: Tier 2 capital deductions);
- Item 61 (Expanded risk-based approach: Tier 2 capital);
- Item 63 (Expanded risk-based approach: Total capital (sum of items 50 and 61));
- Item 95 (Expanded risk-based approach: Total Capital);
- Item 97 (Total risk-weighted assets using expanded risk-based approach);
- Item 101 (Expanded risk-based approach: Common Equity Tier 1 Ratio (%));
- Item 103 (Expanded risk-based approach: Tier 1 Capital Ratio (%)); and
- Item 105 (Expanded risk-based approach: Total risk-based capital ratio (%)).

The items listed above are currently on the reporting form but are not required to be submitted since banking organizations are not required to project values calculated under the advanced approaches framework. The Board is proposing to activate these items and remove references to advanced approaches firms that exit parallel run from the descriptions of the items, as well as to any other items that may refer to the advanced approaches framework. Banking organizations would not report these items if the common equity tier 1 ratio under the standardized approach is binding as of the report date.

If a banking organization reports the items listed above, then it would not be required to report the following items, which would only be required if the common equity tier 1 ratio for a banking organization under the standardized approach is binding as of the report date:

- Item 54 (Allowance for loan and lease losses includable in tier 2 capital);
- Item 57 (Tier 2 capital before deductions);
- Item 59.a (Tier 2 capital deductions);
- Item 60 (Tier 2 capital);
- Item 62 (Total capital);
- Item 94 (Total capital);
- Item 96 (Total risk-weighted assets using standardized approach);

- Item 100 (Common Equity Tier 1 Ratio (%));
- Item 102 (Tier 1 Capital Ratio (%)); and
- Item 104 (Total risk-based capital ratio (%)).

The Board also proposes to remove language from the instructions for Schedule A.1.d stating the banking organizations are not required to project values calculated under the advanced approaches framework.

In addition, the Board proposes to allow the three items listed below on Schedule A.1.d to be reported using the expanded risk-based approach or the standardized approach, instead of only the standardized approach, as currently required:

- Item 134 (Maximum Payout Ratio);
- Item 135 (Minimum Payout Amount); and
- Item 146(a) (TLAC risk-weighted asset buffer).

The Board proposes to specify that these items be reported in the same manner (i.e., using either the expanded risk-based approach or the standardized approach) as the corresponding item on FR Y-9C, Schedule HC-R (Regulatory Capital), Part I (Regulatory Capital Components and Ratios).

Further, to ensure that applicable banking organizations remain in compliance with distribution limitations, the Board is also proposing to require banking organizations subject to the expanded risk-based approach, which would include firms subject to Category IV standards, to report the expanded risk-based approach versions of the common equity tier 1 capital ratio, tier 1 capital ratio, and total capital ratio, on FR Y-14A, Schedule C (Regulatory Capital Instruments) if the expanded risk-based approach is binding for the common equity tier 1 capital ratio as of the report date. Banking organizations subject to the expanded risk-based approach would continue to report the standardized approach versions of these ratios if the standardized approach is binding for the common equity tier 1 capital ratio as of the report date.

Accumulated Other Comprehensive Income (AOCI)

Under the Board's regulatory capital rule, a banking organization that is not subject to Category I or II standards was provided an opportunity to make a one-time election to opt out of recognizing most elements of AOCI and related deferred tax assets (DTAs) and deferred tax liabilities (DTLs) in regulatory capital. Applicable banking organizations are required to report the result of this decision on FR Y-14A, Schedule A.1.d, item 18 ("AOCI opt-out election"). As described in the proposed rule, banking organizations subject to Category III and IV standards would be required to include all AOCI components in common equity tier 1 capital elements, except gains and losses on cash-flow hedges where the hedged item is not recognized on a banking organization's balance sheet at fair value. As a result, the Board is proposing to revise the instructions for item 18 to eliminate the opt-out option for banking organizations subject to the proposed expanded risk-based standards.

Regulatory Capital Deductions

Currently, a banking organization subject to Category I or II standards has different regulatory capital deduction thresholds than a banking organization subject to Category III or IV standards. Deducted amounts are reported across various items on FR Y-14A, Schedule A.1.d and FR Y-14Q, Schedule D (Regulatory Capital). As described in the proposed rule, a banking organization subject to Category III and Category IV standards would have the same deduction thresholds as banking organization subject to Category I and II standards. For alignment purposes, the Board proposes to revise applicable items on Schedule A.1.d and Schedule D to specify which deduction thresholds apply to banking organizations subject to expanded risk-based standards.

General RWAs

Banking organizations subject to the advanced approaches framework are required to report the RWA amount based on the internal ratings-based (IRB) capital formula in Schedule A.1 (International Auto Loan) and Schedule A.2 (US Auto Loan) of the FR Y-14Q. Since the Board is proposing to remove the IRB approach from the capital rule, the Board is also

proposing to replace the reference to IRB on Schedules A.1 and A.2, and to specify that banking organizations subject to expanded risk-based standards should calculate RWAs as specified in the capital rule on Schedules A.1 and A2.

Market Risk RWAs

As described in the preamble, the Board is proposing to introduce two methodologies for calculating market risk RWAs: the standardized measure and the models-based measure. A firm must receive approval from its primary Federal supervisor to calculate the market risk capital requirements under the models-based measure. If a firm has certain trading desks that do not meet eligibility requirements for the internal models approach, then the proposal would impose the standardized measure for the ineligible trading desks.

The Board is proposing several revisions to market risk RWAs in the proposed rule. To align with the proposed rule, the Board proposes to replace the existing market risk RWA items (items 24 through 40) on FR Y-14A, Schedule A.1.c.1 (Standardized RWA) with thirty-five items that cover six categories under the standardized measure. These categories would be:

- Delta Capital Requirements;
- Vega Capital Requirements;
- Curvature Capital Requirements;
- Default Risk Capital Requirements;
- Residual Risk Add-on Components; and
- Capital Add-ons.

The granularity of the proposed items would align with the revisions described in the proposed rule and would provide the Board with insight into the drivers of market risk RWAs, facilitating understanding of how changes in the projections of distinct exposure types contribute to overall changes in market risk RWAs over the projection horizon. In addition, to further increase insight into a banking organization's market risk RWAs for those banking organizations that received approval to calculate market risk capital requirements under the models-based

measure, the Board proposes to add items to capture total standardized RWAs for model-ineligible trading desks and total RWAs under the models-based measure for model-eligible trading desks that are approved. All proposed market risk RWA items would only be reported by firms subject to the market risk rule.

Operational Risk

The Board proposes several revisions to FR Y-14Q, Schedule E (Operational Risk) to align with the changes described in the proposed rule. Although the revisions described only apply to banking organizations subject to expanded risk-based standards, for data consistency and comparability purposes, the Board is proposing that the operational risk revisions apply to all banking organizations that file Schedule E.

Loss Events

The Board would make several revisions to the definition of "operational loss" and "operational loss event" in the proposed rule. The instructions for Schedule E define an operational loss as a financial loss resulting from an operational loss event, which is defined as an event that is associated with any of the seven operational loss event type categories:

- Internal Fraud;
- External Fraud;
- Employment Practices and Workplace Safety;
- Clients, Products, and Business Practices;
- Damage to Physical Assets;
- Business Disruption and System Failures; and
- Execution, Delivery, and Process Management.

The seven event type categories are further defined in Table E.1.a (Level 1 and Level 2 Event-Types). For congruency, the Board proposes to align the definitions of "operational loss", "operational loss event," and the seven operational loss event type categories in Schedule E.1 with the proposed definitions specified in the rule.

Banking organizations can currently report their operational loss events on FR Y-14Q, Schedule E.1 (Operational Loss History) at the event level (i.e., one single row for each operational loss event) or at the impact level (i.e., across several rows, with each row corresponding to a unique expense incurred at a certain point in time). As described in the proposed rule, the calculation of annual net operational losses would be based on a ten-year average. To ensure that the Board can adequately capture losses over this timespan, the Board proposes to require banking organizations to report loss events at the impact level when a loss event involves more than one expense that occurs over time. The Board proposes to further clarify that the reported accounting date for loss events should be specific to each impact and reflect the date the financial loss associated with the impact was recorded on the banking organization's financial statements.

Timing Losses

Banking organizations are required to exclude timing losses from Schedule E.1. Timing losses are operational risk events that cause a temporary distortion of a banking organization's financial statements in a particular financial reporting period but that can be fully corrected when later discovered (e.g., revenue overstatement, accounting, and mark-to-market errors). Since the Board is proposing to have timing losses be considered operational losses, the Board also proposes to revise the instructions for Schedule E.1. to require that timing losses be reported. To clearly identify timing losses, the Board proposes to add the "Timing event flag" item to Schedule E.1.

Loss Threshold

The instructions for Schedules E.1 and E.4 (Threshold Information) do not require that banking organizations provide an explicit dollar threshold for collecting and reporting operational loss events. Rather, banking organizations are required to submit a complete history of operational losses at and above the institution's established collection threshold(s). As described in the proposed rule, a banking organization would be required to include a loss event

of $20,000 or more on a net basis in its capital calculation. Given this, the Board also proposes to specify that each banking organization's collection and reporting threshold on Schedules E.1 and E.4 should be no greater than $20,000 on a nominal and net loss basis (inclusive of non-insurance recoveries).

Insurance Recoveries

Banking organizations are required to exclude insurance recoveries from the "Recovery Amount ($USD))" item in Schedule E.1. Since the Board is proposing to include insurance recoveries as part of the internal loss multiplier calculation, the Board is also proposing to add the "Insurance Recovery Amount ($USD))" item to Schedule E.1. To avoid double counting of insurance recoveries, the Board proposes to rename the "Recovery Amount ($USD))" item as "Non-Insurance Recovery Amount ($USD)),," and to specify that only non-insurance recoveries are reported in this item.

Credit Risk Mitigation

Banking organizations subject to the advanced approaches framework report probability of default (PD), loss given default (LGD), expected loss given default (ELGD), and exposure at default (EAD) values on FR Y-14Q, Schedule A (Retail) and Schedule H (Wholesale), as well as FR Y-14M, Schedule A (First Lien), Schedule B (Home Equity), and Schedule D (Credit Card), calculated as specified in the Board's capital rule. On Schedule H, these banking organizations report the advanced internal ratings-based (IRB) parameter estimates for PD, LGD, and EAD. Since the Board is proposing to revise the calculation of these values in the capital rule as described in the proposal, the Board proposes to revise FR Y-14Q, Schedules A and H, as well as FR Y-14M, Schedules A, B, and D, to specify that banking organizations subject to expanded risk-based standards should report PD, LGD, ELGD, and EAD items as specified in the Board's capital rule, calculated as proposed. The Board is also proposing to remove references to the IRB approach in Schedule H, and to instead require banking organizations subject to expanded risk-based standards to calculate PD, LGD, and EAD as described in the Board's capital rule.

c. *(3) Collection title: Systemic Risk Report.*

Collection identifier: FR Y-15.

OMB control number: 7100-0352.

General description of report: The FR Y-15 quarterly report collects systemic risk data from U.S. bank holding companies and covered savings and loan holding companies with total consolidated assets of $100 billion or more, any U.S.-based bank holding company designated as a GSIB that does not meet the consolidated assets threshold, and foreign banking organizations with $100 billion or more in combined U.S. assets. The Board uses the FR Y-15 data to monitor, on an ongoing basis, the systemic risk profile of subject institutions. In addition, the FR Y-15 is used to (1) facilitate the implementation of the GSIB capital surcharge under the capital rule, (2) identify other institutions that may present significant systemic risk, and (3) analyze the systemic risk implications of proposed mergers and acquisitions.

Frequency: Quarterly.

Affected Public: Businesses or other for-profit.

Respondents: Top tier U.S. bank holding companies and covered savings and loan holding companies with $100 billion or more in total consolidated assets, any U.S.-based bank holding company designated as a GSIB that does not meet that consolidated assets threshold, and foreign banking organizations with combined U.S. assets of $100 billion or more.

*Estimated number of respondents:*53.

Estimated average hours per response: Reporting – 49.8 hours; Recordkeeping – 0.25 hours.

Estimated annual burden hours: Reporting – 10,558 hours;[490] Recordkeeping – 53 hours.

Current Actions: The Board is proposing to amend the FR Y-15 form and instructions to align with the proposed capital rule. As discussed in section III.C.3.b of this Supplementary

[490] This estimated total annual burden reflects adjustments that have been made to the Board's burden methodology for the FR Y-15 that provide a more consistent estimate of respondent burden across different regulatory reports.

Information section, under the proposal, a 40 percent credit conversion factor would apply to commitments that are not unconditionally cancelable commitments for purposes of calculating total leverage exposure for the supplementary leverage ratio. The Board is proposing to make a conforming revision to the FR Y-15 to align the reporting of data for the total exposures systemic indicator with this change. The revisions are proposed to be effective for the September 30, 2025, as of date.

The Board estimates that revisions to the FR Y-15 would increase the estimated annual burden by 56 hours. The respondent count for the FR Y-15 would not change because of these changes. The draft reporting forms and instructions are available on the Board's public website at *https://www.federalreserve.gov/apps/reportingforms*.

B. Regulatory Flexibility Act

OCC:

The Regulatory Flexibility Act (RFA), 5 U.S.C. 601 et seq., requires an agency, in connection with a proposed rule, to prepare an Initial Regulatory Flexibility Analysis describing the impact of the rule on small entities (defined by the Small Business Administration (SBA) for purposes of the RFA to include commercial banks and savings institutions with total assets of $850 million or less and trust companies with total assets of $47 million or less) or to certify that the proposed rule would not have a significant economic impact on a substantial number of small entities. The OCC currently supervises approximately 661 small entities.[491]

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[491] The OCC bases its estimate of the number of small entities on the Small Business Administration's size standards for commercial banks and savings associations, and trust companies, which are $850 million and $47 million, respectively. Consistent with the General Principles of Affiliation 13 CFR 121.103(a), the OCC counts the assets of affiliated banks when determining whether to classify an OCC-supervised bank as a small entity. The OCC used December 31, 2022, to determine size because a "financial institution's assets are determined by averaging the assets reported on its four quarterly financial statements for the preceding year." See, FN 8 of the U.S. Small Business Administration's *Table of Size Standards*.

The OCC estimates that the proposed rule would impact none of these small entities, as the scope of the rule only applies to banking organizations with total assets of at least $100 billion or banking organizations with significant trading activity. Therefore, the OCC certifies that the proposed rule would not have a significant economic impact on a substantial number of small entities.

Board:

The Board is providing an initial regulatory flexibility analysis with respect to this proposed rule. The Regulatory Flexibility Act[492] ("RFA"), requires an agency to consider whether the rule it proposes will have a significant economic impact on a substantial number of small entities.[493] In connection with a proposed rule, the RFA requires an agency to prepare and invite public comment on an initial regulatory flexibility analysis describing the impact of the rule on small entities, unless the agency certifies that the proposed rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. An initial regulatory flexibility analysis must contain (1) a description of the reasons why action by the agency is being considered; (2) a succinct statement of the objectives of, and legal basis for, the proposed rule; (3) a description of, and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; (4) a description of the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional

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[492] 5 U.S.C. 601 *et seq.*

[493] Under regulations issued by the Small Business Administration ("SBA"), a small entity includes a depository institution, bank holding company, or savings and loan holding company with total assets of $850 million or less. *See* 13 CFR 121.201. Consistent with the SBA's General Principles of Affiliation, the Board includes the assets of all domestic and foreign affiliates toward the applicable size threshold when determining whether to classify a particular entity as a small entity. *See* 13 CFR 121.103. As of December 31, 2022, there were approximately 2081 small bank holding companies, approximately 88 small savings and loan holding companies, and approximately 427 small state member banks.

skills necessary for preparation of the report or record; (5) an identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap with, or conflict with the proposed rule; and (6) a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and minimize any significant economic impact of the proposed rule on small entities.[494]

The Board has considered the potential impact of the proposed rule on small entities in accordance with the RFA. Based on its analysis and for the reasons stated below, the Board believes that this proposed rule will not have a significant economic impact on a substantial number of small entities. Nevertheless, the Board is publishing and inviting comment on this initial regulatory flexibility analysis. The proposal would also make corresponding changes to the Board's reporting forms.

As discussed in detail in sections I through VII of this Supplementary Information, the proposed rule would substantially revise the capital requirements applicable to large banking organizations and to banking organizations with significant trading activity. The revisions set forth in the proposal would improve the calculation of risk-based capital requirements to better reflect the risks of these banking organizations' exposures, reduce the complexity of the framework, enhance the consistency of requirements across these banking organizations, and facilitate more effective supervisory and market assessments of capital adequacy. The revisions would include replacing current requirements that include the use of banking organizations' internal models for credit risk and operational risk with standardized approaches and replacing the current market risk and credit valuation adjustment risk requirements with revised approaches. The proposed revisions are being considered due to, and would be generally

[494] 5 U.S.C. 603(b)-(c).

consistent with, recent changes to international capital standards issued by the Basel Committee on Banking Supervision.

The Board has broad authority under the International Lending Supervision Act ("ILSA")[495] and the prompt corrective action ("PCA") provisions of the Federal Deposit Insurance Act[496] to establish regulatory capital requirements for the institutions it regulates. For example, ILSA directs each Federal banking agency to cause banking institutions to achieve and maintain adequate capital by establishing minimum capital requirements as well as by other means that the agency deems appropriate.[497] The PCA provisions of the Federal Deposit Insurance Act direct each Federal banking agency to specify, for each relevant capital measure, the level at which an insured depository institution subsidiary is well capitalized, adequately capitalized, undercapitalized, and significantly undercapitalized.[498] In addition, the Board has broad authority to establish regulatory capital standards for bank holding companies, savings and loan holding companies, and U.S. intermediate holding companies of foreign banking organizations under the Bank Holding Company Act, the Home Owners' Loan Act, and the Dodd-Frank Reform and Consumer Protection Act ("Dodd-Frank Act").[499]

As discussed in more detail in section II of the Supplementary Information, the proposed rule would apply to banking organizations with total assets of $100 billion or more and their subsidiary depository institutions, as well as to banking organizations with significant trading activity. Under the proposed rule, a banking organization with significant trading activity would include any banking organization with average aggregate trading assets and trading liabilities,

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[495] 12 U.S.C. 3901-3911.

[496] 12 U.S.C. 1831o.

[497] 12 U.S.C. 3907(a)(1).

[498] 12 U.S.C. 1831o(c)(2).

[499] *See* 12 U.S.C. 1467a, 1844, 5365, 5371.

excluding customer and proprietary broker-dealer reserve bank accounts, over the previous four calendar quarters equal to $5 billion or more, or equal to 10 percent or more of total consolidated assets at quarter end as reported on the most recent quarterly regulatory report. Accordingly, essentially all banking organizations to which the proposed rule would apply exceed the SBA's $850 million total asset threshold.

As discussed in more detail in the Paperwork Reduction Act section, the proposed rule, once final, would require changes to the Consolidated Financial Statements for Holding Companies report (FR Y-9C) and the Capital Assessments and Stress Testing reports (FR Y-14A and FR Y-14Q).

The Board is aware of no other Federal rules that duplicate, overlap, or conflict with the proposed changes to the capital rule. The Board also is aware of no significant alternatives to the proposed rule that would accomplish the stated objectives of applicable statutes. Because the proposed rule generally would not apply to any small entities supervised by the Board, there are no alternatives that could minimize the impact of the proposed rule on small entities.

Therefore, the Board believes that the proposed rule would not have a significant economic impact on a substantial number of small entities supervised by the Board.

The Board welcomes comment on all aspects of its analysis. In particular, the Board requests that commenters describe the nature of any impact on small entities and provide empirical data to illustrate and support the extent of the impact.

FDIC:

The Regulatory Flexibility Act (RFA) generally requires an agency, in connection with a proposed rulemaking, to prepare and make available for public comment an initial regulatory

flexibility analysis that describes the impact of the proposed rule on small entities.[500] However, an initial regulatory flexibility analysis is not required if the agency certifies that the proposed rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. The Small Business Administration (SBA) has defined "small entities" to include banking organizations with total assets of less than or equal to $850 million.[501] Generally, the FDIC considers a significant economic impact to be a quantified effect in excess of 5 percent of total annual salaries and benefits or 2.5 percent of total noninterest expenses. The FDIC believes that effects in excess of one or more of these thresholds typically represent significant economic impacts for FDIC-supervised institutions. For the reasons described below, the FDIC certifies that the proposed rule will not have a significant economic impact on a substantial number of small entities.

According to recent Call Reports, there are 3,038 FDIC-supervised IDIs.[502] Of these, approximately 2,325 would be considered small entities for the purposes of RFA.[503] As of December 31, 2022, there were 37 top-tier U.S. depository institution holding companies and 62 U.S.-based depository institutions that report risk-based capital figures and are subject to Category I, II, III, or IV standards.[504] As of December 31, 2022, the FDIC supervises one

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[500] 5 U.S.C. 601 et seq.

[501] The SBA defines a small banking organization as having $850 million or less in assets, where an organization's ''assets are determined by averaging the assets reported on its four quarterly financial statements for the preceding year.'' *See* 86 FR 69118 which amends 13 CFR 121.201, (effective December 19, 2022.). In its determination, the ''SBA counts the receipts, employees, or other measure of size of the concern whose size is at issue and all of its domestic and foreign affiliates.'' *See* 13 CFR 121.103. Following these regulations, the FDIC uses a covered entity's affiliated and acquired assets, averaged over the preceding four quarters, to determine whether the covered entity is ''small'' for the purposes of RFA.

[502] Call Reports data, December 31, 2022.

[503] *Id*.

[504] On November 1, 2019, the banking agencies established four risk-based categories in order to tailor requirements under the agencies' regulatory capital and liquidity rules to banking organizations with assets of $100 billion or more (84 FR 59230). These Tailored Categories are defined in 12 CFR part 252 (84 FR 59032). The tailored holding company and depository institutions counts are based on December 2022 Call Reports, FR Y-9C data, and FR Y-15 data.

institution that is a subsidiary of a holding company subject to the Category I capital standards, three institutions that are subsidiaries of holding companies subject to the Category III capital standards, and five that are subsidiaries of holding companies subject to the Category IV standards.[505] These nine FDIC-supervised institutions that would be subject to this proposed rule should it be implemented are not considered small entities for the purposes of the RFA since they are owned by holding companies with over $850 million in total assets.

As all FDIC-supervised small entities are outside the scope of the proposed rule none would experience any direct effects, therefore, the FDIC certifies that the proposed rule, if adopted, would not have a significant economic effect on a substantial number of small entities.

The FDIC invites comments on all aspects of the supporting information provided in this RFA section. In particular, would this proposed rule have any significant effects on small entities that the FDIC has not identified?

C. Plain language

Section 722 of the Gramm-Leach Bliley Act[506] requires the Federal banking agencies to use plain language in all proposed and final rules published after January 1, 2000. The agencies invite comments on how to make these notices of proposed rulemaking easier to understand. For example:

- Have the agencies presented the material in an organized manner that meets your needs? If not, how could this material be better organized?

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[505] Counts are based on December 31, 2022 Call Reports, FR Y-9C data, and FR Y-15 data. Note these counts of FDIC-supervised institutions include three that are no longer within FDIC's supervisory scope due to one merger and two failures in 2023. The counts will be updated for the final rule to account for these changes.

[506] Pub. L. 106-102, section 722, 113 Stat. 1338, 1471 (1999).

- Are the requirements in the notice of proposed rulemaking clearly stated? If not, how could the proposed rule be more clearly stated?
- Does the proposed rule contain language that is not clear? If so, which language requires clarification?
- Would a different format (grouping and order of sections, use of headings, paragraphing) make the proposed rule easier to understand? If so, what changes to the format would make the proposed rule easier to understand?
- What else could the agencies do to make the proposed rule easier to understand?

D. Riegle Community Development and Regulatory Improvement Act of 1994

Pursuant to section 302(a) of the Riegle Community Development and Regulatory Improvement Act (RCDRIA), [507] in determining the effective date and administrative compliance requirements for new regulations that impose additional reporting, disclosure, or other requirements on IDIs, each Federal banking agency must consider, consistent with the principle of safety and soundness and the public interest, any administrative burdens that such regulations would place on depository institutions, including small depository institutions, and customers of depository institutions, as well as the benefits of such regulations. In addition, section 302(b) of RCDRIA requires new regulations and amendments to regulations that impose additional reporting, disclosures, or other new requirements on IDIs generally to take effect on the first day of a calendar quarter that begins on or after the date on which the regulations are published in final form, with certain exceptions, including for good cause. [508]

The agencies note that comment on these matters has been solicited in other sections of this Supplementary Information section, and that the requirements of RCDRIA will be considered as part of the overall rulemaking process. In addition, the agencies also invite any other comments that further will inform the agencies' consideration of RCDRIA.

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[507] 12 U.S.C. 4802(a).

[508] 12 U.S.C. 4802.

E. OCC Unfunded Mandates Reform Act of 1995 determination

The OCC has analyzed the proposed rule under the factors in the Unfunded Mandates Reform Act of 1995 (UMRA) (2 U.S.C. 1532). Under this analysis, the OCC considered whether the proposed rule includes a Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year (adjusted annually for inflation).

The OCC has determined this proposed rule is likely to result in the expenditure by the private sector of $100 million or more in any one year (adjusted annually for inflation). The OCC has prepared an impact analysis and identified and considered alternative approaches. When the proposed rule is published in the **Federal Register**, the full text of the OCC's analysis will be available at: *https:// www.regulations.gov*, Docket ID OCC–2023–0008.

F. Providing Accountability Through Transparency Act of 2023

The Providing Accountability Through Transparency Act of 2023 (12 U.S.C. 553(b)(4)) requires that a notice of proposed rulemaking include the Internet address of a summary of not more than 100 words in length of the proposed rule, in plain language, that shall be posted on the Internet website under section 206(d) of the E-Government Act of 2002 (44 U.S.C. 3501 note).

In summary, in the proposal the bank regulatory agencies request comment on a proposal to increase the strength and resilience of the banking system. The proposal would modify large bank capital requirements to better reflect underlying risks and increase the consistency of how banks measure their risks.

The proposal and such a summary can be found at https://www.regulations.gov, https://www.federalreserve.gov/supervisionreg/reglisting.htm, https://www.fdic.gov/resources/regulations/federal-register-publications/, and https://occ.gov/topics/laws-and-regulations/occ-regulations/proposed-issuances/index-proposed-issuances.html.

Text of Common Rule

Subpart E—Risk-Weighted Assets—Expanded Risk-Based Approach

§ __.100 Purpose and applicability.

(a) *Purpose.* This subpart sets forth methodologies for determining expanded total risk-weighted assets for purposes of the expanded capital ratio calculations.

(b) *Applicability.*

(1) This subpart applies to any [BANKING ORGANIZATION] that is a global systemically important BHC, a subsidiary of a global systemically important BHC, a Category II [BANKING ORGANIZATION], a Category III [BANKING ORGANIZATION], or a Category IV [BANKING ORGANIZATION], as defined in § __.2.

(2) The [AGENCY] may apply this subpart to any [BANKING ORGANIZATION] if the [AGENCY] deems it necessary or appropriate to ensure safe and sound banking practices.

(c) Notwithstanding any other provision of this section, a market risk [BANKING ORGANIZATION] must exclude from its calculation of risk-weighted assets under this subpart the risk-weighted asset amounts of all market risk covered positions, as defined in subpart F of this part (except foreign exchange positions that are not trading positions, OTC derivative positions, cleared transactions, and unsettled transactions).

§ __.101 Definitions.

(a) Terms that are set forth in § __.2 and used in this subpart have the definitions assigned thereto in § __.2 unless otherwise defined in paragraph (b) of this section.

(b) For purposes of this subpart, the following terms are defined as follows:

Acquisition, development, or construction exposure (ADC) exposure means a loan secured by real estate for the purpose of acquiring, developing, or constructing residential or commercial real estate properties, as well as all land development loans, and all other land loans.

Bank exposure means an exposure to a depository institution, foreign bank, or credit union.

Collateral upgrade transaction means a transaction in which a [BANKING ORGANIZATION] lends to a counterparty one or more securities that, on average, are subject to a lower haircut floor, as set forth in Table 2 to § __.121, than the securities received in exchange.

Credit obligation means an exposure where the lender but not the obligor is exposed to credit risk. The following exposures are not credit obligations: derivative contracts, cleared transactions, default fund contributions, repo-style transactions, eligible margin loans, equity exposures, or securitization exposures.

Defaulted exposure means an exposure that is a credit obligation, that is not an exposure to a sovereign entity, a real estate exposure, or a policy loan, and where:

(1) For a retail exposure:

(i) The exposure is 90 days or more past due or in nonaccrual status;

(ii) The [BANKING ORGANIZATION] has taken a partial charge-off, write-down of principal, or negative fair value adjustment on the exposure for credit-related reasons, until the [BANKING ORGANIZATION] has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure; or

(iii) A distressed restructuring of the exposure was agreed to by the [BANKING ORGANIZATION], until the [BANKING ORGANIZATION] has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure as demonstrated by a sustained period of repayment performance, provided that a distressed restructuring includes the following made for credit-related reasons: forgiveness or postponement of principal, interest, or fees, term extension or an interest rate reduction; and

(2) For an exposure that is not a retail exposure:

(i) The obligor has a credit obligation to the [BANKING ORGANIZATION] that is 90 days or more past due or in nonaccrual status; or

(ii) The [BANKING ORGANIZATION] has determined that, based on ongoing credit monitoring, the obligor is unlikely to pay its credit obligations to the [BANKING

ORGANIZATION] in full, without recourse by the [BANKING ORGANIZATION]. For the purposes of this definition, a [BANKING ORGANIZATION] must consider an obligor unlikely to pay its credit obligations if:

(A) The obligor has any credit obligation that is 90 days or more past due or in nonaccrual status with any creditor;

(B) Any credit obligation of the obligor has been sold at a credit-related loss;

(C) A distressed restructuring of any credit obligation of the obligor was agreed to by any creditor, provided that a distressed restructuring includes the following made for credit-related reasons: forgiveness or postponement of principal, interest, or fees, term extension, or an interest rate reduction;

(D) The obligor is subject to a pending or active bankruptcy proceeding; or

(E) Any creditor has taken a full or partial charge-off, write-down of principal, or negative fair value adjustment on a credit obligation of the obligor for credit-related reasons.

(3) For an exposure that is not a retail exposure, a [BANKING ORGANIZATION] may consider an obligor no longer unlikely to pay its credit obligations to the [BANKING ORGANIZATION] in full if the [BANKING ORGANIZATION] determines the obligor is speculative grade or investment grade.

(4) For purposes of this definition, overdrafts are past due once the obligor has breached an advised limit or been advised of a limit smaller than the current outstanding balance.

Defaulted real estate exposure means a real estate exposure where:

(1) For a residential mortgage exposure,

(i) The exposure is 90 days or more past due or in nonaccrual status;

(ii) The [BANKING ORGANIZATION] has taken a partial charge-off, write-down of principal, or negative fair value adjustment on the exposure for credit-related reasons, until the [BANKING ORGANIZATION] has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure; or

(iii) A distressed restructuring of the exposure was agreed to by the [BANKING ORGANIZATION], provided that a distressed restructuring includes the following made for credit-related reasons: forgiveness or postponement of principal, interest, or fees, term extension, or an interest rate reduction but does not include a loan modified or restructured solely pursuant to the U.S. Treasury's Home Affordable Mortgage Program.

(2) For a real estate exposure that is not a residential mortgage exposure,

(i) The obligor has a credit obligation to the [BANKING ORGANIZATION] that is 90 days or more past due or in nonaccrual status; or

(ii) The [BANKING ORGANIZATION] has determined that, based on ongoing credit monitoring, the obligor is unlikely to pay its credit obligations to the [BANKING ORGANIZATION] in full, without recourse by the [BANKING ORGANIZATION]. For the purposes of this definition, a [BANKING ORGANIZATION] must consider an obligor unlikely to pay its credit obligations if:

(A) The obligor has any credit obligation that is 90 days or more past due or in nonaccrual status with any creditor;

(B) Any credit obligation of the obligor has been sold at a credit-related loss;

(C) A distressed restructuring of any credit obligation of the obligor was agreed to by any creditor, provided that a distressed restructuring includes the following made for credit-related reasons: forgiveness or postponement of principal, interest, or fees, term extension, or an interest rate reduction;

(D) The obligor is subject to a pending or active bankruptcy proceeding; or

(E) Any creditor has taken a full or partial charge-off, write-down of principal, or negative fair value adjustment on a credit obligation for credit-related reasons.

(3) For an exposure that is not a residential mortgage exposure, a [BANKING ORGANIZATION] may consider an obligor no longer unlikely to pay its credit obligations to

the [BANKING ORGANIZATION] in full if the [BANKING ORGANIZATION] determines the obligor is speculative grade or investment grade.

Dependent on the cash flows generated by the real estate means, for a real estate exposure, for which the underwriting, at the time of origination, includes the cash flows generated by lease, rental, or sale of the real estate securing the loan as a source of repayment. For purposes of this definition, a residential mortgage exposure that is secured by the borrower's principal residence is deemed not dependent on the cash flows generated by the real estate.

Dividend income means all dividends received on securities not consolidated in the [BANKING ORGANIZATION]'s financial statements.

Fee and commission expense means expenses paid for advisory and financial services received.

Fee and commission income means income received from providing advisory and financial services, including insurance income.

Grade A bank exposure means:

(1) A bank exposure for which the depository institution, foreign bank, or credit union is investment grade and whose most recent capital ratios meet or exceed the higher of:

(i) The minimum capital requirements and any additional amounts necessary to not be subject to limitations on distributions and discretionary bonus payments under capital rules established by the prudential supervisor of the depository institution, foreign bank, or credit union, and;

(ii) If applicable, the capital ratio requirements for the well capitalized capital category under the regulations of the appropriate Federal banking agency implementing 12 U.S.C. 1831o or under similar regulations of the National Credit Union Administration.

(2) Notwithstanding paragraph (1) of this definition, an exposure is not a Grade A bank exposure if:

(i) The capital ratios for the depository institution, foreign bank, or credit union have not

been publicly disclosed within the previous 6 months;

(ii) The external auditor of the depository institution, foreign bank, or credit union has issued an adverse audit opinion or has expressed substantial doubt about the ability of the depository institution, foreign bank, or credit union to continue as a going concern within the previous 12 months; or

(iii) For a foreign bank, the capital standards imposed by the home country supervisor on the foreign bank are not consistent with the Capital Accord of the Basel Committee on Banking Supervision.

Grade B bank exposure means:

(1) A bank exposure that is not a Grade A bank exposure and for which the depository institution, foreign bank, or credit union is speculative grade or investment grade and whose most recent capital ratios meet or exceed the higher of:

(i) The minimum capital requirements under capital rules established by the prudential supervisor of the depository institution, foreign bank, or credit union; and

(ii) If applicable, the capital ratio requirements for the adequately-capitalized category under the regulations of the appropriate Federal banking agency implementing 12 U.S.C. 1831o or under similar regulations of the National Credit Union Administration.

(2) Notwithstanding paragraph (1) of this definition, an exposure to a depository institution, foreign bank, or credit union is not a Grade B bank exposure if:

(i) The capital ratios for the depository institution, foreign bank, or credit union have not been publicly disclosed within the previous 6 months;

(ii) The external auditor of the depository institution, foreign bank, or credit union has issued an adverse audit opinion or has expressed substantial doubt about the ability of the depository institution, foreign bank, or credit union to continue as a going concern within the previous 12 months; or

(iii) For a foreign bank, the capital standards imposed by the home country supervisor on

the foreign bank are not consistent with the Capital Accord of the Basel Committee on Banking Supervision.

Grade C bank exposure means a bank exposure for which the depository institution, foreign bank, or credit union does not qualify as a Grade A bank exposure or a Grade B bank exposure.

Interest-earning assets means the sum of all gross outstanding loans and leases, securities that pay interest, interest-bearing balances, Federal funds sold, and securities purchased under agreement to resell.

Net profit or loss on assets and liabilities not held for trading means the sum of realized gains (losses) on held-to-maturity securities, realized gains (losses) on available-for-sale securities, net gains (losses) on sales of loans and leases, net gains (losses) on sales of other real estate owned, net gains (losses) on sales of other assets, venture capital revenue, net securitization income, and mark-to-market profit or loss on bank liabilities.

Non-performing loan securitization (NPL securitization) means a traditional securitization, or a synthetic securitization, that is not a resecuritization, where parameter *W* (as defined in §__.133(b)(1)) for the underlying pool is greater than or equal to 90 percent at the origination cut-off date and at any subsequent date on which assets are added to or removed from the pool due to replenishment or restructuring.

Nonrefundable purchase price discount (NRPPD) means the difference between the initial outstanding balance of the exposures in the underlying pool and the price at which these exposures are sold by the originator to the securitization SPE, when neither originator nor the original lender are reimbursed for this difference. In cases where the originator underwrites tranches of a NPL securitization for subsequent sale, the NRPPD may include the differences between the notional amount of the tranches and the price at which these tranches are first sold to unrelated third parties. For any given piece of a securitization tranche, only its initial sale from

the originator to investors is taken into account in the determination of NRPPD. The purchase prices of subsequent re-sales are not considered.

Operational loss means all losses (excluding insurance or tax effects) resulting from an operational loss event, including any reduction in previously reported capital levels attributable to restatements or corrections of financial statements. Operational loss includes all expenses associated with an operational loss event except for opportunity costs, forgone revenue, and costs related to risk management and control enhancements implemented to prevent future operational losses. Operational loss does not include losses that are also credit losses and are related to exposures within the scope of the credit risk-weighted assets framework (except for retail credit card losses arising from non-contractual, third-party-initiated fraud, which are operational losses).

Operational loss event means an event that results in loss due to inadequate or failed internal processes, people, and systems or from external events. This includes legal loss events and restatements or corrections of financial statements that result in a reduction of capital relative to amounts previously reported. Losses with a common underlying trigger must be grouped into a single operational loss event. Operational loss events are classified according to the following seven operational loss event types:

(1) Internal fraud, which means the operational loss event type that comprises operational losses resulting from an act involving at least one internal party of a type intended to defraud, misappropriate property, or circumvent regulations, the law, or company policy excluding diversity and discrimination noncompliance events.

(2) External fraud, which means the operational loss event type that comprises operational losses resulting from an act by a third party of a type intended to defraud, misappropriate property, or circumvent the law. Retail credit card losses arising from non-contractual, third-party-initiated fraud (for example, identity theft) are external fraud operational losses.

(3) Employment practices and workplace safety, which means the operational loss event type that comprises operational losses resulting from an act inconsistent with employment, health, or safety laws or agreements, payment of personal injury claims, or payment arising from diversity and discrimination noncompliance events.

(4) Clients, products, and business practices, which means the operational loss event type that comprises operational losses resulting from the nature or design of a product or from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements).

(5) Damage to physical assets, which means the operational loss event type that comprises operational losses resulting from the loss of or damage to physical assets from natural disaster or other events.

(6) Business disruption and system failures, which means the operational loss event type that comprises operational losses resulting from disruption of business or system failures, including hardware, software, telecommunications, utility outage or disruptions.

(7) Execution, delivery, and process management, which means the operational loss event type that comprises operational losses resulting from failed transaction processing or process management or losses arising from relations with trade counterparties and vendors.

Operational risk means the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (including legal risk but excluding strategic and reputational risk).

Other operating expense means expenses associated with financial services not included in other elements of the Business Indicator, as defined in § __.150(d), and all expenses associated with operational loss events. Other operating expense does not include expenses excluded from the Business Indicator.

Other operating income means income not included in other elements of the Business Indicator, as defined in § __.150(d), and not excluded from the Business Indicator.

Other real estate exposure means a real estate exposure that is not a defaulted real estate exposure, a regulatory commercial real estate exposure, a regulatory residential real estate exposure, a pre-sold construction loan, a statutory multifamily mortgage, an HVCRE exposure, or an ADC exposure.

Project finance exposure means a corporate exposure:

(1) For which the [BANKING ORGANIZATION] relies on the revenues generated by a single project, both as the source of repayment and as security for the loan;

(2) The exposure is to an entity that was created specifically to finance, operate the physical assets of the project, or do both; and

(3) The borrowing entity has an immaterial amount of assets, activities, or sources of income apart from the revenues from the activities of the project being financed.

Project finance operational phase exposure means a project finance exposure where the project has positive net cash flow that is sufficient to support the debt service and expenses of the project and any other remaining contractual obligation, in accordance with the [BANKING ORGANIZATION]'s applicable loan underwriting criteria for permanent financings, and where the outstanding long-term debt on the project is declining.

Real estate exposure means an exposure that is neither a sovereign exposure nor an exposure to a PSE and that is:

(1) A residential mortgage exposure;

(2) Secured by collateral in the form of real estate;

(3) A pre-sold construction loan;

(4) A statutory multifamily mortgage;

(5) An HVCRE exposure; or

(6) An ADC exposure.

Recovery means an inflow of funds or economic benefits received from a third party in relation to an operational loss event. Recoveries do not include receivables.

Regulatory commercial real estate exposure means a real estate exposure that is not a regulatory residential real estate exposure, a defaulted real estate exposure, an ADC exposure, a pre-sold construction loan, a statutory multifamily mortgage, or an HVCRE exposure, and that meets the following criteria:

(1) The exposure must be primarily secured by fully completed real estate;

(2) The [BANKING ORGANIZATION] holds a first priority security interest in the property that is legally enforceable in all relevant jurisdictions; provided that when the [BANKING ORGANIZATION] also holds a junior security interest in the same property and no other party holds an intervening security interest, the [BANKING ORGANIZATION] must treat the exposures as a single regulatory commercial real estate exposure;

(3) The exposure is made in accordance with prudent underwriting standards, including standards relating to the loan amount as a percent of the value of the property;

(4) During underwriting of the loan, the [BANKING ORGANIZATION] must have applied underwriting policies that took into account the ability of the borrower to repay in a timely manner based on clear and measurable underwriting standards that enable the [BANKING ORGANIZATION] to evaluate relevant credit factors; and

(5) The property must be valued in accordance with § __.103.

Regulatory residential real estate exposure means a first-lien residential mortgage exposure that is not a defaulted real estate exposure, an ADC exposure, a pre-sold construction loan, a statutory multifamily mortgage, or an HVCRE exposure, and that meets the following criteria:

(1) The exposure:

(i) Is secured by a property that is either owner-occupied or rented;

(ii) Is made in accordance with prudent underwriting standards, including standards relating to the loan amount as a percent of the value of the property;

(iii) During underwriting of the loan, the [BANKING ORGANIZATION] must have

applied underwriting policies that took into account the ability of the borrower to repay in a timely manner based on clear and measurable underwriting standards that enable the [BANKING ORGANIZATION] to evaluate these credit factors; and

(iv) The property must be valued in accordance with § __.103.

(2) When a [BANKING ORGANIZATION] holds the first-lien and junior-lien(s) residential mortgage exposure, and no other party holds an intervening lien, the [BANKING ORGANIZATION] must treat the exposures as a single regulatory residential real estate exposure.

Regulatory retail exposure means a retail exposure that meets all of the following criteria:

(1) *Product criterion.* The exposure is a revolving credit or line of credit, or a term loan or lease;

(2) *Aggregate limit*. The sum of the exposure amount and the amounts of all other retail exposures to the obligor and to its affiliates does not exceed $1 million; and

(3) *Granularity limit.* Notwithstanding paragraphs (1) and (2) of this definition, if a retail exposure exceeds 0.2 percent of the [BANKING ORGANIZATION]'s total retail exposures that meet criteria (1) and (2) of this definition, only the portion up to 0.2 percent of the [BANKING ORGANIZATION]'s total retail exposures may be considered a regulatory retail exposure. Any excess portion is a retail exposure that is not a regulatory retail exposure. For purposes of this paragraph (3), off-balance sheet exposures are measured by applying the appropriate credit conversion factor in § __.112, and defaulted exposures are excluded.

Retail exposure means an exposure that is not a real estate exposure and that meets the following criteria:

(1) The exposure is to a natural person or persons, or

(2) The exposure is to an SME and satisfies the criteria in paragraphs (1) through (3) of the definition of regulatory retail exposure.

Senior securitization exposure means a securitization exposure that has a first-priority claim on the cash flows from the underlying exposures. When determining whether a securitization exposure has a first-priority claim on the cash flows from the underlying exposures, a [BANKING ORGANIZATION] is not required to consider amounts due under interest rate derivative, currency derivative, and servicer cash advance facility contracts; fees due; and other similar payments. Both the most senior commercial paper issued by an ABCP program and a liquidity facility that supports the ABCP program may be senior securitization exposures if the liquidity facility provider's right to reimbursement of the drawn amounts is senior to all claims on the cash flows from the underlying exposures except amounts due under interest rate derivative, currency derivative, and servicer cash advance facility contracts; fees due; and other similar payments.

Small or medium-sized entity (SME) means an entity in which the reported annual revenues or sales for the consolidated group of which the entity is a part are less than or equal to $50 million for the most recent fiscal year.

Subordinated debt instrument means a debt security that is a corporate exposure, a bank exposure or an exposure to a GSE, including a note, bond, debenture, similar instrument, or other debt instrument as determined by the [AGENCY], that is subordinated by its terms, or separate intercreditor agreement, to any creditor of the obligor, or preferred stock that is not an equity exposure.

Synthetic excess spread means any contractual provisions in a synthetic securitization that are designed to absorb losses prior to any of the tranches of the securitization structure.

Transactor exposure means a regulatory retail exposure that is a credit facility where the balance has been repaid in full at each scheduled repayment date for the previous 12 months or an overdraft facility where there has been no drawdown over the previous 12 months.

Total interest expense means interest expenses related to all financial liabilities and other interest expenses.

Total interest income means interest income from all financial assets and other interest income.

Trading revenue means the net gain or loss from trading cash instruments and derivative contracts (including commodity contracts).

§ __.103 Calculation of loan-to-value (LTV) ratio.

(a) *Loan-to-Value ratio.* The loan-to-value (LTV) ratio must be calculated as the extension of credit divided by the value of the property.

(b) *Extension of credit.* For purposes of a LTV ratio calculated under this section, the extension of credit is equal to the total outstanding amount of the loan including any undrawn committed amount of the loan.

(c) *Value of the property.* (1) For purposes of a LTV ratio calculated under this section, the value of the property is the market value of all real estate properties securing or being improved by the extension of credit plus the amount of any readily marketable collateral and other acceptable collateral, as defined in [REAL ESTATE LENDING GUIDELINES], that secures the extension of credit, subject to the following:

(i) For exposures subject to [APPRAISAL RULE], the market value of property is a valuation that meets all requirements of that rule.

(ii) For exposures not subject to [APPRAISAL RULE]:

(A) The market value of real estate must be obtained from an independent valuation of the property using prudently conservative valuation criteria;

(B) The valuation must be done independently from the [BANKING ORGANIZATION]'s origination and underwriting process, and

(C) To ensure that the market value of the real estate is determined in a prudently conservative manner, the valuation must exclude expectations of price increases and must be adjusted downward to take into account the potential for the current market price to be significantly above the value that would be sustainable over the life of the loan.

(2) In the case where the exposure finances the purchase of the property, the value of the property is the lower of the market value obtained under paragraph (c)(1)(i) or (ii), as applicable, and the actual acquisition cost.

(3) The value of the property must be measured at the time of origination, except in the following circumstances:

(i) The [AGENCY] requires a [BANKING ORGANIZATION] to revise the value of the property downward;

(ii) The value of the property must be adjusted downward due to an extraordinary event that results in a permanent reduction of the property value; or

(iii) The value of the property may be increased to reflect modifications made to the property that increase the market value, as determined according to the requirements in paragraphs (c)(1)(i) or (ii) of this section.

(4) Readily marketable collateral and other acceptable collateral, as defined in [REAL ESTATE LENDING GUIDELINES], must be appropriately discounted by the [BANKING ORGANIZATION] consistent with the [BANKING ORGANIZATION]'s usual practices for making loans secured by such collateral.

Risk-Weighted Assets for Credit Risk

§ __.110 Calculation of total risk-weighted assets for general credit risk.

(a) *General risk-weighting requirements*. A [BANKING ORGANIZATION] must apply risk weights to its exposures as follows:

(1) A [BANKING ORGANIZATION] must determine the exposure amount of each on-balance sheet exposure, each OTC derivative contract, and each off-balance sheet commitment, trade and transaction-related contingency, guarantee, repo-style transaction, financial standby letter of credit, forward agreement, or other similar transaction that is not:

(i) An unsettled transaction subject to § __.115;

(ii) A cleared transaction subject to § __.114;

(iii) A default fund contribution subject to § __.114;

(iv) A securitization exposure subject to §§ __.130 through __.134;

(v) An equity exposure (other than an equity OTC derivative contract) subject to §§ __.140 through __.142.

(2) The [BANKING ORGANIZATION] must multiply each exposure amount by the risk weight appropriate to the exposure based on the exposure type or counterparty, eligible guarantor, or financial collateral to determine the risk-weighted asset amount for each exposure.

(b) *Total risk-weighted assets for general credit risk.* Total credit risk-weighted assets equals the sum of the risk-weighted asset amounts calculated under this section.

§ __.111 General risk weights.

(a) *Sovereign exposures*—(1) *Exposures to the U.S. government*. (i) Notwithstanding any other requirement in this subpart, a [BANKING ORGANIZATION] must assign a zero percent risk weight to:

(A) An exposure to the U.S. government, its central bank, or a U.S. government agency; and

(B) The portion of an exposure that is directly and unconditionally guaranteed by the U.S. government, its central bank, or a U.S. government agency. This includes a deposit or other exposure, or the portion of a deposit or other exposure, that is insured or otherwise unconditionally guaranteed by the FDIC or the National Credit Union Administration.

(ii) A [BANKING ORGANIZATION] must assign a 20 percent risk weight to the portion of an exposure that is conditionally guaranteed by the U.S. government, its central bank, or a U.S. government agency. This includes an exposure, or the portion of an exposure, that is conditionally guaranteed by the FDIC or the National Credit Union Administration.

(iii) A [BANKING ORGANIZATION] must assign a zero percent risk weight to a Paycheck Protection Program covered loan as defined in section 7(a)(36) of the Small Business Act (15 U.S.C. 636(a)(36)).

(2) *Other sovereign exposures*. In accordance with Table 1 to§ __.111, a [BANKING ORGANIZATION] must assign a risk weight to a sovereign exposure based on the CRC applicable to the sovereign or the sovereign's OECD membership status if there is no CRC applicable to the sovereign.

Table 1 to § __.111—Risk Weights for Sovereign Exposures

		Risk Weight (in percent)
CRC	0-1	0
	2	20
	3	50
	4-6	100
	7	150
OECD Member with No CRC		0
Non-OECD Member with No CRC		100
Sovereign Default		150

(3) *Certain sovereign exposures*. Notwithstanding paragraph (a)(2) of this section, a [BANKING ORGANIZATION] may assign to a sovereign exposure a risk weight that is lower than the applicable risk weight in Table 1 to § __.111 if:

(i) The exposure is denominated in the sovereign's currency;

(ii) The [BANKING ORGANIZATION] has at least an equivalent amount of liabilities in that currency; and

(iii) The risk weight is not lower than the risk weight that the home country supervisor allows an organization engaged in the business of banking under its jurisdiction to assign to the same exposures to the sovereign.

(4) *Exposures to a non-OECD member sovereign with no CRC*. Except as provided in paragraphs (a)(3), (5) and (6) of this section, a [BANKING ORGANIZATION] must assign a 100 percent risk weight to an exposure to a sovereign if the sovereign does not have a CRC.

(5) *Exposures to an OECD member sovereign with no CRC*. Except as provided in paragraph (a)(6) of this section, a [BANKING ORGANIZATION] must assign a 0 percent risk

weight to an exposure to a sovereign that is a member of the OECD if the sovereign does not have a CRC.

(6) *Sovereign default*. A [BANKING ORGANIZATION] must assign a 150 percent risk weight to a sovereign exposure immediately upon determining that an event of sovereign default has occurred, or if an event of sovereign default has occurred during the previous five years.

(b) *Certain supranational entities and multilateral development banks (MDBs)*. A [BANKING ORGANIZATION] must assign a zero percent risk weight to exposures to the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the European Stability Mechanism, the European Financial Stability Facility, or an MDB.

(c) *Exposures to GSEs.* (1) A [BANKING ORGANIZATION] must assign a 20 percent risk weight to an exposure to a GSE that is not:

(i) An equity exposure; or

(ii) An exposure to a subordinated debt instrument issued by a GSE.

(2) A [BANKING ORGANIZATION] must assign a 150 percent risk weight to an exposure to a subordinated debt instrument issued by a GSE, unless a different risk weight is provided under paragraph (c)(3) of this section.

(3) Notwithstanding paragraphs (c)(1) and (2) of this section, a [BANKING ORGANIZATION] must assign a 20 percent risk weight to an exposure to a subordinated debt instrument issued by a Federal Home Loan Bank or the Federal Agricultural Mortgage Corporation (Farmer Mac) that is not a defaulted exposure.

(d) *Exposures to a depository institution, a foreign bank, or a credit union.* (1) A [BANKING ORGANIZATION] must assign a risk weight to a bank exposure in accordance with Table 2 of this section, unless otherwise provided under paragraph (d)(2) or (d)(3) of this section.

Table 2 to § __.111—Bank Exposures

Risk weight table for bank exposures			
Category of Bank Exposure	Grade A Bank Exposure	Grade B Bank Exposure	Grade C Bank Exposure
Base risk weight	40%	75%	150%
Risk weight for a foreign bank exposure that is a self-liquidating, trade-related contingent item that arises from the movement of goods and that has a maturity of three months or less	20%	50%	150%

(2) Notwithstanding paragraph (d)(1) of this section, a [BANKING ORGANIZATION] must not assign a risk weight to an exposure to a foreign bank lower than the risk weight applicable to a sovereign exposure of the home country of the foreign bank unless:

(i) The exposure is in the local currency of the home country of the foreign bank;

(ii) For an exposure to a branch of the foreign bank in a foreign jurisdiction that is not the home country of the foreign bank, the exposure is in the local currency of the jurisdiction in which the foreign branch operates; or

(iii) The exposure is a self-liquidating, trade-related contingent item that arises from the movement of goods and that has a maturity of three months or less.

(3) Notwithstanding paragraph (d)(1) or (d)(2) of this section, a [BANKING ORGANIZATION] must assign:

(i) A risk weight under § __.141 to a bank exposure that is an equity exposure; and

(ii) A 150 percent risk weight to a bank exposure that is an exposure to a subordinated debt instrument or an exposure to a covered debt instrument.

(e) *Exposures to public sector entities (PSEs)*—(1) *Exposures to U.S. PSEs*. (i) A [BANKING ORGANIZATION] must assign a 20 percent risk weight to a general obligation exposure of a PSE that is organized under the laws of the United States or any state or political subdivision thereof.

(ii) A [BANKING ORGANIZATION] must assign a 50 percent risk weight to a revenue

obligation exposure of a PSE that is organized under the laws of the United States or any state or political subdivision thereof.

(2) *Exposures to foreign PSEs.* (i) Except as provided in paragraphs (e)(1) and (3) of this section, a [BANKING ORGANIZATION] must assign a risk weight to a general obligation exposure to a PSE, in accordance with Table 3 to § __.111, based on the CRC that corresponds to the PSE's home country or the OECD membership status of the PSE's home country if there is no CRC applicable to the PSE's home country.

(ii) Except as provided in paragraphs (e)(1) and (e)(3) of this section, a [BANKING ORGANIZATION] must assign a risk weight to a revenue obligation exposure of a PSE, in accordance with Table 4 to § __.111, based on the CRC that corresponds to the PSE's home country; or the OECD membership status of the PSE's home country if there is no CRC applicable to the PSE's home country.

(3) A [BANKING ORGANIZATION] may assign a lower risk weight than would otherwise apply under Tables 3 or 4 to § __.111 to an exposure to a foreign PSE if:

(i) The PSE's home country supervisor allows banks under its jurisdiction to assign a lower risk weight to such exposures; and

(ii) The risk weight is not lower than the risk weight that corresponds to the PSE's home country in accordance with Table 1 to § __.111.

Table 3 to § __.111—Risk Weights for Non-U.S. PSE General Obligations

		Risk Weight (in percent)
CRC	0-1 2 3 4-7	20 50 100 150
OECD Member with No CRC		20
Non-OECD Member with No CRC		100
Sovereign Default		150

Table 4 to § __.111—Risk Weights for non-U.S. PSE Revenue Obligations

		Risk Weight (in percent)
CRC	0-1	50
	2-3	100
	4-7	150
OECD Member with No CRC		50
Non-OECD Member with No CRC		100
Sovereign Default		150

(4) *Exposures to PSEs from an OECD member sovereign with no CRC*. (i) A [BANKING ORGANIZATION] must assign a 20 percent risk weight to a general obligation exposure to a PSE whose home country is an OECD member sovereign with no CRC.

(ii) A [BANKING ORGANIZATION] must assign a 50 percent risk weight to a revenue obligation exposure to a PSE whose home country is an OECD member sovereign with no CRC.

(5) *Exposures to PSEs whose home country is not an OECD member sovereign with no CRC.* A [BANKING ORGANIZATION] must assign a 100 percent risk weight to an exposure to a PSE whose home country is not a member of the OECD and does not have a CRC.

(6) A [BANKING ORGANIZATION] must assign a 150 percent risk weight to a PSE exposure immediately upon determining that an event of sovereign default has occurred in a PSE's home country or if an event of sovereign default has occurred in the PSE's home country during the previous five years.

(f) *Real estate exposures*—(1) *Statutory multifamily mortgages.* A [BANKING ORGANIZATION] must assign a 50 percent risk weight to a statutory multifamily mortgage that is not a defaulted real estate exposure.

(2) *Pre-sold construction loans.* A [BANKING ORGANIZATION] must assign a 50 percent risk weight to a pre-sold construction loan that is not a defaulted real estate exposure, unless the purchase contract is cancelled, in which case a [BANKING ORGANIZATION] must assign a 100 percent risk weight.

(3) *High-volatility commercial real estate (HVCRE) exposures.* A [BANKING ORGANIZATION] must assign a 150 percent risk weight to an HVCRE exposure that is not a defaulted real estate exposure.

(4) *ADC exposures that are not HVCRE exposures.* A [BANKING ORGANIZATION] must assign a 100 percent risk weight to an ADC exposure that is not an HVCRE exposure or a defaulted real estate exposure.

(5) *Regulatory residential real estate exposure.* (i) A [BANKING ORGANIZATION] must assign a risk weight to a regulatory residential real estate exposure that is not dependent on the cash flows generated by the real estate based on the exposure's LTV ratio in accordance with Table 5 to § __.111.

(ii) A [BANKING ORGANIZATION] must assign a risk weight to a regulatory residential real estate exposure that is dependent on the cash flows generated by the real estate based on the exposure's LTV ratio in accordance with Table 6 to § __.111.

TABLE 5 TO § __.111—Risk Weights for Regulatory Residential Real Estate Exposures Not Dependent on Real Estate Cash Flows

Risk weights for regulatory residential real estate exposures that are not dependent on the cash flows generated by the real estate						
	LTV ratio ≤ 50%	50% < LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	80% < LTV ratio ≤ 90%	90% < LTV ratio ≤ 100%	LTV ratio > 100%
Risk weight	40%	45%	50%	60%	70%	90%

Table 6 to § __.111—Risk Weights for Regulatory Residential Real Estate Exposures Dependent on Real Estate Cash Flows

Risk weights for regulatory residential real estate exposures that are dependent on the cash flows generated by the real estate						
	LTV ratio ≤ 50%	50% < LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	80% < LTV ratio ≤ 90%	90% < LTV ratio ≤ 100%	LTV ratio > 100%
Risk weight	50%	55%	65%	80%	95%	125%

(6) *Regulatory commercial real estate exposure.* (i) A [BANKING ORGANIZATION] must assign a risk weight to a regulatory commercial real estate exposure that is not dependent on the cash flows generated by the real estate based on the exposure's LTV and the risk weight applicable to the borrower under this section, in accordance with Table 7 to § __.111, provided that if the [BANKING ORGANIZATION] cannot determine the risk weight applicable to the borrower under this section, the [BANKING ORGANIZATION] must consider the risk weight of the borrower to be 100 percent.

(ii) A [BANKING ORGANIZATION] must assign a risk weight to a regulatory commercial real estate exposure that is dependent on the cash flows generated by the real estate based on the exposure's LTV in accordance with Table 8 to § __.111.

TABLE 7 TO § __.111—RISK WEIGHTS FOR REGULATORY COMMERCIAL REAL ESTATE EXPOSURES NOT DEPENDENT ON REAL ESTATE CASH FLOWS

	LTV ratio ≤ 60%	LTV ratio > 60%
Risk weight	Lesser of 60% and the risk-weight applicable to the borrower under this section	Risk weight applicable to the borrower under this section

Table 8 to § __.111—Risk Weights for Regulatory Commercial Real Estate Exposures Dependent on Real Estate Cash Flows

	LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	LTV ratio > 80%
Risk weight	70%	90%	110%

(7) *Other real estate exposures*. A [BANKING ORGANIZATION] must assign another real estate exposure a 150 percent risk weight, unless the exposure is a residential mortgage exposure that is not dependent on the cash flows generated by the real estate, which must be assigned a 100 percent risk weight.

(8) *Defaulted real estate exposures.* A [BANKING ORGANIZATION] must assign a defaulted real estate exposure a 150 percent risk weight, unless the exposure is a residential mortgage exposure that is not dependent on the cash flows generated by the real estate, which must be assigned a 100 percent risk weight.

(9) *Risk weight multiplier to certain exposures with currency mismatch*. Notwithstanding any other provision of this paragraph (f), a [BANKING ORGANIZATION] must apply a 1.5 multiplier to the applicable risk weight, subject to a maximum risk weight of 150 percent, to a residential mortgage exposure to a borrower that does not have a source of repayment in the currency of the loan equal to at least 90 percent of the annual payment from either income generated through ordinary business activities or from a contract with a financial institution that provides funds denominated in the currency of the loan.

(g) *Retail exposures.* A [BANKING ORGANIZATION] must assign a risk weight to a retail exposure according to the following:

(1) *Regulatory retail exposures*—(i) *Regulatory retail exposures that are not transactor exposures*. A [BANKING ORGANIZATION] must assign a 85 percent risk weight to a regulatory retail exposure that is not a transactor exposure.

(ii) *Transactor exposures.* A [BANKING ORGANIZATION] must assign a 55 percent risk weight to a transactor exposure.

(2) *Other retail exposures.* A [BANKING ORGANIZATION] must assign a 110 percent risk weight to retail exposures that are not regulatory retail exposures.

(3) *Risk weight multiplier to certain exposures with currency mismatch.* Notwithstanding any other provision of paragraphs (g)(1) and (2) of this section, a [BANKING ORGANIZATION] must apply a 1.5 multiplier to the applicable risk weight, subject to a maximum risk weight of 150 percent, to any retail exposure in a foreign currency to a borrower that does not have a source of repayment in the foreign currency equal to at least 90 percent of the annual payment amount from either income generated through ordinary business activities or from a contract with a financial institution that provides funds denominated in the foreign currency.

(h) *Corporate exposures.* A [BANKING ORGANIZATION] must assign a 100 percent risk weight to a corporate exposure unless the corporate exposure qualifies for a different risk weight under paragraphs (h)(1) through (4).

(1) A [BANKING ORGANIZATION] must assign a 65 percent risk weight to a corporate exposure that is an exposure to a company that is investment grade and that has a publicly traded security outstanding or that is controlled by a company that has a publicly traded security outstanding.

(2) A [BANKING ORGANIZATION] must assign a 130 percent risk weight to a project finance exposure that is not a project finance operational phase exposure.

(3) A [BANKING ORGANIZATION] must assign risk weights to certain exposures to a QCCP as follows:

(i) A [BANKING ORGANIZATION] must assign a 2 percent risk weight to an exposure to a QCCP arising from the [BANKING ORGANIZATION] posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § __.114(b)(3)(i)(A) and a 4 percent risk weight to an exposure to a QCCP arising from the [BANKING ORGANIZATION] posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § __.114(b)(3)(i)(B).

(ii) A [BANKING ORGANIZATION] must assign a 2 percent risk weight to an exposure to a QCCP arising from the [BANKING ORGANIZATION] posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § __.114(c)(3)(i).

(4) A [BANKING ORGANIZATION] must assign a 150 percent risk weight to a corporate exposure that is an exposure to a subordinated debt instrument or an exposure to a covered debt instrument.

(5) Notwithstanding any other provision of this paragraph (h), a [BANKING ORGANIZATION] must assign a 100 percent risk weight to:

(i) A corporate exposure that is for the purpose of acquiring or financing equipment or

physical commodities where repayment of the exposure is dependent on the physical assets being financed or acquired; or

(ii) A project finance operational phase exposure.

(i) *Defaulted exposures.* Notwithstanding any other provision of this subpart, a [BANKING ORGANIZATION] must assign a 150 percent risk weight to any exposure that is a defaulted exposure.

(j) *Other assets.* (1)(i) A bank holding company or savings and loan holding company must assign a zero percent risk weight to cash owned and held in all offices of subsidiary depository institutions or in transit, and to gold bullion held in a subsidiary depository institution's own vaults, or held in another depository institution's vaults on an allocated basis, to the extent the gold bullion assets are offset by gold bullion liabilities.

(ii) A [BANKING ORGANIZATION] must assign a zero percent risk weight to cash owned and held in all offices of the [BANKING ORGANIZATION] or in transit; to gold bullion held in the [BANKING ORGANIZATION]'s own vaults or held in another depository institution's vaults on an allocated basis, to the extent the gold bullion assets are offset by gold bullion liabilities; and to exposures that arise from the settlement of cash transactions (such as equities, fixed income, spot foreign exchange and spot commodities) with a central counterparty where there is no assumption of ongoing counterparty credit risk by the central counterparty after settlement of the trade and associated default fund contributions.

(2) A [BANKING ORGANIZATION] must assign a 20 percent risk weight to cash items in the process of collection.

(3) A [BANKING ORGANIZATION] must assign a 100 percent risk weight to DTAs arising from temporary differences that the [BANKING ORGANIZATION] could realize through net operating loss carrybacks.

(4) A [BANKING ORGANIZATION] must assign a 250 percent risk weight to the portion of each of the following items to the extent it is not deducted from common equity tier 1 capital pursuant to § __.22(d):

(i) MSAs; and

(ii) DTAs arising from temporary differences that the [BANKING ORGANIZATION] could not realize through net operating loss carrybacks.

(5) A [BANKING ORGANIZATION] must assign a 100 percent risk weight to all assets not specifically assigned a different risk weight under this subpart and that are not deducted from tier 1 or tier 2 capital pursuant to § __.22.

(6) Notwithstanding the requirements of this section, a [BANKING ORGANIZATION] may assign an asset that is not included in one of the categories provided in this section to the risk weight category applicable under the capital rules applicable to bank holding companies and savings and loan holding companies at 12 CFR part 217, provided that all of the following conditions apply:

(i) The [BANKING ORGANIZATION] is not authorized to hold the asset under applicable law other than debt previously contracted or similar authority; and

(ii) The risks associated with the asset are substantially similar to the risks of assets that are otherwise assigned to a risk weight category of less than 100 percent under this subpart.

(k) *Insurance assets*—(1) *Assets held in a separate account.* (i) A bank holding company or savings and loan holding company must risk-weight the individual assets held in a separate account that does not qualify as a non-guaranteed separate account as if the individual assets were held directly by the bank holding company or savings and loan holding company.

(ii) A bank holding company or savings and loan holding company must assign a zero percent risk weight to an asset that is held in a non-guaranteed separate account.

(2) *Policy loans.* A bank holding company or savings and loan holding company must assign a 20 percent risk weight to a policy loan.

§ __.112 Off-balance sheet exposures.

(a) *General*. (1) A [BANKING ORGANIZATION] must calculate the exposure amount of an off-balance sheet exposure using the credit conversion factors (CCFs) in paragraph (b) of this section. In the case of commitments, a [BANKING ORGANIZATION] must multiply the committed but undrawn amount of the exposure by the applicable CCF.

(2) Where a [BANKING ORGANIZATION] commits to provide a commitment, the [BANKING ORGANIZATION] may apply the lower of the two applicable CCFs.

(3) Where a [BANKING ORGANIZATION] provides a commitment structured as a syndication or participation, the [BANKING ORGANIZATION] is only required to calculate the exposure amount for its pro rata share of the commitment.

(4) Where a [BANKING ORGANIZATION] provides a commitment, enters into a repurchase agreement, or provides a credit-enhancing representation and warranty, and such commitment, repurchase agreement, or credit-enhancing representation and warranty is not a securitization exposure, the exposure amount shall be no greater than the maximum contractual amount of the commitment, repurchase agreement, or credit-enhancing representation and warranty, as applicable.

(5) For purposes of this section, if a commitment does not have an express contractual maximum amount that can be drawn, the committed but undrawn amount of the commitment is equal to the average total drawn amount over the period since the commitment was created or the prior eight quarters, whichever period is shorter, multiplied by ten, minus the current drawn amount.

(6) For purposes of this subpart, with respect to a repurchase or reverse repurchase transaction, or a securities borrowing or securities lending transaction, a [BANKING ORGANIZATION] must include in expanded total risk-weighted assets the risk-weighted asset amount for counterparty credit risk according to § __.121 and the risk-weighted asset amount for

securities or posted collateral, where the credit risk of the securities lent or posted as collateral remains with the [BANKING ORGANIZATION].

(b) *Credit Conversion Factors*—(1) *10 percent CCF*. A [BANKING ORGANIZATION] must apply a 10 percent CCF to the unused portion of a commitment that is unconditionally cancellable by the [BANKING ORGANIZATION].

(2) *20 percent CCF*. A [BANKING ORGANIZATION] must apply a 20 percent CCF to the amount of self-liquidating trade-related contingent items that arise from the movement of goods, with an original maturity of one year or less.

(3) *40 percent CCF.* A [BANKING ORGANIZATION] must apply a 40 percent CCF to commitments, regardless of the maturity of the facility, unless they qualify for a lower or higher CCF.

(4) *50 percent CCF*. A [BANKING ORGANIZATION] must apply a 50 percent CCF to the amount of:

(i) Transaction-related contingent items, including performance bonds, bid bonds, warranties, and performance standby letters of credit; and

(ii) Note issuance facilities and revolving underwriting facilities.

(5) *100 percent CCF*. A [BANKING ORGANIZATION] must apply a 100 percent CCF to the amount of the following off-balance-sheet items and other similar transactions:

(i) Guarantees;

(ii) Repurchase agreements (the off-balance sheet component of which equals the sum of the current fair values of all positions the [BANKING ORGANIZATION] has sold subject to repurchase);

(iii) Credit-enhancing representations and warranties that are not securitization exposures;

(iv) Off-balance sheet securities lending transactions (the off-balance sheet component of which equals the sum of the current fair values of all positions the [BANKING ORGANIZATION] has lent under the transaction);

(v) Off-balance sheet securities borrowing transactions (the off-balance sheet component of which equals the sum of the current fair values of all non-cash positions the [BANKING ORGANIZATION] has posted as collateral under the transaction);

(vi) Financial standby letters of credit; and

(vii) Forward agreements.

§ __.113 Derivative contracts.

(a) *Exposure amount for derivative contracts*. A [BANKING ORGANIZATION] must determine the exposure amount for a derivative contract using the standardized approach for counterparty credit risk (SA–CCR) under this section. A [BANKING ORGANIZATION] may reduce the exposure amount calculated according to this section by the credit valuation adjustment that the [BANKING ORGANIZATION] has recognized in its balance sheet valuation of any derivative contracts in the netting set. For purposes of this paragraph (a), the credit valuation adjustment does not include any adjustments to common equity tier 1 capital attributable to changes in the fair value of the [BANKING ORGANIZATION]'s liabilities that are due to changes in its own credit risk since the inception of the transaction with the counterparty.

(b) *Definitions*. For purposes of this section, the following definitions apply:

(1) *End date* means the last date of the period referenced by an interest rate or credit derivative contract or, if the derivative contract references another instrument, by the underlying instrument, except as otherwise provided in this section.

(2) *Start date* means the first date of the period referenced by an interest rate or credit derivative contract or, if the derivative contract references the value of another instrument, by underlying instrument, except as otherwise provided in this section.

(3) *Hedging set* means:

(i) With respect to interest rate derivative contracts, all such contracts within a netting set that reference the same reference currency;

(ii) With respect to exchange rate derivative contracts, all such contracts within a netting set that reference the same currency pair;

(iii) With respect to credit derivative contract, all such contracts within a netting set;

(iv) With respect to equity derivative contracts, all such contracts within a netting set;

(v) With respect to a commodity derivative contract, all such contracts within a netting set that reference one of the following commodity categories: Energy, metal, agricultural, or other commodities;

(vi) With respect to basis derivative contracts, all such contracts within a netting set that reference the same pair of risk factors and are denominated in the same currency; or

(vii) With respect to volatility derivative contracts, all such contracts within a netting set that reference one of interest rate, exchange rate, credit, equity, or commodity risk factors, separated according to the requirements under paragraphs (b)(3)(i) through (v) of this section.

(viii) If the risk of a derivative contract materially depends on more than one of interest rate, exchange rate, credit, equity, or commodity risk factors, the [AGENCY] may require a [BANKING ORGANIZATION] to include the derivative contract in each appropriate hedging set under paragraphs (b)(3)(i) through (v) of this section.

(c) *Credit derivatives*. Notwithstanding paragraphs (a) and (b) of this section:

(1) A [BANKING ORGANIZATION] that purchases a credit derivative that is recognized under § __.120 as a credit risk mitigant for an exposure that is not a market risk covered position under subpart F of this part is not required to calculate a separate counterparty credit risk capital requirement under this section so long as the [BANKING ORGANIZATION] does so consistently for all such credit derivatives and either includes all or excludes all such credit derivatives that are subject to a master netting agreement from any measure used to

determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes.

(2) A [BANKING ORGANIZATION] that is the protection provider in a credit derivative must treat the credit derivative as an exposure to the reference obligor and is not required to calculate a counterparty credit risk capital requirement for the credit derivative under this section, so long as it does so consistently for all such credit derivatives and either includes all or excludes all such credit derivatives that are subject to a master netting agreement from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes (unless the [BANKING ORGANIZATION] is treating the credit derivative as a market risk covered position under subpart F of this part, in which case the [BANKING ORGANIZATION] must calculate a counterparty credit risk capital requirement under this section).

(d) *Equity derivatives*. A [BANKING ORGANIZATION] must treat an equity derivative contract as an equity exposure and compute a risk-weighted asset amount for the equity derivative contract under § __.140-__.142 (unless the [BANKING ORGANIZATION] is treating the contract as a market risk covered position under subpart F of this part). In addition, if the [BANKING ORGANIZATION] is treating the contract as a market risk covered position under subpart F of this part, the [BANKING ORGANIZATION] must also calculate a risk-based capital requirement for the counterparty credit risk of an equity derivative contract under this section. If the [BANKING ORGANIZATION] risk weights an equity derivative contract under § __.140-__.142, the [BANKING ORGANIZATION] may choose not to hold risk-based capital against the counterparty credit risk of the equity derivative contract, as long as it does so for all such contracts. Where an equity derivative contract is subject to a qualified master netting agreement, a [BANKING ORGANIZATION] using § __.140-__.142 must either include all or exclude all of the contracts from any measure used to determine counterparty credit risk exposure.

(e) *Exposure amount.* (1) The exposure amount of a netting set, as calculated under this section, is equal to 1.4 multiplied by the sum of the replacement cost of the netting set, as calculated under paragraph (f) of this section, and the potential future exposure of the netting set, as calculated under paragraph (g) of this section.

(2) Notwithstanding the requirements of paragraph (e)(1) of this section, the exposure amount of a netting set subject to a variation margin agreement, excluding a netting set that is subject to a variation margin agreement under which the counterparty to the variation margin agreement is not required to post variation margin, is equal to the lesser of the exposure amount of the netting set calculated under paragraph (e)(1) of this section and the exposure amount of the netting set calculated under paragraph (e)(1) of this section as if the netting set were not subject to a variation margin agreement.

(3) Notwithstanding the requirements of paragraph (e)(1) of this section, the exposure amount of a netting set that consists of only sold options in which the premiums have been fully paid by the counterparty to the options and where the options are not subject to a variation margin agreement is zero.

(4) Notwithstanding the requirements of paragraph (e)(1) of this section, the exposure amount of a netting set in which the counterparty is a commercial end-user is equal to the sum of replacement cost, as calculated under paragraph (f) of this section, and the potential future exposure of the netting set, as calculated under paragraph (g) of this section.

(5) For purposes of the exposure amount calculated under paragraph (e)(1) of this section and all calculations that are part of that exposure amount, a [BANKING ORGANIZATION] may elect to treat a derivative contract that is a cleared transaction that is not subject to a variation margin agreement as one that is subject to a variation margin agreement, if the derivative contract is subject to a requirement that the counterparties make daily cash payments to each other to account for changes in the fair value of the derivative contract and to reduce the net position of the contract to zero. If a [BANKING ORGANIZATION] makes an election under

this paragraph (e)(5) for one derivative contract, it must treat all other derivative contracts within the same netting set that are eligible for an election under this paragraph (e)(5) as derivative contracts that are subject to a variation margin agreement.

(6) For purposes of the exposure amount calculated under paragraph (e)(1) of this section and all calculations that are part of that exposure amount, a [BANKING ORGANIZATION] may elect to treat a credit derivative contract, equity derivative contract, or commodity derivative contract that references an index as if it were multiple derivative contracts each referencing one component of the index, provided that the derivative contract is not an option or a CDO tranche.

(7) For purposes of the exposure amount calculated under paragraph (e)(1) of this section and all calculations that are part of that exposure amount, with respect to a client-facing derivative transaction or netting set of client-facing derivative transactions, a clearing member [BANKING ORGANIZATION] may multiply the standard supervisory haircuts applied for purposes of the net independent collateral amount and variation margin amount by the scaling factor of the square root of 1⁄2 (which equals 0.707107). If the [BANKING ORGANIZATION] determines that a longer period is appropriate, the [BANKING ORGANIZATION] must use a larger scaling factor to adjust for a longer holding period as provided below by the formula in this paragraph. In addition, the [AGENCY] may require the [BANKING ORGANIZATION] to set a longer holding period if the [AGENCY] determines that a longer period is appropriate due to the nature, structure, or characteristics of the transaction or is commensurate with the risks associated with the transaction.

$$Scaling\ factor = \sqrt{H/10}$$

Where H = the holding period greater than or equal to five days

(f) *Replacement cost of a netting set*—(1) *Netting set subject to a variation margin agreement under which the counterparty must post variation margin*. The replacement cost of a netting set subject to a variation margin agreement, excluding a netting set that is subject to a

variation margin agreement under which the counterparty is not required to post variation margin, is the greater of:

(i) The sum of the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set less the sum of the net independent collateral amount and the variation margin amount applicable to such derivative contracts;

(ii) The sum of the variation margin threshold and the minimum transfer amount applicable to the derivative contracts within the netting set less the net independent collateral amount applicable to such derivative contracts; or

(iii) Zero.

(2) *Netting sets not subject to a variation margin agreement under which the counterparty must post variation margin*. The replacement cost of a netting set that is not subject to a variation margin agreement under which the counterparty must post variation margin to the [BANKING ORGANIZATION] is the greater of:

(i) The sum of the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set less the sum of the net independent collateral amount and variation margin amount applicable to such derivative contracts; or

(ii) Zero.

(3) *Multiple netting sets subject to a single variation margin agreement*. Notwithstanding paragraphs (f)(1) and (2) of this section, the replacement cost for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (j)(1) of this section.

(4) *Netting set subject to multiple variation margin agreements or a hybrid netting set*. Notwithstanding paragraphs (f)(1) and (2) of this section, the replacement cost for a netting set subject to multiple variation margin agreements or a hybrid netting set must be calculated according to paragraph (k)(1) of this section.

(g) *Potential future exposure of a netting set*. The potential future exposure of a netting set is the product of the PFE multiplier and the aggregated amount.

(1) *PFE multiplier*. The PFE multiplier is calculated according to the following formula:

$$PFE\ multiplier = min\left\{1; 0.05 + 0.95 * e^{\left(\frac{V-C}{1.9*A}\right)}\right\}$$

Where:

V is the sum of the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set;

C is the sum of the net independent collateral amount and the variation margin amount applicable to the derivative contracts within the netting set; and

A is the aggregated amount of the netting set.

(2) *Aggregated amount*. The aggregated amount is the sum of all hedging set amounts, as calculated under paragraph (h) of this section, within a netting set.

(3) *Multiple netting sets subject to a single variation margin agreement*. Notwithstanding paragraphs (g)(1) and (2) of this section and when calculating the potential future exposure for purposes of total leverage exposure under § __.10(c)(2)(ii), the potential future exposure for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (j)(2) of this section.

(4) *Netting set subject to multiple variation margin agreements or a hybrid netting set*. Notwithstanding paragraphs (g)(1) and (2) of this section and when calculating the potential future exposure for purposes of total leverage exposure under § __.10(c)(2)(ii), the potential future exposure for a netting set subject to multiple variation margin agreements or a hybrid netting set must be calculated according to paragraph (k)(2) of this section.

(h) *Hedging set amount*—(1) *Interest rate derivative contracts*. To calculate the hedging set amount of an interest rate derivative contract hedging set, a [BANKING ORGANIZATION] may use either of the formulas provided in paragraphs (h)(1)(i) and (ii) of this section:

(i) Formula 1 is as follows:

$$Hedging\ set\ amount = [(AddOn_{TB1}^{IR})^2 + (AddOn_{TB2}^{IR})^2 + (AddOn_{TB3}^{IR})^2 + 1.4 * AddOn_{TB1}^{IR} * AddOn_{TB2}^{IR} + 1.4 * AddOn_{TB2}^{IR} * AddOn_{TB3}^{IR} + 0.6 * AddOn_{TB1}^{IR} * AddOn_{TB3}^{IR})]^{\frac{1}{2}}$$

(ii) Formula 2 is as follows:

$$Hedging\ set\ amount = |AddOn_{TB1}^{IR}| + |AddOn_{TB2}^{IR}| + |AddOn_{TB3}^{IR}|$$

Where in paragraphs (h)(1)(i) and (ii) of this section:

$AddOn_{TB1}^{IR}$ is the sum of the adjusted derivative contract amounts, as calculated under paragraph (i) of this section, within the hedging set with an end date of less than one year from the present date;

$AddOn_{TB2}^{IR}$ is the sum of the adjusted derivative contract amounts, as calculated under paragraph (i) of this section, within the hedging set with an end date of one to five years from the present date; and

$AddOn_{TB3}^{IR}$ is the sum of the adjusted derivative contract amounts, as calculated under paragraph (i) of this section, within the hedging set with an end date of more than five years from the present date.

(2) *Exchange rate derivative contracts*. For an exchange rate derivative contract hedging set, the hedging set amount equals the absolute value of the sum of the adjusted derivative contract amounts, as calculated under paragraph (i) of this section, within the hedging set.

(3) *Credit derivative contracts and equity derivative contracts*. The hedging set amount of a credit derivative contract hedging set or equity derivative contract hedging set within a netting set is calculated according to the following formula:

$$Hedging\ set\ amount = \left[\left(\sum_{k=1}^{K} \rho_k * AddOn(Ref_k)\right)^2 + \sum_{k=1}^{K} (1-(\rho_k)^2) * (AddOn(Ref_k))^2\right]^{\frac{1}{2}}$$

Where:

k is each reference entity within the hedging set.

K is the number of reference entities within the hedging set.

AddOn (Ref_k) equals the sum of the adjusted derivative contract amounts, as determined under paragraph (i) of this section, for all derivative contracts within the hedging set that reference entity *k*.

ρ_k equals the applicable supervisory correlation factor, as provided in Table 2 to this section.

(4) *Commodity derivative contracts*. The hedging set amount of a commodity derivative contract hedging set within a netting set is calculated according to the following formula:

$$Hedging\ set\ amount = \left[\left(\rho * \sum_{k=1}^{K} AddOn(Type_k)\right)^2 + (1-(\rho)^2) * \sum_{k=1}^{K} (AddOn(Type_k))^2\right]^{\frac{1}{2}}$$

Where:

k is each commodity type within the hedging set.

K is the number of commodity types within the hedging set.

AddOn (Type$_k$) equals the sum of the adjusted derivative contract amounts, as determined under paragraph (i) of this section, for all derivative contracts within the hedging set that reference commodity type.

ρ equals the applicable supervisory correlation factor, as provided in table 2 to this section.

(5) *Basis derivative contracts and volatility derivative contracts*. Notwithstanding paragraphs (h)(1) through (4) of this section, a [BANKING ORGANIZATION] must calculate a separate hedging set amount for each basis derivative contract hedging set and each volatility derivative contract hedging set. A [BANKING ORGANIZATION] must calculate such hedging set amounts using one of the formulas under paragraphs (h)(1) through (4) that corresponds to the primary risk factor of the hedging set being calculated.

(i) *Adjusted derivative contract amount*—(1) *Summary*. To calculate the adjusted derivative contract amount of a derivative contract, a [BANKING ORGANIZATION] must determine the adjusted notional amount of the derivative contract, pursuant to paragraph (i)(2) of this section, and multiply the adjusted notional amount by each of the supervisory delta adjustment, pursuant to paragraph (i)(3) of this section, the maturity factor, pursuant to paragraph (i)(4) of this section, and the applicable supervisory factor, as provided in Table 2 to this section.

(2) *Adjusted notional amount.* (i)(A) For an interest rate derivative contract or a credit derivative contract, the adjusted notional amount equals the product of the notional amount of the derivative contract, as measured in U.S. dollars using the exchange rate on the date of the calculation, and the supervisory duration, as calculated by the following formula:

$$\text{Supervisory duration} = max\left\{\frac{e^{-0.05*\left(\frac{S}{250}\right)} - e^{-0.05*\left(\frac{E}{250}\right)}}{0.05}, 0.04\right\}$$

Where:

S is the number of business days from the present day until the start date of the derivative contract, or zero if the start date has already passed; and

E is the number of business days from the present day until the end date of the derivative contract.

(B) For purposes of paragraph (i)(2)(i)(A) of this section:

(*1*) For an interest rate derivative contract or credit derivative contract that is a variable notional swap, the notional amount is equal to the time-weighted average of the contractual notional amounts of such a swap over the remaining life of the swap; and

(*2*) For an interest rate derivative contract or a credit derivative contract that is a leveraged swap, in which the notional amount of all legs of the derivative contract are divided by a factor and all rates of the derivative contract are multiplied by the same factor, the notional amount is equal to the notional amount of an equivalent unleveraged swap.

(ii)(A) For an exchange rate derivative contract, the adjusted notional amount is the notional amount of the non-U.S. denominated currency leg of the derivative contract, as measured in U.S. dollars using the exchange rate on the date of the calculation. If both legs of the exchange rate derivative contract are denominated in currencies other than U.S. dollars, the adjusted notional amount of the derivative contract is the largest leg of the derivative contract, as measured in U.S. dollars using the exchange rate on the date of the calculation.

(B) Notwithstanding paragraph (i)(2)(ii)(A) of this section, for an exchange rate derivative contract with multiple exchanges of principal, the [BANKING ORGANIZATION] must set the adjusted notional amount of the derivative contract equal to the notional amount of the derivative contract multiplied by the number of exchanges of principal under the derivative contract.

(iii)(A) For an equity derivative contract or a commodity derivative contract, the adjusted notional amount is the product of the fair value of one unit of the reference instrument

underlying the derivative contract and the number of such units referenced by the derivative contract.

(B) Notwithstanding paragraph (i)(2)(iii)(A) of this section, when calculating the adjusted notional amount for an equity derivative contract or a commodity derivative contract that is a volatility derivative contract, the [BANKING ORGANIZATION] must replace the unit price with the underlying volatility referenced by the volatility derivative contract and replace the number of units with the notional amount of the volatility derivative contract.

(3) *Supervisory delta adjustment.* (i) For a derivative contract that is not an option contract or collateralized debt obligation tranche, the supervisory delta adjustment is 1 if the fair value of the derivative contract increases when the value of the primary risk factor increases and −1 if the fair value of the derivative contract decreases when the value of the primary risk factor increases.

(ii)(A) For a derivative contract that is an option contract, the supervisory delta adjustment is determined by the formulas in Table 1 to this section, as applicable:

Table 1 to § __.113—Supervisory Delta Adjustment for Options Contracts

	Bought	Sold
Call Options	$\Phi\left(\frac{\ln\left(\frac{P+\lambda}{K+\lambda}\right)+0.5*\sigma^2*T/250}{\sigma*\sqrt{T/250}}\right)$	$-\Phi\left(\frac{\ln\left(\frac{P+\lambda}{K+\lambda}\right)+0.5*\sigma^2*T/250}{\sigma*\sqrt{T/250}}\right)$
Put Options	$-\Phi\left(-\frac{\ln\left(\frac{P+\lambda}{K+\lambda}\right)+0.5*\sigma^2*T/250}{\sigma*\sqrt{T/250}}\right)$	$\Phi\left(-\frac{\ln\left(\frac{P+\lambda}{K+\lambda}\right)+0.5*\sigma^2*T/250}{\sigma*\sqrt{T/250}}\right)$

(B) As used in the formulas in Table 1 to this section:

(*1*) *Φ* is the standard normal cumulative distribution function;

(*2*) *P* equals the current fair value of the instrument or risk factor, as applicable, underlying the option;

(*3*) *K* equals the strike price of the option;

(*4*) T equals the number of business days until the latest contractual exercise date of the option;

(*5*) The same value of λ must be used for all option contracts that reference the same underlying risk factor or instrument or, in the case of interest rate option contracts, all interest rate option contracts that are denominated in the same currency. λ equals zero for all derivative contracts except those option contracts where it is possible for P to have negative values. For option contracts where it is possible for P to have negative values, to determine the value of λ for a given risk factor or instrument, a [BANKING ORGANIZATION] must find the lowest value, L, of P and K of all option contracts that reference this risk factor or instrument or, in the case of interest rate option contracts, the lowest value, L, of P and K of all interest rate option contracts in a given currency, that the [BANKING ORGANIZATION] has with all counterparties. Then, λ is set as follows: when the underlying risk factor is an interest rate, $\lambda=max\{-L+0.1\%,0\}$; otherwise, $\lambda=max\{-1.1\cdot L,0\}$; and

(*6*) σ equals the supervisory option volatility, as provided in Table 2 to this section.

(C) Notwithstanding paragraph (i)(3)(ii)(B)*(5)* of this section, a [BANKING ORGANIZATION] may, with the prior approval of the [AGENCY], specify a value for λ in accordance with this paragraph for an option contract, other than an interest rate option contract described in paragraph (i)(3)(ii)(B)*(5)* of this section, if a different value for λ would be appropriate considering the range of values for the instrument or risk factor, as appropriate, underlying the option contract. A [BANKING ORGANIZATION] that specifies a value for λ in accordance with this paragraph for an option contract must assign the same value for λ to all option contracts with the same instrument or risk factor, as applicable, underlying the option that the [BANKING ORGANIZATION] has with all counterparties.

(iii)(A) For a derivative contract that is a collateralized debt obligation tranche, the supervisory delta adjustment is determined by the following formula:

$$\text{Supervisory delta adjustment} = \frac{15}{(1 + 14 * \text{ A}) * (1 + 14 * \text{ D})}$$

(B) As used in the formula in paragraph (i)(3)(iii)(A) of this section:

(*1*) *A* is the attachment point, which equals the ratio of the notional amounts of all underlying exposures that are subordinated to the [BANKING ORGANIZATION]'s exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one; [30]

[30] In the case of a first-to-default credit derivative, there are no underlying exposures that are subordinated to the [BANKING ORGANIZATION]'s exposure. In the case of a second-or-subsequent-to-default credit derivative, the smallest *(n−1)* notional amounts of the underlying exposures are subordinated to the [BANKING ORGANIZATION]'s exposure.

(*2*) *D* is the detachment point, which equals one minus the ratio of the notional amounts of all underlying exposures that are senior to the [BANKING ORGANIZATION]'s exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one; and

(*3*) The resulting amount is designated with a positive sign if the collateralized debt obligation tranche was used to purchase credit protection by the [BANKING ORGANIZATION] and is designated with a negative sign if the collateralized debt obligation tranche was used to sell credit protection by the [BANKING ORGANIZATION].

(4) *Maturity factor.* (i)(A) The maturity factor of a derivative contract that is subject to a variation margin agreement, excluding derivative contracts that are subject to a variation margin agreement under which the counterparty is not required to post variation margin, is determined by the following formula:

$$\text{Maturity factor} = \frac{3}{2}\sqrt{\frac{MPOR}{250}}$$

Where *MPOR* refers to the period from the most recent exchange of collateral covering a netting set of derivative contracts with a defaulting counterparty until the derivative contracts are closed out and the resulting market risk is re-hedged.

(B) Notwithstanding paragraph (i)(4)(i)(A) of this section:

(*1*) For a derivative contract that is not a client-facing derivative transaction, *MPOR* cannot be less than ten business days plus the periodicity of re-margining expressed in business days minus one business day;

(*2*) For a derivative contract that is a client-facing derivative transaction, *MPOR* cannot be less than five business days plus the periodicity of re-margining expressed in business days minus one business day; and

(*3*) For a derivative contract that is within a netting set that is composed of more than 5,000 derivative contracts that are not cleared transactions, or a netting set that contains one or more trades involving illiquid collateral or a derivative contract that cannot be easily replaced, *MPOR* cannot be less than twenty business days.

(*4*) Notwithstanding paragraphs (i)(4)(i)(A) and (B) of this section, for a netting set subject to more than two outstanding disputes over margin that lasted longer than the *MPOR* over the previous two quarters, the applicable floor is twice the amount provided in paragraphs (i)(4)(i)(A) and (B) of this section.

(ii) The maturity factor of a derivative contract that is not subject to a variation margin agreement, or derivative contracts under which the counterparty is not required to post variation margin, is determined by the following formula:

$$\text{Maturity factor} = \sqrt{\frac{\min\{M; 250\}}{250}}$$

Where *M* equals the greater of 10 business days and the remaining maturity of the contract, as measured in business days.

(iii) For purposes of paragraph (i)(4) of this section, if a [BANKING ORGANIZATION] has elected pursuant to paragraph (e)(5) of this section to treat a derivative contract that is a

cleared transaction that is not subject to a variation margin agreement as one that is subject to a variation margin agreement, the [BANKING ORGANIZATION] must treat the derivative contract as subject to a variation margin agreement with maturity factor as determined according to paragraph (i)(4)(i) of this section, and daily settlement does not change the end date of the period referenced by the derivative contract.

(5) *Derivative contract as multiple effective derivative contracts*. A [BANKING ORGANIZATION] must separate a derivative contract into separate derivative contracts, according to the following rules:

(i) For an option where the counterparty pays a predetermined amount if the value of the underlying asset is above or below the strike price and nothing otherwise (binary option), the option must be treated as two separate options. For purposes of paragraph (i)(3)(ii) of this section, a binary option with strike price K must be represented as the combination of one bought European option and one sold European option of the same type as the original option (put or call) with the strike prices set equal to $0.95 * K$ and $1.05 * K$ so that the payoff of the binary option is reproduced exactly outside the region between the two strike prices. The absolute value of the sum of the adjusted derivative contract amounts of the bought and sold options is capped at the payoff amount of the binary option.

(ii) For a derivative contract that can be represented as a combination of standard option payoffs (such as collar, butterfly spread, calendar spread, straddle, and strangle), a [BANKING ORGANIZATION] must treat each standard option component as a separate derivative contract.

(iii) For a derivative contract that includes multiple-payment options, (such as interest rate caps and floors), a [BANKING ORGANIZATION] may represent each payment option as a combination of effective single-payment options (such as interest rate caplets and floorlets).

(iv) A [BANKING ORGANIZATION] may not decompose linear derivative contracts (such as swaps) into components.

(j) *Multiple netting sets subject to a single variation margin agreement*—(1) *Calculating replacement cost.* Notwithstanding paragraph (f) of this section, a [BANKING ORGANIZATION] must assign a single replacement cost to multiple netting sets that are subject to a single variation margin agreement under which the counterparty must post variation margin, calculated according to the following formula:

$$Replacement\ Cost = max\left\{\sum_{NS} max\{V_{NS};0\} - max\{C_{MA};0\};0\right\} + max\left\{\sum_{NS} min\{V_{NS};0\} - min\{C_{MA};0\};0\right\}$$

Where:

NS is each netting set subject to the variation margin agreement MA;

V_{NS} is the sum of the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set NS; and

C_{MA} is the sum of the net independent collateral amount and the variation margin amount applicable to the derivative contracts within the netting sets subject to the single variation margin agreement.

(2) *Calculating potential future exposure*. Notwithstanding paragraph (g) of this section, a [BANKING ORGANIZATION] must assign a single potential future exposure to multiple netting sets that are subject to a single variation margin agreement under which the counterparty must post variation margin equal to the sum of the potential future exposure of each such netting set, each calculated according to paragraph (g) of this section as if such nettings sets were not subject to a variation margin agreement.

(k) *Netting set subject to multiple variation margin agreements or a hybrid netting set*—(1) *Calculating replacement cost*. To calculate replacement cost for either a netting set subject to multiple variation margin agreements under which the counterparty to each variation margin

agreement must post variation margin, or a netting set composed of at least one derivative contract subject to variation margin agreement under which the counterparty must post variation margin and at least one derivative contract that is not subject to such a variation margin agreement, the calculation for replacement cost is provided under paragraph (f)(1) of this section, except that the variation margin threshold equals the sum of the variation margin thresholds of all variation margin agreements within the netting set and the minimum transfer amount equals the sum of the minimum transfer amounts of all the variation margin agreements within the netting set.

(2) *Calculating potential future exposure.* (i) To calculate potential future exposure for a netting set subject to multiple variation margin agreements under which the counterparty to each variation margin agreement must post variation margin, or a netting set composed of at least one derivative contract subject to a variation margin agreement under which the counterparty to the derivative contract must post variation margin and at least one derivative contract that is not subject to such a variation margin agreement, a [BANKING ORGANIZATION] must divide the netting set into sub-netting sets (as described in paragraph (k)(2)(ii) of this section) and calculate the aggregated amount for each sub-netting set. The aggregated amount for the netting set is calculated as the sum of the aggregated amounts for the sub-netting sets. The multiplier is calculated for the entire netting set.

(ii) For purposes of paragraph (k)(2)(i) of this section, the netting set must be divided into sub-netting sets as follows:

(A) All derivative contracts within the netting set that are not subject to a variation margin agreement or that are subject to a variation margin agreement under which the counterparty is not required to post variation margin form a single sub-netting set. The aggregated amount for this sub-netting set is calculated as if the netting set is not subject to a variation margin agreement.

(B) All derivative contracts within the netting set that are subject to variation margin agreements in which the counterparty must post variation margin and that share the same value of the MPOR form a single sub-netting set. The aggregated amount for this sub-netting set is calculated as if the netting set is subject to a variation margin agreement, using the MPOR value shared by the derivative contracts within the netting set.

Table 2 to § __.113—Supervisory Option Volatility, Supervisory Correlation Parameters, and Supervisory Factors for Derivative Contracts

Asset Class	Category	Type	Supervisory Option Volatility (Percent)	Supervisory Correlation Factor (Percent)	Supervisory Factor[1] (Percent)
Interest rate	N/A	N/A	50	N/A	0.50
Exchange rate	N/A	N/A	15	N/A	4.0
Credit, single name	Investment grade	N/A	100	50	0.46
	Speculative grade	N/A	100	50	1.3
	Sub-speculative grade	N/A	100	50	6.0
Credit, index	Investment Grade	N/A	80	80	0.38
	Speculative Grade	N/A	80	80	1.06
Equity, single name	N/A	N/A	120	50	32
Equity, index	N/A	N/A	75	80	20
Commodity	Energy	Electricity	150	40	40
		Other	70	40	18
	Metals	N/A	70	40	18
	Agricultural	N/A	70	40	18
	Other	N/A	70	40	18

[1] The applicable supervisory factor for basis derivative contract hedging sets is equal to one-half of the supervisory factor provided in this table 2, and the applicable supervisory factor for volatility derivative contract hedging sets is equal to 5 times the supervisory factor provided in this table 2.

§ __.114 Cleared Transactions.

(a) *General requirements*—(1) *Clearing member clients.* A [BANKING ORGANIZATION] that is a clearing member client must use the methodologies described in paragraph (b) of this section to calculate risk-weighted assets for a cleared transaction.

(2) *Clearing members*. A [BANKING ORGANIZATION] that is a clearing member must use the methodologies described in paragraph (c) of this section to calculate its risk-weighted assets for a cleared transaction and paragraph (d) of this section to calculate its risk-weighted assets for its default fund contribution to a CCP.

(b) *Clearing member client [BANKING ORGANIZATIONS]*—(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a [BANKING ORGANIZATION] that is a clearing member client must multiply the trade exposure amount for the cleared transaction, calculated in accordance with paragraph (b)(2) of this section, by the risk weight appropriate for the cleared transaction, determined in accordance with paragraph (b)(3) of this section.

(ii) A clearing member client [BANKING ORGANIZATION]'s total risk-weighted assets for cleared transactions is the sum of the risk-weighted asset amounts for all of its cleared transactions.

(2) *Trade exposure amount.* (i) For a cleared transaction that is a derivative contract or a netting set of derivative contracts, trade exposure amount equals the exposure amount for the derivative contract or netting set of derivative contracts calculated using § __.113, plus the fair value of the collateral posted by the clearing member client [BANKING ORGANIZATION] and held by the CCP, clearing member, or custodian in a manner that is not bankruptcy remote.

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the exposure amount for the repo-style transaction calculated using the methodology set forth in § __.121, plus the fair value of the collateral posted by the clearing member client [BANKING ORGANIZATION] and held by the CCP, clearing member, or custodian in a manner that is not bankruptcy remote.

(3) *Cleared transaction risk weights.* (i) For a cleared transaction with a QCCP, a clearing member client [BANKING ORGANIZATION] must apply a risk weight of:

(A) 2 percent if the collateral posted by the [BANKING ORGANIZATION] to the QCCP or clearing member is subject to an arrangement that prevents any loss to the clearing member client [BANKING ORGANIZATION] due to the joint default or a concurrent insolvency, liquidation, or receivership proceeding of the clearing member and any other clearing member

clients of the clearing member; and the clearing member client [BANKING ORGANIZATION] has conducted sufficient legal review to conclude with a well-founded basis (and maintains sufficient written documentation of that legal review) that in the event of a legal challenge (including one resulting from an event of default or from liquidation, insolvency, or receivership proceedings) the relevant court and administrative authorities would find the arrangements to be legal, valid, binding, and enforceable under the law of the relevant jurisdictions; or

(B) 4 percent, if the requirements of paragraph (b)(3)(i)(A) of this section are not met.

(ii) For a cleared transaction with a CCP that is not a QCCP, a clearing member client [BANKING ORGANIZATION] must apply the risk weight applicable to the CCP under § __.111.

(4) *Collateral.* (i) Notwithstanding any other requirement of this section, collateral posted by a clearing member client [BANKING ORGANIZATION] that is held by a custodian (in its capacity as a custodian) in a manner that is bankruptcy remote from the CCP, clearing member, and other clearing member clients of the clearing member, is not subject to a capital requirement under this section.

(ii) A clearing member client [BANKING ORGANIZATION] must calculate a risk-weighted asset amount for any collateral provided to a CCP, clearing member or a custodian in connection with a cleared transaction in accordance with requirements under subpart E or F of this part, as applicable.

(c) *Clearing member [BANKING ORGANIZATION]*—(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a clearing member [BANKING ORGANIZATION] must multiply the trade exposure amount for the cleared transaction, calculated in accordance with paragraph (c)(2) of this section by the risk weight appropriate for the cleared transaction, determined in accordance with paragraph (c)(3) of this section.

(ii) A clearing member [BANKING ORGANIZATION]'s total risk-weighted assets for cleared transactions is the sum of the risk-weighted asset amounts for all of its cleared transactions.

(2) *Trade exposure amount*. A clearing member [BANKING ORGANIZATION] must calculate its trade exposure amount for a cleared transaction as follows:

(i) For a cleared transaction that is a derivative contract or a netting set of derivative contracts, trade exposure amount equals the exposure amount for the derivative contract or netting set of derivative contracts calculated using § __.113, plus the fair value of the collateral posted by the clearing member [BANKING ORGANIZATION] and held by the CCP in a manner that is not bankruptcy remote.

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the exposure amount for the repo-style transaction calculated using the methodology set forth in § __.121, plus the fair value of the collateral posted by the clearing member [BANKING ORGANIZATION] and held by the CCP in a manner that is not bankruptcy remote.

(3) *Cleared transaction risk weights.* (i) A clearing member [BANKING ORGANIZATION] must apply a risk weight of 2 percent to the trade exposure amount for a cleared transaction with a QCCP.

(ii) For a cleared transaction with a CCP that is not a QCCP, a clearing member [BANKING ORGANIZATION] must apply the risk weight applicable to the CCP according to § __.111.

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member [BANKING ORGANIZATION] may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a QCCP where the clearing member [BANKING

ORGANIZATION] is acting as a financial intermediary on behalf of a clearing member client, the transaction offsets another transaction that satisfies the requirements set forth in § __.3(a), and the clearing member [BANKING ORGANIZATION] is not obligated to reimburse the clearing member client in the event of the QCCP default.

(4) *Collateral*. (i) Notwithstanding any other requirement of this section, collateral posted by a clearing member [BANKING ORGANIZATION] that is held by a custodian in a manner that is bankruptcy remote from the CCP is not subject to a capital requirement under this section.

(ii) A clearing member [BANKING ORGANIZATION] must calculate a risk-weighted asset amount for any collateral provided to a CCP, clearing member or a custodian in connection with a cleared transaction in accordance with requirements under subparts E or F of this part, as applicable.

(d) *Default fund contributions*—(1) *General requirement.* A clearing member [BANKING ORGANIZATION] must determine the risk-weighted asset amount for a default fund contribution to a CCP at least quarterly, or more frequently if, in the opinion of the [BANKING ORGANIZATION] or the [AGENCY], there is a material change in the financial condition of the CCP. The total risk-weighted assets for default fund contributions of a clearing member [BANKING ORGANIZATION] is the sum of the [BANKING ORGANIZATION]'s risk-weighted assets for all of its default fund contributions to all CCPs of which the [BANKING ORGANIZATION] is a clearing member.

(2) *Risk-weighted asset amount for default fund contributions to nonqualifying CCPs.* A clearing member [BANKING ORGANIZATION]'s risk-weighted asset amount for default fund contributions to CCPs that are not QCCPs equals the sum of such default fund contributions multiplied by 1,250 percent, or an amount determined by the [AGENCY], based on factors such as size, structure, and membership characteristics of the CCP and riskiness of its transactions, in cases where such default fund contributions may be unlimited.

(3) *Risk-weighted asset amount for default fund contributions to QCCPs.* A clearing member [BANKING ORGANIZATION]'s risk-weighted asset amount for default fund contributions to QCCPs equals the sum of its capital requirement, KCM for each QCCP, as calculated under the methodology set forth in paragraph (d)(4) of this section, multiplied by 12.5.

(4) *Capital requirement for default fund contributions to a QCCP.* A clearing member [BANKING ORGANIZATION]'s capital requirement for its default fund contribution to a QCCP (KCM) is equal to:

$$K_{CM} = \max\left\{K_{CCP} * \left(\frac{DF^{pref}}{DF_{CCP} + DF_{CCPCM}^{pref}}\right); 0.16\, percent * DF^{pref}\right\}$$

Where:

K_{CCP} is the hypothetical capital requirement of the QCCP, as determined under paragraph (d)(5) of this section;

DF^{pref} is the prefunded default fund contribution of the clearing member [BANKING ORGANIZATION] to the QCCP;

DF^{CCP} is the QCCP's own prefunded amounts that are contributed to the default waterfall and are junior or *pari passu* with prefunded default fund contributions of clearing members of the CCP; and

DF_{CCPCM}^{pref} is the total prefunded default fund contributions from clearing members of the QCCP to the QCCP.

(5) *Hypothetical capital requirement of a QCCP.* Where a QCCP has provided its K_{CCP}, a [BANKING ORGANIZATION] must rely on such disclosed figure instead of calculating K_{CCP} under this paragraph (d)(5), unless the [BANKING ORGANIZATION] determines that a more conservative figure is appropriate based on the nature, structure, or characteristics of the QCCP.

The hypothetical capital requirement of a QCCP (K_{CCP}), as determined by the [BANKING ORGANIZATION], is equal to:

$$K_{CCP} = \sum_{CM_i} EA_i * 1.6\ percent$$

Where:

CM_i is each clearing member of the QCCP; and

EA_i is the exposure amount of the QCCP to each clearing member of the QCCP to the QCCP, as determined under paragraph (d)(6) of this section.

(6) *Exposure amount of a QCCP to a clearing member.* (i) The exposure amount of a QCCP to a clearing member is equal to the sum of the exposure amount for derivative contracts determined under paragraph (d)(6)(ii) of this section and the exposure amount for repo-style transactions determined under paragraph (d)(6)(iii) of this section.

(ii) With respect to any derivative contracts between the QCCP and the clearing member and any guarantees that the clearing member has provided to the QCCP with respect to performance of a clearing member client on a derivative contract, the exposure amount is equal to the exposure amount of the QCCP to the clearing member for all such derivative contracts and guaranteed derivative contracts calculated under SA-CCR in § __.113 (or, with respect to a QCCP located outside the United States, under a substantially identical methodology in effect in the jurisdiction) using a value of 10 business days for purposes of § __.113(i)(4), provided that for this calculation, in place of the net independent collateral amount, the calculation must include the fair value amount of the independent collateral, as adjusted by the market price volatility haircut under Table 1 to § __.121, as applicable, posted to the QCCP by the clearing member, including collateral posted on behalf of a client of the clearing member in connection with a derivative contract for which the clearing member has provided guarantees to the QCCP, plus the amount of the prefunded default fund contribution, as adjusted by the market price

volatility haircut under Table 1 to § __.121, as applicable, plus the amount of the prefunded default fund contribution of the clearing member to the QCCP.

(iii) With respect to any repo-style transactions between the clearing member and the QCCP that are cleared transactions, exposure amount (*EA*) is equal to:

$$EA = \max\{EBRMi - IMi - DFi; 0\}$$

Where:

$EBRM_i$ is the exposure amount of the QCCP to each clearing member for all repo-style transactions between the QCCP and the clearing member, as determined under § __.121 and without recognition of the initial margin collateral posted by the clearing member to the QCCP with respect to the repo-style transactions or the prefunded default fund contribution of the clearing member institution to the QCCP;

IM_i is the initial margin collateral posted by each clearing member to the QCCP with respect to the repo-style transactions; and

DF_i is the prefunded default fund contribution of each clearing member to the QCCP that is not already deducted in paragraph (d)(6)(ii) of this section.

(iv) Exposure amount must be calculated separately for each clearing member's sub-client accounts and sub-house account (i.e., for the clearing member's proprietary activities). If the clearing member's collateral and its client's collateral are held in the same default fund contribution account, then the exposure amount of that account is the sum of the exposure amount for the client-related transactions within the account and the exposure amount of the house-related transactions within the account. For purposes of determining such exposure amounts, the independent collateral of the clearing member and its client must be allocated in proportion to the respective total amount of independent collateral posted by the clearing member to the QCCP.

(v) If any account or sub-account contains both derivative contracts and repo-style transactions, the exposure amount of that account is the sum of the exposure amount for the derivative contracts within the account and the exposure amount of the repo-style transactions within the account. If independent collateral is held for an account containing both derivative contracts and repo-style transactions, then such collateral must be allocated to the derivative contracts and repo-style transactions in proportion to the respective product specific exposure amounts, calculated, excluding the effects of collateral, according to § __.121 for repo-style transactions and to § __.113 for derivative contracts.

(vi) Notwithstanding any other provision of paragraph (d) of this section, with the prior approval of the [AGENCY], a [BANKING ORGANIZATION] may determine the risk-weighted asset amount for a default fund contribution to a QCCP according to § __.35(d)(3)(i) through (iii).

§ __.115 Unsettled Transactions.

(a) *Definitions*. For purposes of this section:

(1) *Delivery-versus-payment (DvP)* transaction means a securities or commodities transaction in which the buyer is obligated to make payment only if the seller has made delivery of the securities or commodities and the seller is obligated to deliver the securities or commodities only if the buyer has made payment.

(2) *Payment-versus-payment (PvP) transaction* means a foreign exchange transaction in which each counterparty is obligated to make a final transfer of one or more currencies only if the other counterparty has made a final transfer of one or more currencies.

(3) A transaction has a normal settlement period if the contractual settlement period for the transaction is equal to or less than the market standard for the instrument underlying the transaction and equal to or less than five business days.

(4) Positive current exposure of a [BANKING ORGANIZATION] for a transaction is the difference between the transaction value at the agreed settlement price and the current market price of the transaction, if the difference results in a credit exposure of the [BANKING ORGANIZATION] to the counterparty.

(b) *Scope*. This section applies to all transactions involving securities, foreign exchange instruments, and commodities that have a risk of delayed settlement or delivery. This section does not apply to:

(1) Cleared transactions that are marked-to-market daily and subject to daily receipt and payment of variation margin;

(2) Repo-style transactions, including unsettled repo-style transactions;

(3) One-way cash payments on OTC derivative contracts; or

(4) Transactions with a contractual settlement period that is longer than the normal settlement period (which are treated as OTC derivative contracts as provided in § __.113).

(c) *System-wide failures*. In the case of a system-wide failure of a settlement, clearing system or central counterparty, the [AGENCY] may waive risk-based capital requirements for unsettled and failed transactions until the situation is rectified.

(d) *Delivery-versus-payment (DvP) and payment-versus-payment (PvP) transactions.* A [BANKING ORGANIZATION] must hold risk-based capital against any DvP or PvP transaction with a normal settlement period if the [BANKING ORGANIZATION]'s counterparty has not made delivery or payment within five business days after the settlement date. The [BANKING ORGANIZATION] must determine its risk-weighted asset amount for such a transaction by multiplying the positive current exposure of the transaction for the [BANKING ORGANIZATION] by the appropriate risk weight in Table 1 to § __.115.

Table 1 to § __.115—Risk Weights for Unsettled DvP and PvP Transactions

Number of business days after contractual settlement date	Risk weight to be applied to positive current exposure (in percent)
From 5 to 15	100.0
From 16 to 30	625.0
From 31 to 45	937.5
46 or more	1,250.0

(e) *Non-DvP/non-PvP (non-delivery-versus-payment/non-payment-versus-payment) transactions.* (1) A [BANKING ORGANIZATION] must hold risk-based capital against any non-DvP/non-PvP transaction with a normal settlement period if the [BANKING ORGANIZATION] has delivered cash, securities, commodities, or currencies to its counterparty but has not received its corresponding deliverables by the end of the same business day. The [BANKING ORGANIZATION] must continue to hold risk-based capital against the transaction until the [BANKING ORGANIZATION] has received its corresponding deliverables.

(2) From the business day after the [BANKING ORGANIZATION] has made its delivery until five business days after the counterparty delivery is due, the [BANKING ORGANIZATION] must calculate the risk-weighted asset amount for the transaction by treating the current fair value of the deliverables owed to the [BANKING ORGANIZATION] as an exposure to the counterparty and using the applicable counterparty risk weight under this subpart.

(3) If the [BANKING ORGANIZATION] has not received its deliverables by the fifth business day after counterparty delivery was due, the [BANKING ORGANIZATION] must assign a 1,250 percent risk weight to the current fair value of the deliverables owed to the [BANKING ORGANIZATION].

(f) *Total risk-weighted assets for unsettled transactions.* Total risk-weighted assets for unsettled transactions is the sum of the risk-weighted asset amounts of all DvP, PvP, and non-DvP/non-PvP transactions.

Credit Risk Mitigation

§ __.120 Guarantees and credit derivatives: Substitution approach.

(a) *Scope*—(1) A [BANKING ORGANIZATION] may recognize the credit risk mitigation benefits of an eligible guarantee or eligible credit derivative that is not an nth-to-default credit derivative by substituting the risk weight associated with the protection provider for the risk weight assigned to an exposure, as provided under this section.

(2) This section applies to exposures for which:

(i) Credit risk is fully covered by an eligible guarantee or eligible credit derivative; or

(ii) Credit risk is covered on a pro rata basis (that is, on a basis in which the [BANKING ORGANIZATION] and the protection provider share losses proportionately) by an eligible guarantee or eligible credit derivative.

(3) Exposures on which there is a tranching of credit risk (reflecting at least two different levels of seniority) generally are securitization exposures subject to § __.130 through __.134.

(4) If multiple eligible guarantees or eligible credit derivatives cover a single exposure described in this section, a [BANKING ORGANIZATION] may treat the hedged exposure as multiple separate exposures each covered by a single eligible guarantee or eligible credit derivative and may calculate a separate risk-weighted asset amount for each separate exposure as described in paragraph (c) of this section.

(5) If a single eligible guarantee or eligible credit derivative covers multiple hedged exposures described in paragraph (a)(2) of this section, a [BANKING ORGANIZATION] must treat each hedged exposure as covered by a separate eligible guarantee or eligible credit

derivative and must calculate a separate risk-weighted asset amount for each exposure as described in paragraph (c) of this section.

(b) *Rules of recognition.* (1) A [BANKING ORGANIZATION] may only recognize the credit risk mitigation benefits of eligible guarantees and eligible credit derivatives that are not n^{th}-to-default credit derivatives.

(2) A [BANKING ORGANIZATION] may only recognize the credit risk mitigation benefits of an eligible credit derivative to hedge an exposure that is different from the credit derivative's reference exposure used for determining the derivative's cash settlement value, deliverable obligation, or occurrence of a credit event if:

(i) The reference exposure ranks *pari passu* with, or is subordinated to, the hedged exposure;

(ii) The reference exposure and the hedged exposure are to the same legal entity, and

(iii) Legally enforceable cross-default or cross-acceleration clauses are in place to ensure payments under the credit derivative are triggered when the obligated party of the hedged exposure fails to pay under the terms of the hedged exposure.

(c) *Substitution approach*—(1) *Full coverage*. If an eligible guarantee or eligible credit derivative meets the conditions in paragraphs (a) and (b) of this section and the protection amount (P) of the guarantee or credit derivative is greater than or equal to the exposure amount of the hedged exposure, a [BANKING ORGANIZATION] may recognize the guarantee or credit derivative in determining the risk-weighted asset amount for the hedged exposure by substituting the risk weight applicable to the guarantor or credit derivative protection provider under this subpart for the risk weight assigned to the exposure.

(2) *Partial coverage*. If an eligible guarantee or eligible credit derivative meets the conditions in paragraphs (a) and (b) of this section and the protection amount (P) of the

guarantee or credit derivative is less than the exposure amount of the hedged exposure, the [BANKING ORGANIZATION] must treat the hedged exposure as two separate exposures (protected and unprotected) in order to recognize the credit risk mitigation benefit of the guarantee or credit derivative.

(i) The [BANKING ORGANIZATION] may calculate the risk-weighted asset amount for the protected exposure under this subpart E, where the applicable risk weight is the risk weight applicable to the guarantor or credit derivative protection provider.

(ii) The [BANKING ORGANIZATION] must calculate the risk-weighted asset amount for the unprotected exposure under this subpart E, where the applicable risk weight is that of the unprotected portion of the hedged exposure.

(iii) The treatment provided in this section is applicable when the credit risk of an exposure is covered on a partial pro rata basis and may be applicable when an adjustment is made to the effective notional amount of the guarantee or credit derivative under paragraph (d), (e), or (f) of this section.

(d) *Maturity mismatch adjustment.* (1) A [BANKING ORGANIZATION] that recognizes an eligible guarantee or eligible credit derivative in determining the risk-weighted asset amount for a hedged exposure must adjust the effective notional amount of the credit risk mitigant to reflect any maturity mismatch between the hedged exposure and the credit risk mitigant.

(2) A maturity mismatch occurs when the residual maturity of a credit risk mitigant is less than that of the hedged exposure(s).

(3) The residual maturity of a hedged exposure is the longest possible remaining time before the obligated party of the hedged exposure is scheduled to fulfil its obligation on the hedged exposure. If a credit risk mitigant has embedded options that may reduce its term, the [BANKING ORGANIZATION] (protection purchaser) must adjust the residual maturity of the

credit risk mitigant. If a call is at the discretion of the protection provider, the residual maturity of the credit risk mitigant is at the first call date. If the call is at the discretion of the [BANKING ORGANIZATION] (protection purchaser), but the terms of the arrangement at origination of the credit risk mitigant contain a positive incentive for the [BANKING ORGANIZATION] to call the transaction before contractual maturity, the remaining time to the first call date is the residual maturity of the credit risk mitigant.

(4) A credit risk mitigant with a maturity mismatch may be recognized only if its original maturity is greater than or equal to one year and its residual maturity is greater than three months.

(5) When a maturity mismatch exists, the [BANKING ORGANIZATION] must apply the following adjustment to reduce the effective notional amount of the credit risk mitigant:

$Pm = E \times (t-0.25)/(T-0.25)$, where:

(i) Pm = effective notional amount of the credit risk mitigant, adjusted for maturity mismatch;

(ii) E = effective notional amount of the credit risk mitigant;

(iii) t = the lesser of T or the residual maturity of the credit risk mitigant, expressed in years; and

(iv) T = the lesser of five or the residual maturity of the hedged exposure, expressed in years.

(e) *Adjustment for credit derivatives without restructuring as a credit event.* (1) If a [BANKING ORGANIZATION] recognizes an eligible credit derivative that does not include as a credit event a restructuring of the hedged exposure involving forgiveness or postponement of principal, interest, or fees that results in a credit loss event (that is, a charge-off, specific provision, or other similar debit to the profit and loss account), the [BANKING ORGANIZATION] must apply the adjustment in paragraph (e)(2) of this section to reduce the effective notional amount of the credit derivative unless: the terms of the hedged exposure and

the reference exposure, if different from the hedged exposure, allow the maturity, principal, coupon, currency, or seniority status of the exposure to be amended outside of receivership, insolvency, liquidation, or similar proceeding only by unanimous consent of all parties, and the [BANKING ORGANIZATION] has conducted sufficient legal review to conclude with a well-founded basis (and maintains sufficient written documentation of that legal review) that the hedged exposure is subject to the U.S. Bankruptcy Code, the Federal Deposit Insurance Act, or a domestic or foreign insolvency regime with similar features that allow for a company to liquidate, reorganize, or restructure and provides for an orderly settlement of creditor claims.

(2) The [BANKING ORGANIZATION] must apply the following adjustment to reduce the effective notional amount of any eligible credit derivative that is subject to adjustment under paragraph (e)(1) of this section:

$Pr = Pm \times 0.60$, where:

(i) Pr = effective notional amount of the credit risk mitigant, adjusted for lack of restructuring event (and maturity mismatch, if applicable); and

(ii) Pm = effective notional amount of the credit risk mitigant (adjusted for maturity mismatch, if applicable).

(f) *Currency mismatch adjustment.* (1) If a [BANKING ORGANIZATION] recognizes an eligible guarantee or eligible credit derivative that is denominated in a currency different from that in which the hedged exposure is denominated, the [BANKING ORGANIZATION] must apply the following formula to the effective notional amount of the guarantee or credit derivative:

$Pc = Pr \times (1 - H_{FX})$, where:

(i) Pc = effective notional amount of the credit risk mitigant, adjusted for currency mismatch (and maturity mismatch and lack of restructuring event, if applicable);

(ii) Pr = effective notional amount of the credit risk mitigant (adjusted for maturity mismatch and lack of restructuring event, if applicable); and

(iii) H_{FX} = haircut appropriate for the currency mismatch between the credit risk mitigant and the hedged exposure, as determined under paragraphs (f)(2) through (3) of this section.

(2) Subject to paragraph (f)(3) of this section, a [BANKING ORGANIZATION] must set H_{FX} equal to eight percent.

(3) A [BANKING ORGANIZATION] must increase H_{FX} as determined under paragraph (f)(2) of this section if the [BANKING ORGANIZATION] revalues the guarantee or credit derivative less frequently than once every 10 business days using the following formula:

$H_{FX} = 8\% \times (T_M/10)^{1/2}$, where T_M equals the greater of 10 or the number of business days between revaluations.

§ __.121 Collateralized transactions.

(a) *General*. (1) To recognize the risk-mitigating effects of financial collateral, a [BANKING ORGANIZATION] may use:

(i) The simple approach in paragraph (b) of this section for any exposure that is not a derivative contract or a netting set of derivative contracts; or

(ii) The collateral haircut approach in paragraph (c) of this section for a repo-style transaction, eligible margin loan, or a netting set of such transactions.

(2) A [BANKING ORGANIZATION] may use any approach described in this section that is valid for a particular type of exposure or transaction; however, it must use the same approach for similar exposures or transactions.

(3) For purposes of this section, a [BANKING ORGANIZATION] may only recognize the risk-mitigating effects of a corporate debt security that meets the definition of financial

collateral if the corporate issuer of the debt security has a publicly traded security outstanding or is controlled by a company that has a publicly traded security outstanding.

(b) *The simple approach*—(1) *General requirements.* (i) A [BANKING ORGANIZATION] may recognize the credit risk mitigation benefits of financial collateral that secures any exposure that is not a derivative contract or netting set of derivative contracts.

(ii) To qualify for the simple approach, the financial collateral must meet the following requirements:

(A) The collateral must be subject to a collateral agreement for at least the life of the exposure;

(B) The collateral must be revalued at least every six months; and

(C) The collateral (other than gold) and the exposure must be denominated in the same currency.

(2) *Risk weight substitution.* (i) A [BANKING ORGANIZATION] may apply a risk weight to the portion of an exposure that is secured by the fair value of financial collateral (that meets the requirements of paragraph (b)(1) of this section) based on the risk weight assigned to the collateral under this subpart. For repurchase agreements, reverse repurchase agreements, and securities lending and borrowing transactions, the collateral is the instruments, gold, and cash the [BANKING ORGANIZATION] has borrowed, purchased subject to resale, or taken as collateral from the counterparty under the transaction. Except as provided in paragraph (b)(3) of this section, the risk weight assigned to the collateralized portion of the exposure may not be less than 20 percent.

(ii) A [BANKING ORGANIZATION] must apply a risk weight to the unsecured portion of the exposure based on the risk weight applicable to the exposure under this subpart.

(3) *Exceptions to the 20 percent risk weight floor and other requirements.* Notwithstanding paragraph (b)(2)(i) of this section, a [BANKING ORGANIZATION] may assign a zero percent risk weight to the collateralized portion of an exposure where:

(i) The financial collateral is cash on deposit; or

(ii) The financial collateral is an exposure to a sovereign that qualifies for a zero percent risk weight under § __.111, and the [BANKING ORGANIZATION] has discounted the fair value of the collateral by 20 percent.

(c) *Collateral haircut approach—Exposure amount for eligible margin loans and repo-style transactions*—(1) *General*. A [BANKING ORGANIZATION] may recognize the credit risk mitigation benefits of financial collateral that secures an eligible margin loan, repo-style transaction, or netting set of such transactions, and of any collateral that secures a repo-style transaction that is included in the [BANKING ORGANIZATION]'s measure for market risk under subpart F of this part, by using the collateral haircut approach covered in paragraph (c)(2) of this section.

(2) *Collateral haircut approach*—(i) *Netting set amount calculation*. For purposes of the collateral haircut approach, except as provided in paragraph (c)(2)(ii) of this section, a [BANKING ORGANIZATION] must determine the exposure amount for a netting set of eligible margin loans or repo-style transactions according to the following formula:

$$E^* = max\left\{0; \left(\sum_i E_i - \sum_i C_i\right) + \left(0.4 \times net_{exposure}\right) + \left(0.6 \times \frac{gross_{exposure}}{\sqrt{N}}\right) + \left(\sum_{fx}\left(E_{fx} \times H_{fx}\right)\right)\right\}$$

Where:

(A) E^* is the exposure amount of the netting set after credit risk mitigation;

(B) E_i is the current fair value of the instrument, cash, or gold the [BANKING ORGANIZATION] has lent, sold subject to repurchase, or posted as collateral to the counterparty;

(C) C_i is the current fair value of the instrument, cash, or gold the banking organization has borrowed, purchased subject to resale, or taken as collateral from the counterparty;

(D) $net_{exposure} = |\sum_s E_s H_s|$;

(E) $gross_{exposure} = \sum_s E_s |H_s|$;

(F) E_s is the absolute value of the net position in a given instrument or in gold, where the net position in a given instrument or gold equals the sum of the current fair values of the instrument or gold the [BANKING ORGANIZATION] has lent, sold subject to repurchase, or posted as collateral to the counterparty, minus the sum of the current fair values of that same instrument or gold the [BANKING ORGANIZATION] has borrowed, purchased subject to resale, or taken as collateral from the counterparty;

(G) H_s is the haircut appropriate to E_s as described in Table 1 of this section, as applicable. H_s has a positive sign if the instrument or gold is net lent, sold subject to repurchase, or posted as collateral to the counterparty; H_s has a negative sign if the instrument or gold is net borrowed, purchased subject to resale, or taken as collateral from the counterparty;

(H) N is the number of instruments with a unique Committee on Uniform Securities Identification Procedures (CUSIP) designation or foreign equivalent that the [BANKING ORGANIZATION] lends, sells subject to repurchase, posts as collateral, borrows, purchases subject to resale, or takes as collateral in the netting set, including all collateral that the [BANKING ORGANIZATION] elects to include within the credit risk mitigation framework,

except that instruments where the value E_s is less than one tenth of the value of the largest E_s in the netting set are not included in the count or gold, with any amount of gold given a value of one;

(I) E_{fx} is the absolute value of the net position in each currency f_x different from the settlement currency;

(J) H_{fx} is the haircut appropriate for currency mismatch of currency f_x.

(ii) *Single transaction exposure amount calculation*. For purposes of the collateral haircut approach, a [BANKING ORGANIZATION] must use the following formula to calculate the exposure amount for an individual eligible margin loan or repo-style transaction that is not a part of a netting set:

$$E^* = max\{0; E \times (1 + H_e) - C \times (1 - H_c - H_{fx})\}$$

Where:

(A) E^* is the exposure amount of the transaction after credit risk mitigation.

(B) E is the current fair value of the specific instrument, cash, or gold the banking organization has lent, sold subject to repurchase, or posted as collateral to the counterparty;

(C) H_e is the haircut appropriate to E as described in Table 1 of this section, as applicable.

(D) C is the current fair value of the specific instrument, cash, or gold the banking organization has borrowed, purchased subject to resale, or taken as collateral from the counterparty.

(E) H_c is the haircut appropriate to C as described in Table 1 to this section, as applicable.

(F) $H(f_x)$ is the haircut appropriate for currency mismatch between the collateral and exposure.

(iii) *Market price volatility and currency mismatch haircuts.* (A) A [BANKING ORGANIZATION] must use the haircuts for market price volatility (H_s) in Table 1 to this

section, as adjusted in certain circumstances as provided in paragraphs (c)(2)(iii)(C) through (E) of this section.

Table 1 to § __.121—Market Price Volatility Haircuts

<table>
<tr><th rowspan="2"></th><th rowspan="2">Residual maturity</th><th colspan="3">Securities issued by a sovereign or an issuer described in § __.111(b) (in percent)</th><th colspan="2">Other investment-grade securities (in percent)</th></tr>
<tr><th>Issuer risk weight of 0%</th><th>Issuer risk weight of 20% or 50%</th><th>Issuer risk weight of 100%</th><th>Exposures other than securitization exposures</th><th>Senior securitization exposures with risk weight < 100%</th></tr>
<tr><td rowspan="5">Debt securities</td><td>Less than or equal to 1 year</td><td>0.5</td><td>1.0</td><td>15.0</td><td>2.0</td><td>4.0</td></tr>
<tr><td>Greater than 1 year and less than or equal to 3 years</td><td rowspan="2">2.0</td><td rowspan="2">3.0</td><td rowspan="2">15.0</td><td>4.0</td><td rowspan="2">12.0</td></tr>
<tr><td>Greater than 3 years and less than or equal to 5 years</td><td>6.0</td></tr>
<tr><td>Greater than 5 years and less than or equal to 10 years</td><td rowspan="2">4.0</td><td rowspan="2">6.0</td><td rowspan="2">15.0</td><td>12.0</td><td rowspan="2">24.0</td></tr>
<tr><td>Greater than 10 years</td><td>20.0</td></tr>
<tr><td>Main index equities (including convertible bonds) and gold</td><td colspan="6">20.0</td></tr>
<tr><td>Other publicly traded equities (including convertible bonds)</td><td colspan="6">30.0</td></tr>
<tr><td>Mutual funds</td><td colspan="6">Highest haircut applicable to any security in which the fund can invest, unless the [BANKING ORGANIZATION] can apply the full look-through approach for equity investments in funds in § __.142(b), in which case the [BANKING ORGANIZATION] may use a weighted average of haircuts applicable to the securities held by the fund.</td></tr>
<tr><td>Cash on deposit</td><td colspan="6">0.0</td></tr>
<tr><td>Other exposure types</td><td colspan="6">30.0</td></tr>
</table>

(B) For currency mismatches, a [BANKING ORGANIZATION] must use a haircut for foreign exchange rate volatility (H_{fx}) of 8 percent, as adjusted in certain circumstances under paragraphs (c)(2)(iii)(C) and (D) of this section.

(C) For repo-style transactions, a [BANKING ORGANIZATION] may multiply the haircuts provided in paragraphs (c)(2)(iii)(A) and (B) of this section by the square root of 1/2 (which equals 0.707107).

(D) A [BANKING ORGANIZATION] must adjust the haircuts provided in paragraphs (c)(2)(iii)(A) and (B) of this section upward on the basis of a holding period longer than ten business days for eligible margin loans or a holding period longer than five business days for repo-style transactions that are not cleared transactions under the following conditions. If the number of trades in a netting set exceeds 5,000 at any time during a quarter, a [BANKING ORGANIZATION] must adjust the haircuts provided in paragraphs (c)(2)(iii)(A) and (B) of this section upward on the basis of a holding period of twenty business days for the following quarter except in the calculation of exposure amount for purposes of § __.114. If a netting set contains one or more trades involving illiquid collateral, a [BANKING ORGANIZATION] must adjust the haircuts provided in paragraphs (c)(2)(iii)(A) and (B) of this section upward on the basis of a holding period of twenty business days. If over the two previous quarters more than two margin disputes on a netting set have occurred that lasted longer than the holding period, then the [BANKING ORGANIZATION] must adjust the haircuts provided in paragraphs (c)(2)(iii)(A) and (B) of this section upward for that netting set on the basis of a holding period that is at least two times the minimum holding period for that netting set. The [BANKING ORGANIZATION] must adjust the haircuts upward using the following formula:

$$H_a = H_s\sqrt{T_m/T_s}$$

Where:

(*1*) T_m equals a holding period of longer than 10 business days for eligible margin loans or longer than 5 business days for repo-style transactions;

(*2*) H_s equals the market price volatility haircut provided in Table 1 of this section or to the foreign exchange rate volatility haircut provided in paragraph (c)(3)(iii)(B) of this section; and

(*3*) T_s equals 10 business days for eligible margin loans or 5 business days for repo-style transactions.

(E) If the instruments a [BANKING ORGANIZATION] has lent, sold subject to repurchase, or posted as collateral do not meet the definition of financial collateral, the [BANKING ORGANIZATION] must use a 30 percent haircut for market price volatility (H_s).

(d) *Minimum haircut floors for certain eligible margin loans and repo-style transactions*—(1) *General*. To recognize the risk mitigation benefit of financial collateral that secures an eligible margin loan or repo-style transaction with an unregulated financial institution or netting set of such transactions with an unregulated financial institution, a [BANKING ORGANIZATION] must apply this paragraph (d). A [BANKING ORGANIZATION] may not recognize the risk-mitigating benefits of financial collateral that secures such transaction(s) unless the requirements set forth in paragraphs (d)(3)(ii) or (d)(3)(iii) of this section, as applicable, are satisfied.

(2) *Transactions subject to the minimum haircut floors.* (i) The minimum haircut floors must be applied to any of the following transactions with an unregulated financial institution that are not cleared transactions:

(A) An eligible margin loan or repo-style transaction in which a [BANKING ORGANIZATION] lends cash to an unregulated financial institution in exchange for securities, unless all of the securities are nondefaulted sovereign exposures; and

(B) A repo-style transaction that is a collateral upgrade transaction.

(ii) Notwithstanding paragraph (d)(2)(i) of this section, the following eligible margin loans and repo-style transactions with an unregulated financial institution are exempted from the minimum haircut floors:

(A) A transaction in which an unregulated financial institution lends, sells subject to repurchase, or posts as collateral securities to a [BANKING ORGANIZATION] in exchange for cash and the unregulated financial institution uses the cash to fund one or more transactions with the same or shorter maturity than the original transaction with the [BANKING ORGANIZATION].

(B) A collateral upgrade transaction in which the unregulated financial institution is unable to re-hypothecate, or contractually agrees that it will not re-hypothecate, the securities it receives as collateral against the securities lent.

(C) A transaction in which a [BANKING ORGANIZATION] borrows securities for the purpose of meeting a current or anticipated demand, including for delivery obligations, customer demand, or segregation requirements, and not to provide financing to the unregulated financial institution. The [BANKING ORGANIZATION] must maintain sufficient written documentation that such transaction is for the purpose of meeting a current or anticipated demand.

(3) *Minimum haircut floors.* (i) The minimum haircut floors, expressed as percentages, are provided in tTable 2 to this section.

Table 2 to § __.121—Minimum Haircut Floors (In Percentage)

Residual maturity of collateral	Haircut level	
	Corporate and other issuers	Securitization exposures
≤ 1 year debt securities, and floating rate notes (FRNs)	0.5	1.0
> 1 year, ≤ 5 years debt securities	1.5	4.0
> 5 years, ≤ 10 years debt securities	3.0	6.0

> 10 years debt securities	4.0	7.0
Main index equities	6.0	
Cash on deposit	zero	
Sovereign exposures that receive a zero percent risk weight under § __.111	zero	
Other exposure types	10.0	

(ii) *Single-transaction haircut floors*. For a single eligible margin loan or repo-style transaction with an unregulated financial institution that is not included in a netting set, a [BANKING ORGANIZATION] must compare the haircut of the transaction with the respective single-transaction haircut floor. If the haircut for the transaction H is smaller than the single transaction haircut floor f, the [BANKING ORGANIZATION] may not recognize the risk-mitigating effects of financial collateral that secures the exposure under this section.

(A) The haircut H equals to the ratio of the fair value of financial collateral borrowed, purchased subject to resale, or taken as collateral from the unregulated financial institution (C_B) to the fair value of financial collateral lent, sold subject to repurchase, or posted as collateral (C_L) expressed as a percent, minus 100 percent.

(B) The haircut floor f is calculated as:

(*1*) For a single cash-lent-for-security transaction, f is given in Table 2 to this section.

(*2*) For a single security-for-security repo-style transaction, f is calculated using the following formula, in which security L (haircut floor f_L given in Table 2 to this section) is lent, sold subject to repurchase, or posted as collateral in exchange for borrowing, purchasing subject to resale, or taking as collateral security B (haircut floor f_B given in Table 2 to this section):

$$f = \left({(1 + f_B)}/{(1 + f_L)} \right) - 1$$

(iii) *Portfolio haircut floors*. For a netting set of eligible margin loans or repo-style transactions with an unregulated financial institution, a [BANKING ORGANIZATION] must

compare the portfolio haircut to the portfolio haircut floor. If the portfolio haircut H is less than the portfolio haircut floor the [BANKING ORGANIZATION] may not recognize the risk-mitigating effects of financial collateral that secures the exposures. The portfolio haircut H and the portfolio haircut floor f are calculated as:

$$H = \left(\sum C_B \Big/ \sum C_L \right) - 1$$

and

$$f = \left(\left(\frac{\sum (C_L / (1 + f_L))}{\sum C_L} \right) \Big/ \left(\frac{\sum (C_B / (1 + f_B))}{\sum C_B} \right) \right) - 1$$

Where:

(A) C_L equals the fair value of the net position in a given security (or cash) the [BANKING ORGANIZATION] has lent, sold subject to repurchase, or posted as collateral to the unregulated financial institution;

(B) C_B equals the fair value of the net position in a given security the [BANKING ORGANIZATION] has borrowed, purchased subject to resale, or taken as collateral from the unregulated financial institution; and

(C) f_L and f_B are the respective haircut floors given in Table 2 to this section for each security net lent (L) and net borrowed (B) by the [BANKING ORGANIZATION].

Risk-Weighted Assets for Securitization Exposures

§ __.130 Operational criteria for recognizing the transfer of risk.

(a) *Operational criteria for traditional securitizations*. A [BANKING ORGANIZATION] that transfers exposures it has originated or purchased to a securitization SPE or other third party in connection with a traditional securitization may exclude the exposures

from the calculation of its risk-weighted assets only if each condition in this section is satisfied. A [BANKING ORGANIZATION] that meets these conditions must hold risk-based capital against any credit risk it retains in connection with the securitization. A [BANKING ORGANIZATION] that fails to meet these conditions must hold risk-based capital against the transferred exposures as if they had not been securitized and must deduct from common equity tier 1 capital any after-tax gain-on-sale resulting from the transaction and any portion of a CEIO strip that does not constitute after-tax gain-on-sale. If the transferred exposures are in connection with a resecuritization and all of the conditions in this paragraph (a) are satisfied, the [BANKING ORGANIZATION] must exclude the exposures from the calculation of its risk-weighted assets and must hold risk-based capital against any credit risk it retains in connection with the resecuritization. The conditions are:

(1) The exposures are not reported on the [BANKING ORGANIZATION]'s consolidated balance sheet under GAAP;

(2) The [BANKING ORGANIZATION] has transferred to one or more third parties credit risk associated with the underlying exposures;

(3) Any clean-up calls relating to the securitization are eligible clean-up calls; and

(4) The securitization does not:

(i) Include one or more underlying exposures in which the borrower is permitted to vary the drawn amount within an agreed limit under a line of credit; and

(ii) Contain an early amortization provision.

(b) *Operational criteria for synthetic securitizations*. For synthetic securitizations, a [BANKING ORGANIZATION] may recognize for risk-based capital purposes the use of a credit risk mitigant to hedge underlying exposures only if each condition in this paragraph (b) is satisfied. A [BANKING ORGANIZATION] that meets these conditions must hold risk-based

capital against any credit risk of the exposures it retains in connection with the synthetic securitization. A [BANKING ORGANIZATION] that fails to meet these conditions or chooses not to recognize the credit risk mitigant for purposes of this section must instead hold risk-based capital against the underlying exposures as if they had not been synthetically securitized. If the synthetic securitization is a resecuritization and all of the conditions in this paragraph (b) are satisfied, the [BANKING ORGANIZATION] must exclude the underlying from the calculation of its risk-weighted assets and must hold risk-based capital against any credit risk it retains in connection with the resecuritization. The conditions are:

(1) The credit risk mitigant is:

(i) Financial collateral;

(ii) A guarantee that meets all criteria as set forth in the definition of "eligible guarantee" in § __.2, except for the criteria in paragraph (3) of that definition; or

(iii) A credit derivative that is not an nth-to-default credit derivative and that meets all criteria as set forth in the definition of "eligible credit derivative" in § __.2, except for the criteria in paragraph (3) of the definition of "eligible guarantee" in § __.2.

(2) The [BANKING ORGANIZATION] transfers credit risk associated with the underlying exposures to one or more third parties, and the terms and conditions in the credit risk mitigants employed do not include provisions that:

(i) Allow for the termination of the credit protection due to deterioration in the credit quality of the underlying exposures;

(ii) Require the [BANKING ORGANIZATION] to alter or replace the underlying exposures to improve the credit quality of the underlying exposures;

(iii) Increase the [BANKING ORGANIZATION]'s cost of credit protection in response to deterioration in the credit quality of the underlying exposures;

(iv) Increase the yield payable to parties other than the [BANKING ORGANIZATION] in response to a deterioration in the credit quality of the underlying exposures; or

(v) Provide for increases in a retained first loss position or credit enhancement provided by the [BANKING ORGANIZATION] after the inception of the securitization;

(3) The [BANKING ORGANIZATION] obtains a well-reasoned opinion from legal counsel that confirms the enforceability of the credit risk mitigant in all relevant jurisdictions;

(4) Any clean-up calls relating to the securitization are eligible clean-up calls;

(5) No synthetic excess spread is permitted within the synthetic securitization;

(6) Any applicable minimum payment threshold for the credit risk mitigant is consistent with standard market practice; and

(7) The securitization does not:

(i) Include one or more underlying exposures in which the borrower is permitted to vary the drawn amount within an agreed limit under a line of credit; and

(ii) Contain an early amortization provision.

(c) *Due diligence requirements for securitization exposures.* (1) Except for exposures that are deducted from common equity tier 1 capital and exposures subject to § __.132(h), if a [BANKING ORGANIZATION] is unable to demonstrate to the satisfaction of the [AGENCY] a comprehensive understanding of the features of a securitization exposure that would materially affect the performance of the exposure, the [BANKING ORGANIZATION] must assign the securitization exposure a risk weight of 1,250 percent. The [BANKING ORGANIZATION]'s analysis must be commensurate with the complexity of the securitization exposure and the materiality of the exposure in relation to its capital.

(2) A [BANKING ORGANIZATION] must demonstrate its comprehensive understanding of a securitization exposure under paragraph (c)(1) of this section, for each securitization exposure by:

(i) Conducting an analysis of the risk characteristics of a securitization exposure prior to acquiring the exposure and documenting such analysis within 3 business days after acquiring the exposure, considering:

(A) Structural features of the securitization that would materially impact the performance of the exposure, for example, the contractual cash flow waterfall, waterfall-related triggers, credit enhancements, liquidity enhancements, fair value triggers, the performance of organizations that service the exposure, and deal-specific definitions of default;

(B) Relevant information regarding—

(*1*) The performance the underlying credit exposure(s), for example, the percentage of loans 30, 60, and 90 days past due; default rates; prepayment rates; loans in foreclosure; property types; occupancy; average credit score or other measures of creditworthiness; average LTV ratio; and industry and geographic diversification data on the underlying exposure(s); and

(*2*) For resecuritization exposures, in addition to the information described in paragraph (c)(2)(i)(B)(1) of this section, performance information on the underlying securitization exposures, which may include the issuer name and credit quality, and the characteristics and performance of the exposures underlying the securitization exposures; and

(C) Relevant market data of the securitization, for example, bid-ask spread, most recent sales price and historic price volatility, trading volume, implied market rating, and size, depth and concentration level of the market for the securitization; and

(ii) On an on-going basis (no less frequently than quarterly), evaluating, reviewing, and updating as appropriate the analysis required under paragraph (c)(1) of this section for each securitization exposure.

§ __.131 Exposure amount of a securitization exposure.

(a) *On-balance sheet securitization exposure.* The exposure amount of an on-balance sheet securitization exposure (excluding a repo-style transaction, eligible margin loan, OTC

derivative contract that is not a credit derivative, or cleared transaction that is not a credit derivative) is equal to the [BANKING ORGANIZATION]'s carrying value of the exposure. For a credit derivative, a [BANKING ORGANIZATION] must apply § __.132(i) or (j), as applicable.

(b) *Off-balance sheet securitization exposure*. Except as provided in § __.132(h), the exposure amount of an off-balance sheet securitization exposure that is not a repo-style transaction, eligible margin loan, OTC derivative contract (other than a credit derivative), or cleared transaction (other than a credit derivative) is the notional amount of the exposure. For an off-balance sheet securitization exposure to an ABCP program, such as an eligible ABCP liquidity facility, the notional amount may be reduced to the maximum potential amount that the [BANKING ORGANIZATION] could be required to fund given the ABCP program's current underlying assets (calculated without regard to the current credit quality of those assets).

(c) *Repo-style transaction, eligible margin loan, OTC derivative contract that is not a credit derivative, or cleared transaction that is not a credit derivative*. The exposure amount of a securitization exposure that is a repo-style transaction, eligible margin loan, or OTC derivative contract (other than a credit derivative) is the exposure amount as calculated in § __.113 or § __.121, as applicable, and the exposure amount of a securitization exposure that is a cleared transaction that is not a credit derivative is the exposure amount as calculated in § __.114.

§ __.132 Risk-weighted assets for securitization exposures.

(a) *General approach*. Except as provided elsewhere in this section and in § __.130:

(1) A [BANKING ORGANIZATION] may, subject to the limitation under paragraph (e) of this section, apply the securitization standardized approach (SEC-SA) in § __.133 to the exposure if the exposure meets the following requirements:

(i) The [BANKING ORGANIZATION] has accurate information on A, D, W, and K_G (as defined in § __.133) for the exposure. Data used to assign the parameters described in this paragraph (a)(1)(i) must be the most currently available data. If the contracts governing the underlying exposures of the securitization require payments on a monthly or quarterly basis, the data used to assign the parameters described in this paragraph (a)(1)(i) must be no more than 91 calendar days old.

(ii) The [BANKING ORGANIZATION] has accurate information regarding whether the exposure is a resecuritization exposure.

(2) If the securitization exposure is an interest rate derivative contract, an exchange rate derivative contract, or a cash collateral account related to an interest rate or exchange rate derivative contract, the [BANKING ORGANIZATION] must assign a risk weight to the exposure equal to the risk weight of a securitization exposure that is *pari passu* to the interest rate derivative contract or exchange rate derivative contract or, if such an exposure does not exist, the risk weight of any subordinate securitization exposure.

(3) If the [BANKING ORGANIZATION] cannot apply, or chooses not to apply, the securitization standardized approach in § __.133, the [BANKING ORGANIZATION] must apply a 1,250 percent risk weight to the exposure.

(b) *Total risk-weighted assets for securitization exposures*. A [BANKING ORGANIZATION]'s total risk-weighted assets for securitization exposures equals the sum of the risk-weighted asset amount for securitization exposures that the [BANKING ORGANIZATION] risk weights under § __.132 through __.134, as applicable.

(c) *After-tax gain-on-sale resulting from a securitization*. Notwithstanding any other provision of this subpart, a [BANKING ORGANIZATION] must deduct from common equity tier 1 capital any after-tax gain-on-sale resulting from a securitization as well as the portion of a CEIO that does not constitute an after-tax gain-on sale.

(d) *Overlapping exposures*. (1) If a [BANKING ORGANIZATION] has multiple securitization exposures that provide duplicative coverage of the underlying exposures of a securitization, the [BANKING ORGANIZATION] is not required to hold duplicative risk-based capital against the overlapping position. Instead, the [BANKING ORGANIZATION] may assign to the overlapping securitization exposure the applicable risk-based capital treatment under this subpart that results in the highest risk-based capital requirement.

(2) If a [BANKING ORGANIZATION] has a securitization exposure that partially overlaps with another exposure, the [BANKING ORGANIZATION] may assign to the overlapping portion of the securitization exposure the applicable risk-based capital treatment under this subpart that results in the highest risk-based capital requirement. A [BANKING ORGANIZATION] may treat two non-overlapping securitization exposures as overlapping if the [BANKING ORGANIZATION] assumes that obligations with respect to one of the exposures are larger than those established contractually. In such an instance, the [BANKING ORGANIZATION] may calculate its risk-weighted assets as if the exposures were overlapping as long as the [BANKING ORGANIZATION] also assumes for capital purposes that the obligations of the relevant exposure are larger than those established contractually.

(3) If a [BANKING ORGANIZATION] has a securitization exposure under this subpart that partially overlaps with a securitization exposure that is a market risk covered position under subpart F of this part, the [BANKING ORGANIZATION] may assign to the overlapping portion of the securitization exposure the applicable risk-based capital treatment under either this subpart or subpart F, whichever results in the highest risk-based capital requirement.

(e) *Implicit support*. If a [BANKING ORGANIZATION] provides support to a securitization in excess of the [BANKING ORGANIZATION]'s contractual obligation to provide credit support to the securitization:

(1) The [BANKING ORGANIZATION] must calculate a risk-weighted asset amount for underlying exposures associated with the securitization as if the exposures had not been securitized and must deduct from common equity tier 1 capital any after-tax gain-on-sale resulting from the securitization and any portion of a CEIO strip that does not constitute after-tax gain-on-sale; and

(2) The [BANKING ORGANIZATION] must disclose publicly:

(i) That it has provided implicit support to the securitization; and

(ii) The risk-based capital impact to the [BANKING ORGANIZATION] of providing such implicit support.

(f) *Undrawn portion of a servicer cash advance facility*. (1) Notwithstanding any other provision of this subpart, a [BANKING ORGANIZATION] that is a servicer under an eligible servicer cash advance facility is not required to hold risk-based capital against potential future cash advance payments that it may be required to provide under the contract governing the facility.

(2) For a [BANKING ORGANIZATION] that acts as a servicer, the exposure amount for a servicer cash advance facility that is a not an eligible servicer cash advance facility is equal to the amount of all potential future cash advance payments that the [BANKING ORGANIZATION] may be contractually required to provide during the subsequent 12-month period under the contract governing the facility.

(g) *Interest-only mortgage-backed securities*. Notwithstanding any other provision of this subpart, the risk weight for a non-credit-enhancing interest-only mortgage-backed security may not be less than 100 percent.

(h) *Small-business loans and leases on personal property transferred with retained contractual exposure.* (1) Regardless of any other provision of this subpart, a [BANKING

ORGANIZATION] that has transferred small-business loans and leases on personal property (small-business obligations) with recourse must include in risk-weighted assets only its contractual exposure to the small-business obligations if all the following conditions are met:

(i) The transaction must be treated as a sale under GAAP;

(ii) The [BANKING ORGANIZATION] establishes and maintains, pursuant to GAAP, a non-capital reserve sufficient to meet the [BANKING ORGANIZATION]'s reasonably estimated liability under the contractual obligation;

(iii) The small-business obligations are to businesses that meet the criteria for a small-business concern established by the Small Business Administration under section 3(a) of the Small Business Act (15 U.S.C. 632 et seq.); and

(iv) The [BANKING ORGANIZATION] is well capitalized for purposes of the Prompt Corrective Action framework (12 U.S.C. 1831o). For purposes of determining whether a [BANKING ORGANIZATION] is well capitalized for purposes of this paragraph (h), the [BANKING ORGANIZATION]'s capital ratios must be calculated without regard to the capital treatment for transfers of small-business obligations with recourse specified in paragraph (h)(1) of this section.

(2) The total outstanding amount of contractual exposure retained by a [BANKING ORGANIZATION] on transfers of small-business obligations receiving the capital treatment specified in paragraph (h)(1) of this section cannot exceed 15 percent of the [BANKING ORGANIZATION]'s total capital.

(3) If a [BANKING ORGANIZATION] ceases to be well capitalized, or exceeds the 15 percent capital limitation provided in paragraph (h)(2) of this section, the capital treatment specified in paragraph (h)(1) of this section will continue to apply to any transfers of small-

business obligations with retained contractual exposure that occurred during the time that the [BANKING ORGANIZATION] was well capitalized and did not exceed the capital limit.

(4) The risk-based capital ratios of the [BANKING ORGANIZATION] must be calculated without regard to the capital treatment for transfers of small-business obligations specified in paragraph (h)(1) of this section for purposes of:

(i) Determining whether a [BANKING ORGANIZATION] is adequately capitalized, undercapitalized, significantly undercapitalized, or critically undercapitalized under the [AGENCY]'s prompt corrective action regulations; and

(ii) Reclassifying a well-capitalized [BANKING ORGANIZATION] to adequately capitalized and requiring an adequately capitalized [BANKING ORGANIZATION] to comply with certain mandatory or discretionary supervisory actions as if the [BANKING ORGANIZATION] were in the next lower prompt-corrective-action category.

(i) *N^{th}-to-default credit derivatives*—(1) *Protection provider*. A [BANKING ORGANIZATION] providing protection through a first-to-default or second-to-default derivative is subject to capital requirements on such instruments under this paragraph (i)(1).

(i) *First-to-default*. For first-to-default derivatives, a [BANKING ORGANIZATION] must aggregate by simple summation the risk weights of the assets covered up to a maximum of 1,250 percent and multiply by the nominal amount of the protection provided by the credit derivative to obtain the risk-weighted asset amount.

(ii) *Nth-to-default*. For second-to-default derivatives, in aggregating the risk weights, a [BANKING ORGANIZATION] may exclude the asset with the lowest risk-weighted amount from the risk-weighted capital calculation. This risk-based capital treatment applies for nth-to-default derivatives for which the n-1 assets with the lowest risk-weighted amounts can be excluded from the risk-weighted capital calculation.

(2) *Protection purchaser*. A [BANKING ORGANIZATION] is not permitted to recognize a purchased nth-to-default credit derivative as a credit risk mitigant. A [BANKING ORGANIZATION] must calculate the counterparty credit risk of a purchased nth-to-default credit derivative under § __.113.

(j) *Guarantees and credit derivatives other than n^{th}-to-default credit derivatives*—(1) *Protection provider.* For a guarantee or credit derivative (other than an nth-to-default credit derivative) provided by a [BANKING ORGANIZATION] that covers the full amount or a pro rata share of a securitization exposure's principal and interest, the [BANKING ORGANIZATION] must risk-weight the guarantee or credit derivative under paragraph (a) of this section as if it held the portion of the reference exposure covered by the guarantee or credit derivative.

(2) *Protection purchaser*. (i) A [BANKING ORGANIZATION] that purchases a credit derivative (other than an nth-to-default credit derivative) that is recognized under § __.134 as a credit risk mitigant (including via recognized collateral) is not required to compute a separate counterparty credit risk capital requirement under § __.110.

(ii) If a [BANKING ORGANIZATION] cannot, or chooses not to, recognize a purchased credit derivative as a credit risk mitigant under § __.134, the [BANKING ORGANIZATION] must determine the exposure amount of the credit derivative under § __.113.

(A) If the [BANKING ORGANIZATION] purchases credit protection from a counterparty that is not a securitization SPE, the [BANKING ORGANIZATION] must determine the risk weight for the exposure according to § __.111.

(B) If the [BANKING ORGANIZATION] purchases credit protection from a counterparty that is a securitization SPE, the [BANKING ORGANIZATION] must determine the risk weight for the exposure according to this section.

(k) *Look-through approach.* (1) Subject to paragraph (k)(2) of this section, a [BANKING ORGANIZATION] may assign a risk weight to a senior securitization exposure that is not a resecuritization exposure equal to the greater of:

(i) The weighted-average risk weight of all the underlying exposures where the weight for each exposure in the weighted-average calculation is determined by the unpaid principal amount of the exposure; and

(ii) 15 percent.

(2) A [BANKING ORGANIZATION] may assign a risk weight under this paragraph (k) only if the [BANKING ORGANIZATION] has knowledge of the composition of all of the underlying exposures.

(l) *NPL securitization.* Notwithstanding any other provision of this subpart except for paragraph (e) of this section:

(1) If the NPL securitization is a traditional securitization and the nonrefundable purchase price discount is greater than or equal to 50 percent of the outstanding balance of the pool of exposures, the risk weight for a senior securitization exposure to an NPL securitization is 100 percent.

(2) If the [BANKING ORGANIZATION] is an originating [BANKING ORGANIZATION] with respect to the NPL securitization, the [BANKING ORGANIZATION] may hold risk-based capital against the transferred exposures as if they had not been securitized and must deduct from common equity tier 1 capital any after-tax gain-on-sale resulting from the transaction and any portion of a CEIO that does not constitute an after-tax gain-on-sale.

§ __.133 Securitization standardized approach (SEC-SA).

(a) *In general*. The risk weight $RW_{SEC\text{-}SA}$ assigned to a securitization exposure, or portion of a securitization exposure, is calculated according to the following formula:

$$RW_{SEC-SA} = \begin{cases} max(RW_{FLOOR}, 1{,}250\% \cdot K_{SEC-SA}), & K_A \leq A \\ max\left(RW_{FLOOR}, \left(\frac{K_A - A}{D - A}\right) \cdot 1{,}250\% + \left(\frac{D - K_A}{D - A}\right) \cdot 1{,}250\% \cdot K_{SEC-SA}\right), & A < K_A < D \\ 1{,}250\%, & D \leq K_A \end{cases}$$

Where:

(1) K_A is calculated under paragraph (b) of this section;

(2) A (attachment point) equals the greater of zero and the ratio, expressed as a decimal value between zero and one, of the outstanding balance of all underlying assets in the securitization minus the outstanding balance of all tranches that rank senior or *pari passu* to the tranche that contains the securitization exposure of the [BANKING ORGANIZATION] (including the exposure itself) to the outstanding balance of all underlying assets in the securitization, as adjusted in accordance with paragraph (a)(6) of this section;

(3) D (detachment point) equals the greater of zero and the ratio, expressed as a decimal value between zero and one, of the outstanding balance of all underlying assets in the securitization minus the outstanding balance of all tranches that rank senior to the tranche that contains the securitization exposure of the [BANKING ORGANIZATION] to the outstanding balance of all underlying assets in the securitization, as adjusted in accordance with paragraph (a)(6) of this section;

(4) RW_{FLOOR} equals 100 percent for resecuritization exposures and NPL securitization exposures and 15 percent for all other securitization exposures; and

(5) K_{SEC-SA} is calculated according to the following formula:

$$K_{SEC-SA} = \frac{e^{a \cdot u} - e^{a \cdot l}}{a \cdot (u - l)}$$

Where:

(i) α equals $-1/(p*K_A)$ (as K_A is defined in this paragraph (a)), where p equals 1.5 for a resecuritization exposure and 1 for all other securitization exposures;

(ii) u equals $D - K_A$ (as D and K_A are defined in this paragraph (a));

(iii) l equals $max(A - K_A, 0)$ (as A and K_A are defined in this paragraph (a)); and

(iv) e equals the base of the natural logarithm.

(6) A [BANKING ORGANIZATION] must include in the calculation of A and D the funded portion of any reserve account funded by the accumulated cash flows from the underlying exposures that is subordinated to the [BANKING ORGANIZATION]'s securitization exposure. Interest rate derivative contracts, exchange rate derivative contracts, and cash collateral accounts related to these contracts must not be included in the calculation of A and D. If the securitization exposure includes a nonrefundable purchase price discount, the nonrefundable purchase price discount must be included in the numerator and denominator of A and D.

(b) *Calculation of* K_A. K_A is calculated under this paragraph (b) according to the following formula:

$$K_A = (1 - W) \cdot K_G + (W \cdot 0.5)$$

Where:

(1) W equals the ratio, expressed as a decimal value between zero and one, of the sum of the outstanding balance of any underlying exposures of the securitization that are not securitization exposures and that meet any of the criteria in paragraphs (b)(1)(i) through (vi) of this section to the outstanding balance of all underlying exposures:

(i) Ninety days or more past due;

(ii) Subject to a bankruptcy or insolvency proceeding;

(iii) In the process of foreclosure;

(iv) Held as real estate owned;

(v) Has contractually deferred payments for 90 days or more, other than principal or interest payments deferred on:

(A) Federally guaranteed student loans, in accordance with the terms of those guarantee programs; or

(B) Consumer loans, including non-federally-guaranteed student loans, provided that such payments are deferred pursuant to provisions included in the contract at the time funds are disbursed that provide for period(s) of deferral that are not initiated based on changes in the creditworthiness of the borrower; or

(vi) Is in default; and

(2) K_G equals the weighted average (with the outstanding balance used as the weight for each exposure) total capital requirement, expressed as a decimal value between zero and one, of the underlying exposures calculated using this subpart E (that is, an average risk weight of 100 percent represents a value of K_G equal to 0.08), as adjusted in accordance with paragraphs (b)(2)(i) and (ii) of this section.

(i) For interest rate derivative contracts and exchange rate derivative contracts, the positive current exposure times the risk weight of the counterparty multiplied by 0.08 must be included in the numerator of K_G but must be excluded from the denominator of K_G.

(ii) If a [BANKING ORGANIZATION] transfers credit risk via a synthetic securitization to a securitization SPE and if the securitization SPE issues funded obligations to investors, the [BANKING ORGANIZATION] must include the total capital requirement (exposure amount multiplied by risk weight multiplied by 0.08) of any collateral held by the securitization SPE in the numerator of K_G. The denominator of K_G is calculated without recognition of the collateral.

§ __.134 Recognition of credit risk mitigants for securitization exposures.

(a) *General.* (1) An originating [BANKING ORGANIZATION] that has obtained a credit risk mitigant to hedge its exposure to a synthetic or traditional securitization that satisfies the operational criteria provided in § __.130 may recognize the credit risk mitigant under § __.120 or § __.121, but only as provided in this section.

(2) An investing [BANKING ORGANIZATION] that has obtained a credit risk mitigant to hedge a securitization exposure may recognize the credit risk mitigant under § __.120 or § __.121, but only as provided in this section.

(3) If the recognized credit risk mitigant hedges a portion of the [BANKING ORGANIZATION]'s securitization exposure, the [BANKING ORGANIZATION] must calculate its capital requirements for the hedged and unhedged portions of the exposure separately. For each unhedged portion, the [BANKING ORGANIZATION] must calculate capital requirements according to § __.131 and § __.132. For each hedged portion, the [BANKING ORGANIZATION] may recognize the credit risk mitigant under § __.120 or § __.121, but only as provided in this section.

(4) When a [BANKING ORGANIZATION] purchases or sells credit protection on a portion of a senior tranche, the lower-priority portion, whether hedged or unhedged, must be considered a non-senior securitization exposure.

(b) *Mismatches*. A [BANKING ORGANIZATION] must make any applicable adjustment to the protection amount as required in § __.120 for any hedged securitization exposure. In the context of a synthetic securitization, when an eligible guarantee, eligible credit derivative, or a credit risk mitigant described in § __.130(b)(1)(ii) or (iii) covers multiple hedged exposures that have different residual maturities, the [BANKING ORGANIZATION] must use the longest residual maturity of any of the hedged exposures as the residual maturity of all hedged exposures.

Risk-Weighted Assets for Equity Exposures

§ __.140 Introduction and exposure measurement.

(a) *General.* (1) To calculate its risk-weighted asset amounts for equity exposures that are not equity exposures in investment funds, a [BANKING ORGANIZATION] must use the approach provided in § __.141. A [BANKING ORGANIZATION] must use the approaches provided in § __.142 to calculate its risk-weighted asset amounts for other equity exposures as provided in § __.142.

(2) A [BANKING ORGANIZATION] must treat an investment in a separate account (as defined in § __.2) as if it were an equity exposure subject to § __.142.

(3) *Stable value protection*—(i) *Stable value protection* means a contract where the provider of the contract is obligated to pay:

(A) The policy owner of a separate account an amount equal to the shortfall between the fair value and cost basis of the separate account when the policy owner of the separate account surrenders the policy; or

(B) The beneficiary of the contract an amount equal to the shortfall between the fair value and book value of a specified portfolio of assets.

(ii) A [BANKING ORGANIZATION] that purchases stable value protection on its investment in a separate account must treat the portion of the carrying value of its investment in the separate account attributable to the stable value protection as an exposure to the provider of the protection and the remaining portion of the carrying value of its separate account as an equity exposure subject to § __.142.

(iii) A [BANKING ORGANIZATION] that provides stable value protection must treat the exposure as an equity derivative with an adjusted carrying value determined as the sum of paragraphs (b)(1) and (2) of this section.

(b) *Adjusted carrying value.* For purposes of § __.140 through __.142, the adjusted carrying value of an equity exposure is:

(1) For the on-balance sheet component of an equity exposure, the [BANKING ORGANIZATION]'s carrying value of the exposure;

(2) For the off-balance sheet component of an equity exposure that is not an equity commitment, the effective notional principal amount of the exposure, the size of which is equivalent to a hypothetical on-balance sheet position in the underlying equity instrument that would evidence the same change in fair value (measured in dollars) given a small change in the price of the underlying equity instrument, minus the adjusted carrying value of the on-balance sheet component of the exposure as calculated in paragraph (b)(1) of this section; and

(3) For a commitment to acquire an equity exposure (an equity commitment), the effective notional principal amount of the exposure is multiplied by the following conversion factors (CFs):

(i) Conditional equity commitments receive a 40 percent conversion factor.

(ii) Unconditional equity commitments receive a 100 percent conversion factor.

§__.141 Expanded simple risk-weight approach (ESRWA).

(a) *General.* A [BANKING ORGANIZATION]'s total risk-weighted assets for equity exposures equals the sum of the risk-weighted asset amounts for each of the [BANKING ORGANIZATION]'s equity exposures that are not equity exposures subject to § __.142, as determined under this section, and the risk-weighted asset amounts for each of the [BANKING ORGANIZATION]'s equity exposures subject to § __.142, as determined under § __.142.

(b) *Computation for individual equity exposures.* A [BANKING ORGANIZATION] must determine the risk-weighted asset amount for an equity exposure that is not an equity exposure subject to § __.142 by multiplying the adjusted carrying value of the exposure by the lowest applicable risk weight in this paragraph (b).

(1) *Zero percent risk weight equity exposures.* An equity exposure to a sovereign, the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the European Stability Mechanism, the European Financial Stability Facility, an MDB, and any other entity whose credit exposures receive a zero percent risk weight under § __.111 may be assigned a zero percent risk weight.

(2) *20 percent risk weight equity exposures.* An equity exposure to a PSE, Federal Home Loan Bank, or the Federal Agricultural Mortgage Corporation (Farmer Mac) must be assigned a 20 percent risk weight.

(3) *100 percent risk weight.* The equity exposures set forth in this paragraph (b)(3) must be assigned a 100 percent risk weight:

(i) An equity exposure that qualifies as a community development investment under section 24 (Eleventh) of the National Bank Act; and

(ii) An equity exposure to an unconsolidated small business investment company or held through a consolidated small business investment company described in section 302 of the Small Business Investment Act.

(4) *250 percent risk weight.* The equity exposures set forth in this paragraph (b)(4) must be assigned a 250 percent risk weight:

(i) An equity exposure that is publicly traded;

(ii) Significant investments in the capital of unconsolidated financial institutions in the form of common stock that are not deducted from capital pursuant to § __.22(d)(2); and

(iii) Exposures that hedge equity exposures described in paragraph (b)(4)(ii) of this section.

(5) *400 percent risk weight*. An equity exposure that is not publicly traded and is not described in paragraph (b)(6) of this section, must be assigned a 400 percent risk weight.

(6) *1250 percent risk weight*. An equity exposure to an investment firm must be assigned a 1250 percent risk weight, provided that the investment firm:

(i) Would meet the definition of a *traditional securitization* were it not for the application of paragraph (8) of that definition; and

(ii) Has greater than immaterial leverage.

§__.142 Equity exposures to investment funds.

(a) *Available approaches.* A [BANKING ORGANIZATION] must determine the risk-weighted asset amount of an equity exposure to an investment fund as described in this paragraph (a).

(1) If a [BANKING ORGANIZATION] has information from the investment fund regarding the underlying exposures held by the investment fund that is verified by an independent third party at least quarterly and that is sufficient to calculate the risk-weighted asset amount for each underlying exposure as calculated under this subpart as if each exposure were held directly by the [BANKING ORGANIZATION], the [BANKING ORGANIZATION] must use the full look-through approach described in paragraph (b) of this section.

(2) If a [BANKING ORGANIZATION] does not have information sufficient to use the full look-through approach under paragraph (b) of this section but does have information sufficient to use the alternative modified look-through approach described in paragraph (c) of this section, the [BANKING ORGANIZATION] must use the alternative modified look-through approach described in paragraph (c) of this section.

(3) If a [BANKING ORGANIZATION] does not have sufficient information to use either the full look-through approach described in paragraph (b) of this section or the alternative modified look-through approach described in paragraph (c) of this section, the [BANKING ORGANIZATION] must assign a risk-weighted asset amount equal to the adjusted carrying value of the equity exposure multiplied by a 1,250 percent risk weight.

(4) In order to determine a risk-weighted asset amount for a securitization exposure held by an investment fund, for purposes of either the full look-through approach described in paragraph (b) of this section or the alternative modified look-through approach described in paragraph (c) of this section, the [BANKING ORGANIZATION] must use the approach described in paragraph (d) of this section.

(5) In order to determine a risk-weighted asset amount for an equity investment in an investment fund held by another investment fund, for purposes of either the full look-through

approach described in paragraph (b) of this section or the alternative modified look-through approach described in paragraph (c) of this section, the [BANKING ORGANIZATION] must use the approach described in paragraph (e) of this section.

(b) *Full look-through approach.* Under the full look-through approach, the risk-weighted asset amount for an equity exposure to an investment fund is equal to the adjusted carrying value multiplied by the risk weight (RW_{IF}), which equals:

$$RW_{IF} = min\left(max\left(\left(\frac{RWA_{on}+RWA_{off}+RWA_{derivatives}}{Total\ Assets_{IF}}\right) * \left(\frac{Total\ Assets_{IF}}{Total\ Equity_{IF}}\right), 20\%\right), 1250\%\right)$$

Where,

(1) RWA_{on} is the aggregate risk-weighted asset amount of the on-balance sheet exposures of the investment fund determined under this subpart E as if each exposure were held directly on balance sheet by the [BANKING ORGANIZATION];

(2) RWA_{off} is the aggregate risk-weighted asset amount of the off-balance sheet exposures of the investment fund, determined as the sum of the exposure amount determined under § __.112 multiplied by the applicable risk weight under this subpart E, for each exposure, as if each exposure were held off-balance sheet under the same terms by the [BANKING ORGANIZATION];

(3) $RWA_{derivatives}$ is the aggregate risk-weighted asset amount of the derivative contracts held by the investment fund, determined as the sum of the exposure amount determined under § __.113 multiplied by the risk weight applicable to the counterparty under § __.111 of this subpart for each netting set, as if each derivative contract were held directly by the [BANKING ORGANIZATION], subject to the following conditions:

(i) If the [BANKING ORGANIZATION] cannot determine which netting set a derivative contract is part of, the [BANKING ORGANIZATION] must treat the derivative contract as constituting its own netting set;

(ii) If the [BANKING ORGANIZATION] cannot determine replacement cost under § __.113, the [BANKING ORGANIZATION] must assume that replacement cost is equal to the notional amount of each derivative contract and use a PFE multiplier under § __.113 equal to one;

(iii) If the [BANKING ORGANIZATION] cannot determine potential future exposure under § __.113, the [BANKING ORGANIZATION] must assume that potential future exposure is equal to 15 percent of the notional amount of each derivative contract;

(iv) If the [BANKING ORGANIZATION] cannot determine whether the counterparty is a commercial end-user, the [BANKING ORGANIZATION] must assume that the counterparty is not a commercial end-user;

(v) If the derivative contract is a CVA risk covered position or the [BANKING ORGANIZATION] cannot determine that a derivative contract is not a CVA risk covered position as defined in § __.201, the [BANKING ORGANIZATION] must multiply the exposure amount by 1.5; and

(vi) If the [BANKING ORGANIZATION] cannot determine the risk-weight of the counterparty under § __.111, the [BANKING ORGANIZATION] must apply a risk-weight of 100 percent;

(4) $Total\ Assets_{IF}$ is the balance sheet total assets of the investment fund; and

(5) $Total\ Equity_{IF}$ is the balance sheet total equity of the investment fund.

(c) *Alternative modified look-through approach.* Under the alternative modified look-through approach, the risk-weighted asset amount for an equity exposure is determined in the same way as under the full look-through approach specified in paragraph (b) of this section, with the following exceptions:

(1) To calculate RWA_{on}, a [BANKING ORGANIZATION] must assign the total assets of the investment fund on a pro rata basis to different risk weight categories under this subpart based on the investment limits in the investment fund's prospectus, partnership agreement, or similar contract that defines the investment fund investment fund's permissible investments, other than for derivatives. The risk-weighted asset amount for the [BANKING ORGANIZATION]'s equity exposure to the investment fund equals the sum of each portion of the total assets of the investment fund assigned to an exposure type multiplied by the applicable risk weight under this subpart. If the sum of the investment limits for all exposure types within the investment fund exceeds 100 percent, the [BANKING ORGANIZATION] must assume that the investment fund invests to the maximum extent permitted under its investment limits in the exposure type with the highest applicable risk weight under this subpart and continues to make investments in descending order of the exposure type with the next highest applicable risk weight under this subpart until the maximum total investment level is reached. If more than one exposure type applies to an exposure, the [BANKING ORGANIZATION] must use the highest applicable risk weight.

(2) To calculate RWA_{off}, the [BANKING ORGANIZATION] must assume that the investment fund invests to the maximum extent permitted under its investment limits in the transactions with the highest applicable credit conversion factor under § __.112 and with the highest applicable risk weight under this subpart.

(3) To calculate $RWA_{derivatives}$, the [BANKING ORGANIZATION] must assume that the investment fund has the maximum volume of derivative contracts permitted under its investment limits and must assume, notwithstanding paragraphs (b)(3)(ii) and (iii), that the replacement cost plus potential future exposure under § __.113 equals 115 percent of the notional amount.

(d) *Equity exposures to investment funds with underlying securitizations.* To determine the risk-weighted asset amount for a securitization exposure held by an investment fund, a [BANKING ORGANIZATION] must:

(1) If applying the full look-through approach under paragraph (b) of this section, apply a risk weight determined under § __.133 or a risk weight of 1,250 percent; and

(2) If applying the alternative modified look-through approach under paragraph (c) of this section, apply a 1,250 percent risk weight.

(e) *Equity exposures to an investment fund held by another investment fund.* To determine the risk-weighted asset amount for an equity exposure to an investment fund held by another investment fund, a [BANKING ORGANIZATION] must:

(1) For an equity exposure to an investment fund held directly by the investment fund to which the [BANKING ORGANIZATION] has a direct equity exposure, use the full look-through approach described in paragraph (b) of this section, the alternative modified look-through approach described in paragraph (c) of this section, or multiply the exposure amount by a 1,250 percent risk weight; and

(2) For an equity exposure to an investment fund held indirectly, through one or more additional investment funds, by the investment fund to which the [BANKING ORGANIZATION] has a direct equity exposure, multiply the exposure amount of the equity exposure to an investment fund held indirectly by a 1,250 percent risk-weight, unless the [BANKING ORGANIZATION] uses the full look-through approach described in paragraph (b) of this section to calculate the risk-weighted asset amount for the equity exposure to the investment fund that holds the equity exposure, in which case the [BANKING ORGANIZATION] may use either the full look-through approach described in paragraph (b) of this section or multiply the exposure amount by a 1,250 percent risk weight.

Risk-Weighted Assets for Operational Risk

§ __.150 Operational Risk Capital

(a) *Risk-Weighted Assets for Operational Risk.* Risk-weighted assets for operational risk equals the operational risk capital requirement multiplied by 12.5.

(b) *Operational Risk Capital Requirement.* A [BANKING ORGANIZATION]'s operational risk capital requirement equals the Business Indicator Component, as calculated pursuant to paragraph (c) of this section, multiplied by the Internal Loss Multiplier, as calculated pursuant to paragraph (e) of this section.

(c) *Business Indicator Component.* The Business Indicator Component is calculated as follows:

(1) If the [BANKING ORGANIZATION]'s Business Indicator is less than or equal to $1 billion, *Business Indicator Component* = 0.12 x *Business Indicator*.

(2) If the [BANKING ORGANIZATION]'s Business Indicator is greater than $1 billion and less than or equal to $30 billion, *Business Indicator Component* = $120 *million* + 0.15 x (*Business Indicator* - $1 *billion*).

(3) If the [BANKING ORGANIZATION]'s Business Indicator is greater than $30 billion, *Business Indicator Component* = $4.47 *billion* + 0.18 x (*Business Indicator* - $30 *billion*).

(d) *Business Indicator.* (1) A [BANKING ORGANIZATION]'s Business Indicator equals the sum of three components: the interest, lease, and dividend component; the services component; and the financial component.

(i) The interest, lease, and dividend component is calculated using the following formula:

$$\begin{aligned} &Interest, lease, and\ divided\ component \\ &\quad = min\Big(Avg_{3y}\big(Abs(total\ interest\ income \\ &\quad - total\ interest\ expense)\big), 0.0225 \cdot Avg_{3y}(interest\ earning\ assets)\Big) \\ &\quad + Avg_{3y}(dividend\ income) \end{aligned}$$

where Avg_{3y} refers to the three-year average of the expression in parenthesis; *Abs* refers to the absolute value of the expression in parenthesis; and total interest income, total interest

expense, interest earning assets, and dividend income are the amounts determined in accordance with paragraph (d)(2) of this section.

(ii) The services component is calculated using the following formula:

$$\begin{aligned}&Services\ component\\&= max\left(Avg_{3y}(fee\ and\ commission\ income), Avg_{3y}(fee\ and\ commission\ expense)\right)\\&+ max\left(Avg_{3y}(other\ operating\ income), Avg_{3y}(other\ operating\ expense)\right)\end{aligned}$$

where Avg_{3y} refers to the three-year average of the expression in parenthesis; and fee and commission income, fee and commission expense, other operating income, and other operating expense are the amounts determined in accordance with paragraph (d)(2) of this section.

(iii) The financial component is calculated using the following formula:

$$\begin{aligned}&Financial\ Component\\&= Avg_{3y}\left(Abs(trading\ revenue)\right)\\&+ Avg_{3y}\left(Abs(net\ profit\ or\ loss\ on\ assets\ and\ liabilities\ not\ held\ for\ trading)\right)\end{aligned}$$

where Avg_{3y} refers to the three-year average of the expression in parenthesis; *Abs* refers to the absolute value of the expression in parenthesis; and trading revenue and net profit or loss on assets and liabilities not held for trading are determined in accordance with paragraph (d)(2) of this section.

(2) For purposes of paragraph (d)(1) of this section, to calculate the three-year average of the Abs(total interest income – total interest expense), dividend income, fee and commission income, fee and commission expense, other operating income, other operating expense, Abs(trading revenue), and Abs(net profit or loss on assets and liabilities not held for trading), a [BANKING ORGANIZATION] must calculate the average of the values of each of these items for each of the three most recent preceding four-calendar-quarter periods. To calculate the three-year average of interest-earning assets, a [BANKING ORGANIZATION] must divide by 12 the sum of the quarterly values of interest-earning assets over each of the previous 12 quarters. For

purposes of the calculations in this paragraph, the amounts used must be based on the consolidated financial statements of the [BANKING ORGANIZATION].

(3) For purposes of paragraph (d)(1) of this section, a [BANKING ORGANIZATION] must exclude the following items from the calculation of the Business Indicator:

(i) Expenses that are not related to financial services received by the [BANKING ORGANIZATION], except when they relate to operational loss events;

(ii) Loss provisions and reversals of provisions, except for those relating to operational loss events;

(iii) Changes in goodwill; and

(iv) Applicable income taxes.

(4) For purpose of paragraph (d)(1) of this section, a [BANKING ORGANIZATION] must reflect three full years of data for entities that were acquired by or merged with the [BANKING ORGANIZATION], including for any period prior to the acquisition or merger, in the [BANKING ORGANIZATION]'s Business Indicator.

(5) With the prior approval of the [AGENCY], a [BANKING ORGANIZATION] may exclude from the calculation of its Business Indicator any interest income, interest expense, dividend income, interest-earning assets, fee and commission income, fee and commission expense, other operating income, other operating expense, trading revenue, and net profit or loss on assets and liabilities not held for trading associated with an activity if the [BANKING ORGANIZATION] has ceased to directly or indirectly conduct the activity. Approval by the [AGENCY] requires a demonstration that the activity does not carry legacy legal exposure.

(e) *Internal Loss Multiplier.* (1) A [BANKING ORGANIZATION]'s Internal Loss Multiplier is calculated using the following formula:

$$\text{Internal Loss Multiplier} = max\left\{1, ln\left(\exp(1) - 1 + \left(\frac{15\ x\ Average\ Annual\ Total\ Net\ Operational\ Losses}{Business\ Indicator\ Component}\right)^{0.8}\right)\right\}$$

where average annual total net operational losses are calculated according to paragraph (e)(2) of this section; the Business Indicator Component is calculated pursuant to paragraph (c) of this section; exp(1) is Euler's number, which is approximately equal to 2.7183; and ln is the natural logarithm.

(2) The calculation of average annual total net operational losses is as follows:

(i) Average annual total net operational losses are the average of annual total net operational losses over the previous ten years. For purposes of this calculation, the previous ten years correspond to the previous 40 quarters as of the reporting date.

(ii) The annual total net operational losses of a year equals the sum of the total net operational losses of the quarters that compose the year for purposes of the calculation in paragraph (e)(2)(i) of this section.

(iii) The total net operational losses of a quarter equal the sum of any portions of losses or recoveries of any material operational losses allocated to the quarter.

(iv) A material operational loss is an operational loss incurred by the [BANKING ORGANIZATION] that resulted in a net loss greater than or equal to $20,000 after taking into account all subsequent recoveries related to the operational loss.

(v) For purposes of this paragraph (e)(2), operational losses and recoveries must be based on the date of accounting, including for legal loss events. Reductions in the legal reserves associated with an ongoing legal event are to be treated as recoveries for the calculation of total net operational losses. Losses and recoveries related to a common operational loss event, but with accounting impacts across several quarters, must be allocated to the quarters in which the accounting impacts occur.

(vi) If a [BANKING ORGANIZATION] does not have complete operational loss event data meeting the requirements of paragraph (f)(2)(i) of this section due to a lack of appropriate operational loss event data from a merged or acquired business, the [BANKING ORGANIZATION] must calculate the annual total net operational loss contribution for each year

of missing loss data of a merged or acquired business as follows:

(A) Annual total net operational loss for a merged or acquired business that lacks loss data = Business Indicator contribution of merged or acquired business that lacks loss data * Average annual total net operational loss of the [BANKING ORGANIZATION] excluding amounts attributable to the merged or acquired business / Business Indicator of the [BANKING ORGANIZATION] excluding amounts attributable to the merged or acquired business.

(B) Where "Business Indicator contribution of merged or acquired business that lacks loss data" is the Business Indicator of the [BANKING ORGANIZATION] including the merged or acquired business that lacks loss data minus the Business Indicator of the [BANKING ORGANIZATION] excluding amounts attributable to the merged or acquired business.

(vii) Notwithstanding any other provision of paragraph (e)(2) of this section, if a [BANKING ORGANIZATION] does not have operational loss event data that meets the requirements of paragraph (f)(2)(i) of this section for the entire ten-year period described in paragraph (e)(2)(i) of this section after taking into account paragraph (e)(2)(vi), the [BANKING ORGANIZATION] must adjust the calculations under this paragraph (e) as follows:

(A) If the [BANKING ORGANIZATION] has five or more years of operational loss event data that meets the requirements of paragraph (f)(2)(i) of this section, the [BANKING ORGANIZATION] must calculate average annual total net operational losses using only the data that meets the requirements of paragraph (f)(2)(i) of this section.

(B) If the [BANKING ORGANIZATION] has less than five years of operational loss event data that meets the requirements in paragraph (f)(2)(i) of this section, the [BANKING ORGANIZATION] must set the Internal Loss Multiplier to one.

(3) Notwithstanding paragraph (e)(2) of this section:

(i) A [BANKING ORGANIZATION] may request approval from the [AGENCY] to exclude from the [BANKING ORGANIZATION]'s operational loss events associated with an activity that the [BANKING ORGANIZATION] has ceased to directly or indirectly conduct

from the calculation of annual total net operational losses. Approval by the [AGENCY] of the exclusion of operational loss events relating to legal risk requires a demonstration that the activity does not carry legacy legal exposure.

(ii) A [BANKING ORGANIZATION] may request the [AGENCY] to exclude operational loss events that are no longer relevant to the [BANKING ORGANIZATION]'s risk profile from the calculation of annual total operational losses. To justify such exclusion, the [BANKING ORGANIZATION] must provide adequate justification for why the operational loss events are no longer relevant to its risk profile. In order to be eligible for exclusion under this paragraph, an operational loss event must have been included in the calculation of the [BANKING ORGANIZATION]'s average annual total net operational losses for at least the prior 12 quarters.

(iii) A [BANKING ORGANIZATION] may not request exclusion of operational loss events under paragraph (e)(3)(i) or (ii) of this section unless the operational loss events represent a total net operational loss amount equal to five percent or more of average annual total net operational losses prior to the requested exclusion.

(f) *Operational Risk Management and Operational Loss Event Data Collection Processes*. (1) A [BANKING ORGANIZATION] must:

(i) Have an operational risk management function that:

(A) Is independent of business line management; and

(B) Is responsible for designing, implementing, and overseeing the [BANKING ORGANIZATION]'s internal loss event data collection processes as specified in paragraph (f)(2) and for overseeing the processes that implement paragraphs (f)(1)(ii) and (f)(1)(iii) of this section;

(ii) Have and document a process to identify, measure, monitor, and control operational risk in the [BANKING ORGANIZATION]'s products, activities, processes, and systems; and

(iii) Report operational loss events and other relevant operational risk information to

business unit management, senior management, and the board of directors (or a designated committee of the board).

(2) A [BANKING ORGANIZATION] must have operational loss event data collection processes that meet the following requirements:

(i) The processes must produce operational loss event data that satisfies the following criteria:

(A) Operational loss event data must be comprehensive and capture all operational loss events that resulted in operational losses equal to or higher than $20,000 (before any recoveries are taken into account) from all activities and exposures of the [BANKING ORGANIZATION];

(B) Operational loss event data must include operational loss event data relative to entities that have been acquired by or merged with the [BANKING ORGANIZATION] for ten full years, including for any period prior to the acquisition or merger during the ten-year period; and

(C) Operational loss event data must include gross operational loss amounts, recovery amounts, the date when the event occurred or began ("occurrence date"), the date when the [BANKING ORGANIZATION] became aware of the event ("discovery date"), and the date (or dates) when losses or recoveries related to the event were recognized in the [BANKING ORGANIZATION]'s profit and loss accounts ("accounting date"). The [BANKING ORGANIZATION] must be able to map its operational loss event data into the seven operational loss event type categories. In addition, the [BANKING ORGANIZATION] must collect descriptive information about the drivers of operational loss events.

(ii) Procedures for the identification and collection of internal loss event data must be documented.

(iii) The [BANKING ORGANIZATION] must have processes to independently review the comprehensiveness and accuracy of operational loss event data.

(iv) The [BANKING ORGANIZATION] must subject the procedures in paragraph

(f)(2)(ii) of this section and the processes in (f)(2)(iii) of this section to regular independent reviews by internal or external audit functions.

Disclosures

§ __.160 Purpose and scope.

Sections __.160 through __.162 of this part establish public disclosure requirements related to the capital requirements for a [BANKING ORGANIZATION] subject to subpart E of this part, unless the [BANKING ORGANIZATION] is a consolidated subsidiary of a bank holding company, savings and loan holding company, or depository institution that is subject to these disclosure requirements, or a subsidiary of a non-U.S. banking organization that is subject to comparable public disclosure requirements in its home jurisdiction.

§ __.161 Disclosure requirements.

(a) A [BANKING ORGANIZATION] described in § __.160 must provide timely public disclosures each calendar quarter of the information in the applicable tables in § __.162. If a significant change occurs to the information required to be reported in the applicable tables in § __.162 or to the [BANKING ORGANIZATION]'s financial condition as reported on the Call Report, for a [bank]; FR Y-9C, for a bank holding company or savings and loan holding company; or FFIEC 101, as applicable, then a brief discussion of this change and its likely impact must be disclosed as soon as practicable thereafter. Qualitative disclosures that typically do not change each quarter (for example, a general summary of the [BANKING ORGANIZATION]'s risk management objectives and policies, reporting system, and definitions) may be disclosed annually after the end of the fourth calendar quarter, provided that any significant changes are disclosed in the interim. The [BANKING ORGANIZATION]'s management may provide all of the disclosures required by § __.162 in one place on the [BANKING ORGANIZATION]'s public Web site or may provide the disclosures in more than one public financial report or other regulatory report. If the [BANKING ORGANIZATION] does not provide all of the disclosures as required by § __.162 in one place on the [BANKING

ORGANIZATION]'s public Web site, the [BANKING ORGANIZATION] must provide a summary table specifically indicating the location(s) of all such disclosures on the [BANKING ORGANIZATION]'s public Web site.

(b) A [BANKING ORGANIZATION] described in § __.160 must have a formal disclosure policy approved by the board of directors that addresses its approach for determining the disclosures it makes. The policy must address the associated internal controls and disclosure controls and procedures. The board of directors and senior management are responsible for establishing and maintaining an effective internal control structure over financial reporting, including the disclosures required by this subpart, and must ensure that appropriate review of the disclosures takes place. One or more senior officers of the [BANKING ORGANIZATION] must attest that the disclosures meet the requirements of this subpart.

(c) If a [BANKING ORGANIZATION] described in § __.160 reasonably concludes that specific commercial or financial information that it would otherwise be required to disclose under this section would be exempt from disclosure by the [AGENCY] under the Freedom of Information Act (5 U.S.C. 552), then the [BANKING ORGANIZATION] is not required to disclose that specific information pursuant to this section. However, the [BANKING ORGANIZATION] must disclose more general information about the subject matter of the requirement, together with the fact that, and the reason why, the specific items of information have not been disclosed.

§ __.162 Disclosures by [BANKING ORGANIZATION] described in § __.160.

(a) *General disclosures*. Except as provided in § __.161, a [BANKING ORGANIZATION] described in § __.160 must make the disclosures described in tables 1 through 15 of this section. The [BANKING ORGANIZATION] must make these disclosures publicly available for each of the last twelve quarters, or such shorter period beginning in the quarter in which the [BANKING ORGANIZATION] becomes subject to subpart E of this part.

TABLE 1 TO § __.162—Scope of Application

Qualitative Disclosures	(a)	The name of the top corporate entity in the group to which subpart E of this part applies.
	(b)	A brief description of the differences in the basis for consolidating entities[1] for accounting and regulatory purposes, with a description of those entities:
		(1) That are fully consolidated;
		(2) That are deconsolidated and deducted from total capital;
		(3) For which the total capital requirement is deducted; and
		(4) That are neither consolidated nor deducted (for example, where the investment in the entity is assigned a risk weight in accordance with this subpart).
	(c)	Any restrictions, or other major impediments, on transfer of funds or total capital within the group.
	(d)	The aggregate amount of surplus capital of insurance subsidiaries included in the total capital of the consolidated group.

[1] Entities include securities, insurance, and other financial subsidiaries; commercial subsidiaries (where permitted); and significant minority equity investments in insurance, financial, and commercial entities.

Table 2 to § __.162—Capital Structure

Qualitative Disclosures	(a)	Summary information on the terms and conditions of the main features of all regulatory capital instruments.

Table 3 to § __.162—Capital Adequacy

Qualitative disclosures	(a)	A summary discussion of the [BANKING ORGANIZATION]'s approach to assessing the adequacy of its capital to support current and future activities.

Table 4 to § __.162—Countercyclical Capital Buffer

Qualitative disclosures	(a)	The [BANKING ORGANIZATION] must publicly disclose the geographic breakdown of its private sector credit exposures used in the calculation of the countercyclical capital buffer.

(b) *Risk management-related disclosure requirements*. (1) The [BANKING ORGANIZATION] must describe its risk management objectives and policies for the organization overall, in particular:

(i) How the business model determines and interacts with the overall risk profile (e.g., the key risks related to the business model and how each of these risks is reflected and described in the risk disclosures) and how the risk profile of the [BANKING ORGANIZATION] interacts with the risk tolerance approved by the board;

(ii) The risk governance structure, including: responsibilities attributed throughout the [BANKING ORGANIZATION] (e.g., oversight and delegation of authority; breakdown of responsibilities by type of risk, business unit, etc.); and relationships between the structures involved in risk management processes (e.g., board of directors, executive management, separate risk committee, risk management structure, compliance function, internal audit function);

(iii) Channels to communicate, define, and enforce the risk culture within the [BANKING ORGANIZATION] (e.g., code of conduct; manuals containing operating limits or procedures to treat violations or breaches of risk thresholds; procedures to raise and share risk issues between business lines and risk functions);

(iv) The scope and nature of risk reporting and/or measurement systems;

(v) Description of the process of risk information reporting provided to the board and senior management, in particular the scope and main content of reporting on risk exposure;

(vi) Qualitative information on stress testing (e.g., portfolios subject to stress testing, scenarios adopted and methodologies used, and use of stress testing in risk management); and

(vii) The strategies and processes to manage, hedge, and mitigate risks that arise from the [BANKING ORGANIZATION]'s business model, and the processes for monitoring the continuing effectiveness of hedges and mitigants.

(2) For each separate risk area that is the subject of Tables 5 through 14 of § __.162, the [BANKING ORGANIZATION] must describe its risk management objectives and policies, including:

(i) The strategies and processes;

(ii) The structure and organization of the relevant risk management function;

(iii) The scope and nature of risk reporting and/or measurement systems; and

(iv) Policies for hedging and/or mitigating risk and strategies and processes for monitoring the continuing effectiveness of hedges/mitigants.

Table 5 to § __.162[1]—Credit Risk: General Disclosures

Qualitative Disclosures	(a)	The general qualitative disclosure requirement with respect to credit risk (excluding counterparty credit risk disclosed in accordance with Table 6), including the:
		(1) Policy for determining past due or delinquency status;
		(2) Policy for placing loans on nonaccrual;
		(3) Policy for returning loans to accrual status;
		(4) Definition of and policy for identifying impaired loans (for financial accounting purposes);
		(5) Description of the methodology that the [BANKING ORGANIZATION] uses to estimate its adjusted allowance for credit losses, as applicable, including statistical methods used where applicable;
		(6) Policy for charging-off uncollectible amounts; and
		(7) Discussion of the [BANKING ORGANIZATION]'s credit risk management policy.
	(b)	The [BANKING ORGANIZATION] must describe its risk management objectives and policies for credit risk, focusing in particular on:
		(1) How the business model translates into the components of the [BANKING ORGANIZATION]'s credit risk profile;
		(2) Criteria and approach used for defining credit risk management policy and for setting credit risk limits;
		(3) Structure and organization of the credit risk management and control function;
		(4) Relationships between the credit risk management, risk control, compliance, and internal audit functions; and
		(5) Scope and main content of the reporting on credit risk exposure and on the credit risk management function to executive management and the board of directors.

[1]Table 5 does not cover equity exposures, which should be reported in table 9.

Table 6 to § __.162—General Disclosure for Counterparty Credit Risk-Related Exposures

Qualitative Disclosures	(a)	The general qualitative disclosure requirement with respect to OTC derivatives, eligible margin loans, and repo-style transactions, including a discussion of:
		(1) The methodology used to assign economic capital and credit limits for counterparty credit exposures;
		(2) Policies for securing collateral, valuing and managing collateral, and establishing credit reserves;
		(3) The primary types of collateral taken;
		(4) The policies with respect to wrong-way risk exposures; and
		(5) The impact of the amount of collateral the [BANKING ORGANIZATION] would have to provide given a deterioration in the [BANKING ORGANIZATION]'s own creditworthiness.
	(b)	The [BANKING ORGANIZATION] must provide risk management objectives and policies related to counterparty credit risk, including:

		(1) The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures;
		(2) Policies relating to guarantees and other risk mitigants and assessments concerning counterparty risk, including exposures towards CCPs;
		(3) Policies with respect to wrong-way risk exposures; and
		(4) The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade.

Table 7 to § __.162—Credit Risk Mitigation[1, 2]

Qualitative Disclosures	(a)	The general qualitative disclosure requirement with respect to credit risk mitigation, including: (1) Policies and processes for, and an indication of the extent to which the [BANKING ORGANIZATION] uses, on- or off-balance sheet netting;
		(2) Policies and processes for collateral valuation and management;
		(3) A description of the main types of collateral taken by the [BANKING ORGANIZATION];
		(4) Information about (market or credit) risk concentrations with respect to credit risk mitigation; and
		(5) A meaningful breakdown of its credit derivative providers, including a breakdown by rating class or by type of counterparty (e.g., banks, other financial institutions, non-financial institutions).

[1] At a minimum, a [BANKING ORGANIZATION] must provide the disclosures in table 7 in relation to credit risk mitigation that has been recognized for the purposes of reducing capital requirements under this subpart. Where relevant, a [BANKING ORGANIZATION] is encouraged to give further information about mitigants that have not been recognized for that purpose.

[2] Credit derivatives that are treated, for the purposes of this subpart, as synthetic securitization exposures should be excluded from the credit risk mitigation disclosures and included within those relating to securitization (Table 8 to § __.162).

Table 8 to § __.162—Securitization

Qualitative Disclosures	(a)	The general qualitative disclosure requirement with respect to a securitization (including synthetic securitizations), including a discussion of:
		(1) The [BANKING ORGANIZATION]'s objectives for securitizing assets, including the extent to which these activities transfer credit risk of the underlying exposures away from the [BANKING ORGANIZATION] to other entities and including the type of risks assumed and retained with resecuritization activity;[1]
		(2) The nature of the risks (e.g., liquidity risk) inherent in the securitized assets;

		(3) The roles played by the [BANKING ORGANIZATION] in the securitization process[2] and an indication of the extent of the [BANKING ORGANIZATION]'s involvement in each of them;
		(4) The processes in place to monitor changes in the credit and market risk of securitization exposures, including how those processes differ for resecuritization exposures;
		(5) The [BANKING ORGANIZATION]'s policy for mitigating the credit risk retained through securitization and resecuritization exposures; and
		(6) The risk-based capital approaches that the [BANKING ORGANIZATION] follows for its securitization exposures including the type of securitization exposure to which each approach applies.
	(b)	A list of:
		(1) The type of securitization SPEs that the [BANKING ORGANIZATION], as sponsor, uses to securitize third-party exposures. The [BANKING ORGANIZATION] must indicate whether it has exposure to these SPEs, either on- or off-balance sheet;
		(2) Entities to which the [BANKING ORGANIZATION] provides implicit support and the associated capital impact for each of them (as required in § __.130(e)); and
		(3) Affiliated entities:
		(i) That the [BANKING ORGANIZATION] manages or advises; and
		(ii) That invest either in the securitization exposures that the [BANKING ORGANIZATION] has securitized or in securitization SPEs that the [BANKING ORGANIZATION] sponsors.[3]
	(c)	Summary of the [BANKING ORGANIZATION]'s accounting policies for securitization activities, including:
		(1) Whether the transactions are treated as sales or financings;
		(2) Recognition of gain-on-sale;
		(3) Methods and key assumptions applied in valuing retained or purchased interests;
		(4) Changes in methods and key assumptions from the previous period for valuing retained interests and impact of the changes;
		(5) Treatment of synthetic securitizations;
		(6) How exposures intended to be securitized are valued and whether they are recorded under subpart E of this part; and
		(7) Policies for recognizing liabilities on the balance sheet for arrangements that could require the [BANKING ORGANIZATION] to provide financial support for securitized assets.
	(d)	If a [BANKING ORGANIZATION] provides support to a securitization as described in section __.132(e), disclosure indicating:
		(1) That it has provided implicit support to the securitization; and
		(2) The risk-based capital impact to the [BANKING ORGANIZATION] of providing such implicit support.

[1]The [BANKING ORGANIZATION] should describe the structure of resecuritizations in which it participates; this description should be provided for the main categories of resecuritization products in which the [BANKING ORGANIZATION] is active.

[2]For example, these roles may include originator, investor, servicer, provider of credit enhancement, sponsor, liquidity provider, or swap provider.

[3]Such affiliated entities may include, for example, money market funds, to be listed individually, and personal and private trusts, to be noted collectively.

Table 9 to § __.162—Equities Not Subject to Subpart F of This Part

Qualitative Disclosures	(a)	The general qualitative disclosure requirement with respect to equity risk for equities not subject to subpart F of this part, including:
		(1) Differentiation between holdings on which capital gains are expected and those taken under other objectives including for relationship and strategic reasons; and
		(2) Discussion of important policies covering the valuation of and accounting for equity holdings not subject to subpart F of this part. This includes the accounting techniques and valuation methodologies used, including key assumptions and practices affecting valuation as well as significant changes in these practices.

Table 10 to § __.162—Interest Rate Risk for Non-Trading Activities

Qualitative disclosures	(a)	The general qualitative disclosure requirement, including the nature of interest rate risk for non-trading activities and key assumptions, including assumptions regarding loan prepayments and behavior of non-maturity deposits, and frequency of measurement of interest rate risk for non-trading activities.

Table 11 to § __.162—Additional Disclosure Related to the Credit Quality of Assets

Qualitative Disclosures		The [BANKING ORGANIZATION] must provide the following disclosures:
	(a)	The scope of exposures that qualify as "past due" for accounting purposes and the differences, if any, between the scope of exposures treated as past due for accounting and those treated as past due for regulatory capital purposes.
	(b)	The scope of exposures that qualify as "defaulted exposures" or "defaulted real estate exposures" that are not exposures for which credit losses are measured under ASC Topic 326 and for which the [BANKING ORGANIZATION] has recorded a partial write-off/write-down.
	(c)	The scope of exposures that qualify as "loan modification to borrowers experiencing financial difficulty" for accounting purposes and the differences, if any, between the scope of exposures treated as "defaulted exposures" or "defaulted real estate exposures" due to the [BANKING ORGANIZATION] having agreed to a distressed restructuring of the exposure for regulatory capital purposes.

Table 12 to § __.162—General Qualitative Disclosure Requirements Related To CVA

Qualitative Disclosures		The [BANKING ORGANIZATION] must describe its risk management objectives and policies for CVA risk as follows:
	(a)	An explanation and/or a description of the [BANKING ORGANIZATION]'s processes implemented to identify, measure, monitor and control the [BANKING ORGANIZATION]'s CVA risks, including policies for hedging CVA risk and the processes for monitoring the continuing effectiveness of hedges.

Table 13 to § __.162—Qualitative Disclosures for Banks Using the SA-CVA

Qualitative Disclosures		The [BANKING ORGANIZATION] must provide the following information on its CVA risk management framework:
	(a)	A description of the [BANKING ORGANIZATION]'s CVA risk management framework.
	(b)	A description of how senior management is involved in the CVA risk management framework.
	(c)	An overview of the governance of the CVA risk management framework (e.g., documentation, independent risk control unit, independent review, independence of the data acquisition from the lines of business).

Table 14 to § __.162—General Qualitative Information on a [BANKING ORGANIZATION]'S Operational Risk Framework

Qualitative Disclosures		The [BANKING ORGANIZATION] must describe:
	(a)	Its policies, frameworks, and guidelines for the management of operational risk;
	(b)	The structure and organization of its operational risk management and control function;
	(c)	The systems and data used to calculate the operational risk capital requirement;
	(d)	The scope and context of its reporting framework on operational risk to executive management and to the board of directors; and
	(e)	The risk mitigation and risk transfer used in the management of operational risk. This includes mitigation by policy, including the policies on risk culture, risk appetite, and outsourcing, by divesting from high-risk businesses, and by the establishment of controls.

(c) *Regulatory capital instrument and other instruments eligible for total loss absorbing capacity (TLAC) disclosures.* (1) A [BANKING ORGANIZATION] described in § __.160 must provide a description of the main features of its regulatory capital instruments, in accordance with Table 15 of this section. If the [BANKING ORGANIZATION] issues or repays a capital instrument, or in the event of a redemption, conversion, write down, or other material change in the nature of an existing instrument, but in no event less frequently than semiannually, the [BANKING ORGANIZATION] must update the disclosures provided in accordance with Table 15 of this section. A [BANKING ORGANIZATION] also must disclose the full terms and conditions of all instruments included in regulatory capital.

(2) In addition to the disclosure requirement in § __.162(c)(1), a [BANKING ORGANIZATION] that is a global systemically important BHC also must provide a description

of the main features of each eligible debt security, as defined in 12 CFR 252.61, that the [BANKING ORGANIZATION] has issued and outstanding, in accordance with Table 15 of this section. If the global systemically important BHC issues or repays an eligible debt security, or in the event of a redemption, conversion, write down, or other material change in the nature of an existing instrument, but in no event less frequently than semiannually, the global systemically important BHC must update the disclosures provided in accordance with Table 15 of this section. A global systemically important BHC also must disclose the full terms and conditions of all eligible debt securities.

Table 15 to § __.162—Main Features of Regulatory Capital Instruments and of Other TLAC-Eligible Instruments

Qualitative Disclosures	(a)	For each regulatory capital instrument and any other instrument that is an eligible debt security as defined in 12 CFR 252.61, the [BANKING ORGANIZATION] must provide the following information:
		(1) The issuer's legal entity.
		(2) The unique identifier.
		(3) The governing law(s) of the instrument.
		(4) The regulatory capital treatment.
		(5) The level(s) within the [BANKING ORGANIZATION] at which the instrument is included in capital.
		(6) The instrument type.
		(7) The amount recognized in regulatory capital.
		(8) The par value of the instrument.
		(9) The accounting classification as debt or equity.
		(10) The original date of issuance.
		(11) Whether perpetual or dated.
		(12) The original maturity date.
		(13) Whether an issuer call option subject to prior supervisory approval exists.
		(14) For an instrument with an issuer call option: (i) the first date of call if the instrument has a call option on a specific date (day, month, and year); (ii) the instrument has a tax and/or regulatory event call; and (iii) the redemption price.
		(15) Whether there are subsequent call option dates and, if so, their frequency.
		(16) Whether the coupon or dividend is fixed over the life of the instrument, floating over the life of the instrument, currently fixed but will move to a floating rate in the future, or currently floating but will move to a fixed rate in the future.
		(17) The coupon rate of the instrument and any related index that the coupon or dividend rate references.
		(18) Whether the non-payment of a coupon or dividend on the instrument prohibits the payment of dividends on common shares.
		(19) Whether the issuer has full, partial, or no discretion over whether a coupon or dividend is paid.
		(20) Whether there is a step-up or other incentive to redeem.

		(21) Whether the dividends or coupons are cumulative or non-cumulative.
		(22) Whether the instrument is convertible or non-convertible.
		(23) If the instrument is convertible, the conditions under which the instrument will convert, including point of non-viability. Where one or more authorities have the ability to trigger conversion, the authorities should be listed. For each of the authorities, state whether the legal basis for the authority to trigger conversion is provided by the terms of the contract of the instrument (a contractual approach) or statutory means (a statutory approach).
		(24) If the instrument is convertible, whether the instrument will: (i) always convert fully; (ii) may convert fully or partially; or (iii) will always convert partially.
		(25) If the instrument is convertible, the rate of conversion into the more loss-absorbent instrument.
		(26) If the instrument is convertible, whether conversion is mandatory or optional.
		(27) If the instrument is convertible, the instrument type into which it is convertible.
		(28) If the instrument is convertible, the issuer of the instrument into which it converts.
		(29) Whether a write-down feature exists.
		(30) If there is a write-down feature, the trigger at which write-down occurs, including point of non-viability. Where one or more authorities have the ability to trigger write-down, the authorities should be listed. For each of the authorities it should be stated whether the legal basis for the authority to trigger conversion is provided by the terms of the contract of the instrument or statutory means.
		(31) If there is a write-down feature, for each write-down trigger separately, whether the instrument will: (i) always be written down fully; (ii) may be written down partially; or (iii) will always be written down partially.
		(32) If there is a write-down feature, whether the write-down is permanent or temporary.
		(33) For instruments that have a temporary write-down, a description of the writeup mechanism.
		(34) The type of subordination.
		(35) A description of the position in subordination hierarchy in liquidation, including by specifying the instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned.

Subpart F—Risk-weighted Assets – Market Risk and Credit Valuation Adjustment (CVA)

§ __.201 Purpose, applicability, and reservations of authority.

(a) *Purpose.* This subpart establishes risk-based capital requirements in a manner that:

(1) For [BANKING ORGANIZATIONS] with significant exposure to market risk, provides methods for these [BANKING ORGANIZATIONS] to calculate their standardized measure for market risk and, if applicable, their models-based measure for market risk, and establishes public disclosure requirements; and

(2) For [BANKING ORGANIZATIONS] with significant exposure to CVA risk, provides methods for these [BANKING ORGANIZATIONS] to calculate their basic measure for CVA risk and, if applicable, their standardized measure for CVA risk.

(b) *Applicability*—(1) *Market Risk.* The market risk capital requirements and related public disclosure requirements specified in § __.203 through § __.217 apply to a [BANKING ORGANIZATION] that meets one or more of the standards in this paragraph (b)(1):

(i) The [BANKING ORGANIZATION] is:

(A) A depository institution holding company that is a global systemically important BHC, Category II Board-regulated institution, Category III Board-regulated institution, or Category IV Board-regulated institution;

(B) A subsidiary of a holding company that is listed under paragraph (b)(1)(i)(A) of this section, provided that the subsidiary has engaged in trading activity over any of the four most recent quarters; or

(ii) The [BANKING ORGANIZATION] has aggregate trading assets and trading liabilities, excluding customer and proprietary broker-dealer reserve bank accounts, equal to:

(A) 10 percent or more of quarter-end total assets as reported on the most recent quarterly [REGULATORY REPORT]; or

(B) $5 billion or more, on average for the four most recent quarters as reported in the [BANKING ORGANIZATION]'s [REGULATORY REPORT]s.

(2) *CVA Risk*. The CVA risk-based capital requirements specified in § __.220 through § __.225 apply to any [BANKING ORGANIZATION] that is a global systemically important BHC, a subsidiary of a global systemically important BHC, Category II [BANKING ORGANIZATION], Category III [BANKING ORGANIZATION], or Category IV [BANKING ORGANIZATION].

(3) *Initial Applicability*. A [BANKING ORGANIZATION] must meet the requirements of this subpart beginning the quarter after a [BANKING ORGANIZATION] meets the criteria of paragraph (b)(1) or (b)(2) of this section, as applicable.

(4) *Monitoring of Trading Assets and Liabilities*. A [BANKING ORGANIZATION] must monitor its aggregate trading assets and trading liabilities to determine the applicability of this subpart F in accordance with paragraph (b)(1) of this section.

(5) *Ongoing applicability.* (i) A [BANKING ORGANIZATION] that meets at least one of the standards in paragraph (b)(1) of this section shall remain subject to the relevant requirements of this subpart F unless and until it does not meet any of the standards in paragraph (b)(1)(ii) of this section for each of four consecutive quarters as reported in the [BANKING ORGANIZATION]'s [REGULATORY REPORT]s, or it is no longer a depository institution holding company that is a global systemically important BHC, a Category II Board-regulated institution, a Category III Board-regulated institution, or Category IV Board-regulated institution; or it is no longer a U.S. intermediate holding company that is a Category II Board-regulated institution, a Category III Board-regulated institution, or Category IV Board-regulated

institution, as applicable, and the [BANKING ORGANIZATION] provides notice to the [AGENCY].

(ii) A [BANKING ORGANIZATION] that meets the standard in paragraph (b)(2) of this section shall remain subject to the relevant requirements of this subpart F unless and until it no longer meets the standard in paragraph (b)(2) of this section for each of four consecutive quarters as reported in the [BANKING ORGANIZATION]'s [REGULATORY REPORT]s and the [BANKING ORGANIZATION] provides notice to the [AGENCY].

(6) *Exclusions*. The [AGENCY] may exclude a [BANKING ORGANIZATION] that meets one or more of the standards of paragraph (b)(1) of this section or the standard in paragraph (b)(2) of this section from application of § __.203 through § __.217 or § __.220 through § __.225 if the [AGENCY] determines that the exclusion is appropriate based on the level of market risk or level of CVA risk, respectively, of the [BANKING ORGANIZATION] and is consistent with safe and sound banking practices.

(7) *Data Availability*. A [BANKING ORGANIZATION] that does not have four quarters of aggregate data on trading assets and trading liabilities (excluding customer and proprietary broker-dealer reserve bank accounts) must calculate the average in paragraph (b)(1)(ii)(B) of this section by averaging as much data as the [BANKING ORGANIZATION] has available, unless the [AGENCY] notifies the [BANKING ORGANIZATION] in writing to use an alternative method.

(c) *Reservations of authority.* (1) The [AGENCY] may apply § __.203 through § __.217 or § __.220 through § __.225 to any [BANKING ORGANIZATION] if the [AGENCY] deems it necessary or appropriate because of the level of market risk or CVA risk, respectively, of the [BANKING ORGANIZATION] or to ensure safe and sound banking practices.

(2) The [AGENCY] may require a [BANKING ORGANIZATION] to hold an amount of capital greater than otherwise required under this subpart F if the [AGENCY] determines that the

[BANKING ORGANIZATION]'s capital requirement for market risk or CVA risk as calculated under this subpart F is not commensurate with the market risk or the CVA risk of the [BANKING ORGANIZATION]'s market risk covered positions or CVA risk covered positions, respectively.

(3) If the [AGENCY] determines that the risk-based capital requirement calculated under this subpart F by the [BANKING ORGANIZATION] for one or more market risk covered positions or CVA risk covered positions or categories of such positions is not commensurate with the risks associated with those market risk covered positions or CVA risk covered positions or categories of such positions, the [AGENCY] may require the [BANKING ORGANIZATION] to assign a different risk-based capital requirement to the market risk covered positions or CVA risk covered positions or categories of such positions that more accurately reflects the risk of the market risk covered positions or CVA risk covered positions or categories of such positions.

(4) The [AGENCY] may also require a [BANKING ORGANIZATION] to calculate market risk capital requirements for specific positions or categories of positions under this subpart F instead of risk-based capital requirements under subpart D or subpart E of this part, as applicable; or to calculate risk-based capital requirements for specific exposures or categories of exposures under subpart D or subpart E of this part, as applicable, instead of market risk capital requirements under this subpart F, as appropriate, to more accurately reflect the risks of the positions or exposures. In such cases, the [AGENCY] may alternatively require a [BANKING ORGANIZATION] to apply the capital add-ons for re-designations as described in § __.204(e).

(5) The [AGENCY] may require a [BANKING ORGANIZATION] that calculates the models-based measure for market risk to modify the methodology or observation period used to measure market risk.

(6) In making determinations under paragraphs (c)(1) through (5) of this section, the [AGENCY] will apply notice and response procedures generally in the same manner as the notice and response procedures set forth in 12 CFR 3.404, 263.202, and 324.5(c).

(7) Nothing in this subpart F limits the authority of the [AGENCY] under any other provision of law or regulation to take supervisory or enforcement action, including action to address unsafe or unsound practices or conditions, deficient capital levels, or violations of law.

§ __.202 Definitions

(a) Terms set forth in § __.2 and used in this subpart F have the definitions assigned thereto in § __.2.

(b) For the purposes of this subpart F, the following terms are defined as follows:

Actual profit and loss means the actual profit and loss derived from the daily trading activity for market risk covered positions. Intraday trading, net interest income, and time effects must be included; valuation adjustments for which separate regulatory capital requirements have been otherwise specified, fees, reserves, and commissions must be excluded.

Backtesting means the comparison of a [BANKING ORGANIZATION]'s daily actual profit and loss and hypothetical profit and loss with the VaR-based measure as described in § __.204(g) and § __.213(b).

Basic CVA hedge means an eligible CVA hedge that is included in the basic CVA approach capital requirement under the standardized measure for CVA risk, pursuant to § __.221(c)(3).

Basic CVA risk covered position means a CVA risk covered position that is included in the basic CVA approach capital requirement, pursuant to § __.221(c)(2).

Cash equity position means an equity position that is not a derivative contract.

Committed quote means a price from an arm's-length provider at which the provider of the quote must buy or sell the instrument.

Commodity position means a market risk covered position for which price risk arises from changes in the price of one or more commodities.

Commodity risk means the risk of loss that could arise from changes in underlying commodity risk factors.

Corporate position means a market risk covered position that is a corporate exposure.

Correlation trading position means:

(1) Except as provided in paragraph (2) of this definition:

(i) A securitization position for which all or substantially all of the value of the underlying exposures reference the credit exposures to single name companies for which a two-way market exists, or on commonly traded indices based on such exposures, for which a two-way market exists; or

(ii) A position that is not a securitization position and that hedges a position described in paragraph (1)(i) of this definition.

(2) Notwithstanding paragraph (1) of this definition, a correlation trading position does not include:

(i) A resecuritization position;

(ii) A derivative of a securitization position that does not provide a pro rata share in the proceeds of a securitization tranche; or

(iii) A securitization position for which the underlying assets or reference exposures are retail exposures, residential mortgage exposures, or commercial mortgage exposures.

Counterparty credit spread risk means the risk of loss resulting from a change in the credit spread of a counterparty that results in an increase in CVA.

Covered bond means a bond issued by a financial institution that satisfies all of the criteria in paragraphs (1) through (6) of this definition from inception through its remaining maturity:

(1) The bond is subject to a specific regulatory regime under the law of the jurisdiction governing the bond that is designed to protect bond holders;

(2) The bond has a pool of underlying assets consisting exclusively of:

(i) Claims on, or guaranteed by, sovereigns, their central banks, PSEs, or MDBs;

(ii) Claims secured by first lien residential mortgages that would qualify for a 55 percent or lower risk weight under subpart E of this part; or

(iii) Claims secured by commercial real estate that would qualify for a 100 percent or lower risk weight under subpart E of this part and have a loan-to-value ratio of 60 percent or lower; and

(3) If the pool of underlying assets has any claims described in paragraphs (2)(ii) or (iii) of this definition, then, for purposes of calculating the loan-to-value ratios for these assets:

(i) The collateral is valued at or less than the current fair market value under which the property could be sold under private contract between a willing seller and an arm's-length buyer on the date of valuation;

(ii) The issuing financial institution monitors the value of the collateral regularly and at least once per year; and

(iii) A qualified professional evaluates the property when information indicates that the value of the collateral may have declined materially relative to general market prices or when a credit event, such as a default, occurs;

(4) The nominal value of the pool of assets assigned to the bond exceeds the bond's nominal outstanding value by at least 10 percent;

(5) If the law governing the bond does not provide for the requirement in paragraph (4) of this definition, then the issuing financial institution discloses publicly on a regular basis that the

issuing financial institution in practice meets the requirement in paragraph (4) of this definition; and

(6) The proceeds deriving from the bond are invested by law in assets that, during the entire duration of the bond—

(i) Are capable of covering claims attached to the bond; and

(ii) In the event of the failure of the issuer, would be used on a priority basis for the payment of principal and accrued interest.

Credit spread risk means the risk of loss that could arise from changes in underlying credit spread risk factors.

Credit valuation adjustment (CVA) means the fair value adjustment to reflect counterparty credit risk in the valuation of derivative contracts.

Cross-currency basis means the basis spread added to the associated reference rate of the non-USD leg or non-EUR leg of a cross-currency basis swap.

Currency union means an agreement by treaty among countries or territorial entities, under which the members agree to use a single currency, where the currency used is described in § __.209(b)(1)(iv).

Curvature risk means the incremental risk of loss of a market risk covered position that is not captured by the delta capital requirement arising from changes in the value of an option or embedded option and is measured based on two stress scenarios (curvature scenarios) involving an upward shock and a downward shock to each prescribed curvature risk factor.

Customer and proprietary broker-dealer reserve bank accounts means segregated accounts established by a subsidiary of a [BANKING ORGANIZATION] that fulfill the requirements of 17 CFR 240.15c3-3 or 17 CFR 1.20.

CVA hedge means a transaction that a [BANKING ORGANIZATION] enters into with a third party or an internal trading desk and manages for the purpose of mitigating CVA risk.

CVA risk means the risk of loss due to an increase in CVA resulting from the deterioration in the creditworthiness of a counterparty perceived by the market or changes in the exposure of CVA risk covered positions.

CVA risk covered position means a position that is a derivative contract that is not a cleared transaction, provided that a position that is an eligible credit derivative the credit risk mitigation benefits of which are recognized under § __.36 or § __.120, as applicable, may be excluded from being a CVA risk covered position.

Default risk means the risk of loss on a non-securitization debt or equity position or a securitization position that could result from the failure of an obligor to make timely payments of principal or interest on its debt obligations, and the risk of loss that could result from bankruptcy, insolvency, or similar proceeding.

Delta risk means the risk of loss that could result from changes in the value of a position due to small changes in underlying risk factors. Delta risk is measured based on the sensitivities of a position to prescribed delta risk factors, which are specified in § __.207 and § __.208 for purposes of calculating the sensitivities-based capital requirement and § __.224 and § __.225 for purposes of calculating the standardized CVA approach capital requirement.

Eligible CVA hedge. (1) Except as provided in paragraph (2) of this definition, *eligible CVA hedge* means a CVA hedge with an external party or a CVA hedge that is the CVA segment of an internal risk transfer:

(i) For purposes of calculating the basic CVA approach capital requirement, a CVA hedge of counterparty credit spread risk, specifically:

(A) An index credit default swap (CDS); or

(B) A single-name CDS or a single-name contingent CDS that:

(*1*) References the counterparty directly; or

(*2*) References an affiliate of the counterparty; or

(*3*) References an entity that belongs to the same sector and region as the counterparty.

(ii) For purposes of calculating the standardized CVA approach capital requirement, eligible hedges can include:

(A) Instruments that hedge variability of the counterparty credit spread component of CVA risk; and

(B) Instruments that hedge the exposure component of CVA risk.

(2) Notwithstanding paragraph (1) of this definition, an eligible CVA hedge does not include:

(i) A CVA hedge that is not a whole transaction;

(ii) A securitization position; or

(iii) A correlation trading position.

Emerging market economy means a country or territorial entity that is not a liquid market economy.

Equity position means a market risk covered position that is not a securitization position or a correlation trading position and that has a value that reacts primarily to changes in equity prices.

Equity risk means the risk of loss that could arise from changes in underlying equity risk factors.

Equity repo rate means the equity repurchase agreement rate.

Exotic exposure means an underlying exposure that is not in scope of any of the risk classes under the sensitivities-based capital requirement or is not captured by the standardized default risk capital requirement, which includes, but is not limited to, longevity risk, weather risk, and natural disaster risk.

Expected shortfall (ES) means a measure of the average of all potential losses exceeding the VaR at a given confidence level and over a specified horizon.

Exposure model means a CVA exposure model used by the [BANKING ORGANIZATION] for financial reporting purposes or such a CVA exposure model that has been adjusted to satisfy the requirements of this subpart F.

Foreign exchange risk means the risk of loss that could arise from changes in underlying foreign exchange risk factors.

Foreign exchange position means a position for which price risk arises from changes in foreign exchange rates.

GSE debt means an exposure to a GSE that is not an equity exposure or exposure to a subordinated debt instrument issued by a GSE.

Hedge means a position or positions that offset all, or substantially all, of the price risk of another position or positions.

Hybrid instrument means an instrument that has characteristics in common with both debt and equity instruments, including traditional convertible bonds.

Hypothetical profit and loss means the change in the value of the market risk covered positions that would have occurred due to changes in the market data at end of current day if the end-of-previous-day market risk covered positions remained unchanged. Valuation adjustments that are updated daily must be included, unless the [BANKING ORGANIZATION] has received approval from the [AGENCY] to exclude them. Valuation adjustments for which separate regulatory capital requirements have been otherwise specified, commissions, fees, reserves, net interest income, intraday trading, and time effects must be excluded.

Idiosyncratic risk means the risk of loss in the value of a position that arises from changes in risk factors unique to the issuer.

Idiosyncratic risk factor means categories of risk factors that present idiosyncratic risk.

Interest rate risk means the risk of loss that could arise from changes in underlying interest rate risk factors.

Internal risk management model means a valuation model that the independent risk control unit within the [BANKING ORGANIZATION] uses to report market risks and risk-theoretical profits and losses to senior management.

Internal risk transfer means a transfer, executed through internal derivatives trades:

(1) Of credit risk or interest rate risk arising from an exposure capitalized under subpart D or subpart E of this part to a trading desk under this subpart F; or

(2) Of CVA risk from a CVA desk (or the functional equivalent if a [BANKING ORGANIZATION] does not have any CVA desks) to a trading desk under this subpart F.

Large market cap means a market capitalization equal to or greater than $2 billion.

Liquid market economy means:

(1) A country or territorial entity that, based on an annual review, the [BANKING ORGANIZATION] has determined meets all of the following criteria:

(i) The country or territorial entity has at least $10,000 in gross domestic product per capita in current prices;

(ii) The country or territorial entity has at least $95 billion in total market capitalization of all domestic stock markets;

(iii) The country or territorial entity has export diversification such that no single sector or commodity comprises more than 50 percent of the country or territorial entity's total annual exports;

(iv) The country or territorial entity does not impose material controls on liquidation of direct investment; and

(v) The country or territorial entity does not have sovereign entities, public sector entities, or sovereign-controlled enterprises subject to sanctions by the U.S. Office of Foreign Assets Control.

(2) A country or territorial entity that is in a currency union with at least one country or territorial entity that meets the criteria in paragraph (1) of this definition.

Liquidity horizon means the time required to exit or hedge a market risk covered position without materially affecting market prices in stressed market conditions.

Look-through approach means an approach in which a [BANKING ORGANIZATION] treats a market risk covered position that has multiple underlying exposures (such as an index instrument, multi-underlying option, an equity position in an investment fund, or a correlation trading position) as if the underlying exposures were held directly by the [BANKING ORGANIZATION].

Market capitalization means the aggregate value of all outstanding publicly traded shares issued by a company and its affiliates as determined by multiplying each share price by the number of outstanding shares.

Market risk means the risk of loss that could result from market movements, such as changes in the level of interest rates, credit spreads, equity prices, foreign exchange rates, or commodity prices.

Market risk covered position. (1) Except as provided in paragraph (2) of this definition, *market risk covered position* means the following positions:

(i) A trading asset or trading liability (whether on- or off-balance sheet),[509] as reported on [REGULATORY REPORT], that is a trading position, a position that is held for the purpose of regular dealing or making a market in securities or in other instruments, or hedges another market risk covered position and that is free of any restrictive covenants on its tradability or where the [BANKING ORGANIZATION] is able to hedge the material risk elements of the position in a two-way market;[510] and

(ii) The following positions, regardless of whether the position is a trading asset or trading liability, and hedges of such positions:

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[509] Securities subject to repurchase and lending agreements are included as if they are still owned by the lender.

[510] A position that hedges a trading position must be within the scope of the [BANKING ORGANIZATION]'s hedging strategy as described in § __.203(a)(2).

(A) A foreign exchange position or commodity position, excluding:

(*1*) An eligible CVA hedge that mitigates the exposure component of CVA risk; and

(*2*) Any structural position in a foreign currency that the [BANKING ORGANIZATION] chooses to exclude with prior approval from the [AGENCY];

(B) A publicly traded equity position that is not excluded from being a market risk covered position by paragraph (2)(iv) of this definition;

(C) An equity position in an investment fund that is not excluded from being a market risk covered position by paragraph (2)(vi) of this definition;

(D) A net short risk position of $20 million or more;

(E) An embedded derivative on instruments that the [BANKING ORGANIZATION] issued that relates to credit or equity risk that it bifurcates for accounting purposes;

(F) The trading desk segment of an eligible internal risk transfer of credit risk as described in § __.205(h)(1)(i);

(G) The trading desk segment of an eligible internal risk transfer of interest rate risk as described in § __.205(h)(1)(ii);

(H) A position arising from a transaction between a trading desk and an external party conducted as part of an internal risk transfer described in § __.205(h);

(I) The trading desk segment of an internal risk transfer of CVA risk;

(J) The CVA segment of an internal risk transfer that is not an eligible CVA hedge; and

(K) A CVA hedge with an external party that is not an eligible CVA hedge.

(2) Notwithstanding paragraph (1) of this definition, a market risk covered position does not include:

(i) An intangible asset, including a servicing asset;

(ii) A hedge of a trading position that the [AGENCY] determines to be outside the scope of the [BANKING ORGANIZATION]'s trading and hedging strategy required in § __.203(a)(2);

(iii) An instrument that, in form or substance, acts as a liquidity facility that provides support to asset-backed commercial paper;

(iv) A publicly traded equity position with restrictions on tradability;

(v) A non-publicly traded equity position that is not an equity position in an investment fund;

(vi) An equity position in an investment fund that does not meet at least one of the two following criteria:

(A) The [BANKING ORGANIZATION] has access to the investment fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments and investment limits and is able to use the look-through approach to calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund; or

(B) The [BANKING ORGANIZATION] has access to the investment fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments and investment limits and obtains daily price quotes for the investment fund;

(vii) Any position a [BANKING ORGANIZATION] holds with the intent to securitize;

(viii) A direct real estate holding;

(ix) A derivative instrument or an exposure to a fund that has material exposure to the instrument types described in paragraphs (2)(i) through (viii) of this definition as underlying assets;

(x) A debt security, for which the [BANKING ORGANIZATION] elects the fair value option for purposes of asset and liability management;

(xi) A significant investment in the capital of unconsolidated financial institutions in the form of common stock that is not deducted from capital pursuant to § __.22(c)(6);

(xii) An instrument held for the purpose of hedging a particular risk of a position in the types of instruments described in paragraphs (2)(i) through (x) of this definition;

(xiii) An eligible CVA hedge with an external party;

(xiv) The CVA segment of an internal risk transfer that is an eligible CVA hedge; and

(xv) An equity position arising from deferred compensation plans, employee stock ownership plans, and retirement plans.

Mid-prime RMBS means a security that references underlying exposures that consist primarily of residential mortgages that is not a prime RMBS or a sub-prime RMBS.

Model-eligible trading desk means a trading desk (including a notional trading desk) that received approval of the [AGENCY] to be a model-eligible trading desk pursuant to § __.212(b)(2) and continues to remain a model-eligible trading desk.

Model-ineligible trading desk means a trading desk that is not a model-eligible trading desk.

Modellable risk factor means a risk factor that satisfies the risk factor eligibility test as defined in § __.214(b)(1) and has data that satisfies the requirements specified in § __.214(b)(7).

Net short risk position means a position that is calculated by comparing the notional amounts of a [BANKING ORGANIZATION]'s long and short positions for a given exposure, provided that the notional amounts of the short position exceed the notional amounts of the long position and that the position is:[511]

(1) From a credit derivative that the [BANKING ORGANIZATION] recognizes as a guarantee for risk-weighted asset amount calculation purposes under subpart D or subpart E of this part and other exposures recognized under subpart D or subpart E of this part;

(2) Arises under subpart D or subpart E of this part from the credit risk segment of an internal risk transfer described in § __.205(h)(1)(i) that the [BANKING ORGANIZATION]

[511] For equity derivatives, the notional long and short positions are based on the adjusted notional amount, which is the product of the current price of one unit of the stock (for example, a share of equity) and the number of units referenced by the trade.

recognizes as a guarantee for risk-weighted asset amount calculation purposes under subpart D or subpart E of this part; and

(3) An equity position or a credit position that arises under subpart D or subpart E of this part that is not referenced in paragraph (1) or (2) of this definition provided that:

(i) For a [BANKING ORGANIZATION] that hedges at the single name level, the notional amounts of the positions are compared at the name or obligor level; and

(ii) For a [BANKING ORGANIZATION] that hedges at the portfolio level using indices, the notional amounts of the positions are compared at the portfolio level.

Non-modellable risk factor means a risk factor that does not satisfy the risk factor eligibility test as defined in § __.214(b)(1) or does not have data that satisfies the requirements specified in § __.214(b)(7).

Non-securitization position means a market risk covered position that is not a securitization position or a correlation trading position and that has a value that reacts primarily to changes in interest rates or credit spreads.

Non-securitization debt or equity position means a non-securitization position or an equity position that is subject to default risk.

Notional trading desk means a trading desk created for regulatory capital purposes to account for market risk covered positions arising under subpart D or subpart E of this part such as net short risk positions, embedded derivatives on instruments that the [BANKING ORGANIZATION] issued that relate to credit or equity risk that it bifurcates for accounting purposes, and foreign exchange positions and commodity positions. Notional trading desks are not required to fulfill the requirements set forth in § __.203(b)(2) and (c).

Pricing model means:

(1) A valuation model used for financial reporting such as models used in reporting actual profits and losses; or

(2) A valuation model used for internal risk management.

Prime RMBS means a security that references underlying exposures that consist primarily of qualified residential mortgages as defined under 12 CFR 244.13(a).

Profit and loss attribution (PLA) means a method for assessing the robustness of a [BANKING ORGANIZATION]'s internal models used to calculate the ES-based measure in §__.215(b) by comparing the risk-theoretical profit and loss predicted by the internal models with the hypothetical profit and loss.

PSE position means a market risk covered position that is an exposure to a public sector entity (PSE).

p-value means the probability, when using the VaR-based measure for purposes of backtesting, of observing a profit that is less than, or a loss that is greater than, the profit or loss that actually occurred on a given date.

Real price means:

(1) A price at which the [BANKING ORGANIZATION] has executed a transaction;

(2) A verifiable price for an actual transaction between other arm's-length parties;

(3) A price obtained from a committed quote made by the [BANKING ORGANIZATION] itself or a third-party provider, provided that, for any price obtained from a third-party provider:

(i) The transaction or committed quote has been processed through a third-party provider; or

(ii) The third-party provider agrees to provide evidence of the transaction or committed quote to the [BANKING ORGANIZATION] upon request.

Reference credit spread risk means the risk of loss that could arise from changes in the underlying credit spread risk factors that drive the exposure component of CVA risk.

Resecuritization position means a market risk covered position that is a resecuritization exposure.

Risk class means categories of risk that are used as the basis for calculating the sensitivities-based capital requirement as specified in § __.206 and the standardized CVA approach capital requirement as specified in § __.224.

Risk factor means underlying variables, such as market rates and prices that affect the value of a market risk covered position or a CVA risk covered position. For purposes of calculating the sensitivities-based capital requirement, the risk factors are specified in § __.208. For purposes of calculating the standardized CVA approach capital requirement, the risk factors are specified in § __.225.

Risk factor classes means, for purposes of calculating the non-default risk capital measure, interest rate risk, equity risk, foreign exchange risk, commodity risk, and credit risk, including related options volatilities in each risk factor category set forth in Table 2 to § __.215.

Risk-theoretical profit and loss means the daily trading desk-level profit and loss on the end-of-previous-day market risk covered positions generated by the [BANKING ORGANIZATION]'s internal risk management models. The risk-theoretical profit and loss must take into account all risk factors, including non-modellable risk factors, in the [BANKING ORGANIZATION]'s internal risk management models.

Residential mortgage-backed security (RMBS) means a prime RMBS, mid-prime RMBS, or sub-prime RMBS.

Securitization position means a market risk covered position that is a securitization exposure.

Securitization position non-CTP means a securitization position other than a correlation trading position.

Small market cap means a market capitalization of less than $2 billion.

Sovereign position means a market risk covered position that is a sovereign exposure.

Standardized CVA hedge means a CVA hedge that is an eligible CVA hedge that (1) is not a basic CVA hedge and (2) is included in the standardized CVA approach capital requirement.

Standardized CVA risk covered position means a CVA risk covered position that is not a basic CVA risk covered position.

Structural position in a foreign currency means a position that is not a trading position and that is:

(1) Subordinated debt, equity, or minority interest in a consolidated subsidiary that is denominated in a foreign currency;

(2) Capital assigned to foreign branches that is denominated in a foreign currency;

(3) A position related to an unconsolidated subsidiary or another item that is denominated in a foreign currency and that is deducted from the [BANKING ORGANIZATION]'s tier 1 or tier 2 capital; or

(4) A position designed to hedge a [BANKING ORGANIZATION]'s capital ratios or earnings against the effect on paragraph (1), (2), or (3) of this definition of adverse exchange rate movements.

Sub-prime RMBS means a security that references underlying exposures consisting primarily of higher-priced mortgage loans as defined in 12 CFR 1026.35, high-cost mortgages as defined in 12 CFR 1026.32, or both.

Systematic risk means the risk of loss that could arise from changes in risk factors that represent broad market movements and that are not specific to an issue or issuer.

Systematic risk factors means categories of risk factors that present systematic risk, such as economy, region, and sector.

Term repo-style transaction means a repo-style transaction that has an original maturity in excess of one business day.

Trading desk means a unit of organization of a [BANKING ORGANIZATION] that purchases or sells market risk covered positions that is:

(1) Structured by the [BANKING ORGANIZATION] to implement a well-defined business strategy;

(2) Organized to ensure appropriate setting, monitoring, and management review of the desk's trading and hedging limits and strategies; and

(3) Characterized by a clearly defined unit of organization that:

(i) Engages in coordinated trading activity with a unified approach to the key elements described in § __.203(b)(2) and (c);

(ii) Operates subject to a common and calibrated set of risk metrics, risk levels, and joint trading limits;

(iii) Submits compliance reports and other information as a unit for monitoring by management; and

(iv) Books its trades together.

Trading position means a position that is held by a [BANKING ORGANIZATION] for the purpose of short-term resale or with the intent of benefiting from actual or expected short-term price movements, or to lock in arbitrage profits.

Two-way market means a market where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and settled at that price within a relatively short time frame conforming to trade custom.

Value-at-Risk (VaR) means the estimate of the maximum amount that the value of one or more market risk covered positions could decline due to market price or rate movements during a fixed holding period within a stated confidence interval.

Vega risk means the risk of loss that could arise from changes in the value of a position due to changes in the volatility of the underlying exposure. Vega risk is measured based on the

sensitivities of a position to prescribed vega risk factors as specified in § __.207 and § __.208 for purposes of calculating the sensitivities-based capital requirement and § __.224 and § __.225 for purposes of calculating the standardized CVA approach capital requirement.

§ __.203 General requirements for market risk.

(a) *Market risk covered positions*—(1) *Identification of market risk covered positions.* A [BANKING ORGANIZATION] must have clearly defined policies and procedures for determining its market risk covered positions, which the [BANKING ORGANIZATION] must update at least annually. These policies and procedures must include:

(i) Identification of trading assets and trading liabilities that are trading positions and of trading positions that are correlation trading positions;

(ii) Identification of trading assets and trading liabilities that are positions held for the purpose of regular dealing or making a market in securities or other instruments;

(iii) Identification of equity positions in an investment fund that are market risk covered positions;

(iv) Identification of positions that are market risk covered positions, regardless of whether the position is a trading asset or trading liability, including net short risk positions (and the calculation of such positions), eligible internal risk transfer positions as described in § __.205(h), and embedded derivatives on instruments that the [BANKING ORGANIZATION] issued that relate to credit or equity risk that it must bifurcate for accounting purposes;

(v) Consideration of the extent to which a position, or a hedge of its material risks, can be marked-to-market daily by reference to a two-way market;

(vi) Consideration of possible impairments to the liquidity of a position or its hedge;

(vii) Identification of positions that must be excluded from market risk covered positions; and

(viii) A process for determining whether a position needs to be re-designated after its initial identification as a market risk covered position or otherwise, which must include re-

designation restrictions and a description of the events or circumstances under which a [BANKING ORGANIZATION] would consider a re-designation, a process for identifying such events or circumstances, and a process for obtaining senior management approval and for notifying the [AGENCY] of material re-designations.

(2) *Market risk trading and hedging strategies*. A [BANKING ORGANIZATION] must have clearly defined trading and hedging strategies for its market risk covered positions that are approved by senior management of the [BANKING ORGANIZATION].

(i) The trading strategy must articulate the expected holding period of, and the market risk associated with, each portfolio of market risk covered positions.

(ii) The hedging strategy must articulate for each portfolio of market risk covered positions the level of market risk that the [BANKING ORGANIZATION] is willing to accept and must detail the instruments, techniques, and strategies that the [BANKING ORGANIZATION] will use to hedge the risk of the portfolio.

(b) *Trading Desks*—(1) *Trading desk structure.* A [BANKING ORGANIZATION] must define its trading desk structure. That structure must include:

(i) Definition of each trading desk;

(ii) Identification of model-eligible trading desks, consistent with § __.212(b);

(iii) Identification of model-ineligible trading desks used in both the standardized measure for market risk and the models-based measure for market risk (as applicable);

(iv) Identification of trading desks that are used for internal risk transfers (as applicable); and

(v) Identification of notional trading desks (as applicable).

(2) *Trading desk policies.* For each trading desk that is not a notional trading desk, a [BANKING ORGANIZATION] must have a clearly defined policy that is approved by senior management of the [BANKING ORGANIZATION] and describes the general strategy of the trading desk, the risk and position limits established for the trading desk, and the internal

controls and governance structure established to oversee the risk-taking activities of the trading desk, and that includes, at a minimum:

(i) A written description of the general strategy of the trading desk that addresses the economics of the business strategy, the primary activities, and the trading and hedging strategies of the trading desk;

(ii) A clearly defined trading strategy for the trading desk's market risk covered positions, approved by senior management of the [BANKING ORGANIZATION], which details the types of market risk covered positions purchased and sold by the trading desk; indicates which of these are the main types of market risk covered positions purchased and sold by the trading desk; and articulates the expected holding period of, and the market risk associated with, each portfolio of market risk covered positions held by the trading desk;

(iii) A clearly defined hedging strategy for the trading desk's market risk covered positions, approved by senior management of the [BANKING ORGANIZATION], which articulates for each trading desk the level of market risk the [BANKING ORGANIZATION] is willing to accept and details the instruments, techniques, and strategies that the trading desk will use to hedge the risk of the portfolio;

(iv) A business strategy that includes regular reports on the revenue, costs, and market risk capital requirements of the trading desk; and

(v) A clearly defined risk scope that is consistent with the trading desk's pre-established business strategy and objectives that specify the trading desk's overall risk classes and permitted risk factors.

(c) *Active management of market risk covered positions.* A [BANKING ORGANIZATION] must have clearly defined policies and procedures describing the internal controls, ongoing monitoring, management, and authorization procedures, including escalation procedures, for actively managing all market risk covered positions. At a minimum, these policies and procedures must identify the key groups and personnel responsible for overseeing

the activities of the [BANKING ORGANIZATION]'s trading desks that are not notional trading desks and require:

(1) Determining the fair value of the market risk covered positions on a daily basis;

(2) Ongoing assessment of the ability of trading desks to hedge market risk covered positions and portfolio risks and of the extent of market liquidity;

(3) Establishment by each trading desk of clear trading limits, including limits on intraday exposures, with well-defined trader mandates and articulation of why the risk factors used to establish the limits appropriately reflect the general strategy of the trading desk;

(4) Establishment and daily monitoring by trading desks of the following risk-management measurements:

(i) Trading limits, including limits on intraday exposures; usage; and remediation of breaches;

(ii) Sensitivities to risk factors;

(iii) VaR and expected shortfall (as applicable);

(iv) Backtesting and p-values at the trading desk level and at the aggregate level for all model-eligible trading desks (as applicable);

(v) Comprehensive profit and loss attribution (as applicable); and

(vi) Market risk covered positions and transaction volumes;

(5) Establishment and daily monitoring by a risk control unit independent of the trading business unit of the risk-management measurements listed in paragraph (c)(4) of this section;

(6) Strategy to appropriately mitigate risks when stress tests reveal particular vulnerabilities to a given set of circumstances;

(7) Daily monitoring by senior management of information described in paragraphs (c)(1) through (4) of this section;

(8) Reassessment of established limits on market risk covered positions, performed by senior management annually or more frequently; and

(9) Assessments of the quality of market inputs to the valuation process, the soundness of key assumptions, the reliability of parameter estimation in pricing models, and the stability and accuracy of model calibration under alternative market scenarios, performed by qualified personnel annually or more frequently.

(d) *Stress testing.* (1) A [BANKING ORGANIZATION] must stress test the market risk of its market risk covered positions at the aggregate level and on each trading desk at a frequency appropriate to manage risk, but in no case less frequently than quarterly. The stress tests must take into account concentration risk (including but not limited to concentrations in single issuers, industries, sectors, or markets), illiquidity under stressed market conditions, and risks arising from the [BANKING ORGANIZATION]'s trading activities that may not be adequately captured in the standardized measure for market risk or in the models-based measure for market risk, as applicable.

(2) The results of the stress testing must be reviewed by the [BANKING ORGANIZATION]'s senior management when available; and reflected in the policies and limits set by the [BANKING ORGANIZATION]'s management and its board of directors (or a committee thereof).

(e) *Control and oversight.* (1) A [BANKING ORGANIZATION] must have in place internal market risk management systems and processes for identifying, measuring, monitoring, and managing market risk that are conceptually sound.

(2) A [BANKING ORGANIZATION] must have a risk control unit that is responsible for the design and implementation of the [BANKING ORGANIZATION]'s market risk management system and that reports directly to senior management and is independent from the business trading units.

(3) A [BANKING ORGANIZATION] must have an internal audit function independent of business line management that at least annually assesses the effectiveness of the controls supporting the [BANKING ORGANIZATION]'s market risk measurement systems, including

the activities of the business trading units and independent risk control unit, the initial designation of positions as market risk covered positions and any re-designations of positions, compliance with policies and procedures, and the calculation of the [BANKING ORGANIZATION]'s measures for market risk under this subpart F, including the mapping of risk factors to liquidity horizons, as applicable. At least annually, the internal audit function must report its findings to the [BANKING ORGANIZATION]'s board of directors (or a committee thereof).

(f) *Valuation of market risk covered positions.* A [BANKING ORGANIZATION] must have a process for the prudent valuation of its market risk covered positions that includes policies and procedures on the valuation of its market risk covered positions, determining the fair value of its market risk covered positions, independent price verification, and independent validation of the valuation models and valuation adjustments or reserves.

(g) *Internal assessment of capital adequacy.* A [BANKING ORGANIZATION] must have a rigorous process for assessing its overall capital adequacy in relation to its market risk. The assessment must take into account risks that may not be captured fully by the standardized measure for market risk or in the models-based measure for market risk, including concentration and liquidity risk under stressed market conditions.

(h) *Due diligence requirements for securitization positions.* (1) A [BANKING ORGANIZATION] must demonstrate to the satisfaction of the [AGENCY] a comprehensive understanding of the features of a securitization position that would materially affect the performance of the position. The [BANKING ORGANIZATION]'s analysis must be commensurate with the complexity of the securitization position and the materiality of the position in relation to its regulatory capital under this part.

(2) A [BANKING ORGANIZATION] must demonstrate its comprehensive understanding of a securitization position under this paragraph (h), for each securitization position by:

(i) Conducting an analysis of the risk characteristics of a securitization position prior to acquiring the exposure and documenting such analysis promptly after acquiring the exposure, considering:

(A) Structural features of the securitization that would materially impact the performance of the exposure, which may include the contractual cash flow waterfall, waterfall-related triggers, credit enhancements, liquidity enhancements, fair value triggers, the performance of organizations that service the exposure, and deal-specific definitions of default;

(B) Relevant information regarding—

(*1*) The performance of the underlying credit exposure(s) by exposure amount, which may include the percentage of loans 30, 60, and 90 days past due; default rates; prepayment rates; loans in foreclosure; property types; occupancy; average credit score or other measures of creditworthiness; average loan-to-value ratio; and industry and geographic diversification data on the underlying exposure(s); and

(*2*) For resecuritization positions, performance information on the underlying securitization exposures by exposure amount, which may include the issuer name and credit quality, and the characteristics and performance of the exposures underlying the securitization exposures, in addition to the information described in paragraph (h)(2)(i)(B)(*1*) of this section; and

(C) Relevant market data of the securitization, which may include bid-ask spreads, most recent sales price and historical price volatility, trading volume, implied market rating, and size, depth and concentration level of the market for the securitization; and

(ii) On an ongoing basis (not less frequently than quarterly), evaluating and updating as appropriate the analysis required under this section for each securitization position.

(i) *Documentation.* (1) A [BANKING ORGANIZATION] must adequately document all material aspects of its identification, management, and valuation of market risk covered positions, including internal risk transfers and any re-designations of its positions, including

market risk covered positions; its control, oversight and review processes; and its internal assessment of capital adequacy.

(2) A [BANKING ORGANIZATION] must adequately document its trading desk structure and must document policies describing how each trading desk satisfies the applicable requirements in this section.

(3) A [BANKING ORGANIZATION] that calculates the models-based measure for market risk must adequately document all material aspects of its internal models, including validation and review processes and results and an explanation of the empirical techniques used to measure market risk.

(4) A [BANKING ORGANIZATION] that calculates the models-based measure for market risk must document policies and procedures around processes related to:

(i) The risk factor eligibility test, including the description of the mapping of real price observations to risk factors as described in § __.214(b)(1) and (b)(3);

(ii) Data alignment of hypothetical profit and loss and risk-theoretical profit and loss time series used in PLA testing as described in § __.213(c)(1); and

(iii) The assignment of risk factors to liquidity horizons as described in § __.215(b)(11) and any empirical correlations recognized with respect to risk factor classes.

§ __.204 Measure for market risk.

(a) *General requirements.* A [BANKING ORGANIZATION] must calculate its measure for market risk as the standardized measure for market risk in accordance with paragraph (b) of this section, unless the [BANKING ORGANIZATION] has one or more model-eligible trading desks, in which case the [BANKING ORGANIZATION] must calculate its measure for market risk as the models-based measure for market risk in accordance with paragraph (c) of this section. A [BANKING ORGANIZATION] must calculate the standardized measure for market risk at least weekly and must calculate the models-based measure for market risk daily.

(b) *Standardized Measure for Market Risk.* The standardized measure for market risk equals the sum of the standardized approach capital requirement as defined in this paragraph (b), the fallback capital requirement as defined in paragraphs (d)(1) and (2) of this section, the capital add-ons for re-designations of market risk covered positions as defined in paragraph (e) of this section, and any additional capital requirement established by the [AGENCY] pursuant to § __.201(c). The standardized approach capital requirement equals the sum of the sensitivities-based capital requirement, the standardized default risk capital requirement, and the residual risk add-on as defined under this paragraph (b).

(1) *Sensitivities-based capital requirement*. A [BANKING ORGANIZATION]'s sensitivities-based capital requirement equals the sensitivities-based capital requirement, as calculated in accordance with § __.206 through § __.209 for market risk covered positions and for term repo-style transactions that the [BANKING ORGANIZATION] elects to include in the calculation of its market risk capital requirement.

(2) *Standardized default risk capital requirement.* A [BANKING ORGANIZATION]'s standardized default risk capital requirement equals the sum of the standardized default risk capital requirements for non-securitization debt or equity positions, correlation trading positions, and securitization positions non-CTP, as calculated in accordance with § __.210 for market risk covered positions and for term repo-style transactions that the [BANKING ORGANIZATION] elects to include in the calculation of its market risk capital requirement.

(3) *Residual risk add-on.* A [BANKING ORGANIZATION]'s residual risk add-on equals any residual risk add-on that is required under § __.211(a) and calculated in accordance with § __.211(b) for market risk covered positions.

(c) *Models-based Measure for Market Risk.* The models-based measure for market risk, IMA_{Total}, equals:

$$IMA_{Total} = min\left(\left(IMA_{G,A} + PLA\ add\text{-}on + SA_U\right), SA_{all\ desks}\right) + max\left(\left(IMA_{G,A} - SA_{G,A}\right), 0\right) + \ fallback\ capital\ requirement + \ capital\ add\text{-}ons$$

Where,

(1) $IMA_{G,A}$ is calculated for market risk covered positions and term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk on model-eligible trading desks and equals the sum of the non-default risk capital requirement, C_A, as defined in paragraph (c)(1)(i) of this section, and the default risk capital requirement. The default risk capital requirement for model-eligible trading desks is the standardized default risk capital requirement as defined in paragraph (b)(2) of this section.

(i) *The non-default risk capital requirement*. A [BANKING ORGANIZATION]'s non-default risk capital requirement, C_A, is calculated as follows:

$$C_A = max\left(\left(IMCC_{t-1} + SES_{t-1}\right), \left(\left(m_c \times IMCC_{average}\right) + SES_{average}\right)\right)$$

where,

(A) *IMCC* is the internally modelled capital calculation, which is the aggregate capital measure for modellable risk factors based on the weighted average of the constrained and unconstrained ES-based measures and calculated in accordance with § __.215(c) for the most recent outcome, denoted as *t – 1*, and for the average of the previous 60 business days, denoted as *average*;

(B) *SES* is the stressed expected shortfall, which is the aggregate capital measure for non-modellable risk factors that is required under § __.214(b) and calculated in accordance with § __.215(d) for the most recent outcome, denoted as *t* – 1, and for the average of the previous 60 business days, denoted as *average*; and

(C) The capital multiplier, m_C, equals 1.5 unless otherwise specified in paragraph (g) of this section.

(ii) [Reserved]

(2) *PLA add-on* equals any PLA add-on that is required under § __.212(b)(2)(ii)(D), § __.212(b)(4), or § __.213(c)(3)(iii) and is calculated in accordance with § __.213(c)(4);

(3) SA_U equals the standardized approach capital requirement as defined in paragraph (b) of this section for market risk covered positions and term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk on model-ineligible trading desks, unless otherwise required under § __.213(b)(3) and § __.213(c)(3)(iv).

(4) $SA_{all\ desks}$ equals the standardized approach capital requirement as defined in paragraph (b) of this section for market risk covered positions and term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk on all trading desks;

(5) $SA_{G,A}$ equals the standardized approach capital requirement as defined in paragraph (b) of this section for market risk covered positions and term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk on model-eligible trading desks;

(6) *Fallback capital requirement* equals any fallback capital requirement as defined in paragraph (d) of this section; and

(7) *Capital add-ons* equal any capital add-ons for re-designations as defined in paragraph (e) of this section, any capital add-on for ineligible positions on model-eligible trading desks as defined in paragraph (f) of this section, and any additional capital requirement established by the [AGENCY] pursuant to § __.201(c).

(d) *Fallback capital requirement*—(1) *Calculation of the fallback capital requirement*. Unless the [BANKING ORGANIZATION] receives prior written approval of the [AGENCY] to use alternative techniques that appropriately measure the market risk associated with those market risk covered positions, a [BANKING ORGANIZATION]'s fallback capital requirement equals the sum of:

(i) The standardized approach capital requirement for any market risk covered positions described by paragraph (d)(3)(ii)(A) for which the [BANKING ORGANIZATION] is able to calculate all parts of the standardized approach capital requirement; and

(ii) The sum of the absolute value of the fair values of all other market risk covered positions that must be included in the fallback capital requirement in accordance with paragraphs (d)(2)(ii) and (d)(3)(ii) of this section, respectively.

(2) *Standardized measure for market risk*—(i) *Market risk covered positions excluded from certain calculations.* Notwithstanding paragraph (b) of this section, for a [BANKING ORGANIZATION] that calculates the standardized measure for market risk, if for any reason, a [BANKING ORGANIZATION] is unable to calculate the sensitivities-based capital requirement or the standardized default risk capital requirement for a market risk covered position, that position must be excluded from the calculation of the standardized approach capital requirement.

(ii) *Market risk covered positions included in the fallback capital requirement*. A [BANKING ORGANIZATION] that calculates the standardized measure for market risk must include all market risk covered positions excluded from the calculation of the standardized approach capital requirement under paragraph (d)(2)(i) of this section in the calculation of the fallback capital requirement.

(3) *Models-based measure for market risk*—(i) *Market risk covered positions excluded from certain calculations.* Unless the [BANKING ORGANIZATION] receives prior written approval from the [AGENCY], for a [BANKING ORGANIZATION] that calculates the models-based measure for market risk:

(A) Notwithstanding paragraph (c) of this section, in cases where, for any reason, a [BANKING ORGANIZATION] is unable to calculate any portion of $IMA_{G,A}$, SA_U, $SA_{all\ desks}$, $SA_{G,A}$, or SA_i as part of the calculation of the *PLA add-on* for a market risk covered position, that market risk covered position must be excluded from the calculation of $IMA_{G,A}$, SA_U, $SA_{all\ desks}$, $SA_{G,A}$, or SA_i, respectively; and

(B) Notwithstanding paragraph (f) of this section, for a [BANKING ORGANIZATION] that has any securitization positions or correlation trading positions or equity positions in an investment fund, where a [BANKING ORGANIZATION] is not able to identify the underlying positions held by an investment fund on a quarterly basis, on model-eligible trading desks, in cases where, for any reason, a [BANKING ORGANIZATION] is unable to calculate any portion of the standardized approach capital requirement for such position, that market risk covered position must be excluded from the calculation of the capital add-on for ineligible positions on model-eligible trading desks.

(ii) *Market risk covered positions included in the fallback capital requirement.* A [BANKING ORGANIZATION] that calculates the models-based measure for market risk must include the following market risk covered positions in the calculation of the fallback capital requirement:

(A) All market risk covered positions on model-eligible trading desks excluded from the calculation of $IMA_{G,A}$ under paragraph (d)(3)(i)(A) of this section;

(B) All market risk covered positions on model-ineligible trading desks excluded from the calculation of SA_U under paragraph (d)(3)(i)(A) of this section; and

(C) All securitization positions and correlation trading positions excluded from the calculation of the capital add-on for securitization and correlation trading positions on model-eligible trading desks under paragraph (d)(3)(i)(B) of this section.

(e) *Capital add-ons for re-designations.* (1) After the initial designation of an exposure to be capitalized under subpart D or subpart E of this part or a position to be capitalized as a market risk covered position under this subpart F, a [BANKING ORGANIZATION] may make a re-designation if:

(i) The [BANKING ORGANIZATION] receives prior approval of senior management and documents the re-designation; and

(ii) The [BANKING ORGANIZATION] sends notification within 30 days of any material re-designation to the [AGENCY].

(2) For each re-designation, a [BANKING ORGANIZATION] must calculate its capital add-on for re-designation following the approach below:

(i) For the calculation of Expanded Total Risk-Weighted Assets, the capital add-on for re-designation is the higher of zero and the total capital requirement under subpart E of this part and under this subpart before the re-designation minus the total capital requirement under subpart E of this part and under this subpart after the re-designation.

(ii) For the calculation of Standardized Total Risk-Weighted Assets, the capital add-on for re-designation is the higher of zero and the total capital requirement under subpart D of this part and under this subpart F before the re-designation minus the total capital requirement under subpart D of this part and under this subpart after the re-designation.

(iii) The capital add-on for re-designation must initially be calculated at the time of the re-designation.

(iv) The capital add-on for re-designation is permitted to run off as the exposure or position matures or expires.

(v) Notwithstanding paragraphs (e)(2)(i) through (iv) of this section, with prior written approval from the [AGENCY], no capital add-on for re-designation is required if the re-designation is due to circumstances that are outside of the [BANKING ORGANIZATION]'s control, including any re-designation required for accounting purposes or a change in the characteristics of the exposure or position that would change its qualification as a market risk covered position.

(3) Any re-designation is irrevocable unless the [BANKING ORGANIZATION] receives written approval of the [AGENCY].

(f) *Capital add-on for ineligible positions on model-eligible trading desks.* A [BANKING ORGANIZATION] must calculate its capital add-on for ineligible positions on model-eligible

trading desks for (1) securitization positions or correlation trading positions on model-eligible trading desks or (2) equity positions in an investment fund on model-eligible trading desks, where a [BANKING ORGANIZATION] is not able to identify the underlying positions held by an investment fund on a quarterly basis, provided such positions are not included in paragraph (d) of this section. The capital add-on for ineligible positions on model-eligible trading desks is equal to the standardized approach capital requirement as defined in paragraph (b) of this section for such positions.

(g) *Aggregate trading portfolio backtesting and capital multiplier.* (1) Beginning on the business day a [BANKING ORGANIZATION] begins calculating the models-based measure for market risk, the [BANKING ORGANIZATION] must generate backtesting data by separately comparing each business day's aggregate actual profit and loss for transactions on model-eligible trading desks and aggregate hypothetical profit and loss for transactions on model-eligible trading desks with the corresponding aggregate VaR-based measures for that business day calibrated to a one-day holding period and at a one-tail, 99.0th percent confidence level for market risk covered positions on all model-eligible trading desks.

(i) An exception for actual profit and loss occurs when the aggregate actual loss exceeds the corresponding aggregate VaR-based measure. An exception for hypothetical profit and loss occurs when the aggregate hypothetical loss exceeds the corresponding VaR-based measure.

(ii) If either the business day's actual or hypothetical profit and loss is not available or impossible to compute for a particular day, an exception for actual profit and loss or for hypothetical profit and loss, respectively, occurs. If the VaR-based measure for a business day is not available or impossible to compute for a particular day, exceptions for actual profit and loss and for hypothetical profit and loss occur. No exception occurs if the unavailability or impossibility is related to an official holiday.

(iii) With approval of the [AGENCY], a [BANKING ORGANIZATION] may consider an exception not to have occurred if:

(A) The [BANKING ORGANIZATION] can demonstrate that the exception is due to technical issues that are unrelated to the [BANKING ORGANIZATION]'s internal models; or

(B) The [BANKING ORGANIZATION] can demonstrate that one or more non-modellable risk factors caused the relevant loss, and the properly scaled capital requirement for these non-modellable risk factors exceeds the difference between the [BANKING ORGANIZATION]'s VaR-based measure and the actual or hypothetical loss for that business day.

(2) A [BANKING ORGANIZATION] must specify the scope of its model-eligible trading desks for the purposes of this paragraph (g) by determining which trading desks are model-eligible trading desks, and taking into consideration any changes to the model eligibility status of trading desks as soon as practicable. A [BANKING ORGANIZATION] must use this scope of model-eligible trading desks for the purposes of this paragraph (g) unless the [AGENCY] notifies the [BANKING ORGANIZATION] in writing that a different scope of model-eligible trading desks must be used.

(3) A [BANKING ORGANIZATION] that calculates the models-based measure for market risk must conduct aggregate trading portfolio backtesting on a quarterly basis. In order to conduct aggregate trading portfolio backtesting, a [BANKING ORGANIZATION] must count the number of exceptions that have occurred over the most recent 250 business days, provided that in the first year that the [BANKING ORGANIZATION] begins backtesting, the [BANKING ORGANIZATION] must count the number of exceptions that have occurred since the date that the [BANKING ORGANIZATION] began backtesting. A [BANKING ORGANIZATION] must count exceptions for aggregate actual profit and loss separately from exceptions for aggregate hypothetical profit and loss. The overall number of exceptions is the greater of the number of exceptions for aggregate actual profit and loss and the number of exceptions for aggregate hypothetical profit and loss.

(4) A [BANKING ORGANIZATION] must use the multiplication factor in tTable 1 of this section that corresponds to the overall number of exceptions identified in paragraph (g)(3) of this section to determine the multiplication factor for the non-default risk capital requirement under paragraph (c)(1)(i)(C) of this section until the [BANKING ORGANIZATION] conducts aggregate trading portfolio backtesting for the next quarter, unless the [AGENCY] notifies the [BANKING ORGANIZATION] in writing that a different adjustment or other action is appropriate.

Table 1 to § __.204—Backtesting Capital Multiplier (m_c)

Number of exceptions	Multiplication factor
0	1.50
1	1.50
2	1.50
3	1.50
4	1.50
5	1.70
6	1.76
7	1.83
8	1.88
9	1.92
10 or more	2.00

§ __.205 The treatment of certain market risk covered positions and term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk: net short risk positions; securitization positions and defaulted and distressed positions; hybrid instruments; index instruments and multi-underlying options; and equity positions in an investment fund.

(a) *Net short risk positions.* A [BANKING ORGANIZATION] must calculate its net short risk positions on a quarterly basis.

(b) *Treatment of securitization positions and defaulted and distressed market risk covered positions.* (1) A [BANKING ORGANIZATION] may cap the market risk capital

requirement of securitization positions and defaulted or distressed market risk covered positions at the maximum loss of the market risk covered position.

(2) For purposes of calculating the standardized default risk capital requirement, a [BANKING ORGANIZATION] must include defaulted market risk covered positions. A [BANKING ORGANIZATION] does not need to include defaulted market risk covered positions in the sensitivities-based capital requirement, the residual risk add-on, or the non-default risk capital requirement.

(c) *Treatment of hybrid instruments in the standardized approach capital requirement.* For purposes of calculating the standardized approach capital requirement, a [BANKING ORGANIZATION] must assign risk sensitivities of hybrid instruments into the applicable risk classes such as interest rate, credit spread, and equity risk for calculating the delta, vega, and curvature capital requirements. For the standardized default risk capital requirement, a [BANKING ORGANIZATION] must decompose a hybrid instrument into a non-securitization position and an equity position and calculate the standardized default risk capital requirement for each position respectively.

(d) *Treatment of index instruments and multi-underlying options in the standardized approach capital requirement.* (1) For purposes of calculating the delta capital requirement under § __.206(b) and the curvature capital requirement under § __.206(d):

(i) A [BANKING ORGANIZATION] must apply the look-through approach for any market risk covered position that is an index instrument or a multi-underlying option. Where the look-through approach is adopted:

(A) The curvature scenarios and delta sensitivities to constituent risk factors from those index instruments and multi-underlying options are allowed to net with the curvature scenarios and delta sensitivities of single-name positions without restriction; and

(B) A [BANKING ORGANIZATION] must apply the look-through approach consistently through time and must use the approach consistently for all market risk covered positions that reference the same index.

(ii) Notwithstanding paragraph (d)(1)(i) of this section, for market risk covered positions of listed and well-diversified indices, a [BANKING ORGANIZATION] may choose not to apply the look-through approach, in which case a single sensitivity shall be calculated to the index and assigned to the relevant sector or index bucket as provided in § __.209 and in accordance with the below:

(A) Where at least 75 percent of the notional value of the underlying constituents relate to the same sector (sector specific), taking into account the weightings of such index, the sensitivity must be assigned to the corresponding sector bucket, otherwise the sensitivity must be mapped to an index bucket;

(B) For listed and well-diversified equity indices that are not sector specific, where at least 75 percent of the market value of the constituents in the index, taking into account the weightings of such index, are both large market cap and liquid market economy, the sensitivity must be assigned to bucket 12, otherwise the sensitivity must be assigned to bucket 13 in Table 8 to § __.209;

(C) For listed and well-diversified credit indices that are not sector specific, where at least 75 percent of the notional value of the constituents in the index, taking into account the weightings of such index, are investment grade, the sensitivity must be assigned to bucket 18, otherwise the sensitivity must be assigned to bucket 19 in Table 3 to § __.209; and

(D) Where an index spans multiple risk classes, a [BANKING ORGANIZATION] must allocate the index proportionately to the relevant risk classes following the methodology in paragraphs (d)(1)(ii)(A) through (C) of this section.

(2) For purposes of calculating the vega capital requirement under § __.206(c):

(i) A [BANKING ORGANIZATION] may, for a multi-underlying option (including an index option), calculate the vega capital requirement based either on the implied volatility of the option or the implied volatility of options on the underlying constituents; and

(ii) For indices, a [BANKING ORGANIZATION] must calculate the vega capital requirement with respect to the implied volatility of the multi-underlying options based on the same sector specific bucket or index bucket used to calculate the delta capital requirement and the curvature capital requirement in paragraph (d)(1)(ii) of this section.

(3) For purposes of calculating the standardized default risk capital requirement under § __.204(b)(2), a [BANKING ORGANIZATION] may apply the look-through approach for multi-underlying options that are non-securitization debt or equity positions.

(e) *Treatment of equity positions in an investment fund in the standardized approach capital requirement.* (1) For an equity position in an investment fund that is a market risk covered position, and for which a [BANKING ORGANIZATION] is able to use the look-through approach to calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund, the [BANKING ORGANIZATION] must apply the look-through approach for the purposes of calculating the standardized measure for market risk for any equity position in an investment fund, and treat the underlying positions of the fund as if such positions were held directly by the [BANKING ORGANIZATION].

(2) Notwithstanding paragraph (e)(1) of this section, for an equity position in an investment fund that is a market risk covered position, a [BANKING ORGANIZATION] may calculate the standardized measure for market risk by applying the treatment in paragraphs (d)(1)(ii), (d)(2)(ii), and (d)(3) of this section to:

(i) An index that is listed and well-diversified held by an investment fund, in which the [BANKING ORGANIZATION] holds an equity position; and

(ii) An investment fund, in which the [BANKING ORGANIZATION] holds an equity position, that closely tracks an index benchmark, provided that the [BANKING ORGANIZATION] must treat the investment fund as if it were the tracked index.

(3) For any equity position in an investment fund that is a market risk covered position, but for which the [BANKING ORGANIZATION] is not able to use the look-through approach to calculate a market risk capital requirement for its proportional ownership share of each exposure held by the investment fund, the [BANKING ORGANIZATION] must calculate the standardized measure for market risk for equity position in the investment fund using one of the following methods in this paragraph (e)(3). If multiple methods could apply, the [BANKING ORGANIZATION] may choose from the applicable methods:

(i) *Tracked index method*. If the investment fund closely tracks an index benchmark, the [BANKING ORGANIZATION] may treat the investment fund as the tracked index and calculate the standardized measure for market risk by applying the treatment in paragraphs (d)(1)(ii), (d)(2)(ii), and (d)(3) of this section;

(ii) *Hypothetical portfolio approach*. The [BANKING ORGANIZATION] may treat the investment fund as a hypothetical portfolio, provided that:

(A) Market risk capital requirements for the decomposed positions in the hypothetical portfolio are calculated on a stand-alone basis, separate from other market risk covered positions;

(B) Weighting the constituents of the investment fund based on the hypothetical portfolio; and

(C) The hypothetical portfolio is determined using one of the following approaches, at the [BANKING ORGANIZATION]'s discretion:

(*1*) A hypothetical portfolio invested to the maximum extent permitted under the fund's investment limits in the exposure type(s) with the highest applicable risk weight. If more than one risk weight can be applied to a given exposure under the sensitivities-based capital requirement, the maximum risk weight applicable must be used; or

(*2*) A hypothetical portfolio based on the most recent quarterly disclosure of the investment fund's historical holdings of underlying positions.

(iii) *Fall back method*. A [BANKING ORGANIZATION] may allocate its equity positions in an investment fund to the other sector bucket 11 in Table 8 to § __.209.

(A) In applying this treatment, a [BANKING ORGANIZATION] must determine whether, given the mandate of the investment fund, the risk weight under the standardized default risk capital requirement is sufficiently prudent and whether the residual risk add-on should apply. In the case where the [BANKING ORGANIZATION] determines that the residual risk add-on applies, a [BANKING ORGANIZATION] must assume that the investment fund contains exposure types as described in § __.211(a) to the maximum extent permitted under the investment fund's mandate for purposes of calculating the residual risk add-on.

(B) In applying this treatment, a [BANKING ORGANIZATION] must calculate the standardized default risk capital requirement under § __.204(b)(2) for non-securitization debt or equity positions held by an investment fund based on a hypothetical portfolio, assuming the investment fund is invested to the maximum extent permitted under the fund's investment limits in the exposure type(s) with the highest applicable risk weight(s), in the same manner as described in paragraph (e)(3)(ii)(C)(*1*) of this section.

(f) *Treatment of equity positions in an investment fund in the models-based measure for market risk.* (1) For equity positions in an investment fund, where a [BANKING ORGANIZATION] is able to identify the underlying positions held by an investment fund on a quarterly basis, the [BANKING ORGANIZATION] must calculate $IMA_{G,A}$, using one of the following approaches:

(i) The look-through approach for that position or based on the hypothetical portfolio of the investment fund, consistent with paragraph (e)(3)(ii)(C)(*2*) of this section; or

(ii) After receiving prior approval of the [AGENCY], an alternative modelling approach.

(2) For equity positions in an investment fund, where a [BANKING ORGANIZATION] is not able to identify the underlying positions held by an investment fund on a quarterly basis, the [BANKING ORGANIZATION] must not include such equity positions in the calculation of $IMA_{G,A}$.

(g) *Term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk.* (1) A [BANKING ORGANIZATION] may elect to include a term repo-style transaction in market risk provided that:

(i) The transaction is marked to market;

(ii) The [BANKING ORGANIZATION] captures the market price risk and the issuer-default risk of the transaction by:

(A) Including the risk factor sensitivity to each applicable risk factor pursuant to § __.208; and

(B) Calculating the standardized default risk capital requirement under § __.210 using:

(*1*) For the calculation of Expanded Total Risk-Weighted Assets, the collateral haircut approach that would apply to the transaction under § __.121(c) multiplied by 8 percent; or

(*2*) For the calculation of Standardized Total Risk-Weighted Assets, the collateral haircut approach that would apply to the transaction under § __.37(c) multiplied by 8 percent.

(iii) The [BANKING ORGANIZATION] elects to include all of its term repo-style transactions in market risk and does so consistently over time; and

(iv) The [BANKING ORGANIZATION] recognizes:

(A) For the calculation of Expanded Total Risk-Weighted Assets, the credit risk mitigation benefits of collateral pursuant to § __.121(c); or

(B) For the calculation of Standardized Total Risk-Weighted Assets, the credit risk mitigation benefits of collateral pursuant to § __.37(c).

(2) Term repo-style transactions the [BANKING ORGANIZATION] elects to include in market risk must be treated as market risk covered positions for the purposes of calculations under this part.

(h) *Internal risk transfers.* (1) A [BANKING ORGANIZATION] that is subject to the market risk capital requirements in this subpart F may recognize the risk mitigation benefits of an external hedge under subpart D or subpart E of this part if the internal risk transfer meets the applicable criteria in this paragraph (h).

(i) *Credit risk*. A [BANKING ORGANIZATION] may capitalize under subpart D or subpart E of this part the leg of an eligible internal risk transfer to hedge credit risk transferred by the trading desk to another unit within the [BANKING ORGANIZATION].

(A) For credit risk, an eligible internal risk transfer means an internal risk transfer for which:

(*1*) The documentation of the internal risk transfer identifies the exposure under subpart D or subpart E of this part that is being hedged and its source(s) of credit risk;

(*2*) The terms of the internal risk transfer, aside from amount, are identical to the terms of the external hedge of credit risk; and

(*3*) The external hedge meets the requirements of § __.36 or § __.120, as applicable.

(B) If the amount of the internal risk transfer exceeds the exposure being hedged under subpart D or subpart E of this part, the [BANKING ORGANIZATION] must treat the amount equal to the exposure being hedged under subpart D or subpart E of this part as an eligible internal risk transfer, and the excess amount as a separate internal risk transfer that is not an eligible internal risk transfer, which must be capitalized as a net short credit position.

(ii) *Interest rate risk*. A [BANKING ORGANIZATION] may capitalize the trading desk segment of an eligible internal risk transfer as a market risk covered position.

(A) For interest rate risk, an eligible internal risk transfer means an internal risk transfer:

(*1*) For which the documentation of the internal risk transfer identifies the exposure being hedged and its source(s) of interest rate risk;

(*2*) That is capitalized on the trading desk on a stand-alone basis, without regard to other market risks generated by activities in the trading unit; and

(*3*) Is executed on a trading desk that the [BANKING ORGANIZATION] has established for conducting internal risk transfers to hedge interest rate risk and that has received approval from the [AGENCY] to execute such internal risk transfers to hedge interest rate risk.

(B) The [BANKING ORGANIZATION] may request approval from the [AGENCY] for a single dedicated notional trading desk to conduct internal risk transfers to hedge interest rate risk.

(2) *CVA Risk*. A [BANKING ORGANIZATION] that is subject to the market risk capital requirements and CVA risk-based capital requirements in this subpart F may hedge CVA risk arising from a derivative contract through internal CVA hedges executed with the [BANKING ORGANIZATION]'s trading desk, using an eligible internal risk transfer.

(i) The [BANKING ORGANIZATION] may consider the internal risk transfer of CVA risk to be an eligible internal risk transfer, if the following requirements are satisfied:

(A) The CVA segment of the transaction is an eligible CVA hedge;

(B) The documentation of the internal risk transfer of CVA risk identifies the CVA risk being hedged and the source(s) of such risk.

(C) If the internal risk transfer of CVA risk is subject to curvature risk, default risk, or the residual risk add-on under the market risk capital requirement, then the trading desk must execute an external transaction with a third-party provider, identical in its terms to the internal risk transfer of CVA risk.

(ii) The [BANKING ORGANIZATION] must designate a CVA desk or the functional equivalent to manage internal risk transfers of CVA risk to the [BANKING ORGANIZATION]'s trading desks.

§ __.206 Sensitivities-based capital requirement.

(a) *Overview of the calculation.* A [BANKING ORGANIZATION] must follow the steps below to calculate the sensitivities-based capital requirement:

(1) The [BANKING ORGANIZATION] must identify the market risks in each of its portfolios of market risk covered positions and include the relevant risk classes in its calculation of the sensitivities-based capital requirement. The risk classes are:

(i) Interest rate risk;

(ii) Credit spread risk for non-securitization positions;

(iii) Credit spread risk for correlation trading positions;

(iv) Credit spread risk for securitization positions non-CTP;

(v) Equity risk;

(vi) Commodity risk; and

(vii) Foreign exchange risk.

(2) For each market risk covered position, a [BANKING ORGANIZATION] must identify all of the relevant risk factors as described in § __.208 for which it will calculate sensitivities for delta risk and vega risk as described in § __.207 and curvature scenarios for curvature risk as described in both paragraph (d) of this section and in § __.207. A [BANKING ORGANIZATION] must also identify the corresponding buckets related to these risk factors as described in § __.209.

(3) To calculate risk-weighted sensitivities a [BANKING ORGANIZATION] must aggregate the delta sensitivities and vega sensitivities, respectively, for each risk factor across all market risk covered positions and apply the corresponding risk weights as described in § __.209(b) and (c). To calculate the net curvature risk position, a [BANKING ORGANIZATION] must aggregate the incremental loss beyond the delta capital requirement by applying an upward and downward shock to each risk factor in accordance with paragraph (d)(1) of this section.

(4) For each bucket, a [BANKING ORGANIZATION] must calculate a bucket-level risk position separately for delta risk and vega risk by aggregating the risk-weighted sensitivities across risk factors with common characteristics as described in paragraphs (b)(2) and (c)(2) of this section. Similarly, for curvature risk, a [BANKING ORGANIZATION] must calculate a bucket-level risk position for each bucket by aggregating the net curvature risk positions within each bucket as described in paragraph (d)(2) of this section.

(5) To calculate the risk class-level capital requirement a [BANKING ORGANIZATION] must aggregate the bucket-level risk positions for each risk class for delta risk, vega risk, and curvature risk (separately) under three correlation scenarios in accordance with paragraphs (b)(3), (c)(3), and (d)(3) of this section. For each risk class, the risk class-level capital requirement is the sum of the delta capital requirement, the vega capital requirement and the curvature capital requirement for the respective correlation scenario.

(i) The delta capital requirement is described in paragraph (b) of this section.

(ii) The vega capital requirement is described in paragraph (c) of this section.

(iii) The curvature capital requirement is described in paragraph (d) of this section.

(iv) The correlation scenarios are provided in paragraph (e) of this section and § __.209.

(6) To calculate the sensitivities-based capital requirement, a [BANKING ORGANIZATION] must sum the risk class-level capital requirements for each risk class under each correlation scenario. The sensitivities-based capital requirement equals the largest capital requirement produced under the three correlation scenarios.

(b) *Delta capital requirement.* For each risk class, a [BANKING ORGANIZATION] must calculate the delta capital requirement for all of its market risk covered positions, except for market risk covered positions whose value at any point in time exclusively depends on an exotic exposure. To calculate the delta capital requirement, for each risk class, a [BANKING ORGANIZATION] must calculate its market risk covered positions' delta sensitivities in accordance with § __.207 to the relevant risk factors specified in § __.208, multiply the

sensitivities by the corresponding risk weights specified in § __.209(b), and aggregate the resulting risk-weighted delta sensitivities in accordance with the following:

(1) *Weighted sensitivity calculation.* For each risk factor, a [BANKING ORGANIZATION] must calculate the delta sensitivity as described in § __.207. A [BANKING ORGANIZATION] must net the delta sensitivities of a risk factor k, irrespective of the market risk covered positions from which they derive, to produce a net delta sensitivity, s_k, across all market risk covered positions. The risk-weighted delta sensitivity, WS_k, equals the product of the net sensitivity, s_k, and the corresponding risk weight specified in § __.209(b).

(2) *Within bucket aggregation.* Unless otherwise specified in § __.209(b), for each bucket, b, specified § __.209(b), a [BANKING ORGANIZATION] must calculate the delta bucket-level risk position, K_b, by aggregating the risk-weighted delta sensitivities of all risk factors that are within the same bucket, using the correlation parameter ρ_{kl} as specified in § __.206(e) and § __.209(b), as follows:

$$K_b = \sqrt{max\left(\left(\sum_k WS_k^2 + \sum_k \sum_{k \neq l} \rho_{kl} WS_k WS_l\right), 0\right)}$$

(3) *Across bucket aggregation*. A [BANKING ORGANIZATION] must calculate the delta capital requirement for each risk class by aggregating the delta bucket-level risk positions across all of the buckets within the risk class, using the cross-bucket correlation parameter γ_{bc} as specified in § __.206(e) and § __.209(b), as follows:

$$delta\ capital\ requirement_{(risk\ class)} = \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c}$$

Where,

(i) $S_b = \Sigma_k WS_k$ for all risk factors in bucket b and $S_c = \Sigma_k WS_k$ for all risk factors in bucket c; and

(ii) If S_b and S_c produce a negative number for the overall sum of $\sum_b(K_b^2)+\sum_b(\sum_{c\neq b} \gamma_{bc}S_bS_c)$, the [BANKING ORGANIZATION] must calculate the delta capital requirement using an alternative specification, whereby:

(A) $S_b = max(min(\Sigma_k WS_k, K_b), -K_b)$ for all risk factors in bucket b; and

(B) $S_c = max(min(\Sigma_k WS_k, K_c), -K_c)$ for all risk factors in bucket c.

(c) *Vega capital requirement.* For each risk class, a [BANKING ORGANIZATION] must calculate the vega capital requirement for market risk covered positions that are options or are positions with embedded optionality, including positions with material prepayment risk. Callable and puttable bonds that are priced based on yield to maturity are not required to estimate vega capital requirement. To calculate the vega capital requirement, for each risk class, a [BANKING ORGANIZATION] must calculate its market risk covered positions' vega sensitivities in accordance with § __.207 to the relevant risk factors specified in § __.208, multiply the sensitivities by the corresponding risk weights specified in § __.209(c), and aggregate the resulting risk-weighted sensitivities for vega risk in accordance with the following:

(1) *Weighted sensitivity calculation.* For each risk factor, a [BANKING ORGANIZATION] must calculate the vega sensitivity as described in § __.207(c). A [BANKING ORGANIZATION] must net the vega sensitivities of a risk factor k, irrespective of the market risk covered positions from which they derive, to produce a net vega sensitivity, s_k, across all market risk covered positions. The risk-weighted vega sensitivity, WS_k, equals the product of the net sensitivity, s_k, and the corresponding risk weight specified in § __.209(c).

(2) *Within bucket aggregation.* Unless otherwise specified in § __.209(c), for each bucket, b, specified in § __.209(c), a [BANKING ORGANIZATION] must calculate the vega bucket-level risk position, K_b, by aggregating the risk-weighted vega sensitivities of all risk factors that are within the same bucket, using the correlation parameter, ρ_{kl}, as specified in § __.206(e) and § __.209(c), as follows:

$$K_b = \sqrt{max\left(\left(\sum_k WS_k^2 + \sum_k \sum_{k \neq l} \rho_{kl} WS_k WS_l\right), 0\right)}$$

(3) *Across bucket aggregation.* A [BANKING ORGANIZATION] must calculate the vega capital requirement for each risk class by aggregating the vega bucket-level risk positions across all of the buckets within the risk class, using the cross-bucket correlation parameter, γ_{bc}, specified in § __.206(e) and § __.209(c), as follows:

$$vega\ capital\ requirement_{(risk\ class)} = \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c}$$

Where,

(i) $S_b = \Sigma_k WS_k$ for all risk factors in bucket b and $S_c = \Sigma_k WS_k$ for all risk factors in bucket c; and

(ii) If S_b and S_c produce a negative number for the overall sum of $\sum_b(K_b^2)+\sum_b(\sum_{c \neq b} \gamma_{bc} S_b S_c)$, the [BANKING ORGANIZATION] must calculate the vega capital requirement using an alternative specification, whereby:

(A) $S_b = max(min(\Sigma_k WS_k, K_b), -K_b)$ for all risk factors in bucket b; and

(B) $S_c = max(min(\Sigma_k WS_k, K_c), -K_c)$ for all risk factors in bucket c.

(d) *Curvature capital requirement.* For each risk class, a [BANKING ORGANIZATION] must calculate the curvature capital requirement by applying an upward shock and a downward shock to each risk factor and calculate the incremental loss in excess of that already captured by the delta capital requirement for all market risk covered positions that are options or positions with embedded optionality, including positions with material prepayment risk, using the approach in paragraph (d)(1) of this section and in accordance with § __.207 and § __.209(d). A [BANKING ORGANIZATION] may, on a trading desk by trading desk basis, choose to include market risk covered positions without optionality in the calculation of its curvature capital requirement, provided that the [BANKING ORGANIZATION] does so consistently through time.

(1) *Curvature risk position calculation*. For each market risk covered position for which the curvature capital requirement is calculated, an upward shock and a downward shock must be applied to risk factor, *k*. The size of the shock, i.e., the risk weight, is specified in § __.209(d). The net curvature risk position for the portfolio is calculated as,

$$CVR_k^+ = -\sum_i \left(V_i(x_k^{RW(Curvature)^+}) - V_i(x_k) - (RW_k^{Curvature} \times s_{ik}) \right)$$

$$CVR_k^- = -\sum_i \left(V_i\left(x_k^{RW(Curvature)^-}\right) - V_i(x_k) + (RW_k^{Curvature} \times s_{ik}) \right)$$

where,

(i) i is a market risk covered position subject to curvature risk for risk factor k;

(ii) x_k is the current level of risk factor k;

(iii) $V_i(x_k)$is the value of market risk covered position i at the current level of risk factor k;

(iv) $V_i(x_k^{(RW(curvature)+)})$ and $V_i(x_k^{(RW(curvature)-)})$ denote the value of market risk covered position i after x_k is shifted (i.e., "shocked") upward and downward, respectively;

(v) $RW_k^{(curvature)}$ is the risk weight for curvature risk for factor k and market risk covered position i; and

(vi) s_{ik} is the delta sensitivity of market risk covered position i with respect to curvature risk factor k, such that:

(A) For the following risk classes, s_{ik} is the delta sensitivity of market risk covered position i:

(*1*) Foreign exchange risk; and

(*2*) Equity risk;

(B) For the following risk classes, s_{ik} is the sum of the delta sensitivities to all tenors of the relevant curve of market risk covered position i with respect to curvature risk factor k:

(*1*) Interest rate risk;

(*2*) Credit spread risk for non-securitization positions;

(*3*) Credit spread risk for correlation trading positions;

(*4*) Credit spread risk for securitization positions non-CTP; and

(*5*) Commodity risk; and

(C) The delta sensitivity s_{ik} must be the delta sensitivity described in § __.207 used in calculating the delta capital requirement.

(2) *Within bucket aggregation*. Unless otherwise specified in § __.209(d), for each bucket specified in § __.209(d), a [BANKING ORGANIZATION] must calculate a curvature bucket-level risk position by aggregating the net curvature risk positions within the bucket using the correlation parameter, ρ_{kl}, as specified in §§ __.206(e) and __.209(d) as follows:

$$K_b = max(K_b^+, K_b^-)$$

$$\text{where} \begin{cases} K_b^+ = \sqrt{max\left(\left(\sum_k max(CVR_k^+, 0)^2 + \sum_{l \neq k}\sum_k \rho_{kl} CVR_k^+ CVR_l^+ \psi(CVR_k^+, CVR_l^+)\right), 0\right)} \\ K_b^- = \sqrt{max\left(\left(\sum_k max(CVR_k^-, 0)^2 + \sum_{l \neq k}\sum_k \rho_{kl} CVR_k^- CVR_l^- \psi(CVR_k^-, CVR_l^-)\right), 0\right)} \end{cases};$$

and

(i) The bucket-level capital requirement, K_b, is calculated as the greater of the capital requirement under the upward scenario, K_b^+, or the capital requirement under the downward scenario, K_b^-;

(ii) In the specific case where $K_b^+ = K_b^-$, if $\sum_k(CVR_k^+) > \sum_k(CVR_k^-)$ the upward scenario is selected, otherwise the downward scenario is selected; and

(iii) $\psi(CVR_k, CVR_l) = 0$ if CVR_k and CVR_l both have negative signs;

and $\psi(CVR_k, CVR_l) = 1$ otherwise.

(3) *Across bucket aggregation.* A [BANKING ORGANIZATION] must calculate the curvature capital requirement for each risk class by aggregating the curvature bucket-level risk

positions across buckets within each risk class, using the prescribed cross-bucket correlation parameter, γ_{bc}, as specified in §§ __.206(e) and __.209(d), as follows:

$$curvature\ capital\ requirement_{(risk\ class)} = \sqrt{max\left(\left(\sum_b K_b^2 + \sum_{c \neq b}\sum_b \gamma_{bc} S_b S_c \psi(S_b, S_c)\right), 0\right)}$$

where,

(i) $S_b = \sum_k (CVR_k^+)$ for all risk factors in bucket b when the upward scenario has been selected for bucket b, and $S_b = \sum_k (CVR_k^-)$ otherwise; and

(ii) $\psi(S_b, S_c) = 0$ if S_b and S_c both have negative signs, and $\psi(S_b, S_c) = 1$ otherwise.

(e) *Correlation scenarios.* A [BANKING ORGANIZATION] must repeat the aggregation of the bucket-level risk positions and risk class-level capital requirements for delta risk, vega risk, and curvature risk for three different values of the correlation parameters ρ_{kl} (correlation between risk factors within a bucket) and γ_{bc} (correlation across buckets within a risk class) as specified below:

(1) For the medium correlation scenario, the correlation parameters ρ_{kl} and γ_{bc} specified in § __.209 apply;

(2) For the high correlation scenario, the specified correlation parameters ρ_{kl} and γ_{bc} are uniformly multiplied by 1.25, with ρ_{kl} and γ_{bc} subject to a cap at 100 percent; and

(3) For the low correlation scenario, the specified correlation parameters ρ_{kl} and γ_{bc} are replaced by,

$$\rho_{kl}^{low} = max\left((2 \times \rho_{kl}) - 100\%, 75\% \times \rho_{kl}\right), \text{ and}$$

$$\gamma_{bc}^{low} = max\left((2 \times \gamma_{bc}) - 100\%, 75\% \times \gamma_{bc}\right).$$

§ __.207 Sensitivities-based capital requirement: calculation of delta sensitivities, vega sensitivities and curvature scenarios.

(a) *General requirements.* For purposes of calculating the delta capital requirement, the vega capital requirement, and the curvature capital requirement, a [BANKING ORGANIZATION] must calculate the delta sensitivities, vega sensitivities, and curvature scenarios in accordance with the requirements set forth below.

(1) To calculate delta sensitivities, a [BANKING ORGANIZATION] must use the sensitivity definitions for delta risk as provided in paragraph (b) of this section.

(2) To calculate its vega sensitivities, a [BANKING ORGANIZATION] must use the sensitivity definitions for vega risk as provided in paragraph (c) of this section.

(3) A [BANKING ORGANIZATION] must calculate delta sensitivities, vega sensitivities, and curvature scenarios based on the valuation models used for financial reporting, except that, with prior written approval from the [AGENCY], a [BANKING ORGANIZATION] may calculate delta sensitivities, vega sensitivities, and curvature scenarios based on the internal risk management models.

(4) For each risk factor as provided in § __.208, a [BANKING ORGANIZATION] must calculate the delta sensitivities, vega sensitivities, and curvature scenarios as the change in the value of a market risk covered position as a result of applying a specified shift to each risk factor, assuming all other relevant risk factors are held at the current level. In cases where applying this assumption is ambiguous, a [BANKING ORGANIZATION] must perform the calculation consistently with paragraph (a)(3) of this section. With prior written approval from the [AGENCY], a [BANKING ORGANIZATION] may calculate delta sensitivities, vega sensitivities, and curvature scenarios using an alternative basis.

(5) When calculating delta sensitivities for market risk covered positions that are options or positions with embedded options, a [BANKING ORGANIZATION] must use one of the following assumptions:

(i) The dynamics of the implied volatility are such that when the price of the underlying changes, the implied volatility of an option or a market risk covered position with an embedded option will remain unchanged for any given moneyness (sticky delta rule); or

(ii) When the price of the underlying changes, the implied volatility of an option or a market risk covered position with an embedded option will remain unchanged for any given strike price (sticky strike rule); or

(iii) With prior written approval from the [AGENCY], another assumption.

(6) The curvature scenarios and sensitivities to the delta risk factors for credit spread risk for securitization positions non-CTP (as specified in § __.208(d)) must be calculated with respect to the spread of the tranche rather than the spread of the underlying position.

(7) The curvature scenarios and sensitivities to the delta risk factors for credit spread risk for correlation trading positions (as specified in § __.208(e)) must be computed with respect to the underlying names of the securitization position or nth-to-default position.

(8) A [BANKING ORGANIZATION] must calculate the delta sensitivities, vega sensitivities, and curvature scenarios for each risk class in the reporting currency of the [BANKING ORGANIZATION], except for the foreign exchange risk class where, with prior written approval of the [AGENCY], the [BANKING ORGANIZATION] may calculate sensitivities and curvature scenarios relative to a base currency instead of the reporting currency as specified in § __.208(h).

(9) A [BANKING ORGANIZATION] must calculate all sensitivities ignoring the impact of CVA on fair values.

(b) *Sensitivity definitions for delta risk*—(1) *Interest rate risk*. The delta sensitivity for interest rate risk is calculated by changing the interest rate at tenor t of the relevant interest rate curve in a given currency by one basis point (0.0001 in absolute terms) and dividing the resulting change in the value of the market risk covered position, V_i, by 0.0001 as follows:

$$s_{k,r_t} = \frac{V_i(r_t + 0.0001, cs_t) - V_i(r_t, cs_t)}{0.0001}$$

where,

(i) k is a given risk factor;

(ii) i is a given market risk covered position;

(iii) r_t is the interest rate curve at tenor t;

(iv) cs_t is the credit spread curve at tenor t; and

(v) V_i is the value of the market risk covered position i as a function of the interest rate curve and credit spread curve.

(2) *Credit spread risk.* The delta sensitivity for credit spread risk for non-securitization positions, credit spread risk for securitization positions non-CTP, and credit spread risk for correlation trading positions is calculated by changing the relevant credit spread at tenor t by one basis point (0.0001 in absolute terms) and dividing the resulting change in the value of the market risk covered position, V_i, by 0.0001 as follows:

$$s_{k,cs_t} = \frac{V_i(r_t, cs_t + 0.0001) - V_i(r_t, cs_t)}{0.0001}$$

where,

(i) k is a given risk factor;

(ii) i is a given market risk covered position;

(iii) r_t is the interest rate curve at tenor t;

(iv) cs_t is the credit spread curve at tenor t; and

(v) V_i is the value of the market risk covered position i as a function of the interest rate curve and credit spread curve.

(3) *Equity risk.* A [BANKING ORGANIZATION] must calculate the delta sensitivity for equity risk using the equity spot price and the equity repo rate as follows:

(i) A [BANKING ORGANIZATION] must calculate the delta sensitivity for equity spot price by changing the relevant equity spot price by one percentage point (0.01 in relative terms) and dividing the resulting change in the value of the market risk covered position, V_i, by 0.01 as follows:

$$s_k = \frac{V_i(1.01\ EQ_k) - V_i(EQ_k)}{0.01}$$

where,

(A) k is a given equity;

(B) i is a given market risk covered position;

(C) EQ_k is the value of equity k; and

(D) V_i is the value of market risk covered position i as a function of the price of equity k.

(ii) A [BANKING ORGANIZATION] must calculate the delta sensitivity for equity repo rate by applying a parallel shift to the equity repo rate term structure by one basis point (0.0001 in absolute terms) and dividing the resulting change in the value of the market risk covered position, V_i, by 0.0001 as follows:

$$s_k = \frac{V_i(RTS_k + 0.0001) - V_i(RTS_k)}{0.0001}$$

where,

(A) k is a given equity;

B) RTS_k is the repo term structure of equity k; and

(C) V_i is the value of market risk covered position i as a function of the repo term structure of equity k.

(4) *Commodity risk.* A [BANKING ORGANIZATION] must calculate the delta sensitivity for commodity risk by changing the relevant commodity spot price by one percentage point (0.01 in relative terms) and dividing the resulting change in the value of the market risk covered position (V_i) by 0.01 as follows:

$$s_k = \frac{V_i(1.01\ CTY_k) - V_i(CTY_k)}{0.01}$$

where,

(i) k is a given commodity;

(ii) CTY_k is the value of commodity k; and

(iii) V_i is the value of market risk covered position i as a function of the spot price of commodity k:

(5) *Foreign exchange risk.* A [BANKING ORGANIZATION] must calculate the delta sensitivity for foreign exchange risk by changing the relevant exchange rate by one percentage point (0.01 in relative terms) and dividing the resulting change in the value of the market risk covered position, V_i, by 0.01 as follows:

$$s_k = \frac{V_i(1.01\ FX_k) - V_i(FX_k)}{0.01}$$

where,

(i) k is a given currency;

(ii) FX_k is the exchange rate between a given currency and a [BANKING ORGANIZATION]'s reporting currency or base currency, as applicable, where the foreign exchange spot rate is the current market price of one unit of another currency expressed in the units of the [BANKING ORGANIZATION]'s reporting currency or base currency, as applicable; and

(iii) V_i is the value of market risk covered position i as a function of the exchange rate k.

(c) *Sensitivity definitions for vega risk.* (1) A [BANKING ORGANIZATION] must calculate the vega sensitivity to a given risk factor (provided in § __.208) by multiplying vega by the volatility of the option as follows:

$$s_k = vega \times volatility$$

where,

(i) *vega* is defined as the change in the value of the option, V_i, as a result of a small amount of change to the volatility, σ_i, which can be represented as $(\partial V_i/\partial \sigma_i)$; and

(ii) *volatility* is defined as either the implied volatility or at-the-money volatility of the option, depending on which is used by the models used to calculate vega sensitivity to determine the intrinsic value of volatility in the price of the option.

(2) For interest rate risk, a [BANKING ORGANIZATION] must map the implied volatility of the option to one or more tenors specified in the risk factors definitions in § __.208(b)(2).

(3) A [BANKING ORGANIZATION] must assign market risk covered positions that are options or positions with embedded options that do not have a maturity to the longest prescribed maturity tenor.

(4) A [BANKING ORGANIZATION] must map market risk covered positions that are options or positions with embedded options that do not have a strike price, that have multiple strike prices, or are barrier options, to the strike prices and maturities used for models used to calculate vega sensitivity to value these positions.

§ __.208 Sensitivities-based capital requirement: risk factor definitions.

(a) For purposes of calculating the sensitivities-based capital requirement, a [BANKING ORGANIZATION] must identify all of the relevant risk factors in accordance with the requirements in this section for its market risk covered positions. Where specified, a [BANKING ORGANIZATION] must use the tenors or maturities specified in this section and assign risk factors and corresponding sensitivities to specified tenors or maturities by linear interpolation or a method that is most consistent with the pricing functions used by the internal risk management models.

(b) *Risk factors for interest rate risk*—(1) *Delta risk factors for interest rate risk.* The delta risk factors for interest rate risk are defined for each currency and consist of interest rate

risk factors as well as inflation rate risk factors and cross-currency basis risk factors, as applicable.

(i) For each currency, the delta risk factors for interest rate risk are defined along two dimensions:

(A) An interest rate curve, for the currency, in which interest rate-sensitive market risk covered positions are denominated; and

(B) Tenor: 0.25 years, 0.5 years, 1 year, 2 years, 3 years, 5 years, 10 years, 15 years, 20 years and 30 years.

(ii) For each currency (each interest rate risk bucket), a [BANKING ORGANIZATION] must calculate, in addition to paragraph (b)(1)(i) of this section, separate delta sensitivities for each of the following delta risk factors, as applicable:

(A) *Inflation rate risk factors*. Inflation rate risk factors apply to any market risk covered position whose cash flows are functionally dependent on a measure of inflation (inflation positions). Inflation rate risk factors must be based on the market-implied inflation rates for each currency where term structure is not recognized. All inflation rate risk for a given currency must be aggregated as the sum of the delta sensitivities to the inflation rate risk factors of all inflation positions.

(B) *Cross-currency basis risk factors.* The delta risk factors for interest rate risk include one of two possible cross-currency basis risk factors for each currency where term structure is not recognized. The two cross-currency basis risk factors are basis of each currency over USD or basis of each currency over EUR. Cross-currency bases that do not relate to either basis over USD or basis over EUR must be computed either on "basis over USD" or "basis over EUR," but not both.

(2) *Vega risk factors for interest rate risk*. The vega risk factors for interest rate risk are defined for each currency and consist of:

(i) The implied volatilities of inflation rate risk-sensitive options as defined along (b)(2)(iii)(A) of this section;

(ii) The implied volatilities of cross-currency basis risk-sensitive options as defined along (b)(2)(iii)(A) of this section; and

(iii) The implied volatilities of interest rate risk-sensitive options as defined along (b)(2)(iii)(A) and (B) of this section.

(A) The maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years; and

(B) The residual maturity of the underlying instrument at the expiry date of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for interest rate risk.* The curvature risk factors for interest rate risk are defined along one dimension, the relevant interest rate curve, per currency, where term structure is not recognized. To calculate curvature scenarios, a [BANKING ORGANIZATION] must shift all tenors provided in paragraph (b)(1)(i)(B) of this section, in parallel. There is no curvature capital requirement for inflation risk and cross-currency basis risks.

(4) On-shore and offshore variants of a currency must be treated as separate currencies, unless a [BANKING ORGANIZATION] has received prior approval of the [AGENCY] to treat on-shore and offshore variants as a single currency.

(c) *Risk factors for credit spread risk for non-securitization positions*—(1) *Delta risk factors for credit spread risk for non-securitization positions.* The delta risk factors for credit spread risk for non-securitization positions are defined along two dimensions:

(i) The issuer credit spread curve; and

(ii) Tenor: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(2) *Vega risk factors for credit spread risk for non-securitization positions*. For each credit spread curve, the vega risk factors for credit spread risk for non-securitization positions are the implied volatilities of options as defined along one dimension for the maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for credit spread risk for non-securitization positions*. The curvature risk factors for credit spread risk for non-securitization positions are defined along the relevant issuer credit spread curves. For purposes of calculating curvature scenarios, a [BANKING ORGANIZATION] must ignore the bond-CDS basis and treat the bond-inferred spread curve of an issuer and the CDS-inferred spread curve of that same issuer as a single spread curve. To calculate curvature scenarios, a [BANKING ORGANIZATION] must shift all tenors provided in paragraph (c)(1)(ii) of this section, in parallel.

(d) *Risk factors for credit spread risk for securitization positions non-CTP*—(1) *Delta risk factors for credit spread risk for securitization positions non-CTP*. The delta risk factors for credit spread risk for securitization positions non-CTP are defined along two dimensions:

(i) The tranche credit spread curve; and

(ii) Tenor of the tranche: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(2) *Vega risk factors for credit spread risk for securitization positions non-CTP.* For each tranche credit spread curve, the vega risk factors for credit spread risk for securitization positions non-CTP are the implied volatilities of options as defined along one dimension for the maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for credit spread risk for securitization positions non-CTP*. The curvature risk factors for credit spread risk for securitization positions non-CTP are defined along one dimension, the relevant tranche credit spread curves. For purposes of calculating curvature scenarios, a [BANKING ORGANIZATION] must ignore the bond-CDS basis and treat the bond-inferred spread curve of a tranche and the CDS-inferred spread curve of that same tranche as a single spread curve. To calculate curvature scenarios, a [BANKING ORGANIZATION] must shift all tenors provided in paragraph (d)(1)(ii) of this section in parallel.

(e) *Risk factors for credit spread risk for correlation trading positions*—(1) *Delta risk factors for credit spread risk for correlation trading positions*. The delta risk factors for credit spread risk for correlation trading positions are defined along two dimensions:

(i) The underlying credit spread curve; and

(ii) Tenor of the underlying name: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(2) *Vega risk factors for credit spread risk for correlation trading positions*. For each underlying credit spread curve, the vega risk factors for the credit spread risk for correlation trading positions are the implied volatilities of options as defined along one dimension for the maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for credit spread risk for correlation trading positions*. The curvature risk factors for credit spread risk for correlation trading positions are defined along one dimension, the relevant underlying credit spread curves. For purposes of calculating curvature scenarios, a [BANKING ORGANIZATION] must disregard the bond-CDS basis and treat the bond-inferred spread curve of a given name in an index and the CDS-inferred spread curve of that same underlying name as a single spread curve. To calculate curvature scenarios, a [BANKING ORGANIZATION] must shift all tenors provided in paragraph (e)(1)(ii) of this section in parallel.

(f) *Risk factors for equity risk*—(1) *Delta risk factors for equity risk*. The delta risk factors for equity risk are defined for each issuer and consist of equity spot prices and equity repo rates, as appropriate.

(2) *Vega risk factors for equity risk*. The vega risk factors for equity risk are defined for each issuer and consist of the implied volatilities of the spot prices of equity risk-sensitive options as defined along the maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for equity risk*. The curvature risk factors for equity risk are defined for each issuer and consist of all equity spot prices. There are no curvature risk factors for equity repo rates.

(g) *Risk factors for commodity risk*—(1) *Delta risk factors for commodity risk*. The delta risk factors for commodity risk are all commodity spot prices or forward prices and are defined along two dimensions for each commodity:

(i) The contracted delivery location of the commodity; and

(ii) Remaining maturity of the contract: 0 years, 0.25 years, 0.5 years, 1 year, 2 years, 3 years, 5 years, 10 years, 15 years, 20 years and 30 years.

(2) *Vega risk factors for commodity risk*. The vega risk factors for commodity risk are the implied volatilities of commodity-sensitive options as defined along one dimension for each commodity, the maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for commodity risk*. The curvature risk factors for commodity risk are defined along one dimension per commodity, the constructed curve per commodity spot prices or forward prices, consistent with the delta risk factor, where term structure is not recognized. For the calculation of sensitivities, all tenors provided in paragraph (g)(1)(ii) of this section, are to be shifted in parallel.

(h) *Risk factors for foreign exchange risk*—(1) *Delta risk factors for foreign exchange risk.* The delta risk factors for foreign exchange risk are all the exchange rates between the currency in which a market risk covered position is denominated and the reporting currency.

(i) For market risk covered positions that reference an exchange rate between a pair of non-reporting currencies, the delta risk factors for foreign exchange risk are all the exchange rates between:

(A) The reporting currency; and

(B) The currency in which a market risk covered position is denominated and any other currencies referenced by the market risk covered position.

(ii) Alternatively, a [BANKING ORGANIZATION] may calculate delta risk factors for foreign exchange risk relative to a base currency instead of the reporting currency if approved by the [AGENCY]. In such case a [BANKING ORGANIZATION] must account for the foreign exchange risk against the base currency and the foreign exchange risk between the reporting currency and the base currency (i.e., translation risk). The resulting foreign exchange risk calculated relative to the base currency must be converted to the capital requirements in the reporting currency using the spot reporting/base exchange rate reflecting the foreign exchange risk between the base currency and the reporting currency.

(A) To use this alternative, a [BANKING ORGANIZATION] may only consider a single currency as its base currency; and

(B) A [BANKING ORGANIZATION] must demonstrate to the [AGENCY] that calculating foreign exchange risk relative to its base currency provides an appropriate risk representation of the [BANKING ORGANIZATION]'s market risk covered positions and that the translation risk between the base currency and the reporting currency is addressed.

(2) *Vega risk factors for foreign exchange risk.* The vega risk factors for foreign exchange risk-sensitive options are the implied volatility of options that reference exchange rates between currency pairs defined along the maturity of the option: 0.5 years, 1 year, 3 years, 5 years and 10 years.

(3) *Curvature risk factors for foreign exchange risk*. The curvature risk factors for foreign exchange risk are all the exchange rates between the currency in which a market risk covered position is denominated and the reporting currency.

(i) For market risk covered positions that reference an exchange rate between a pair of non-reporting currencies, the curvature risk factors for foreign exchange risk are all the exchange rates between:

(A) The reporting currency; and

(B) The currency in which a market risk covered position is denominated and any other currencies referenced by the market risk covered position.

(ii) If the [BANKING ORGANIZATION] has received prior approval of the [AGENCY] to use the base currency approach in paragraph (h)(1)(ii) of this section, curvature risk factors for foreign exchange risk must be calculated relative to the base currency instead of the reporting currency, and then converted to the capital requirements in the reporting currency using the spot reporting/base exchange rate.

(4) For all risk factors for foreign exchange risk, a [BANKING ORGANIZATION] may distinguish between onshore and offshore variants of a currency.

§ __.209 Sensitivities-based method: definitions of buckets, risk weights and correlation parameters.

(a) For the purpose of calculating the sensitivities-based capital requirement, a [BANKING ORGANIZATION] must identify all of the relevant buckets, corresponding risk weights and correlation parameters for each risk class as provided in paragraph (b) of this section (delta capital requirement), paragraph (c) of this section (vega capital requirement), and paragraph (d) of this section (curvature capital requirement), for its market risk covered positions.

(b) *Delta capital requirement*—(1) *Delta buckets, risk weights, and correlations for interest rate risk*. (i) A [BANKING ORGANIZATION] must establish a separate interest rate risk bucket for each currency.

(ii) For calculating risk-weighted delta sensitivities, the risk weights for each tenor of an interest rate curve are set out in Table 1 of this section.

Table 1 to § __.209—Delta Risk Weights for Interest Rate Risk

Tenor	0.25 year	0.5 year	1 year	2 year	3 year
Risk weight	1.7%	1.7%	1.6%	1.3%	1.2%
Tenor	5 year	10 year	15 year	20 year	30 year
Risk weight	1.1%	1.1%	1.1%	1.1%	1.1%

(iii) The risk weight for inflation rate risk factors and cross-currency basis risk factors equals 1.6 percent.

(iv) For United States Dollar, Australian Dollar, Canadian Dollar, Euro, Japanese Yen, Swedish Krona, and United Kingdom Pound, and any other currencies specified by the [AGENCY], a [BANKING ORGANIZATION] may divide the risk weights in paragraphs (b)(1)(ii) and (iii) of this section by √2.

(v) For purposes of aggregating risk-weighted delta sensitivities of interest rate risk within a bucket as specified in § __.206(b)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(A) The correlation parameter ρ_{kl} between risk-weighted delta sensitivities WS_k and WS_l within the same bucket, with the same tenor but different interest rate curves equals 99.9 percent. For cross-currency basis risk for onshore and offshore curves, a [BANKING ORGANIZATION] may choose to take the sum of the risk-weighted delta sensitivities.

(B) The correlation parameter ρ_{kl} between risk-weighted delta sensitivities WS_k and WS_l within the same bucket, with different tenors and the same interest rate curve are set out in table 2 of this section.

Table 2 to § __.209—Interest Rate Risk Correlation Parameter (ρ_{kl}) within the Same Bucket, with Different Tenors and the Same Interest Rate Curve

	0.25 year	0.5 year	1 year	2 year	3 year	5 year	10 year	15 year	20 year	30 year
0.25 year	100.0%	97.0%	91.4%	81.1%	71.9%	56.6%	40.0%	40.0%	40.0%	40.0%

0.5 year		100.0%	97.0%	91.4%	86.1%	76.3%	56.6%	41.9%	40.0%	40.0%
1 year			100.0%	97.0%	94.2%	88.7%	76.3%	65.7%	56.6%	41.9%
2 year				100.0%	98.5%	95.6%	88.7%	82.3%	76.3%	65.7%
3 year					100.0%	98.0%	93.2%	88.7%	84.4%	76.3%
5 year						100.0%	97.0%	94.2%	91.4%	86.1%
10 year							100.0%	98.5%	97.0%	94.2%
15 year								100.0%	99.0%	97.0%
20 year									100.0%	98.5%
30 year										100.0%

(C) The correlation parameter ρ_{kl} between risk-weighted delta sensitivities WS_k and WS_l within the same bucket, with different tenors and different interest rate curves equals the correlation parameter ρ_{kl} specified in Table 2 of this section multiplied by 99.9 percent.

(D) The correlation parameter ρ_{kl} between risk-weighted delta sensitivities WS_k and WS_l to different inflation curves within the same bucket equals 99.9 percent.

(E) The correlation parameter ρ_{kl} between a risk-weighted delta sensitivity WS_k to the inflation curve and a risk weighted delta sensitivity WS_l to a given tenor of the relevant interest rate curve equals 40 percent.

(F) The correlation parameter ρ_{kl} equals zero percent between risk-weighted delta sensitivity WS_k to a cross-currency basis curve and a risk weighted delta sensitivity WS_l to each of the following curves:

(*1*) A given tenor of the relevant interest rate curve;

(*2*) The inflation curve; and

(*3*) Any other cross-currency basis curve.

(vi) For purposes of aggregating delta bucket-level risk positions across buckets within the interest rate risk class as specified in § __.206(b)(3), the cross-bucket correlation parameter γ_{bc} equals 50 percent.

(2) *Delta buckets, risk weights, and correlations for credit spread risk for non-securitizations*. (i) For credit spread risk for non-securitizations, a [BANKING ORGANIZATION] must establish buckets along two dimensions, credit quality and sector, as set out in Table 3 of this section. In assigning a delta sensitivity to a sector, a [BANKING ORGANIZATION] must follow market convention. A [BANKING ORGANIZATION] must assign each delta sensitivity to one and only one of the sector buckets in Table 3 of this section. Delta sensitivities that a [BANKING ORGANIZATION] cannot assign to a sector must be assigned to the other sector, bucket 17 in Table 3 of this section.

(ii) For calculating risk weighted delta sensitivities for credit spread risk for non-securitizations, a [BANKING ORGANIZATION] must use the risk weights in Table 3 of this section. The risk weights are the same for all tenors within a bucket.

Table 3 to § __.209—Delta Buckets and Risk Weights for Credit Spread Risk for Non-Securitizations

Bucket number	Credit quality category	Sector	Risk weight
1	Investment grade	Sovereign and MDBs	0.5%
2		PSE, government-backed non-financials, GSE debt, education, and public administration	1.0%
3		Financials including government-backed financials	5.0%
4		Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	3.0%
5		Consumer goods and services, transportation and storage, and administrative and support service activities	3.0%
6		Technology and telecommunications	2.0%
7		Health care, utilities, and professional and technical activities	1.5%
8		Covered bonds	2.5%
9	Speculative grade	Sovereign and MDBs	3.0%
10	Speculative grade and sub-speculative grade	PSE, government-backed non-financials, education, and public administration	4.0%
11		Financials including government-backed financials	12.0%
12		Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	7.0%
13		Consumer goods and services, transportation and storage, and administrative and support service activities	8.5%
14		Technology and telecommunications	5.5%
15		Health care, utilities, and professional and technical activities	5.0%
16	Sub-speculative grade	Sovereign and MDBs	7.0%
17	Other sector		12.0%
18	Investment grade indices		1.5%
19	Speculative grade and sub-speculative grade indices		5.0%

(iii) For purposes of aggregating risk weighted delta sensitivities of credit spread risk for non-securitizations within a bucket as specified in § __.206(b)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(A) For buckets 1 to 16, the correlation parameter ρ_{kl} between risk weighted delta sensitivities WS_k and WS_l equals:

$$\rho_{kl} = \rho_{kl}^{(name)} \times \rho_{kl}^{(tenor)} \times \rho_{kl}^{(basis)}$$

where,

(*1*)$\rho_{kl}^{(name)}$ equals 100 percent if the two names of the delta sensitivities to risk factors k and l are identical, and 35 percent otherwise;

(*2*) $\rho_{kl}^{(tenor)}$equals 100 percent if the two tenors of the delta sensitivities to risk factors k and l are identical, and 65 percent otherwise; and

(*3*) $\rho_{kl}^{(basis)}$equals 100 percent if the two delta sensitivities are related to the same curve, and 99.9 percent otherwise.

(B) For bucket 17, the risk delta bucket level risk position equals the sum of the absolute values of the risk weighted delta sensitivities allocated to this bucket,

$$K_{b(other\ bucket)} = \sum_k |WS_k|.$$

(C) For buckets 18 and 19, the correlation parameter ρ_{kl} between risk weighted delta sensitivities WS_k and WS_l equals:

$$\rho_{kl} = \rho_{kl}^{(name)} \times \rho_{kl}^{(tenor)} \times \rho_{kl}^{(basis)}$$

where,

(*1*) $\rho_{kl}^{(name)}$ equals 100 percent if the two names of the delta sensitivities to risk factors k and l are identical, and 80 percent otherwise;

(*2*) $\rho_{kl}^{(tenor)}$equals 100 percent if the two tenors of the delta sensitivities to risk factors k and l are identical, and 65 percent otherwise; and

(*3*)$\rho_{kl}^{(basis)}$equals 100 percent if the two delta sensitivities are related to the same curves, and 99.9 percent otherwise.

(iv) For purposes of aggregating delta bucket-level risk positions across buckets within the credit spread risk for non-securitizations risk class as specified in § __.206(b)(3), a [BANKING ORGANIZATION] must calculate the cross-bucket correlation parameter γ_{bc} as follows with respect to buckets 1 to 19:

$$\gamma_{bc} = \gamma_{bc}^{(credity\ quality)} \times \gamma_{bc}^{(sector)}$$

where,

(A) $\gamma_{bc}^{(credit\ quality)}$ equals 50 percent where the two buckets *b* and *c* are both in the set of buckets 1 to 16, 18 and 19 and have a different credit quality category, where speculative and sub-speculative grade is treated as one credit quality category; $\gamma_{bc}^{(credit\ quality)}$ equals 100 percent otherwise; and

(B) $\gamma_{bc}^{(sector)}$equals 100 percent if the two buckets belong to the same sector, and the specified values set out in Table 4 of this section otherwise.

TABLE 4 TO § __.209—Credit spread risk for non-securitizations correlation parameter $\gamma_{bc}^{(sector)}$ where the buckets do not belong to the same sector

Bucket	1 ,9, or 16	2 or 10	3 or 11	4 or 12	5 or 13	6 or 14	7 or 15	8	17	18	19
1, 9, or 16		75%	10%	20%	25%	20%	15%	10%	0%	45%	45%
2 or 10			5%	15%	20%	15%	10%	10%	0%	45%	45%
3 or 11				5%	15%	20%	5%	20%	0%	45%	45%
4 or 12					20%	25%	5%	5%	0%	45%	45%
5 or 13						25%	5%	15%	0%	45%	45%
6 or 14							5%	20%	0%	45%	45%
7 or 15								5%	0%	45%	45%
8									0%	45%	45%
17										0%	0%
18											75%

(3) *Delta buckets, risk weights, and correlations for credit spread risk for correlation trading positions*. (i) For credit spread risk for correlation trading positions, a [BANKING ORGANIZATION] must establish buckets along two dimensions, credit quality and sector as set out in Table 5 of this section. In assigning a delta sensitivity to a sector, a [BANKING ORGANIZATION] must follow market convention. A [BANKING ORGANIZATION] must assign each delta sensitivity to one and only one of the sector buckets in Table 5 of this section. Delta sensitivities that a [BANKING ORGANIZATION] cannot assign to a sector must be assigned to the other sector, bucket 17 in Table 5 of this section.

(ii) For calculating risk weighted delta sensitivities for credit spread risk for correlation trading positions, a [BANKING ORGANIZATION] must use the risk weights in Table 5 of this section. The risk weights are the same for all tenors within a bucket.

Table 5 to § __.209—Delta Buckets and Risk Weights for Credit Spread Risk for Correlation Trading Positions

Bucket number	Credit quality category	Sector	Risk weight
1	Investment grade	Sovereign and MDBs	4.0%
2		PSE, government-backed non-financials, GSE debt, education, and public administration	4.0%
3		Financials including government-backed financials	8.0%
4		Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	5.0%
5		Consumer goods and services, transportation and storage, and administrative and support service activities	4.0%
6		Technology and telecommunications	3.0%
7		Health care, utilities, and professional and technical activities	2.0%
8		Covered bonds	6.0%
9	Speculative grade	Sovereign and MDBs	13.0%
	Speculative		

10	grade and sub-speculative grade	PSE, government-backed non-financials, education, and public administration	13.0%
11		Financials including government-backed financials	16.0%
12		Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	10.0%
13		Consumer goods and services, transportation and storage, and administrative and support service activities	12.0%
14		Technology and telecommunications	12.0%
15		Health care, utilities, and professional and technical activities	12.0%
16	Sub-speculative grade	Sovereigns and MDBs	16.0%
17	Other sector		13.0%

(iii) For purposes of aggregating risk weighted delta sensitivities of credit spread risk for correlation trading positions within a bucket as specified in § __.206(b)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(A) For buckets 1 to 16, the correlation parameter ρ_{kl} between risk weighted delta sensitivities WS_k and WS_l equals:

$$\rho_{kl} = \rho_{kl}^{(name)} \times \rho_{kl}^{(tenor)} \times \rho_{kl}^{(basis)}$$

where,

(*1*) $\rho_{kl}^{(name)}$ equals 100 percent if the two names of delta sensitivities to risk factors *k* and *l* are identical, and 35 percent otherwise;

(*2*) $\rho_{kl}^{(tenor)}$ equals 100 percent if the two tenors of the delta sensitivities to risk factors *k* and *l* are identical, and 65 percent otherwise; and

(*3*) $\rho_{kl}^{(basis)}$ equals 100 percent if the two delta sensitivities are related to same curve, and 99 percent otherwise.

(B) For bucket 17, the delta bucket-level risk position equals the sum of the absolute values of the risk weighted delta sensitivities allocated to this bucket,

$$K_{b(other\ bucket)} = \sum_k |WS_k|.$$

(C) For purposes of aggregating delta bucket-level risk positions across buckets within the credit spread risk for correlation trading positions risk class as specified in § __.206(b)(3), a [BANKING ORGANIZATION] must calculate the cross-bucket correlation parameter γ_{bc} as follows:

$$\gamma_{bc} = \gamma_{bc}^{(credity\ quality)} \times \gamma_{bc}^{(sector)}$$

where,

(*1*) $\gamma_{bc}^{(credit\ quality)}$ equals 50 percent where the two buckets *b* and *c* are both in buckets 1 to 16 and have a different credit quality category, where speculative and sub-speculative grade is treated as one credit quality category; $\gamma_{bc}^{(credit\ quality)}$ equals 100 percent otherwise; and

(*2*)$\gamma_{bc}^{(sector)}$ equals 100 percent if the two buckets belong to the same sector, and the specified values set out in Table 6 of this section otherwise.

Table 6 to § __.209—Credit spread risk for correlation trading positions correlation parameter $\gamma_{bc}^{(sector)}$ where the buckets do not belong to the same sector

Bucket	1, 9, or 16	2 or 10	3 or 11	4 or 12	5 or 13	6 or 14	7 or 15	8	17
1, 9, or 16		75%	10%	20%	25%	20%	15%	10%	0%
2 or 10			5%	15%	20%	15%	10%	10%	0%
3 or 11				5%	15%	20%	5%	20%	0%
4 or 12					20%	25%	5%	5%	0%
5 or 13						25%	5%	15%	0%
6 or 14							5%	20%	0%
7 or 15								5%	0%
8									0%
17									

(4) *Delta buckets, risk weights, and correlations for credit spread risk for securitization positions non-CTP*. (i) For credit spread risk for securitization positions non-CTP, a [BANKING

ORGANIZATION] must establish buckets along two dimensions, credit quality and sector, as set out in Table 7 of this section. In assigning a delta sensitivity to a credit quality, a [BANKING ORGANIZATION] must take into account the structural features of the securitization position non-CTP. In assigning a delta sensitivity to a sector, a [BANKING ORGANIZATION] must follow market convention. Delta sensitivities of any tranche that a [BANKING ORGANIZATION] cannot assign to a sector must be assigned to the other sector bucket.

(ii) For calculating risk weighted delta sensitivities for credit spread risk for securitization positions non-CTP, a [BANKING ORGANIZATION] must use the risk weights in Table 7 of this section.

TABLE 7 TO § __.209—DELTA Buckets and Risk Weights for Credit Spread Risk for Securitization Positions Non-CTP

Bucket number	Credit quality category	Sector	Risk weight
1	Senior investment grade	Prime RMBS	0.90%
2		Mid-prime RMBS	1.50%
3		Sub-prime RMBS	2.00%
4		Commercial mortgage-backed securities	2.00%
5		Asset-backed securities – Student loans	0.80%
6		Asset-backed securities – Credit cards and personal loans	1.20%
7		Asset-backed securities – Auto and dealer floorplan	1.20%
8		Collateralized loan obligation non-CTP	1.40%
9	Non-senior investment grade	Prime RMBS	1.13%
10		Mid-prime RMBS	1.88%
11		Sub-prime RMBS	2.50%
12		Commercial mortgage-backed securities	2.50%
13		Asset-backed securities – Student loans	1.00%
14		Asset-backed securities – Credit cards and personal loans	1.50%
15		Asset-backed securities – Auto and dealer floorplan	1.50%
16		Collateralized loan obligation non-CTP	1.75%
17	Speculative and sub-	Prime RMBS	1.58%
18		Mid-prime RMBS	2.63%

19	speculative grade	Sub-prime RMBS	3.50%
20		Commercial mortgage-backed securities	3.50%
21		Asset-backed securities – Student loans	1.40%
22		Asset-backed securities – Credit cards and personal loans	2.10%
23		Asset-backed securities – Auto and dealer floorplan	2.10%
24		Collateralized loan obligation non-CTP	2.45%
25	Other sector		3.50%

(iii) For purposes of aggregating risk weighted delta sensitivities of credit spread risk for securitization positions non-CTP within a bucket as specified in § __.206(b)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(A) For buckets 1 through 24, the correlation parameter ρ_{kl} between risk weighted delta sensitivities WS_k and WS_l, equals:

$$\rho_{kl} = \rho_{kl}^{(tranche)} \times \rho_{kl}^{(tenor)} \times \rho_{kl}^{(basis)}$$

where,

(*1*) $\rho_{kl}^{(tranche)}$equals 100 percent where the two delta sensitivities to risk factors *k* and *l* are within the same bucket and related to the same tranche, with more than 80 percent overlap in notional terms and 40 percent otherwise;

(*2*) $\rho_{kl}^{(tenor)}$ equals 100 percent if the two tenors of the delta sensitivities to risk factors *k* and *l* are identical, and 80 percent otherwise; and

(*3*) $\rho_{kl}^{(basis)}$ equals 100 percent if the two delta sensitivities reference the same curve, and 99.9 percent otherwise.

(B) For bucket 25, the delta bucket-level risk position equals the sum of the absolute values of the risk weighted delta sensitivities allocated to this bucket,

$$K_{b(other\ bucket)} = \sum_k |WS_k|.$$

(iv) For purposes of aggregating delta bucket-level risk positions across buckets within the credit

spread risk for securitization positions non-CTP risk class as specified in § __.206(b)(3), the cross-bucket correlation parameter γ_{bc} equals zero percent.

(5) *Delta buckets, risk weights, and correlations for equity risk*. (i) For equity risk, a [BANKING ORGANIZATION] must establish buckets along three dimensions, market capitalization, economy and sector as set out in Table 8 of this section. To assign a delta sensitivity to an economy, a [BANKING ORGANIZATION], at least annually, must review and update the countries and territorial entities that satisfy the requirements of a liquid market economy using the most recent economic data available. To assign a delta sensitivity to a sector, a [BANKING ORGANIZATION] must follow market convention by using classifications that are commonly used in the market for grouping issuers by industry sector. A [BANKING ORGANIZATION] must assign each issuer to one of the sector buckets and must assign all issuers from the same industry to the same sector. Delta sensitivities of any equity issuer that a [BANKING ORGANIZATION] cannot assign to a sector must be assigned to the other sector. For multinational, multi-sector equity issuers, the allocation to a particular bucket must be done according to the most material economy and sector in which the issuer operates.

(ii) For calculating risk weighted delta sensitivities for equity risk, a [BANKING ORGANIZATION] must use the risk weights in Table 8 of this section.

Table 8 to § __.209—Delta Buckets and Risk Weights for Equity Risk

Bucket number	Market cap	Economy	Sector	Risk weight for equity spot price	Risk weight for equity repo rate
1	Large market cap	Emerging market economy	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, and utilities	55%	0.55%
2			Telecommunications and industrials	60%	0.60%
3			Basic materials, energy, agriculture, manufacturing, and mining and quarrying	45%	0.45%

4			Financials including government-backed financials, real estate activities, and technology	55%	0.55%
5		Liquid market economy	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, and utilities	30%	0.30%
6			Telecommunications and industrials	35%	0.35%
7			Basic materials, energy, agriculture, manufacturing, and mining and quarrying	40%	0.40%
8			Financials including government-backed financials, real estate activities, and technology	50%	0.50%
9	Small market cap	Emerging market economy	All sectors described under bucket numbers 1, 2, 3 and 4	70%	0.70%
10		Liquid market economy	All sectors described under bucket numbers 5, 6, 7 and 8	50%	0.50%
11	Other sector			70%	0.70%
12	Equity indices that are both large market cap and liquid market economy (non-sector specific)			15%	0.15%
13	Other equity indices (non-sector specific)			25%	0.25%

(iii) For purposes of aggregating risk weighted delta sensitivities of equity risk within a bucket as specified in § __.206(b)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(A) For buckets 1 through 10 and 12 through 13, the correlation parameter ρ_{kl} between two risk weighted delta sensitivities WS_k and WS_l is as follows:

(*1*) ρ_{kl} equals 99.9 percent, where one delta sensitivity is to an equity spot price and the other delta sensitivity is to an equity repo rate, and both are related to the same equity issuer;

(*2*) Where both delta sensitivities are to equity spot prices, or both delta sensitivities are to equity repo rates, ρ_{kl} equals:

(*i*) 15 percent between delta sensitivities assigned to buckets 1, 2, 3, and 4 of Table 8 of this section (large market cap, emerging market economy);

(*ii*) 25 percent between delta sensitivities assigned to buckets 5, 6, 7 or 8 of Table 8 of this section (large market cap, liquid market economy);

(*iii*) 7.5 percent between delta sensitivities assigned to bucket 9 of Table 8 of this section (small market cap, emerging market economy);

(*iv*) 12.5 percent between delta sensitivities assigned to bucket 10 of Table 8 of this section (small market cap, liquid market economy); and

(*v*) 80 percent between delta sensitivities assigned to buckets 12 or 13 of Table 8 of this section (either index bucket); and

(*3*) Where one delta sensitivity is to an equity spot price and the other delta sensitivity is to an equity repo rate, and each delta sensitivity is related to a different equity issuer, the applicable correlation parameter equals ρ_{kl}, as defined in paragraph (b)(5)(iii)(A)(*2*) of this section, multiplied by 99.9 percent; and

(B) For bucket 11, the delta bucket-level risk position equals the sum of the absolute values of the risk weighted delta sensitivities allocated to this bucket,

$$K_{b(other\ bucket)} = \sum_k |WS_k|.$$

(iv) For purposes of aggregating delta bucket-level risk positions across buckets within the equity risk class as specified in § __.206(b)(3), the cross-bucket correlation parameter γ_{bc} equals:

(A) 15 percent if bucket *b* and bucket *c* fall within buckets 1 to 10 of Table 8 of this section;

(B) Zero percent if either of bucket *b* and bucket *c* is bucket 11 of Table 8 of this section;

(C) 75 percent if bucket *b* and bucket *c* are buckets 12 and 13 of Table 8 of this section (i.e., one is bucket 12 and one is bucket 13); and

(D) 45 percent otherwise.

(6) *Delta buckets, risk weights, and correlations for commodity risk*.

(i) For commodity risk, a [BANKING ORGANIZATION] must establish buckets for each commodity type as set out in Table 9 of this section. A [BANKING ORGANIZATION] must assign each contract to one of the commodity buckets and must assign all contracts with the same underlying commodity to the same bucket. Delta sensitivities of any contract that a [BANKING ORGANIZATION] cannot assign to a commodity type must be assigned to the other commodity bucket.

(ii) For calculating risk weighted delta sensitivities for commodity risk, a [BANKING ORGANIZATION] must use the risk weights in Table 9 of this section.

Table 9 TO § __.209—Delta Buckets and Risk Weights for Commodity Risk

Bucket number	Commodity bucket	Examples of commodities allocated to each commodity bucket (non-exhaustive)	Risk weight
1	Energy - solid combustibles	Coal, charcoal, wood pellets, and nuclear fuel	30%
2	Energy - liquid combustibles	Light-sweet crude oil, heavy crude oil, West Texas Intermediate (WTI) crude, Brent crude, etc. (i.e., various types of crude oil) Bioethanol, biodiesel, etc. (i.e., various biofuels) Propane, ethane, gasoline, methanol, butane, etc. (i.e., various petrochemicals) Jet fuel, kerosene, gasoil, fuel oil, naphtha, heating oil, diesel, etc. (i.e., various refined fuels)	35%
3	Energy - carbon trading	Certified emissions reductions, in-delivery month EU allowance, Regional Greenhouse Gas Initiative CO2 allowance, renewable energy certificates, etc. (i.e., various carbon trading emissions)	60%
4	Freight	Capesize, Panamax, Handysize, Supramax, etc. (i.e., various types of dry-bulk route) Suezmax, Aframax, very large crude carriers (i.e., various liquid-bulk/gas shipping route)	80%
5	Metals – non-precious	Aluminum, copper, lead, nickel, tin, zinc, etc. (i.e., various base metals) Steel billet, steel wire, steel coil, steel scrap, steel rebar, iron ore, tungsten, vanadium, titanium, tantalum, etc. (i.e., steel raw materials) Cobalt, manganese, molybdenum, etc. (i.e., various minor metals)	40%
6	Gaseous combustibles and electricity	Natural gas and liquefied natural gas Spot electricity, day-ahead electricity, peak electricity, off-peak electricity, etc. (i.e., various electricity types)	45%

7	Precious metals (including gold)	Gold, silver, platinum and palladium	20%
8	Grains and oilseed	Corn, wheat, soybean seed, soybean oil, soybean meal, oats, palm oil, canola, barley, rapeseed seed, rapeseed oil, rapeseed meal, red bean, sorghum, coconut oil, olive oil, peanut oil, sunflower oil, and rice	35%
9	Livestock and dairy	Live cattle, feeder cattle, hog, poultry, lamb, fish, shrimp, milk, whey, eggs, butter, and cheese	25%
10	Forestry and agriculturals	Cocoa, arabica coffee, robusta coffee, tea, citrus juice, orange juice, potatoes, sugar, cotton, wool, lumber, pulp, and rubber	35%
11	Other commodity	Potash, fertilizer, phosphate rocks, etc. (i.e., various industrial materials) Rare earths, terephthalic acid, flat glass	50%

(iii) For purposes of aggregating risk weighted delta sensitivities of commodity risk within a bucket as specified in § __.206(b)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(A) For buckets 1 through 11, the correlation parameter ρ_{kl} between two risk weighted delta sensitivities WS_k and WS_l equals:

$$\rho_{kl} = \rho_{kl}^{(cty)} \times \rho_{kl}^{(tenor)} \times \rho_{kl}^{(basis)}$$

where,

(*1*) $\rho_{kl}^{(cty)}$ equals 100 percent where the two delta sensitivities to risk factors *k* and *l* are identical, and the intra-bucket correlation parameters set out in Table 10 of this section otherwise;

(*2*) $\rho_{kl}^{(tenor)}$ equals 100 percent if the two tenors of the delta sensitivities to risk factors *k* and *l* are identical, and 99 percent otherwise; and

(*3*) $\rho_{kl}^{(basis)}$ equals 100 percent if the two delta sensitivities are identical in the delivery location of a commodity, and 99.9 percent otherwise.

Table 10 to § __.209—Commodity Risk Correlation Parameter $\rho_{kl}^{(cty)}$ for Intra-Bucket Correlations

Bucket number	Commodity bucket	Correlation ($\rho_{kl}^{(cty)}$)
1	Energy – Solid combustibles	55%
2	Energy – Liquid combustibles	95%
3	Energy – Carbon trading	40%
4	Freight	80%
5	Metals – non-precious	60%
6	Gaseous combustibles and electricity	65%
7	Precious metals (including gold)	55%
8	Grains and oilseed	45%
9	Livestock and dairy	15%
10	Forestry and other agriculturals	40%
11	Other commodity	15%

(iv) For purposes of aggregating delta bucket-level risk positions across buckets within the commodity risk class as specified in § __.206(b)(3), the cross-bucket correlation parameter γ_{bc} equals:

(A) 20 percent if bucket *b* and *c* fall within buckets 1 to 10 of Table 10 of this section; and

(B) Zero percent if either bucket *b* and *c* is bucket number 11 of Table 10 of this section.

(7) *Delta buckets, risk weights, and correlations for foreign exchange risk*. (i) For foreign exchange risk, a [BANKING ORGANIZATION] must establish buckets for each exchange rate between the currency in which a market risk covered position is denominated and the reporting currency (or alternative base currency).

(ii) For calculating risk weighted delta sensitivities for foreign exchange risk, a [BANKING ORGANIZATION] must apply a risk weight equal to 15 percent, except for any currency pair formed by the following list of currencies, a [BANKING ORGANIZATION] may divide the above risk weight by √2: United States Dollar, Australian Dollar, Brazilian Real, Canadian Dollar, Chinese Yuan, Euro, Hong Kong Dollar, Indian Rupee, Japanese Yen, Mexican Peso, New Zealand Dollar, Norwegian Krone, Singapore Dollar, South African Rand, South

Korean Won, Swedish Krona, Swiss Franc, Turkish Lira, United Kingdom Pound, and any additional currencies specified by the [AGENCY].

(iii) For purposes of aggregating delta bucket-level risk positions across buckets within the foreign exchange risk class, the cross-bucket correlation parameter γ_{bc} equals 60 percent.

(c) *Vega capital requirement*—(1) *Vega buckets.* For each risk class, a [BANKING ORGANIZATION] must use the same buckets as specified in paragraph (b) of this section for the calculation of the vega capital requirement.

(2) *Vega risk weights.* For calculating risk weighted sensitivities for vega risk as described in § __.206(c)(1), a [BANKING ORGANIZATION] must use the corresponding risk weight for each risk class specified in Table 11 of this section.

(i) Equity risk (large market cap and indices) applies to vega risk factors that correspond to buckets 1 to 8, 12 and 13 of Table 8 of this section.

(ii) Equity risk (small market cap and other sector) applies to vega risk factors that correspond to buckets 9 to 11 of Table 8 of this section.

Table 11 to § __.209—Vega Risk Weights

	Risk class	Risk weights
1	Interest rate risk	100%
2	Credit spread risk for non-securitizations	100%
3	Credit spread risk for correlation trading positions	100%
4	Credit spread risk for securitization positions non-CTP	100%
5	Equity risk (large market cap and indices)	77.78%
6	Equity risk (small market cap and other sector)	100%
7	Commodity risk	100%
8	Foreign exchange risk	100%

(3) *Vega correlation parameters*. For purposes of aggregating risk weighted vega sensitivities within a bucket as specified in § __.206(c)(2) a [BANKING ORGANIZATION] must use the following correlation parameters:

(i) For interest rate risk, where tenor is a dimension of the risk factor, correlation parameter r_{kl} equals:

$$\rho_{kl} = min\left(\left(\rho_{kl}^{(option\ maturity)} \times \rho_{kl}^{(underlying\ maturity)}\right), 1\right)$$

where,

(A) $\rho_{kl}^{(option\ maturity)}$ equals

$$e^{-\alpha \times \frac{|T_k - T_l|}{min\{T_k, T_l\}}}$$

with α set at 1 percent and T_k (respectively T_l) denoting the maturity of the option from which the vega sensitivity VR_k (VR_l) is derived, expressed as a number of years; and

(B) $\rho_{kl}^{(underlying\ maturity)}$ equals:

$$e^{-\alpha \times \frac{|T_k^U - T_l^U|}{min\{T_k^U, T_l^U\}}}$$

with α set at 1 percent and T_k^U (respectively T_l^U) denoting the maturity of the underlying of the option from which the sensitivity VR_k (VR_l) is derived, expressed as a number of years after the maturity of the option.

(ii) Except as noted in paragraph (c)(3)(iii) of this section, for purposes of aggregating risk weighted vega sensitivities within a bucket of:

(A) Interest rate risk, where term structure is not recognized (inflation rate risk factors and cross-currency basis risk factors); and

(B) The other risk classes (numbered 2 through 8 in Table 11 of this section), the correlation parameter ρ_{kl} equals:

$$\rho_{kl} = min\left(\left(\rho_{kl}^{(delta)} \times \rho_{kl}^{(option\ maturity)}\right), 1\right)$$

where,

(A) $\rho_{kl}^{(option\ maturity)}$ equals:

$$e^{-\alpha \times \frac{|T_k - T_l|}{min\{T_k, T_l\}}}$$

with α set at 1 percent and T_k (respectively T_l) denoting the maturity of the option from which the vega sensitivity VR_k (VR_l) is derived, expressed as a number of years; and

(2) $\rho_{kl}^{(delta)}$ equals the correlation between the delta risk factors that correspond to vega risk factors *k* and *l*. For instance, if *k* is the vega risk factor from equity option *X* and *l* is the vega risk factor from equity option *Y* then $\rho_{kl}^{(delta)}$ is the delta correlation applicable between *X* and *Y*. Specifically:

(*i*) For the risk classes of credit spread risk for non-securitization positions and credit spread risk for correlation trading positions, the vega risk correlation parameter, $\rho_{kl}^{(delta)}$, equals the corresponding delta correlation parameter, $\rho_{kl}^{(name)}$, as specified in paragraphs (b)(2)(iii)(A)(*1*) and (b)(3)(iii)(A)(*1*) of this section, respectively;

(*ii*) For the risk class of credit spread risk for securitization positions non-CTP, the vega risk correlation parameter, $\rho_{kl}^{(delta)}$, equals the corresponding delta correlation parameter, $_{kl}^{(tranche)}$, as specified in paragraph (b)(4)(iii)(A)(*1*) of this section; and

(*iii*) For the risk class of commodity risk, the vega risk correlation parameter, $\rho_{kl}^{(delta)}$, equals the corresponding delta correlation parameter, $\rho_{kl}^{(cty)}$, as specified in paragraph (b)(6)(iii)(A)(*1*) of this section.

(iii) For purposes of aggregating risk weighted vega sensitivities within the other sector buckets (for credit spread risk for non-securitizations, bucket 17 in table 3 to Table 3 of this section, for credit spread risk for correlation trading positions, bucket 17 in Table 5 of this section, for credit spread risk for securitization positions non-CTP, bucket 25 in Table 7 of this

section, and for equity risk, bucket 11 in Table 8 of this section), the vega bucket-level risk position equals the sum of the absolute values of the risk weighted vega sensitivities allocated to this bucket.

(iv) For purposes of aggregating vega bucket-level risk positions across different buckets within a risk class as specified in § __.206(c)(3), a [BANKING ORGANIZATION] must use the same cross-bucket correlation parameters γ_{bc} as specified for delta risk in paragraph (b) of this section.

(d) *The curvature capital requirement*—(1) *Curvature buckets*. For each risk class, a [BANKING ORGANIZATION] must use the same buckets as specified in paragraph (b) of this section for the calculation of the curvature capital requirement.

(2) *Curvature risk weights*. (i) For calculating the net curvature risk position CVR_k, as described in § __.206(d)(1), for the risk classes of foreign exchange risk and equity risk, the curvature risk weight that represents a shock to risk factor k is a relative shift equal to the delta risk weight corresponding to risk factor k.

(A) For options that do not reference a [BANKING ORGANIZATION]'s reporting currency or base currency as an underlying exposure, a [BANKING ORGANIZATION] may divide the net curvature risk positions CVR_k^+ and CVR_k^- for foreign exchange risk by a scalar of 1.5.

(B) A [BANKING ORGANIZATION] may apply the scalar of 1.5 consistently to all market risk covered positions subject to foreign exchange risk, provided curvature scenarios are calculated for all currencies, including curvature scenarios calculated by shocking the reporting currency (or base currency where used) relative to all other currencies.

(ii) For calculating the net curvature risk position CVR_k, as described in § __.206(d)(1), for the risk classes below, the curvature risk weight corresponding to risk factor k is the parallel shift of all the tenors for each curve based on the highest prescribed delta risk weight for each bucket:

(A) Interest rate risk;

(B) Credit spread risk for non-securitization positions;

(C) Credit spread risk for correlation trading positions;

(D) Credit spread risk for securitization positions non-CTP; and

(E) Commodity risk.

(iii) A [BANKING ORGANIZATION] may floor credit spreads at zero in cases where applying the delta risk weight described in paragraph (d)(2)(ii) of this section results in negative credit spreads for the credit spread risk classes referenced in paragraphs (d)(2)(ii)(B) through (D) of this section.

(3) *Curvature correlation parameters*. For purposes of aggregating the net curvature risk positions within a bucket as described in § __.206(d)(2), a [BANKING ORGANIZATION] must use the following correlation parameters:

(i) Except as noted in paragraph (d)(3)(vi) of this section, for the risk class of interest rate risk, the curvature risk correlation parameter, ρ_{kl}, equals 99.8 percent where risk factors k and l relate to different interest rate curves and 100 percent otherwise;

(ii) Except as noted in paragraph (d)(3)(vi) of this section, for the risk classes of credit spread risk for non-securitization positions and credit spread risk for correlation trading positions, the curvature risk correlation parameter, ρ_{kl}, equals the corresponding delta correlation parameter, $\rho_{kl}^{(name)}$, as specified in paragraphs (b)(2)(iii)(A)(*1*) and (b)(3)(iii)(A)(*1*) of this section, respectively, squared.

(iii) Except as noted in paragraph (d)(3)(vi) of this section, for the risk class of credit spread risk for securitization positions non-CTP, the curvature risk correlation parameter, ρ_{kl}, equals the corresponding delta correlation parameter, $\rho_{kl}^{(tranche)}$, as specified in paragraph (b)(4)(iii)(A) of this section, squared;

(iv) Except as noted in paragraph (d)(3)(vi) of this section, for the risk class of commodity risk, the curvature risk correlation parameter, ρ_{kl}, equals the corresponding delta correlation parameter, $\rho_{kl}^{(cty)}$, as specified in paragraph (b)(6)(iii)(A)(*1*) of this section, squared;

(v) Except as noted in paragraph (d)(3)(vi) of this section, for the risk class of equity risk, the curvature risk correlation parameter, ρ_{kl}, equals the corresponding delta correlation parameters, ρ_{kl}, as specified in paragraph (b)(5)(iii)(A)(*2*) of this section, squared;

(vi) For purposes of aggregating the net curvature risk positions within the other sector buckets (for credit spread risk for non-securitizations, bucket 17 in Table 3 of this section, for credit spread risk for correlation trading positions, bucket 17 in Table 5 of this section, for credit spread risk for securitization positions non-CTP, bucket 25 in Table 7 of this section, and for equity risk, bucket 11 in Table 8 of this section), the curvature bucket-level risk position equals:

$$K_{b(other\ bucket)} = max\left(\sum_k max(CVR_k^+, 0), \sum_k max(CVR_k^-, 0)\right).$$

(4) For purposes of aggregating curvature bucket-level risk positions across buckets within each risk class as specified in § __.206(d)(3), a [BANKING ORGANIZATION] must calculate the cross-bucket correlation parameters γ_{bc} for curvature risk by squaring the corresponding delta correlation parameters γ_{bc}.

(5) In applying the high and low correlations scenarios in § __.206(e), a [BANKING ORGANIZATION] must calculate the curvature capital requirements by applying the correlation parameters, ρ_{kl}, as calculated in paragraph (d)(3) of this section and the cross-bucket correlation parameter γ_{bc} as calculated in paragraph (d)(4) of this section.

§ __.210 Standardized default risk capital requirement.

(a) *Overview of the standardized default risk capital requirements.* (1) A [BANKING ORGANIZATION] must calculate default risk capital requirements for its market risk covered positions, including defaulted market risk covered positions, that are subject to default risk (default risk positions) across the following default risk categories:

(i) Non-securitization debt or equity positions, other than U.S. sovereign positions or MDBs;

(ii) Securitization positions non-CTP; and

(iii) Correlation trading positions.

(2) For each default risk category, the standardized default risk capital requirement must be calculated as follows:

(i) Assign each default risk position to one of the prescribed buckets.

(ii) Calculate the gross default exposure for each default risk position.

(iii) Calculate obligor-level net default exposure by offsetting, where permissible, the gross default exposure amounts of long and short default risk positions.

(A) To account for defaults within the one-year capital horizon, a [BANKING ORGANIZATION] must scale the gross default exposures for default risk positions of maturity less than one year, and their hedges, by the corresponding fraction of a year. The maturity weighting applied to the gross default exposure for any default risk position with a maturity of less than three months (such as short-term lending) must be floored at three months. No scaling is applied to the gross default exposures for default risk positions with maturities of one year or greater.

(*1*) A [BANKING ORGANIZATION] may assign unhedged cash equity positions to a maturity of either three months or one year. For cash equity positions that hedge derivative contracts, a [BANKING ORGANIZATION] may assign the same maturity to the cash equity position as the maturity of the derivative contract it hedges.

(*2*) For derivative transactions, eligibility for offsetting treatment is determined by the maturity of the derivative contract, not the maturity of the underlying. In the case where a default risk position can be delivered into a derivative contract that it hedges in fulfillment of the contract, a [BANKING ORGANIZATION] may align the maturity of the default risk position with the derivative contract it hedges to permit full offsetting.

(B) A [BANKING ORGANIZATION] may offset gross default exposures of different maturities that meet the offsetting criterion specified for the default risk category as follows:

(*1*) Gross default exposures with maturities longer than the one-year capital horizon may be fully offset;

(*2*) Gross default exposures with a mix of long and short exposures where some maturities are less than the one-year capital horizon must be weighted by the ratio of each gross default exposure's maturity relative to the one-year capital horizon. In the case where long and short gross default exposures both have maturities under the one-year capital horizon, scaling must be applied to both the long and short gross default exposure.

(iv) Within a bucket, a [BANKING ORGANIZATION] must:

(A) Calculate a hedge benefit ratio (HBR) to recognize hedging between long and short net default exposures within a bucket as follows:

$$HBR = \frac{\sum net\ default\ exposure_{(long)}}{\sum net\ default\ exposure_{(long)} + \sum \left| net\ default\ exposure_{(short)} \right|}$$

where,

(*1*) *Net defulat exposure*$_{(long)}$ equals the aggregate net long default exposure, calculated as the simple sum of the net long default exposures across obligors;

(*2*) *Net defulat exposure*$_{(short)}$ equals the aggregate net short default exposure, calculated as the simple sum of the net short default exposures across obligors.

(B) Assign risk weights to the obligor-level net default exposures using the corresponding risk weights specified for the default risk category; and

(C) Generate bucket-level default risk capital requirements by aggregating risk weighted obligor-level net default exposures according to the specified aggregation formulas in paragraphs (b)(3)(ii), (c)(3)(iii) and (d)(3)(iv) of this section.

(v) The standardized default risk capital requirement for non-securitization debt and equity positions or securitization positions non-CTP equals the sum of the bucket-level default

risk capital requirements. The standardized default risk capital requirement for correlation trading positions must be calculated in accordance with the aggregation formula in paragraph (d)(3)(v) of this section.

(3) A [BANKING ORGANIZATION] may not recognize any diversification benefits across default risk categories. The overall standardized default risk capital requirement is the sum of the default risk capital requirement for each default risk category.

(4) For purposes of calculating the standardized default risk capital requirement, a [BANKING ORGANIZATION] may apply the look-through approach to credit and equity indices that are non-securitization debt or equity positions.

(b) *Standardized default risk capital requirement for non-securitization debt or equity positions*—(1) *Gross default exposure*. (i) A [BANKING ORGANIZATION] must calculate the gross default exposure for each non-securitization debt or equity position.

(ii) A [BANKING ORGANIZATION] must determine the long and short direction of a gross default exposure with respect to whether there would be a loss (long) or a gain (short) in the event of a default.

(iii) A [BANKING ORGANIZATION] must calculate the gross default exposure based on the loss given default (LGD) rate, notional amount (or face value) and the cumulative profit and loss (P&L) already realized on the non-securitization position, as follows:

$$Gross\ default\ exposure_{(long)} = max\big((LGD\ rate \times notional\ amount + P\&L), 0\big)$$

$$Gross\ default\ exposure_{(short)} = min\big((LGD\ rate \times notional\ amount + P\&L), 0\big)$$

(iv) When applying the look-through approach to multi-underlying exposures or index options, a [BANKING ORGANIZATION] must set the gross default exposure assigned to a single name, referenced by the instrument, equal to the difference between the value of the instrument assuming only the single name defaults (with zero recovery) and the value of the instrument assuming none of the single names referenced by the instrument default.

(v) A [BANKING ORGANIZATION] must assign LGD rates to non-securitization debt or equity positions as follows:

(A) 100 percent for equity and non-senior debt and defaulted positions;

(B) 75 percent for senior debt;

(C) 75 percent for GSE debt issued, but not guaranteed, by GSEs;

(D) 25 percent for GSE debt guaranteed by GSEs;

(E) 25 percent for covered bonds; and

(F) Zero percent if the value of the non-securitization debt or equity position is not linked to the recovery rate of the defaulter.

(vi) For credit derivatives, a [BANKING ORGANIZATION] must use the LGD rate of the reference exposure.

(vii) A [BANKING ORGANIZATION] must reflect the notional amount of a non-securitization debt or equity position that gives rise to a long (short) gross default exposure as a positive (negative) value and the loss (gain) as a negative (positive) value. If the contractual or legal terms of the derivative contract allow for the unwinding of the instrument, with no exposure to default risk, the gross default exposure equals zero.

(viii) For all non-securitization debt or equity positions, the notional amount equals the amount of the non-securitization debt or equity position relative to which the loss of principal is calculated. For a call option on a non-securitization position, the notional amount to be used in the gross default exposure calculation is zero.

(2) *Net default exposures*. To calculate the net default exposure to an obligor, a [BANKING ORGANIZATION] must sum the maturity-weighted default exposures to the issuer and in doing so, may offset long and short gross default exposures to the same obligor, provided the short gross default exposures have the same or lower seniority relative to the long gross default exposures. In determining whether a market risk covered position that has an eligible guarantee is an exposure to the underlying obligor or an exposure to the eligible guarantor, the

credit risk mitigation requirements set out in § __.36 and § __.120 and § __.121 apply. For purposes of this section, GSEs may be considered eligible guarantors and each GSE must be considered a separate obligor, provided that a [BANKING ORGANIZATION] may fully offset long and short gross default exposures to Uniform Mortgage-Backed Securities that are issued by two different obligors.

(3) *Calculation of the standardized default risk capital requirement for non-securitization debt or equity positions*. (i) To calculate the standardized default risk capital requirement for non-securitization debt or equity positions, a [BANKING ORGANIZATION] must assign each non-securitization debt or equity position to one of four buckets:

(A) Non-U.S. sovereign positions;

(B) PSE and GSE debt positions;

(C) Corporate positions; and

(D) Defaulted positions.

(ii) A [BANKING ORGANIZATION] must calculate the bucket-level default risk capital requirement, DRC_b, for each bucket, b, for non-securitization debt or equity positions as follows:

$$DRC_b = max\left(\left(\left(\sum_{i \in long} RW_i \times net\ default\ exposure_i\right) - HBR \times \left(\sum_{i \in short} RW_i \times |net\ default\ exposure_i|\right)\right), 0\right)$$

where i refers to a non-securitization debt or equity position belonging to bucket b and the corresponding risk weights, RW_i, are set out in Table 1 of this section:

Table 1 to § __.210—Default Risk Weights for Non-Securitization Debt or Equity Positions by Credit Quality Category

Bucket	Credit quality category		
	Investment grade	Speculative grade	Sub-speculative grade

Non-U.S. sovereign positions	0.6%	22.0%	50.0%
PSE and GSE debt positions	2.1%	22.0%	50.0%
Corporate positions	4.1%	22.0%	50.0%
Defaulted positions	100%		

(iii) The standardized default risk capital requirement for non-securitization debt or equity positions equals the sum of the four bucket-level default risk capital requirements.

(c) *Standardized default risk capital requirement for securitization positions non-CTP*—(1) *Gross default exposure*. (i) A [BANKING ORGANIZATION] must determine the gross default exposure for each securitization position non-CTP using the approach for non-securitization debt or equity positions in paragraphs (b)(1)(i), (ii), and (vi) of this section, treating each securitization position non-CTP as a non-securitization debt or equity position. The gross default exposure for a securitization position non-CTP equals the position's market value.

(2) *Net default exposure*. (i) A [BANKING ORGANIZATION] may offset long and short securitization positions non-CTP if the positions have the same underlying asset pools and belong to the same tranche.

(ii) A [BANKING ORGANIZATION] may offset long and short securitization positions non-CTP with one or more long and short non-securitization positions by decomposing the exposures of the non-tranched index instruments. To recognize offsetting for securitization positions non-CTP, a [BANKING ORGANIZATION] must sum the equivalent underlying assets of the decomposed non-tranche index instruments to the equivalent replicating tranches that span the entire capital structure of the securitized instrument. Non-securitization positions that are recognized as offsetting in this way must be excluded from the calculation of the standardized default risk capital requirement for non-securitization debt or equity positions under paragraph (b) of this section.

(iii) Securitization positions non-CTP that can be replicated through decomposition may offset. Specifically, if a collection of long securitization positions non-CTP can be replicated by

a collection of short securitization positions non-CTP, then the long and short securitization positions non-CTP may offset.

(3) *Calculation of the standardized default risk capital requirement for securitization positions non-CTP*. (i) To calculate the standardized default risk capital requirement for securitization positions non-CTP, a [BANKING ORGANIZATION] must assign each securitization position non-CTP to one of the following buckets:

(A) Corporate positions;

(B) Asset class buckets defined along two dimensions:

(*1*) Asset class: asset-backed commercial paper, auto loans/leases, RMBS, credit cards, commercial mortgage-backed securities, collateralized loan obligations, collateralized debt obligations squared, small and medium enterprises, student loans, other retail, and other wholesale; and

(*2*) Region: Asia, Europe, North America, and other.

(ii) When assigning securitization positions non-CTP to a bucket, a [BANKING ORGANIZATION] must rely on market convention for classifying securitization positions non-CTP by asset class and region of the underlying assets. In addition, a [BANKING ORGANIZATION] must assign:

(A) Each securitization position non-CTP to exactly one bucket and must assign all securitization positions non-CTP with underlying exposures in the same asset class and region to the same bucket;

(B) Any securitization position non-CTP that is not a corporate position and that a [BANKING ORGANIZATION] cannot assign to a specific asset class or region, must be assigned to one of the "other" buckets.

(iii) A [BANKING ORGANIZATION] must calculate the bucket-level default risk capital requirement, DRC_b, for each bucket, b, for securitization positions non-CTP as follows:

$$DRC_b = max\left(\left(\left(\sum_{i \in long} RW_i \times net\ default\ exposure_i\right) - HBR \times \left(\sum_{i \in short} RW_i \times |net\ default\ exposure_i|\right)\right), 0\right)$$

where,

(A) *i* refers to a securitization position non-CTP belonging to bucket *b*;

(B) HBR equals the hedge benefit ratio specified in paragraph (a)(2)(iv)(A) of this section; and

(C) RW_i equals:

(*1*) For the calculation of Expanded Total Risk-Weighted Assets, the corresponding risk weight that would apply to the securitization exposure under § __.132 or § __.133 multiplied by 8 percent; or

(*2*) For the calculation of Standardized Total Risk-Weighted Assets, the corresponding risk weight that would apply to the securitization exposure under §__. 42, § __.43, or § __.44 multiplied by 8 percent.

(*3*) Provided that a [BANKING ORGANIZATION] may cap the standardized default risk capital requirement for an individual cash securitization position non-CTP at its fair value.

(iv) The standardized default risk capital requirement for securitization positions non-CTP equals the sum of the bucket-level default risk capital requirements.

(d) *Standardized default risk capital requirement for correlation trading positions*—(1) *Gross default exposure.* (i) A [BANKING ORGANIZATION] must determine the gross default exposure for each correlation trading position using the approach for non-securitization debt or equity positions in paragraphs (b)(1)(i), (ii), and (vi) of this section, including the determination

of the direction (long or short) of the correlation trading position, provided that the gross default exposure for a correlation trading position is its market value.

(ii) A [BANKING ORGANIZATION] must treat a Nth-to-default position as a tranched position with attachment and detachment points calculated as:

$$Attachment\ point = \frac{(N-1)}{Total\ names}$$

$$Detachment\ point = \frac{N}{Total\ names}.$$

where "total names" is the total number of single names in the underlying basket or pool.

(2) *Net default exposure*. (i) A [BANKING ORGANIZATION] may recognize offsetting for correlation trading positions that are otherwise identical, except for maturity, including index tranches of the same series.

(ii) A [BANKING ORGANIZATION] may offset combinations of long gross default exposures and combinations of short gross default exposures of tranches that are perfect replications of non-tranched correlation trading positions.

(iii) A [BANKING ORGANIZATION] may offset long and short gross default exposures of the types of exposures listed in paragraphs (d)(2)(i) and (ii) through decomposition, provided that the long and short gross default exposures are otherwise equivalent except for a residual component and that a [BANKING ORGANIZATION] must account for the residual exposure in the calculation of the net default exposure.

(iv) A [BANKING ORGANIZATION] may offset long and short gross default exposures of different tranches of the same index and series through replication and decomposition, if the residual component has the attachment and detachment point nested with the original tranche or the combination of tranches. A [BANKING ORGANIZATION] must account for the residual component of the unhedged tranche.

(3) *Calculation of the standardized default risk capital requirement for correlation trading positions*. (i) To calculate the default risk capital requirement for a correlation trading position, a [BANKING ORGANIZATION] must assign each index to a bucket of its own.

(ii) A [BANKING ORGANIZATION] must assign a bespoke correlation trading position that is substantially similar to an index to the bucket corresponding to the index. A [BANKING ORGANIZATION] must assign each bespoke correlation trading position that is not substantially similar to an index to a bucket of its own.

(iii) For a non-securitization position that hedges a correlation trading position, a [BANKING ORGANIZATION] must assign such position and the related correlation trading position to the same bucket.

(iv) A [BANKING ORGANIZATION] must calculate the bucket-level default risk capital requirement, DRC_b, for each bucket, b, for correlation trading positions as follows:

$$DRC_b = \left(\sum_{i \in long} RW_i \times net\ default\ exposure_i \right) - HBR_{CTP} \times \left(\sum_{i \in short} RW_i \times |net\ default\ exposure_i| \right)$$

where,

(A) i refers to a correlation trading position belonging to bucket b.

(B) HBR_{CTP} equals the hedge benefit ratio specified in paragraph (a)(2)(iv)(A) of this section, but calculated using the combined long and short net default exposures across all indices in the correlation trading position default risk category.

(C) The summation of risk-weighted net default exposures in the formula spans all exposures relating to the index.

(D) RW_i equals:

(*1*) For tranched correlation trading positions:

(*i*) For the calculation of Expanded Total Risk-Weighted Assets, the corresponding risk weight that would apply to the securitization exposure under § __.132 or § __.133 multiplied by 8 percent; or

(*ii*) For the calculation of Standardized Total Risk-Weighted Assets, the corresponding risk weight that would apply to the securitization exposure under § __. 42, § __.43, or § __.44 multiplied by 8 percent.

(*2*) For non-tranched hedges of correlation trading positions, the same risk weights as for non-securitization debt or equity positions, provided that such hedges must be excluded from the calculation of the standardized default risk capital requirement for non-securitization debt or equity positions.

(v) A [BANKING ORGANIZATION] must calculate the standardized default risk capital requirement for correlation trading positions by aggregating the bucket-level capital requirements as follows:

$$DRC_{CTP} = max\left(\sum_{b}\left(max(DRC_b, 0) + 0.5 \times min(DRC_b, 0)\right), 0\right).$$

§ __.211 Residual risk add-on.

(a) A [BANKING ORGANIZATION] must calculate the residual risk add-on for all market risk covered positions identified as follows:

(1) Market risk covered positions that have an exotic exposure.

(2) Market risk covered positions that are:

(i) Correlation trading positions with three or more underlying exposures, except for market risk covered positions that are hedges of correlation trading positions;

(ii) Subject to the curvature capital requirement (excluding any market risk covered positions without optionality that a [BANKING ORGANIZATION] chooses to include in the calculation of its curvature capital requirement as described under § __.206(d)) or the vega

capital requirements and have pay-offs that cannot be replicated as a finite linear combination of vanilla options or the underlying instrument;

(iii) Options or positions with embedded options that do not have a maturity; and

(iv) Options or positions with embedded options that do not have a strike price or barrier, or that have multiple strike prices or barriers.

(3) Any other market risk covered positions that the [AGENCY] determines must be subject to the residual risk add-on in order to capture the material risks of the position.

(4) Notwithstanding paragraph (a)(2) of this section, a [BANKING ORGANIZATION] may exclude the following market risk covered positions from the residual risk add-on:

(i) Market risk covered position that are listed;

(ii) Market risk covered position that are eligible to be cleared by a CCP or QCCP; and

(iii) Market risk covered position that are options without path dependent pay-offs or with two or fewer underlyings.

(5) Notwithstanding paragraphs (a)(1) and (2) of this section, a [BANKING ORGANIZATION] may exclude the following market risk covered positions from the residual risk add-on:

(i) In the case where a market risk covered position is a transaction that exactly matches that with a third-party transaction (back-to-back transactions), both transactions;

(ii) In the case where a market risk covered position can be delivered into a derivative contract that it hedges in fulfillment of the contract, both the market risk covered position and the derivative contract;

(iii) Securities issued or guaranteed by the U.S. government or GSE debt;

(iv) Any market risk covered position that is subject to the fallback capital requirement;

(v) Internal transactions between two trading desks, if only one trading desk is a model-eligible trading desk; and

(vi) Any other market risk covered positions that the [AGENCY] determines are not required to be subject to the residual risk add-on because the material risks are sufficiently capitalized under this subpart F.

(b) *Calculation of the residual risk add-on.* (1) The residual risk add-on equals the sum of the gross effective notional amounts of market risk covered positions identified in paragraph (a) of this section, multiplied by the prescribed risk weight as set out as follows:

(i) The risk weight for market risk covered positions identified in paragraph (a)(1) of this section is 1.0 percent.

(ii) The risk weight for market risk covered positions identified in paragraph (a)(2) of this section is 0.1 percent.

(2) For purposes of calculating the residual risk add-on, the gross effective notional amount means the notional amount as a [BANKING ORGANIZATION] reports in the most recent Call Report or FR Y-9C.

Internal Models Approach

§ __.212 Operational requirements for the models-based measure for market risk.

(a) *General requirements.* In order to calculate the models-based measure for market risk, a [BANKING ORGANIZATION] must:

(1) Have at least one model-eligible trading desk; and

(2) Receive prior written approval from the [AGENCY] of the [BANKING ORGANIZATION]'s trading desk structure.

(b) *Trading desk identification and approval process*—(1) *Identification of trading desks.* A [BANKING ORGANIZATION] must identify a trading desk for which the [BANKING ORGANIZATION] will seek approval to be a model-eligible trading desk and in making this identification must:

(i) Consider whether having the trading desk be a model-eligible trading desk would better reflect the market risk of the market risk covered positions on the trading desk;

(ii) Exclude any trading desk that includes more than de minimis amounts of securitization positions or correlation trading positions; and

(iii) For any trading desk that includes de minimis amounts of securitization positions or correlation trading positions:

(A) Subject securitization positions and correlation trading positions to the capital add-ons for ineligible positions on model-eligible trading desks under § __.204(f);

(B) Not consider securitization positions and correlation trading positions on model-eligible trading desks to be market risk covered positions on a model-eligible trading desk; and

(C) Exclude securitization positions and correlation trading positions on model-eligible trading desks from aggregate trading portfolio backtesting, under § __.204(g), and the relevant trading desks' backtesting and PLA-testing, under § __.213, unless the [BANKING ORGANIZATION] receives approval from the [AGENCY] to include such positions for backtesting and PLA-testing purposes.

(2) *Approval process for trading desks.* A [BANKING ORGANIZATION] must receive prior written approval of the [AGENCY] for a trading desk to be a model-eligible trading desk. To receive such approval, a [BANKING ORGANIZATION] must:

(i) Receive approval by [AGENCY] of the internal models to be used by the trading desk pursuant to § __.212(c); and

(ii) Comply with one of the following:

(A) Provide at least 250 business days of trading desk level backtesting and PLA test results for the trading desk to the [AGENCY];

(B) Provide at least 125 business days of trading desk level backtesting and PLA test results for the trading desk to the [AGENCY] and demonstrate to the satisfaction of the [AGENCY] that the internal models will be able to meet the backtesting and PLA testing on an ongoing basis;

(C) Demonstrate that the trading desk consists of similar market risk covered positions to another trading desk of the [BANKING ORGANIZATION], which has been approved by the [AGENCY] and has provided at least 250 business days of trading desk level backtesting and PLA test results to the [AGENCY]; or

(D) Subject the trading desk to the PLA add-on until the trading desk provides at least 250 business days of trading desk-level backtesting and PLA test results, produces results in the PLA test green zone, and passes trading desk-level backtesting.

(3) *Changes to trading desk structure*. (i) A [BANKING ORGANIZATION] must receive prior written approval from the [AGENCY] before the [BANKING ORGANIZATION] implements any change to its trading desk structure that would result in a material change in the [BANKING ORGANIZATION]'s market risk capital requirement for a portfolio of market risk covered positions.

(ii) A [BANKING ORGANIZATION] must promptly notify the [AGENCY] when the [BANKING ORGANIZATION] makes any change to its trading desk structure that would result in a non-material change in the [BANKING ORGANIZATION]'s market risk capital requirement for a portfolio of market risk covered positions.

(4) The [AGENCY] may rescind its approval of a model-eligible trading desk or subject such trading desk to the PLA add-on if the [AGENCY] determines that the trading desk no longer complies with any of the applicable requirements of this subpart F, provided that the trading desk may not be subjected to the PLA add-on if the approval for a stressed expected shortfall methodology used by the trading desk was rescinded. A model-eligible trading desk that becomes subject to the PLA add-on under this paragraph (b)(4) shall remain subject to the PLA add-on until the [AGENCY] determines that the trading desk is no longer subject to the PLA add-on under this paragraph (b)(4).

(c) *Approval of internal models and stressed expected shortfall methodologies*—(1) *Initial approval.* A [BANKING ORGANIZATION] must receive prior written approval of the

[AGENCY] to use an internal model for the ES-based measure in § __.215(b), and the stressed expected shortfall methodologies. To receive [AGENCY] approval of an internal model or methodology, a [BANKING ORGANIZATION] must demonstrate:

(i) The internal model properly measures all the material risks of the market risk covered positions to which it is applied;

(ii) The internal model has been properly validated, consistent with paragraph (d)(3) of this section;

(iii) The level of sophistication of the internal model or methodology is commensurate with the complexity and amount of its market risk covered positions; and

(iv) The internal model or methodology meets the applicable requirements of this subpart F.

(2) *Changes to internal models*. (i) A [BANKING ORGANIZATION] must receive prior written approval from the [AGENCY] before the [BANKING ORGANIZATION] implements any change to an approved model, including any change to its modelling assumptions, that would result in a material change in the [BANKING ORGANIZATION]'s *IMCC* for a trading desk.

(ii) A [BANKING ORGANIZATION] must promptly notify the [AGENCY] when the [BANKING ORGANIZATION] makes any change to an approved model, including any change to its modelling assumptions, that would result in a non-material change in the [BANKING ORGANIZATION]'s *IMCC* for a trading desk.

(3) If the [AGENCY] determines that the [BANKING ORGANIZATION] no longer complies with this subpart F or that the [BANKING ORGANIZATION]'s internal models or methodologies fail to accurately reflect the risks of any of the [BANKING ORGANIZATION]'s market risk covered positions, the [AGENCY] may rescind its approval of an internal model or methodology previously approved under paragraph (c)(1) of this section, or impose the PLA add-on on the trading desk using the internal model for the ES-based measure pursuant to paragraph (b)(4) of this section. When approval for an internal model or methodology is rescinded, any

trading desk that had used that internal model or methodology must be a model-ineligible trading desk.

(d) *Review, risk management, and validation.* (1) A [BANKING ORGANIZATION] must, no less frequently than annually, review its internal models in light of developments in financial markets and modeling technologies, and enhance those internal models as appropriate to ensure that they continue to meet the [AGENCY]'s standards for model approval and employ risk measurement methodologies that are the most appropriate for the [BANKING ORGANIZATION]'s market risk covered positions.

(2) A [BANKING ORGANIZATION] must integrate the internal models used for calculating the ES-based measure in § __.215(b) into its daily risk management process.

(3) A [BANKING ORGANIZATION] must validate its internal models initially and on an ongoing basis. A [BANKING ORGANIZATION] must revalidate its internal models when it makes any material changes to the models or when there have been significant structural changes in the market or changes in the composition of the [BANKING ORGANIZATION]'s market risk covered positions that might lead to the [BANKING ORGANIZATION]'s internal models to be no longer adequate. The [BANKING ORGANIZATION]'s validation process must be independent of the internal models' development, implementation, and operation, or the validation process must be subjected to an independent review of its adequacy and effectiveness. Validation must include:

(i) An evaluation of the conceptual soundness of the internal models;

(ii) An evaluation that the internal models adequately reflect all material risks and that assumptions are appropriate and do not underestimate risk;

(iii) An ongoing monitoring process that includes verification of processes and the comparison of the [BANKING ORGANIZATION]'s model outputs with relevant internal and external data sources or estimation techniques;

(iv) An outcomes analysis process that includes backtesting and PLA testing at the trading desk level; and

(v) Backtesting conducted at the aggregate level for all model-eligible trading desks.

(e) *Supervisory action for model-eligible trading desks.* If required by the [AGENCY], a [BANKING ORGANIZATION] that has one or more model-eligible trading desks must calculate the standardized measure for market risk for each model-eligible trading desk as if that trading desk were a standalone regulatory portfolio. For each such model-eligible trading desk, the [BANKING ORGANIZATION] must sum the risk class-level capital requirements for each risk class under each correlation scenario as described in § __.206. For each such model-eligible trading desk, the sensitivities-based capital requirement equals the largest capital requirement produced under the three correlation scenarios for the trading desk.

§ __.213 Trading desk level backtesting and PLA testing.

(a) A model-eligible trading desk must conduct backtesting as described in paragraph (b) of this section and PLA testing as described in paragraph (c) of this section at the trading desk level on a quarterly basis.

(b) *Trading desk level backtesting requirements.* (1) Beginning on the business day a trading desk becomes a model-eligible trading desk, the [BANKING ORGANIZATION] must generate backtesting data by separately comparing each business day's actual profit and loss and hypothetical profit and loss with the corresponding VaR-based measure calculated by the [BANKING ORGANIZATION]'s internal models for that business day, at both the 97.5th percentile and the 99.0th percentile one-tail confidence levels at the trading desk level.

(i) An exception for actual profit and loss at either percentile occurs when the actual loss of the model-eligible trading desk exceeds the corresponding VaR-based measure calculated at that percentile. An exception for hypothetical profit and loss at either percentile occurs when the hypothetical loss of the model-eligible trading desk exceeds the corresponding VaR-based measure calculated at that percentile.

(ii) If either the business day's actual or hypothetical profit and loss is not available or the [BANKING ORGANIZATION] is unable to compute the business day's actual or hypothetical profit and loss, an exception for actual profit and loss or for hypothetical profit and loss, respectively, at each percentile occurs. If the VaR-based measure for a business day is not available or the [BANKING ORGANIZATION] is unable to compute the VaR-based measure for a particular business day, exceptions for actual profit and loss and for hypothetical profit and loss at each percentile occur. No exception will occur if the unavailability or inability is related to an official holiday.

(iii) With approval of the [AGENCY], a [BANKING ORGANIZATION] may consider an exception not to have occurred if:

(A) The [BANKING ORGANIZATION] can demonstrate that the exception is due to technical issues that are unrelated to the [BANKING ORGANIZATION]'s internal models; or

(B) The [BANKING ORGANIZATION] can demonstrate that one or more non-modellable risk factors caused the relevant loss, and the capital requirement for these non-modellable risk factors exceeds the difference between the [BANKING ORGANIZATION]'s VaR-based measure and the actual or hypothetical loss for that business day.

(2) In order to conduct backtesting, a [BANKING ORGANIZATION] must count the number of exceptions over the most recent 250 business days. A [BANKING ORGANIZATION] must count exceptions for actual profit and loss at each percentile separately from exceptions for hypothetical profit and loss.

(3) If any given model-eligible trading desk experiences either more than 12 exceptions for actual profit and loss or 12 exceptions for hypothetical profit and loss at the 99.0th percentile or 30 exceptions for actual profit and loss or 30 exceptions for hypothetical profit and loss at the 97.5th percentile in the most recent 250 business day period, then the trading desk becomes, upon the completion of the [AGENCY]'s quarterly review of the relevant backtesting data, a model-ineligible trading desk.

(4) Notwithstanding paragraphs (b)(2) and (3) of this section, in cases where a model-eligible trading desk is approved pursuant to § __.212(b)(2)(ii)(B), (C) or (D):

(i) The model-eligible trading desk that has fewer than 250 business days of backtesting data available must use all available backtesting data; and

(ii) The [BANKING ORGANIZATION] must prorate the number of allowable exceptions under paragraph (b)(3) of this section by the number of business days for which backtesting data are available for the model-eligible trading desk.

(5) A trading desk that becomes a model-ineligible trading desk under paragraph (b)(3) of this section becomes a model-eligible trading desk when:

(i) The trading desk produces results in the PLA test green zone or PLA test amber zone and the trading desk experiences less than or equal to 12 exceptions for actual profit and loss and 12 exceptions for hypothetical profit and loss at the 99.0th percentile and 30 exceptions for actual profit and loss and 30 exceptions for hypothetical profit and loss at the 97.5th percentile in the most recent 250 business day period; or

(ii) The [BANKING ORGANIZATION] receives approval of the [AGENCY].

(c) *Trading desk level PLA test requirements*—(1) *General requirements*. At the trading desk level, the [BANKING ORGANIZATION] must compare each of its most recent 250 business days' hypothetical profit and loss with the corresponding daily risk-theoretical profit and loss. Time effects must be treated in a consistent manner in the hypothetical profit and loss and the risk-theoretical profit and loss.

(i) For the purpose of PLA testing, the [BANKING ORGANIZATION] may align risk-theoretical profit and loss input data for its risk factors with the data used in hypothetical profit and loss, where the [BANKING ORGANIZATION] is able to demonstrate that hypothetical profit and loss input data can be used appropriately for risk-theoretical profit and loss purposes.

(ii) The [BANKING ORGANIZATION] may adjust risk-theoretical profit and loss input data when the input data for a given risk factor that is included in both the risk-theoretical profit

and loss and the hypothetical profit and loss differs due to different market data sources, time fixing of market data sources, or transformations of market data into input data suitable for the risk factors of the underlying valuation engines. When transforming input data into a format that can be applied to the risk factors used in internal risk management models, the [BANKING ORGANIZATION] must demonstrate that no differences in the risk factors or in the valuation models have been omitted.

(iii) The [BANKING ORGANIZATION] must be able to assess the effect that input data alignments would have on the risk-theoretical profit and loss. The [BANKING ORGANIZATION] must be able to compare the risk-theoretical profit and loss based on the hypothetical profit and loss aligned market data with the risk-theoretical profit and loss based on market data without alignment. This comparison must be performed when designing or changing the input data alignment process or at the request of the [AGENCY].

(2) *PLA test metrics*. (i) A [BANKING ORGANIZATION] must calculate each metric in this paragraph (c)(2) at the trading desk level, using the most recent 250 business days of the risk-theoretical profit and loss and the hypothetical profit and loss.

(ii) *Spearman correlation metric*. The Spearman correlation metric assesses the correlation between the risk-theoretical profit and loss and the hypothetical profit and loss.

(A) For a time series of hypothetical profit and loss, a [BANKING ORGANIZATION] must compute the rank order, R_{HPL}, of the hypothetical profit and loss based on the size, where the lowest value in the hypothetical profit and loss time series receives a rank of 1, and the next lowest value receives a rank of 2 and so on.

(B) Similarly, a [BANKING ORGANIZATION] must compute the rank order, R_{RTPL}, of the time series of the risk-theoretical profit and loss.

(C) A [BANKING ORGANIZATION] must calculate the Spearman correlation metric for the two rank orders, R_{HPL} and R_{RTPL}, as follows:

$$r_S = \frac{cov(R_{HPL}, R_{RTPL})}{\sigma_{R_{HPL}} \times \sigma_{R_{RTPL}}}$$

Where $cov(R_{HPL}, R_{RTPL})$ is the covariance between R_{HPL} and R_{RTPL} and σ_{RHPL} and σ_{RTPL} are the standard deviations of rank orders R_{HPL} and R_{RTPL}, respectively.

(iii) *Kolmogorov-Smirnov metric.* The Kolmogorov-Smirnov metric assesses the similarity of the distributions of the risk-theoretical profit and loss and the hypothetical profit and loss.

(A) A [BANKING ORGANIZATION] must calculate the empirical cumulative distribution function of the risk-theoretical profit and loss where, for any value of risk-theoretical profit and loss, the empirical cumulative distribution is the product of 0.004 and the number of risk-theoretical profit and loss observations that are less than or equal to the specified risk-theoretical profit and loss.

(B) A [BANKING ORGANIZATION] must calculate the empirical cumulative distribution function of hypothetical profit and loss where, for any value of hypothetical profit and loss, the empirical cumulative distribution is the product of 0.004 and the number of hypothetical profit and loss observations that are less than or equal to the specified hypothetical profit and loss.

(C) A [BANKING ORGANIZATION] must calculate the Kolmogorov-Smirnov metric as the largest absolute difference observed between these two empirical cumulative distribution functions at any profit and loss value.

(3) *PLA test metrics evaluation*. (i) A [BANKING ORGANIZATION] must identify the PLA test zone of the trading desk's PLA test results as set out in Table 1 of this section, provided that if either metric is in the red zone, the PLA test zone must be identified as red, and if one metric is in the amber zone and one in the green zone, the PLA test zone must be identified as amber.

Table 1 to paragraph (c)(3)(i)—PLA Test Zones

PLA test zone	Spearman correlation metric	Kolmogorov-Smirnov (KS) metric
Green zone	$r_s > 0.80$	KS < 0.09 (p-value = 0.264)
Amber zone	$0.70 \leq r_s \leq 0.80$	$0.09 \leq$ KS ≤ 0.12
Red zone	$r_s < 0.70$	KS > 0.12 (p-value = 0.055)

(ii) Notwithstanding paragraph (c)(3)(i) of this section, the [AGENCY] may determine that a [BANKING ORGANIZATION] must identify the PLA test zone of a trading desk's PLA test results as a different PLA test zone.

(iii) Upon the completion of the quarterly review of the relevant PLA test data, a trading desk that produces results in the PLA test amber zone, pursuant to paragraph (c)(3)(i) or (c)(3)(ii) of this section, is subject to the PLA add-on.

(iv) Upon the completion of the quarterly review of the relevant PLA test data, a trading desk that produces results in the PLA test red zone, pursuant to paragraph (c)(3)(i) or (c)(3)(ii) of this section, is a model-ineligible trading desk.

(v) A trading desk that becomes a model-ineligible trading desk under paragraph (c)(3)(iv) of this section will become a model-eligible trading desk when:

(A) The trading desk produces results in the PLA test green zone or PLA test amber zone; and in the most recent 250 business day period, the trading desk experiences less than or equal to 12 backtesting exceptions for actual profit and loss and 12 exceptions for hypothetical profit and loss at the 99.0th percentile or less than or equal to 30 backtesting exceptions for actual profit and loss and 30 backtesting exceptions for hypothetical profit and loss at the 97.5th percentile; or

(B) The [BANKING ORGANIZATION] receives approval of the [AGENCY].

(4) *PLA add-on*. The PLA add-on, if required under paragraph (c)(3)(iii) of this section, § __.212(b)(2)(ii)(D), or § __.212(b)(4), equals:

$$PLA\ add\text{-}on = k \times max\left(\left(SA_{G,A} - IMA_{G,A}\right), 0\right)$$

where,

(i) $k = 0.5 \times \frac{\sum_{i \in A} SA_i}{\sum_{i \in G,A} SA_i}$;

(A) SA_i denotes the standardized approach capital requirement for market risk covered positions on trading desk, *i*;

(B) $\sum_{i \epsilon A} SA_i$ equals the sum of the standardized approach capital requirement, calculated separately, for each trading desk *i* that is subject to the PLA add-on; and

(C) $\sum_{i \epsilon G,A} SA_i$ equals the sum of the standardized approach capital requirement, calculated separately, for each model-eligible trading desk *i* (including trading desks subject to the PLA add-on).

§ __.214 Risk factor identification and model eligibility.

(a) *Identification of risk factors.* A [BANKING ORGANIZATION] must identify an appropriate set of risk factors to be used for purposes of calculating the aggregate capital measure for modellable risk factors, *IMCC*, and the aggregate capital measure for non-modellable risk factors, *SES*, subject to the requirements below:

(1) The set of risk factors must be sufficient to represent the risks inherent in the market risk covered positions held by model-eligible trading desks;

(2) The [BANKING ORGANIZATION] must include all risk factors included in the [BANKING ORGANIZATION]'s internal risk management models or models used in reporting actual profits and losses; and

(3) The [BANKING ORGANIZATION] must include all risk factors that are specified in § __.208 for each corresponding risk class. In the event the [BANKING ORGANIZATION] does not incorporate all such risk factors, the [BANKING ORGANIZATION] must be able to support this omission to the satisfaction of the [AGENCY].

(b) *Model eligibility of risk factors.* A [BANKING ORGANIZATION] that calculates the models-based measure for market risk must determine which risk factors are modellable using the risk factor eligibility test described in paragraph (b)(1) of this section. If the [AGENCY]

determines that a risk factor is non-modellable, then a [BANKING ORGANIZATION] must not consider that risk factor as modellable. The [BANKING ORGANIZATION] must calculate its market risk capital requirements for modellable risk factors using the ES-based measure in § __.215(b) and must calculate its market risk capital requirements for non-modellable risk factors using stressed expected shortfall methodologies in accordance with § __.215(d).

(1) Risk factor eligibility test. For a risk factor to be classified as modellable, a [BANKING ORGANIZATION] must identify a sufficient number of real prices, as specified in this paragraph (b)(1), that are representative of the risk factor. A real price is representative of a risk factor provided it can be used by the [BANKING ORGANIZATION] to inform the value of the risk factor. For contracts that reference new reference rates to replace discontinued reference rates, [BANKING ORGANIZATIONS] are permitted to use discontinued reference rate quotes to pass the risk factor eligibility test until new reference rate liquidity improves. For any market risk covered position, the [BANKING ORGANIZATION] must not count more than one real price observation in a single day and the real price that the [BANKING ORGANIZATION] observes must be counted as an observation for all of the risk factors for which it is representative. In addition, for new issuances, the observation period for the risk factor eligibility test may begin on the issuance date and the number of real price observations required to pass the risk factor eligibility test may be prorated until 12 months after the issuance date. To pass the risk factor eligibility test, a risk factor must meet either of the following criteria, on a quarterly basis.

(i) The [BANKING ORGANIZATION] must identify at least 24 real price observations in the previous 12-month period for the risk factor, and there must be no 90-day period in the previous 12-month period in which fewer than four real price observations are identified for the risk factor; or

(ii) The [BANKING ORGANIZATION] must identify at least 100 real price observations for the risk factor over the previous 12-month period.

(2) When one or more actual transactions between arm's-length parties occurred on a specific date, only one real price may be counted.

(3) When a [BANKING ORGANIZATION] uses real prices from a third-party provider:

(i) The third-party provider must provide a minimum necessary set of identifier information to enable the [BANKING ORGANIZATION] to map real prices observed to risk factors;

(ii) The third-party provider must be subject to an audit regarding the validity of its pricing information and the results and reports of this audit must be made public or available on request to the [BANKING ORGANIZATION], provided that if the audit of a third-party provider is not satisfactory to the [AGENCY], the data from the third-party provider may not be used for purposes of the risk factor eligibility test; and

(iii) When the real price observations are provided with a time lag, the period used for the risk factor eligibility test may differ from the period used to calibrate the [BANKING ORGANIZATION]'s ES-based measure, provided that the difference is no greater than one month.

(4) When a [BANKING ORGANIZATION] uses real prices from internal sources, the period used for the risk factor eligibility test may also differ from the period used to calibrate the [BANKING ORGANIZATION]'s ES-based measure, as long as the period used for internal data is exactly the same as the period used for external data.

(5) *Bucketing approaches.* For the risk factor eligibility test, a [BANKING ORGANIZATION] must allocate each real price observation into one bucket for a risk factor and must count all real price observations allocated to a bucket in order to establish whether the risk factors in the bucket pass the risk factor eligibility test. To allocate real price observations into buckets, the [BANKING ORGANIZATION] must group risk factors on a curve or surface

level. Each bucket may be defined by using either of the bucketing approaches specified in this paragraph (b)(5).

(i) *Own bucketing approach*. Under this approach, each bucket must include only one risk factor. Each risk factor must correspond to a risk factor included in the risk-theoretical profit and loss of the [BANKING ORGANIZATION]. Real price observations may be mapped to more than one risk factor.

(ii) *Standard bucketing approach*. Under this approach, the [BANKING ORGANIZATION] must use the standard buckets as set out as follows:

(A) For interest rate, foreign exchange and commodity risk factors with a single maturity dimension (excluding implied volatilities), (t, where t is measured in years), the buckets corresponding to the t values in row (A) of Table 1 of this section must be used.

(B) For interest rate, foreign exchange and commodity risk factors with several maturity dimensions (excluding implied volatilities) (t, where t is measured in years), the buckets corresponding to the t values in row (B) of Table 1 of this section must be used.

(C) Credit spread and equity risk factors with one or several maturity dimensions (excluding implied volatilities) (t, where t is measured in years), the buckets corresponding to the t values in row (C) of Table 1 of this section must be used.

(D) For any risk factors with one or several strike dimensions (the probability that an option is "in the money" at maturity, δ), the buckets corresponding to the δ values in row (D) of Table 1 of this section must be used.

(E) For expiry and strike dimensions of implied volatility risk factors (excluding those of interest rate swaptions), only the buckets corresponding to the t or δ values in rows (C) and (D), respectively, of Table 1 of this section must be used.

(F) For maturity, expiry and strike dimensions of implied volatility risk factors from options on swaps, only the buckets corresponding to the t or δ values in row (B), (C) and (D), respectively, of Table 1 of this section must be used.

(G) For options markets where alternative definitions of moneyness are customary, a [BANKING ORGANIZATION] must convert the standard buckets to the market-standard convention using the [BANKING ORGANIZATION]'s own pricing models.

Table 1 To § __.214—Standard Bucketing Approach: Standard Buckets

Row	Bucket								
	1	2	3	4	5	6	7	8	9
(A)	$0 \leq t < 0.75$	$0.75 \leq t < 1.5$	$1.5 \leq t < 4.0$	$4 \leq t < 7$	$7 \leq t < 12$	$12 \leq t < 18$	$18 \leq t < 25$	$25 \leq t < 35$	$35 \leq t < \infty$
(B)	$0 \leq t < 0.75$	$0.75 \leq t < 4.0$	$4 \leq t < 10$	$10 \leq t < 18$	$18 \leq t < 30$	$30 \leq t < \infty$			
(C)	$0 \leq t < 1.50$	$1.5 \leq t < 3.5$	$3.5 \leq t < 7.5$	$7.5 \leq t < 15$	$15 \leq t < \infty$				
(D)	$0 \leq \delta < 0.05$	$0.05 \leq \delta < 0.3$	$0.3 \leq \delta$ 0.7	$0.7 \leq \delta < 0.95$	$0.95 \leq \delta < 1.00$				

(iii) For purposes of the risk factor eligibility test, a real price observation must be counted in a single bucket based on the maturity or based on the probability that an option is "in the money" at maturity associated with the position. Real price observations that have been identified within the prior 12 months may be counted in the maturity bucket to which they were initially allocated. Alternatively, a [BANKING ORGANIZATION] may re-allocate these real price observations to the shorter maturity bucket that reflects the market risk covered position's remaining maturity.

(iv) A [BANKING ORGANIZATION] may decompose risks associated with credit or equity indices into systematic risk factors within its internal models designed to capture market-wide movements for a given economy, region or sector. A [BANKING ORGANIZATION] may include idiosyncratic risk factors of specific issuers provided there are a sufficient number of real price observations to pass the risk factor eligibility test.

(6) *Calibration*. The [BANKING ORGANIZATION] must choose the most appropriate data for modellable risk factors to calibrate the ES-based measure. For the calibration, the

[BANKING ORGANIZATION] may use different data than the data used to pass the risk factor eligibility test.

(7) *Data for modellable risk factors.* In order to determine the data used to calibrate the ES-based measure, a [BANKING ORGANIZATION] must comply with this paragraph (b)(7). In cases where a risk factor has passed the risk factor eligibility test, but the related data does not comply with this paragraph (b)(7), such risk factor must be treated as a non-modellable risk factor.

(i) The data used may include combinations of modellable risk factors.

(ii) The data must allow the internal models used to calculate the ES-based measure to capture both idiosyncratic risk and systematic risk, if applicable.

(iii) The data must allow the internal models used to calculate the ES-based measure to reflect volatility and correlation of risk factors of market risk covered positions.

(iv) The data must be reflective of prices observed or quoted in the market. Where data used are not derived from real price observations, the [BANKING ORGANIZATION] must be able to demonstrate that the data used are reasonably representative of real price observations.

(v) The data must be updated at a sufficient frequency, and at a minimum on a weekly basis. Where the [BANKING ORGANIZATION] uses regressions to estimate risk factor parameters, these must be re-estimated on a regular basis. The [BANKING ORGANIZATION] must have clear policies and procedures for backfilling and gap-filling missing data.

(vi) The data to determine the liquidity horizon-adjusted ES-based measure must be reflective of market prices observed or quoted in the period of stress. The data should be sourced directly from the historical period whenever possible. The [BANKING ORGANIZATION] must empirically justify any instances where the market prices used in the period of stress are different from the market prices actually observed during that period. In cases where market risk covered positions that are currently traded did not exist during a period of significant financial stress, the

[BANKING ORGANIZATION] must demonstrate that the prices used match changes in prices or spreads of similar instruments during the stress period.

(vii) The data may include proxies provided the [BANKING ORGANIZATION] can demonstrate to the satisfaction of the [AGENCY] that the proxies are appropriate and that the following standards are satisfied:

(A) There is sufficient evidence demonstrating the appropriateness of the proxies, such as an appropriate track record for their representation of a market risk covered position;

(B) Proxies must have sufficiently similar characteristics to the transactions they represent in terms of volatility level and correlations;

(C) Proxies must be appropriate for the region, credit spread, quality and type of instrument they are intended to represent; and

(D) Proxying of new risk-free reference rates, during the stressed period, must appropriately capture the risk-free rate as well as credit spread, if applicable.

(viii) The [AGENCY] may determine that the data for modellable risk factors is unsuitable to calibrate the [BANKING ORGANIZATION]'s ES-based measure.

§ __.215 The non-default risk capital measure.

(a) A [BANKING ORGANIZATION] that calculates the non-default risk capital measure must calculate the ES-based measure, the aggregate capital measure for modellable risk factors, *IMCC*, and the aggregate capital measure for non-modellable risk factors, *SES*, in accordance with this section.

(b) *ES-based measure.* Any internal model used by a [BANKING ORGANIZATION] to calculate the ES-based measure must meet the following minimum requirements:

(1) The ES-based measure must be computed for each business day at the trading desk level, at the aggregate level, and on the aggregate for each risk class for all model-eligible trading desks;

(2) The ES-based measure must be calculated using a one-tail, 97.5th percentile confidence level; and

(3) A liquidity horizon-adjusted ES-based measure must be calculated from an ES-based measure at a base liquidity horizon of 10 days, with scaling applied to this base horizon result as specified below:

$$ES = \sqrt{\left(ES_T(P)\right)^2 + \sum_{j \geq 2}\left(ES_T(P,j)\sqrt{\frac{\left(LH_j - LH_{j-1}\right)}{T}}\right)^2}$$

where,

(i) *ES* is the regulatory liquidity horizon-adjusted ES;

(ii) *T* is the length of the base liquidity horizon, 10 days;

(iii) $ES_T(P)$ is the *ES* at base liquidity horizon *T* of a portfolio with market risk covered positions *P*;

(iv) $ES_T(P,j)$ is the *ES* at base liquidity horizon *T* of a portfolio with market risk covered positions *P* for all risk factors whose liquidity horizon LH_j is at least as long as *j*;

(v) LH_j is the liquidity horizon corresponding to the index value, *j*, specified in Table1 of this section:

(4) The time series of changes in risk factors over the base liquidity horizon *T* may be calculated using observations of price differentials from overlapping 10-day periods, provided, a [BANKING ORGANIZATION] must not scale up from a shorter horizon; and

Table 1 to § __.215—Liquidity Horizons, *j*

j	LH_j *(lengths in days)*
1	10
2	20
3	40
4	60
5	120

(5) *Stress period.* A [BANKING ORGANIZATION] must identify a 12-month period of stress over the observation horizon in which the [BANKING ORGANIZATION]'s market risk covered positions on model-eligible trading desks would experience the largest loss, provided that:

(i) To identify the period of stress, a [BANKING ORGANIZATION] must use either the full set of risk factors or a reduced set of risk factors;

(ii) Any [BANKING ORGANIZATION] using a reduced set of risk factors to identify the period of stress must:

(A) Specify a reduced set of risk factors for which there is a sufficiently long history of observations;

(B) Update the reduced set of risk factors whenever the [BANKING ORGANIZATION] updates its 12-month period of stress; and

(C) Ensure that the variation of the full ES-based measure explained by the ES-based measure for the reduced set of risk factors over the previous 60 business days is at least 75 percent, where the variation explained equals

$$1 - \frac{\sum_t^{60}\left(ES_{F,C,t} - ES_{R,C,t}\right)^2}{\sum_t^{60}\left(ES_{F,C,t} - Mean\left(ES_{F,C}\right)\right)^2}$$

where,

(*1*) $ES_{F,C}$ is the liquidity horizon-adjusted ES-based measure based on the most recent 12-month observation period (the current ES-based measure) using the full set of risk factors;

(*2*) $ES_{R,C}$ is the lesser of (i) the current liquidity horizon-adjusted ES-based measure using the reduced set of factors or (ii) $ES_{F,C}$; and

(*3*) Mean($ES_{F,C}$) is the mean of $ES_{F,C}$ over the previous 60 business days.

(iii) The observation horizon for determining the most stressful 12-month period, at a minimum, must span back to 2007;

(iv) Observations within this period must be equally weighted; and

(v) A [BANKING ORGANIZATION] must update, as appropriate, its 12-month stressed period at least quarterly, or whenever there are material changes in the risk factors in the portfolio.

(6) *Liquidity horizon-adjusted ES-based measure.* A [BANKING ORGANIZATION] must calibrate the liquidity horizon-adjusted ES-based measure to a period of stress for its entire portfolio of market risk covered positions (on model-eligible trading desks) using one of the two approaches set forth in this paragraph (b)(6).

(i) *Direct approach*. A [BANKING ORGANIZATION] using the direct approach must use the full set of risk factors to calculate the liquidity horizon-adjusted ES-based measure, provided a [BANKING ORGANIZATION] may use proxies to fill in data on missing risk factors in accordance with § __.214(b)(7)(vii).

(ii) *Indirect approach.* A [BANKING ORGANIZATION] using the indirect approach must follow the steps below to calculate the liquidity horizon-adjusted ES-based measure:

(A) Calculate a liquidity horizon-adjusted ES-based measure in accordance with paragraph (b)(3) of this section;

(B) Convert the three types of liquidity horizon-adjusted ES-based measures defined below into one liquidity horizon-adjusted ES-based measure, as follows:

$$ES = ES_{R,S} \cdot max\left(1, \frac{ES_{F,C}}{ES_{R,C}}\right)$$

where,

(*1*) $ES_{R,S}$ is the liquidity horizon-adjusted ES-based measure for the [BANKING ORGANIZATION]'s market risk covered positions (on model-eligible trading desks) using the reduced set of risk factors, calculated based on the 12-month period of stress;

(*2*) $ES_{F,C}$ is the liquidity horizon-adjusted ES-based measure based on the most recent 12-month observation period (the current ES-based measure) using the full set of risk factors; and

(*3*) $ES_{R,C}$ is the lesser of:

(i) the current liquidity horizon-adjusted ES-based measure using the reduced set of factors; or

(ii) $ES_{F,C}$.

(7) *Input data.* A [BANKING ORGANIZATION] must update its input data for internal models used to calculate the ES-based measure no less frequently than quarterly and reassess its input data whenever market prices are subject to material changes. This updating process must be flexible enough to allow for updates when warranted by material changes in market prices.

(8) *Risk capture.* Internal models used to calculate the ES-based measure must address non-linearities, as well as correlation and relevant basis risks, such as basis risk between credit default swaps and bonds.

(9) *Empirical correlations.* A [BANKING ORGANIZATION] may recognize empirical correlations within risk factor classes. Empirical correlations across risk factor classes are constrained by the aggregation scheme as described in paragraph (c) of this section.

(10) *Options.* With respect to options, a [BANKING ORGANIZATION]'s internal models used to calculate the ES-based measure must:

(i) Capture the risks associated with options, including non-linear price characteristics, within each of the risk factor classes;

(ii) Have a set of risk factors that captures the volatilities of the underlying rates and prices of options; and

(iii) Model the volatility surface across both strike price and maturity.

(11) *Assignment of liquidity horizons.* At a minimum on a quarterly basis, a [BANKING ORGANIZATION] must consistently assign a liquidity horizon of 10, 20, 40, 60, or 120 days to each of its risk factors, and must consistently map each of its risk factors to one of the risk factor

categories and corresponding liquidity horizons, *n*, in Table 2 of this section in accordance with the requirements of this paragraph (b)(11).

(i) On a trading desk level basis, the minimum liquidity horizon is the corresponding value, *n*, for the risk factor category in tTable 2 of this section, unless otherwise specified in paragraphs (b)(11)(ii) and (iii) of this section.

(ii) If the maturity of a market risk covered position is shorter than the respective liquidity horizon, *n*, of the risk factor category as set forth in Table 2 of this section, the minimum liquidity horizon is the next longer liquidity horizon, *n*, from the maturity of the market risk covered position.

(iii) The minimum liquidity horizon for credit and equity indices and other similar multi-underlying instruments must be the shortest liquidity horizon, *n*, that is equal to or longer than the weighted average of the liquidity horizons of the underlyings, calculated by multiplying the respective liquidity horizon, *n*, of the risk factor category as set forth in Table 2 of this section of each individual underlying by its weight in the index and summing the weighted liquidity horizons across all underlyings.

(iv) Inflation risk factors must be mapped consistently with the liquidity horizon for the interest rate risk factor category for a given currency.

Table 2 to § __.215—Liquidity Horizon *n* by Risk Factor Category

Risk factor category	*n*	Risk factor category	*n*
Interest rate: United States Dollar, Australian Dollar, Canadian Dollar, Euro, Japanese Yen, Swedish Krona, and United Kingdom Pound and the domestic currency of a [BANKING ORGANIZATION]	10	Equity (small market cap): volatility	60
Interest rate: unspecified currencies	20	Equity: other types	60

Interest rate: volatility	60	Foreign exchange rate: specified currency pairs[1]	10
Interest rate: other types	60	Foreign exchange rate: currency pairs	20
Credit spread: GSE debt (guaranteed) and sovereign positions (investment grade)	20	Foreign exchange: volatility	40
Credit spread: GSE debt (non-guaranteed) and sovereign positions (speculative grade and sub-speculative grade)	40	Foreign exchange: other types	40
Credit spread: corporate positions (investment grade)	40	Energy and carbon emissions trading price	20
Credit spread: corporate positions (speculative grade and sub-speculative grade)	60	Precious metals and non-ferrous metals price	20
Credit spread: volatility	120	Other commodities	60
Credit spread: other types	120	Energy and carbon emissions trading price: volatility	60
Equity (large market cap or index)	10	Precious metals and non-ferrous metals price: volatility	60
Equity (small market cap)	20	Other commodities: volatility	120
Equity (large market cap or index): volatility	20	Commodity: other types	120

(c) *Modellable risk factors.* A [BANKING ORGANIZATION] must calculate an aggregate capital measure for modellable risk factors, *IMCC*, on each business day in accordance with the below:

(1) For all model-eligible trading desks, a [BANKING ORGANIZATION] must include all modellable risk factors in its internal models used to calculate the aggregate liquidity horizon-adjusted ES-based measure. With prior written approval of [AGENCY], a [BANKING

[1] Any currency pair formed by the following list of currencies: United States Dollar, Australian Dollar, Brazilian Real, Canadian Dollar, Chinese Yuan, Euro, Hong Kong Dollar, Indian Rupee, Japanese Yen, Mexican Peso, New Zealand Dollar, Norwegian Krone, Singapore Dollar, South African Rand, South Korean Won, Swedish Krona, Swiss Franc, Turkish Lira, United Kingdom Pound, and any additional currencies specified by the [AGENCY] under § __.209(b)(7)(ii).

ORGANIZATION] also may include non-modellable risk factors in its internal models used to calculate the aggregate liquidity horizon-adjusted ES-based measure.

(2) The [BANKING ORGANIZATION] must calculate its aggregate liquidity horizon-adjusted ES-based measure, *IMCC(C)*, using the liquidity horizon-adjusted ES-based measure specified in paragraph (b) of this section, with no supervisory constraints on cross-risk class correlations.

(3) The [BANKING ORGANIZATION] must also calculate a series of partial liquidity horizon-adjusted ES-based measures (with risk factors of all other risk factor classes held constant) for each risk factor class using the liquidity horizon-adjusted ES-based measure specified in paragraph (b) of this section. These partial, non-diversifiable liquidity horizon-adjusted ES-based measures, $IMCC(C_i)$, must be summed to provide an aggregated risk factor class ES-based measure. The stress period used to calculate *IMCC(C) and* $IMCC(C_i)$ must be the same.

(4) The aggregate capital measure for modellable risk factors, *IMCC*, must be calculated as the weighted average of the constrained and unconstrained ES-based measures as follows:

$$IMCC = \rho\big(IMCC(C)\big) + (1-\rho)\left(\sum_i IMCC(C_i)\right)$$

Where,

(i) ρ equals 0.5;

(ii) i indexes the following risk classes: interest rate risk, credit spread risk, equity risk, commodity risk and foreign exchange risk;

(iii) *IMCC(C)* equals the aggregate liquidity horizon-adjusted ES-based measure specified in paragraph (c)(2) of this section; and

(iv) $IMCC(C_i)$ equals the partial liquidity horizon-adjusted ES-based measure specified in paragraph (c)(3) of this section for risk class i.

(d) *Non-modellable risk factors.* (1) *General.* A [BANKING ORGANIZATION] must calculate an aggregate capital measure for non-modellable risk factors, *SES*, using stressed expected shortfall methodologies that meet the following requirements:

(i) The [BANKING ORGANIZATION] must calculate a capital measure for each non-modellable risk factor using a stress scenario that is calibrated to be at least as prudent as the ES-based measure used for modellable risk factors as described in paragraph (b) of this section, provided that to determine the applicable stress scenario, the [BANKING ORGANIZATION] must select a common 12-month period of stress for all non-modellable risk factors in the same risk factor class, that in determining the stress scenario, a [BANKING ORGANIZATION] may use proxies, provided the proxies meet the standards in § __.214(b)(7)(vii), that, with approval of the [AGENCY], a [BANKING ORGANIZATION] also may use an alternative approach to determine the stress scenario, and that:

(A) Methodologies used to calculate any stressed expected shortfall for non-modellable risk factors must address non-linearities, as well as correlation and relevant basis risks, such as basis risk between credit default swaps and bonds;

(B) For each non-modellable risk factor, the liquidity horizon of the stress scenario must be the greater of (1) the risk factor's liquidity horizon assigned pursuant to paragraph (b)(11) of this section and (2) 20 days; and

(C) For non-modellable risk factors arising from idiosyncratic credit spread risk or from idiosyncratic equity risk due to spot, futures and forward prices, equity repo rates, dividends and volatilities, the [BANKING ORGANIZATION] may apply a common 12-month period of stress; and

(ii) When the [BANKING ORGANIZATION] cannot determine a stress scenario for a risk factor class, or a smaller set of non-modellable risk factors under paragraph (d)(1)(i) of this section, that is acceptable to the [AGENCY], the [BANKING ORGANIZATION] must use the scenario that produces the maximum possible loss as the stress scenario.

(2) *Stressed expected shortfall calculation.* A [BANKING ORGANIZATION] must calculate the aggregate capital measure, *SES*, for non-modellable idiosyncratic credit spread risk factors, *i*, non-modellable idiosyncratic equity risk factors, *j*, and the remaining non-modellable risk factors, *k*, as follows:

$$SES = \sqrt{\sum_{i=1}^{I} ISES_{NM,i}^2} + \sqrt{\sum_{j=1}^{J} ISES_{NM,j}^2} + \sqrt{\left(\rho \sum_{k=1}^{K} SES_{NM,k}\right)^2 + (1-\rho^2)\sum_{k=1}^{K} SES_{NM,k}^2}$$

where,

(i) $ISES_{NM,i}$ is the stress scenario capital measure for non-modellable idiosyncratic credit spread risk, *i*, aggregated with zero correlation;

(ii) *I* is a non-modellable idiosyncratic credit spread risk factor;

(iii) $ISES_{NM,j}$ is the stress scenario capital measure for non-modellable idiosyncratic equity risk, *j*,aggregated with zero correlation;

(iv) *J* is a non-modellable idiosyncratic equity risk factor;

(v) $SES_{NM,k}$ is the stress scenario capital measure for the remaining non-modellable risk factors, *k*;

(vi) *K* is the remaining non-modellable risk factors in a model-eligible trading desk; and

(vii) ρ equals 0.6.

§ __.216 [RESERVED]

§ __.217 Market risk reporting and disclosures.

(a) *Scope.* This section applies to [BANKING ORGANIZATIONS] subject to the market risk capital requirements as described in § __.201(b)(1), provided that a [BANKING ORGANIZATION] that is a consolidated subsidiary of a bank holding company, covered savings and loan holding company that is a banking organization as defined in 12 CFR 238.2, or a depository institution that is subject to these requirements or of a non-U.S. banking

organization that is subject to comparable public disclosure requirements in its home jurisdiction is not required to make the disclosures required by paragraph (f) of this section.

(b) *Timing.* A [BANKING ORGANIZATION] must make the reports and disclosures described herein beginning on [THE FIRST DATE OF THE QUARTER THE RULE TAKES EFFECT]. A [BANKING ORGANIZATION] must make timely public reports and disclosures each calendar quarter. If a significant change occurs, such that the most recent reporting amounts are no longer reflective of the [BANKING ORGANIZATION]'s capital adequacy and risk profile, then a brief discussion of this change and its likely impact must be provided in a public disclosure as soon as practicable thereafter. Qualitative disclosures that typically do not change each quarter may be disclosed annually, provided any significant changes are disclosed in the interim.

(c) *Reporting and disclosure policy.* The [BANKING ORGANIZATION] must have a formal reporting and disclosure policy approved by the board of directors that addresses the [BANKING ORGANIZATION]'s approach for determining its market risk reports and disclosures. The policy must address the associated internal controls and reporting and disclosure controls and procedures. The board of directors and senior management must ensure that appropriate verification of the reports and disclosures takes place and that effective internal controls and reporting and disclosure controls and procedures are maintained. One or more senior officers of the [BANKING ORGANIZATION] must attest that the reports and disclosures meet the requirements of this subpart F, and the board of directors and senior management are responsible for establishing and maintaining an effective internal control structure over financial reporting, including the reports and disclosures required by this section.

(d) *Proprietary and confidential information.* If a [BANKING ORGANIZATION] reasonably believes that reporting or disclosure of specific commercial or financial information would materially prejudice its position by making public certain information that is either proprietary or confidential in nature, the [BANKING ORGANIZATION] is not required to

publicly report or disclose these specific items, but must report or disclose more general information about the subject matter of the requirement, together with the fact that, and the reason why, the specific items of information have not been disclosed.

(e) *Location*. The [BANKING ORGANIZATION] must either provide all of the public reports and disclosures required by this section in one place on the [BANKING ORGANIZATION]'s public website or provide the reporting and disclosures in more than one public financial report or other public regulatory reports, provided that the [BANKING ORGANIZATION] publicly provides a summary table specifically indicating the location(s) of all such reporting and disclosures.

(f) *Disclosures and reports*—(1) *Quarterly public disclosures*. A [BANKING ORGANIZATION] must disclose publicly the following information at least quarterly:

(i) The aggregate amount of on-balance sheet and off-balance sheet securitization positions by exposure type;

(ii) The soundness criteria on which the [BANKING ORGANIZATION]'s internal capital adequacy assessment is based and a description of each methodology used to achieve a capital adequacy assessment that is consistent with the required soundness criteria, including, for a [BANKING ORGANIZATION] that calculates the models-based measure for market risk, for categories of non-modellable risk factors;

(iii) The aggregate amount of correlation trading positions; and

(iv) For a [BANKING ORGANIZATION] that calculates the models-based measure for market risk, a comparison of VaR-based estimates with actual gains or losses experienced by the [BANKING ORGANIZATION] for each material portfolio of market risk covered positions, including an analysis of important outliers.

(2) *Annual public disclosures.* A [BANKING ORGANIZATION] must provide timely public disclosures of the following information at least annually:

(i) A description of the structure and organization of the market risk management system, including a description of the market risk governance structure established to implement the strategies and processes of the [BANKING ORGANIZATION] described in this paragraph (f);

(ii) A description of the policies and processes for determining whether a position is designated as a market risk covered position and the risk management policies for monitoring market risk covered positions;

(iii) The composition of material portfolios of market risk covered positions;

(iv) A description of the scope and nature of risk reporting and/or measurement systems and the strategies and processes implemented by the [BANKING ORGANIZATION] to identify, measure, monitor and control the [BANKING ORGANIZATION]'s market risks, including policies for hedging;

(v) A description of the trading desk structure and the types of market risk covered positions included on the trading desks or in trading desk categories, which must include:

(A) A description of the model-eligible trading desks for which a [BANKING ORGANIZATION] calculates the non-default risk capital requirement; and

(B) Any changes in the scope of model-ineligible trading desks and the market risk covered positions on those trading desks.

(vi) The [BANKING ORGANIZATION]'s valuation policies, procedures, and methodologies for each material portfolio of market risk covered positions including, for securitization positions, the methods and key assumptions used for valuing such securitization positions, any significant changes since the last reporting period, and the impact of such change;

(vii) The characteristics of the internal models used for purposes of calculating the models-based measure for market risk and the specific approaches used in the validation of these models. For the non-default risk capital requirement, this must include a general description of the model(s) used to calculate the ES-based measure in § __.215(b), the frequency by which data is updated, and a description of the calculation based on current and stressed observations.

(viii) A description of the approaches used for validating and evaluating the accuracy of internal models and modeling processes for purposes of this subpart F;

(ix) For each market risk category (that is, interest rate risk, credit spread risk, equity risk, foreign exchange risk, and commodity risk), a description of the stress tests applied to the market risk covered positions subject to the factor;

(x) The results of the comparison of the [BANKING ORGANIZATION]'s internal estimates for purposes of this subpart F with actual outcomes during a sample period not used in model development;

(xi) A description of the [BANKING ORGANIZATION]'s processes for monitoring changes in the credit and market risk of securitization positions, including how those processes differ for resecuritization positions; and

(xii) A description of the [BANKING ORGANIZATION]'s policy governing the use of credit risk mitigation to mitigate the risks of securitization positions and resecuritization positions.

(3) *Public reports.* A [BANKING ORGANIZATION] subject to the market risk capital requirements as described in § __.201(b)(1) must provide, in the manner and form prescribed by the [AGENCY], a public report of its measure for market risk, on a quarterly basis. A [BANKING ORGANIZATION] must report additional information and reports as the [AGENCY] may require.

(4) *Confidential supervisory reports.* (i) A [BANKING ORGANIZATION] that calculates the models-based measure for market risk must provide to the [AGENCY], in the manner and form prescribed by the [AGENCY], a confidential supervisory report of backtesting and PLA testing information, on a quarterly basis.

(ii) A [BANKING ORGANIZATION] must report to the [AGENCY] the following information at the aggregate level for all model-eligible trading desks for each business day over

the previous 500 business days, or all available business days, if 500 business days are not available, with no more than a 20-day lag:

(A) Daily VaR-based measures calibrated to the 99.0th percentile as described in § __.204(g)(1);

(B) Daily ES-based measure calculated in accordance with § __.215(b) calibrated at the 97.5th percentile;

(C) The actual profit and loss;

(D) The hypothetical profit and loss; and

(E) The p-value of the profit or loss on each day, which is the probability of observing a profit that is less than, or a loss that is greater than, the amount reported for purposes of paragraph (f)(4)(ii)(C) of this section based on the model used to calculate the VaR-based measure described in paragraph (f)(4)(ii)(A) of this section.

(iii) A [BANKING ORGANIZATION] must report to the [AGENCY] the following information for each trading desk for each business day over the previous 500 business days, or all available business days, if 500 business days are not available, with no more than a 20-day lag:

(A) Daily VaR-based measures for the trading desk calibrated at both the 97.5th percentile and the 99.0th percentile as described in § __.213(b)(1);

(B) Daily ES-based measure calculated in accordance with § __.215(b) calibrated at the 97.5th percentile;

(C) The actual profit and loss;

(D) The hypothetical profit and loss;

(E) Risk-theoretical profit and loss; and

(F) The p-values of the profit or loss on each day (that is, the probability of observing a profit that is less than, or a loss that is greater than, the amount reported for purposes of

paragraph (f)(4)(iii)(C) of this section based on the model used to calculate the VaR-based measure described in paragraph (f)(4)(iii)(A) of this section).

§ __.220 General requirements for CVA risk.

(a) *Identification of CVA risk covered positions and eligible CVA hedges.* A [BANKING ORGANIZATION] must:

(1) Identify all CVA risk covered positions and all transactions that hedge or are intended to hedge CVA risk;

(2) Identify all eligible CVA hedges; and

(3) For a [BANKING ORGANIZATION] that has approval to use the standardized measure for CVA risk, identify all eligible CVA hedges for the purposes of calculating the basic CVA approach capital requirement and all eligible CVA hedges for the purpose of calculating the standardized CVA approach capital requirement.

(b) *CVA hedging policy.* A [BANKING ORGANIZATION] that hedges its CVA risk must have a clearly defined hedging policy for CVA risk that is reviewed and approved by senior management at least annually. The hedging policy must quantify the level of CVA risk that the [BANKING ORGANIZATION] is willing to accept and must detail the instruments, techniques, and strategies that the [BANKING ORGANIZATION] will use to hedge CVA risk.

(c) *Documentation.* A [BANKING ORGANIZATION] must have policies and procedures for determining its CVA risk-based capital requirement. A [BANKING ORGANIZATION] must adequately document all material aspects of its identification and management of CVA risk covered positions and eligible CVA hedges, and control, oversight, and review processes. A [BANKING ORGANIZATION] that calculates the standardized measure for CVA risk must adequately document:

(1) Policies and procedures of the CVA desk, or similar dedicated function, and the independent risk control unit;

(2) The internal auditing process;

(3) The internal policies, controls, and procedures concerning the [BANKING ORGANIZATION]'s CVA calculations for financial reporting purposes;

(4) The initial and ongoing validation of the [BANKING ORGANIZATION]'s models used for calculating regulatory CVA under § __.224(d), including exposure models; and

(5) The [BANKING ORGANIZATION]'s process to assess the performance of models used for calculating regulatory CVA under § __.224(d), including exposure models, and implement remedies.

§ __.221 Measure for CVA risk.

(a) *General requirements.* A [BANKING ORGANIZATION] must calculate its measure for CVA risk as the basic measure for CVA risk in accordance with paragraph (b) of this section, unless the [BANKING ORGANIZATION] has prior written approval of the [AGENCY] and chooses to calculate its measure for CVA risk as the standardized measure for CVA risk in accordance with paragraph (c) of this section.

(b) *Basic measure for CVA risk.* The basic measure for CVA risk equals the basic CVA approach capital requirement as provided in § __.222 for all CVA risk covered positions and eligible CVA hedges, plus any additional capital requirement for CVA risk established by the [AGENCY] pursuant to § __.201(c).

(c) *Standardized measure for CVA risk.* The standardized measure for CVA risk equals the sum of the standardized CVA approach capital requirement as provided in paragraph (c)(1) of this section for all standardized CVA risk covered positions and standardized CVA hedges, the basic CVA approach capital requirement as provided in § __.222 for all basic CVA risk covered positions and basic CVA hedges, and any additional capital requirement for CVA risk established by the [AGENCY] pursuant to § __.201(c).

(1) The standardized CVA approach capital requirement equals the sum of the CVA delta capital requirement and the CVA vega capital requirement as calculated in accordance with § __.224.

(2) A [BANKING ORGANIZATION] that has received approval from the [AGENCY] to use the standardized measure for CVA risk must include the following CVA risk covered positions as basic CVA risk covered positions to be included in the calculation of the basic CVA approach capital requirement:

(i) Any CVA risk covered position that the [AGENCY] specifies must be included in the basic CVA approach capital requirement pursuant to § __.223(a)(1);

(ii) Any CVA risk covered position in a netting set that the [BANKING ORGANIZATION] chooses to exclude from the calculation of the standardized CVA approach capital requirement; and

(iii) Any CVA risk covered position in a partial netting set designated for inclusion in the basic CVA approach that the [BANKING ORGANIZATION] has prior written approval from the [AGENCY] to create from splitting a netting set into two netting sets.

(3) A [BANKING ORGANIZATION] that has received approval from the [AGENCY] to use the standardized measure for CVA risk must include the following eligible CVA hedges as basic CVA hedges to be included in the calculation of the basic CVA approach capital requirement:

(i) Any eligible CVA hedge that the [AGENCY] specifies must be included in the basic CVA approach capital requirement pursuant to § __.223(a)(1); and

(ii) Any CVA hedge that is an eligible CVA hedge for purposes of calculating the basic CVA approach capital requirement that the [BANKING ORGANIZATION] chooses to include in the basic CVA approach capital requirement.

§ __.222 Basic CVA approach.

(a) *Basic CVA approach capital requirement.* The basic CVA approach capital requirement equals K_{basic}, which is calculated as follows:

$$K_{basic} = 0.65 \cdot (\beta \cdot K_{unhedged} + (1 - \beta) \cdot K_{hedged})$$

Where,

(1) The parameter, β, equals 0.25;

(2) $K_{unhedged}$ is calculated as follows:

$$K_{unhedged} = \sqrt{\left(\rho \cdot \sum_c SCVA_c\right)^2 + (1-\rho^2) \cdot \sum_c SCVA_c^2}$$

Where,

(i) The correlation parameter, ρ, equals 50 percent;

(ii) $\sum_c(\ldots)$ refers to a summation across all counterparties, c, of CVA risk covered positions;

(iii) $SCVA_c$ is equal to:

$$SCVA_c = \frac{1}{\alpha} \cdot RW_c \cdot \sum_{NS} (M_{NS} \cdot EAD_{NS} \cdot DF_{NS})$$

Where,

(A) α equals:

(*1*) 1 for counterparties for which the [BANKING ORGANIZATION] calculates exposure amount under § __.113(e)(4); and

(*2*) 1.4 for all other counterparties.

(B) $\sum_N(\ldots)$ refers to a summation across all netting sets with the counterparty;

(C) M_{NS} is the effective maturity for the netting set, *NS*, measured in years, calculated as the weighted-average remaining maturity of the individual CVA risk covered positions within the netting set, with the weight of each individual position equal to the notional amount of the position divided by the aggregate notional amount of all positions in the netting set;

(D) EAD_{NS} is the EAD of the netting set, *NS*, provided that a [BANKING ORGANZATION] must determine the EAD for a netting set, *NS*, using the same methodology it uses to calculate the exposure amount for counterparty credit risk for its OTC derivative contracts under § __.113;

(E) DF_{NS} is a discount factor equal to $(1-e^{(-0.05*M_{NS})})/(0.05*M_{NS})$; and

(F) RW_c is the risk weight for counterparty c, based on the sector and credit quality of the counterparty, as specified in Table 1 of this section.

Table 1 to § __.222—Supervisory Risk Weights, RW_c

Sector of counterparty	Credit quality of counterparty		
	Investment grade	Speculative grade / sub-speculative grade	
Sovereign exposures and MDBs	0.5%	3.0%	7.0%
PSE, government-backed non-financials, GSE debt, education, and public administration	1.0%	4.0%	
Financials, including government-backed financials	5.0%	12.0%	
Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	3.0%	7.0%	
Consumer goods and services, transportation and storage, and administrative and support service activities	3.0%	8.5%	
Technology and telecommunications	2.0%	5.5%	
Health care, utilities, and professional and technical activities	1.5%	5.0%	
Other sector	5.0%	12.0%	

(3) K_{hedged} is calculated as follows:

$$K_{hedged} = \sqrt{\left(\rho \cdot \sum_c (SCVA_c - SNH_c) - IH\right)^2 + (1-\rho^2) \cdot \sum_c (SCVA_c - SNH_c)^2 + \sum_c HMA_c}$$

Where,

(i) The correlation parameter, ρ, is defined in paragraph (a)(2)(i) of this section;

(ii) $\sum_c(\ldots)$ refers to a summation across all counterparties, c, of CVA risk covered positions, $SCVA_c$, as defined in paragraph (a)(2)(iii) of this section;

(iii) SNH_c is calculated as follows:

$$SNH_c = \sum_{h \in c} (r_{hc} \cdot RW_h \cdot M_h^{SN} \cdot B_h^{SN} \cdot DF_h^{SN})$$

Where,

(A) The summation in the formula refers to a summation across all single-name eligible CVA hedges, *h*, that the [BANKING ORGANIZATION] uses to hedge the CVA risk of counterparty, *c*;

(B) r_{hc} is the correlation between the credit spread of counterparty, *c*, and the credit spread of a single-name hedge, *h*, of counterparty, *c*, as specified in Table 2 of this section;

(C) RW_h is the risk weight of single-name hedge, *h*, as prescribed in Table 1 of this section, for the sector and credit quality of the reference name of the hedge;

(D) M_h^{SN} is the remaining maturity of single-name hedge, *h*, measured in years;

(E) B_h^{SN} is the notional amount of single-name hedge, *h*, provided that, for single-name contingent CDS, the notional amount is determined by the current market value of the reference portfolio or instrument; and

(F) DF_h^{SN} is the discount factor and is calculated as:

$$\frac{1 - e^{\left(-0.05 \cdot M_h^{SN}\right)}}{0.05 \cdot M_h^{SN}}$$

Table 2 to § __.222—Correlations Between Credit Spread of Counterparty, *c*, and a Single-Name Hedge, *h*

Single-name hedge, *h*, of counterparty, *c*	Value of r_{hc}
References counterparty, *c*, directly	100%
References an affiliate of counterparty, *c*	80%
References an entity that belongs to the same sector and region as the counterparty, *c*	50%

(iv) *IH* is calculated as follows:

$$IH = \sum_i \left(RW_i \cdot M_i^{ind} \cdot B_i^{ind} \cdot DF_i^{ind}\right)$$

Where,

(A) $\sum_i(\ldots)$ refers to a summation across all eligible CVA hedges that are index hedges, *i*, that the [BANKING ORGANIZATION] uses to hedge CVA risk;

(B) RW_i is the risk weight of the index hedge, *i*, as follows:

(*1*) For an index hedge where all index constituents belong to the same sector and are of the same credit quality, the value in Table 1 of this section corresponding to that sector and credit quality, multiplied by 0.7; or

(*2*) For an index spanning multiple sectors or with a mixture of investment grade constituents and other grade constituents, the notional-weighted average of the risk weights from Table 1 of this section corresponding to the sectors and credit qualities of the constituents, multiplied by 0.7;

(C) M_i^{ind} is the remaining maturity of the index hedge, *i*, measured in years;

(D) B_i^{ind} is the notional amount of the index hedge, *i*; and

(E) DF_i^{ind} is the discount factor and is calculated as $(1-e^{(-0.05*M_{NS})})/(0.05*M_{NS})$; and

(v) HMA_c is calculated as follows where all terms have the same definitions as set out in paragraph (a)(3)(iii) of this section:

$$HMA_c = \sum_{h \in c} \left((1 - r_{hc}^2) \cdot (RW_h \cdot M_h^{SN} \cdot B_h^{SN} \cdot DF_h^{SN})^2 \right)$$

(b) [Reserved]

§ __.223 Requirements for the standardized measure for CVA risk.

(a) *Eligibility requirements.* (1) A [BANKING ORGANIZATION] must receive written approval of the [AGENCY] prior to using the standardized measure for CVA risk for calculating CVA capital requirements. Such approval may specify certain CVA risk covered positions and eligible CVA hedges that must be included in the calculation of the basic CVA approach capital requirement. In order to be eligible to use the standardized measure for CVA risk, a [BANKING ORGANIZATION] must meet the following requirements:

(i) A [BANKING ORGANIZATION] must be able to calculate, on at least a monthly basis, regulatory CVA and CVA sensitivities to market risk factors and counterparty credit spreads specified in § __.224 and § __.225.

(ii) A [BANKING ORGANIZATION] must have a CVA desk, or a similar dedicated function, responsible for CVA risk management and hedging consistent with the [BANKING ORGANIZATION]'s policies and procedures.

(iii) A [BANKING ORGANIZATION] must meet all of the requirements listed in paragraph (b) of this section and the requirements in § __.220(c) on an ongoing basis. The [AGENCY] may rescind its approval of the use of the standardized measure for CVA risk (in whole or in part), if the [AGENCY] determines that the model no longer complies with this subpart or fails to reflect accurately the CVA risk of the [BANKING ORGANIZATION]'s CVA risk covered positions.

(2) The [AGENCY] may specify that one or more CVA risk covered positions or one or more eligible CVA hedges must be included in the basic CVA approach capital requirement or prescribe an alternative capital requirement, if the [AGENCY] determines that the [BANKING ORGANIZATION]'s implementation of the standardized CVA approach capital requirement no longer complies with this subpart F or fails to reflect accurately the CVA risk.

(b) *Ongoing requirements.* (1) Exposure models used in the calculation of regulatory CVA under § __.224(d) must be part of a CVA risk management framework that includes the identification, measurement, management, approval, and internal reporting of CVA risk.

(2) Senior management must have oversight of the risk control process.

(3) A [BANKING ORGANIZATION] must have an independent risk control unit that is responsible for the effective initial and ongoing validation (no less than annual) of the models used for calculating regulatory CVA under § __.224(d), including exposure models. This unit must be independent from the business unit that evaluates counterparties and sets limits, a [BANKING ORGANIZATION]'s trading desks, and the CVA desk, or similar dedicated function, and must report directly to senior management of the [BANKING ORGANIZATION].

(4) A [BANKING ORGANIZATION] must document the process for initial and ongoing validation of its models used for calculating regulatory CVA under § __.224(d), including

exposure models, which must recreate the analysis, to a level of detail that would enable a third party to understand how the models operate, their limitations, and their key assumptions. This documentation must set out the minimum frequency (no less than annual) with which ongoing validation will be conducted as well as other circumstances (such as a sudden change in market behavior) under which additional validation must be conducted more frequently. In addition, the documentation must sufficiently describe how the validation is conducted with respect to data flows and portfolios, what analyses are used, and how representative counterparty portfolios are constructed.

(5) A [BANKING ORGANIZATION] must test the pricing models used to calculate exposure for given paths of market risk factors against appropriate independent benchmarks for a wide range of market states as part of the initial and ongoing model validation process. A [BANKING ORGANIZATION]'s pricing models for options must account for the non-linearity of option value with respect to market risk factors.

(6) An independent review of the overall CVA risk management process must be conducted as part of the [BANKING ORGANIZATION]'s own regular internal auditing process. This review must include both the activities of the CVA desk, or similar dedicated function, and of the independent risk control unit.

(7) A [BANKING ORGANIZATION] must define criteria on which to assess the exposure models and their inputs and have a written policy in place to describe the process to assess the performance of exposure models and remedy unacceptable performance.

(8) A [BANKING ORGANIZATION]'s exposure models must capture transaction-specific information in order to aggregate exposures at the level of the netting set. A [BANKING ORGANIZATION] must verify that transactions are assigned to the appropriate netting set within the model.

(9) A [BANKING ORGANIZATION]'s exposure models must reflect transaction terms and specifications accurately. The terms and specifications must reside in a secure database that

is subject to formal and periodic audit no less than annually. The transmission of transaction terms and specifications data to the exposure model must also be subject to internal audit, and formal reconciliation processes must be in place between the internal model and source data systems to verify on an ongoing basis that transaction terms and specifications are being reflected correctly or at least conservatively.

(10) A [BANKING ORGANIZATION] must acquire current and historical market data that are either independent of the lines of business or validated independently from the lines of business and be compliant with applicable accounting standards. The data must be input into the exposure models in a timely and complete fashion, and maintained in a secure database subject to formal and periodic audit. A [BANKING ORGANIZATION] must also have a well-developed data integrity process to handle the data of erroneous and anomalous observations. In the case where an exposure model relies on proxy market data, a [BANKING ORGANIZATION] must set internal policies to identify suitable proxies and the [BANKING ORGANIZATION] must demonstrate empirically on an ongoing basis that the proxy provides a conservative representation of the underlying risk under adverse market conditions.

§ __.224 Calculation of the standardized CVA approach.

(a) *General.* A [BANKING ORGANIZATION] must calculate the CVA delta capital requirement pursuant to paragraph (b) of this section and the CVA vega capital requirement pursuant to paragraph (c) of this section, in both cases for all standardized CVA risk covered positions and for the market value of all standardized CVA hedges, in accordance with the requirements set forth below.

(1) For each standardized CVA risk covered position and standardized CVA hedge, a [BANKING ORGANIZATION] must identify all of the relevant risk factors as described in § __.225 for which it will calculate sensitivities for delta risk and vega risk as described in paragraphs (b) and (c) of this section. A [BANKING ORGANIZATION] must also identify the corresponding buckets related to these risk factors as described in § __.225.

(2) A [BANKING ORGANIZATION] must assign a standardized CVA hedge that mitigates credit spread delta risk either to the counterparty credit spread risk class or to the reference credit spread risk class.

(b) *CVA delta capital requirement*. (1) *General.* The CVA delta capital requirement equals the sum of the risk class-level CVA delta capital requirements calculated pursuant to paragraph (b)(4) of this section for each of the following six risk classes:

(i) Interest rate risk;

(ii) Foreign exchange risk;

(iii) Counterparty credit spread risk;

(iv) Reference credit spread risk;

(v) Equity risk; and

(vi) Commodity risk.

(2) *Net weighted sensitivity calculation*. For each risk factor, k, specified in § __.225(a), a [BANKING ORGANIZATION] must:

(i) Calculate the CVA delta sensitivity of aggregate regulatory CVA to the risk factor, S_k^{CVA}, and the CVA delta sensitivity of the aggregate market value of standardized CVA hedges to the risk factor, S_k^{Hdg}, pursuant to paragraph (e) of this section.

(ii) Calculate the weighted CVA delta sensitivity to the risk factor, WS_k^{CVA}, and the weighted hedge delta sensitivity to the risk factor, WS_k^{Hdg}, by multiplying S_k^{CVA} and S_k^{Hdg}, respectively, by the corresponding risk weight, RW_k, specified in § __.225(a):

$$WS_k^{CVA} = RW_k \cdot S_k^{CVA}$$

$$WS_k^{Hdg} = RW_k \cdot S_k^{Hdg}$$

(iii) Calculate the net weighted delta sensitivity, WS_k, by subtracting the weighted hedge delta sensitivity, WS_k^{Hdg}, from the weighted CVA delta sensitivity, WS_k^{CVA} :

$$WS_k = WS_k^{CVA} - WS_k^{Hdg}$$

(3) *Within bucket aggregation*. For each bucket, b, as provided in § __.225(a), a [BANKING ORGANIZATION] must calculate the bucket-level CVA delta capital requirement, K_b, by aggregating the net weighted delta sensitivities for each risk factor in a bucket, b, using the buckets and correlation parameters, ρ_{kl}, applicable to each risk class as specified in § __.225(a), as follows:

$$K_b = \sqrt{\sum_{k \in b} WS_k^2 + \sum_{k \in b} \sum_{l \in b, l \neq k} (\rho_{kl} \cdot WS_k \cdot WS_l) + R \cdot \sum_{k \in b} \left(WS_k^{Hdg}\right)^2}$$

where R is the hedging disallowance parameter equal to 0.01.

(4) *Across bucket aggregation*. A [BANKING ORGANIZATION] must calculate the risk class-level CVA delta capital requirement, K, by aggregating the bucket-level CVA delta capital requirements, K_b, for each bucket in the risk class using the correlation parameters, γ_{bc}, applicable to each risk class as specified in § __.225(a), as follows:

$$K = m_{CVA} \cdot \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} (\gamma_{bc} \cdot S_b \cdot S_c)}$$

where,

(i) S_b is defined for bucket, b, as:

$$S_b = max\left(min\left(\sum_k WS_k, K_b\right), -K_b\right)$$

(ii) S_c is defined for bucket c as:

$$S_c = max\left(min\left(\sum_k WS_k, K_c\right), -K_c\right)$$

(iii) The multiplier, m_{CVA}, equals 1, unless the [AGENCY] notifies the [BANKING ORGANIZATION] in writing that a different value must be used. The [AGENCY] may increase a [BANKING ORGANIZATION]'s multiplier if it determines that the [BANKING ORGANIZATION]'s CVA model risk warrants it.

(c) *CVA vega capital requirement*. (1) *General.* The CVA vega capital requirement equals the sum of the risk class-level CVA vega capital requirements calculated pursuant to paragraph (c)(4) of this section for each of the following five risk classes:

(i) Interest rate risk;

(ii) Foreign exchange risk;

(iii) Reference credit spread risk;

(iv) Equity risk; and

(v) Commodity risk.

(2) *Net weighted sensitivity calculation*. For each risk factor, k, specified in § __.225(b), a [BANKING ORGANIZATION] must:

(i) Calculate the CVA vega sensitivity of aggregate regulatory CVA to the risk factor, S_k^{CVA}, and the CVA vega sensitivity of the aggregate market value of standardized CVA hedges to the risk factor, S_k^{Hdg}, pursuant to paragraph (e) of this section.

(ii) Calculate the weighted CVA vega sensitivity to the risk factor, WS_k^{CVA}, and the weighted hedge vega sensitivity to the risk factor, WS_k^{Hdg}, by multiplying S_k^{CVA} and S_k^{Hdg}, respectively, by the corresponding risk weight, RW_k, specified in § __.225(b):

$$WS_k^{CVA} = RW_k \cdot S_k^{CVA}$$

$$WS_k^{Hdg} = RW_k \cdot S_k^{Hdg}$$

(iii) Calculate the net weighted vega sensitivity, WS_k, by subtracting the weighted hedge vega sensitivity, WS_k^{Hdg}, from the weighted CVA vega sensitivity, WS_k^{CVA} :

$$WS_k = WS_k^{CVA} - WS_k^{Hdg}$$

(3) *Within bucket aggregation*. For each bucket, b, as provided in § __.225(b), a [BANKING ORGANIZATION] must calculate the bucket-level CVA vega capital requirement, K_b, by aggregating the net weighted vega sensitivities for each risk factor in a bucket, b, using the buckets and correlation parameters, ρ_{kl}, applicable to each risk class as specified in § __.225(b), as follows:

$$K_b = \sqrt{\sum_{k \in b} WS_k^2 + \sum_{k \in b} \sum_{l \in b, l \neq k} (\rho_{kl} \cdot WS_k \cdot WS_l) + R \sum_{k \in b} \left(WS_k^{Hdg}\right)^2}$$

where R is the hedging disallowance parameter equal to 0.01.

(4) *Across bucket aggregation*. A [BANKING ORGANIZATION] must calculate the risk class-level CVA vega capital requirement, K, by aggregating the bucket-level CVA vega capital requirements, K_b, far each bucket in the risk class using the correlation parameters, γ_{bc}, applicable to each risk class as specified in § __.225(b), as follows:

$$K = m_{CVA} \cdot \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} (\gamma_{bc} \cdot S_b \cdot S_c)}$$

where,

(i) S_b is defined for bucket b as:

$$S_b = max\left(min\left(\sum_k WS_k, K_b\right), -K_b\right)$$

(ii) S_c is defined for bucket c as:

$$S_c = max\left(min\left(\sum_k WS_k, K_c\right), -K_c\right)$$

(iii) The multiplier, m_{CVA}, equals 1, unless the [AGENCY] notifies the [BANKING ORGANIZATION] in writing that a different value must be used. The [AGENCY] may increase

a [BANKING ORGANIZATION]'s multiplier if it determines that the [BANKING ORGANIZATION]'s CVA model risk warrants it.

(d) *Calculation of regulatory CVA.* A [BANKING ORGANIZATION] must calculate aggregate regulatory CVA as the sum of regulatory CVA for each counterparty.

(1) A [BANKING ORGANIZATION] must calculate regulatory CVA at the counterparty level as the expected loss resulting from default of the counterparty and assuming non-default of the [BANKING ORGANIZATION]. In expressing the regulatory CVA, non-zero losses must have a positive sign.

(2) The calculation of regulatory CVA must be based, at a minimum, on the following inputs, consistent with the requirements of this paragraph (d) of this section:

(i) Term structure of market-implied probability of default;

(ii) Market-consensus expected loss-given-default; and

(iii) Simulated paths of discounted future exposure.

(3) The term structure of market-implied probability of default must be estimated from credit spreads observed in the markets. For counterparties whose credit is not actively traded (illiquid counterparties), the market-implied probability of default must be estimated from proxy credit spreads, estimated for such counterparties according to the following requirements:

(i) A [BANKING ORGANIZATION] must estimate the credit spread curves of illiquid counterparties from credit spreads observed in the markets of the counterparty's liquid peers via an algorithm that is based, at a minimum, on the following inputs:

(A) A measure of credit quality;

(B) Industry; and

(C) Region;

(ii) A [BANKING ORGANIZATION] may map an illiquid counterparty to a single liquid reference name if the [BANKING ORGANIZATION] demonstrates to the [AGENCY] that such mapping is appropriate; and

(iii) When no credit spread of any of the counterparty's peers is available due to the counterparty's specific type, a [BANKING ORGANIZATION] may, with the approval of the [AGENCY], use an estimate of credit risk to proxy the spread of an illiquid counterparty; provided that where a [BANKING ORGANIZATION] uses historical probabilities of default as part of this assessment, the resulting spread must relate to credit markets and cannot be based on historical probabilities of default alone.

(4) The market-consensus expected loss-given-default value must be the same as the one used to calculate the market-implied probability of default from credit spreads unless the seniority of the exposure resulting from CVA risk covered positions differs from the seniority of senior unsecured bonds.

(5) The simulated paths of discounted future exposure are produced by pricing all standardized CVA risk covered positions with the counterparty along simulated paths of relevant market risk factors and discounting the prices to today using risk-free interest rates along the path.

(6) All market risk factors material for the transactions with a counterparty must be simulated as stochastic processes for an appropriate number of paths defined on an appropriate set of future time points extending to the maturity of the longest transaction.

(7) For transactions with a significant level of dependence between exposure and the counterparty's credit quality, a [BANKING ORGANIZATION] must account for this dependence in regulatory CVA calculations.

(8) For margined counterparties, only financial collateral that qualifies for inclusion in the net independent collateral amount or variation margin amount under § __.113 may be recognized as a risk mitigant.

(9) For margined counterparties, the simulated paths of discounted future exposure must capture the effects of margining collateral that is recognized as a risk mitigant along each exposure path. All of the relevant contractual features such as the nature of the margin agreement

(unilateral vs bilateral), the frequency of margin calls, the type of collateral, thresholds, independent amounts, initial margins, and minimum transfer amounts must be appropriately captured by the exposure model. To determine collateral available to a [BANKING ORGANIZATION] at a given exposure measurement time point, the exposure model must assume that the counterparty will not post or return any collateral within a certain time period immediately prior to that time point, the margin period of risk (MPoR). For a client-facing derivative transaction that is a standardized CVA risk covered position, the MPoR must not be less than 4 + *N* business days. For all other standardized CVA risk covered positions, the MPoR must not be less than 9 + *N* business days. For purposes of this paragraph (d)(9), *N* is the re-margining period specified in the margin agreement.

(10) A [BANKING ORGANIZATION] must obtain the simulated paths of discounted future exposure using the same CVA exposure models used by the [BANKING ORGANIZATION] for financial reporting purposes, adjusted to meet the requirements of this section. For purposes of this section, a [BANKING ORGANIZATION] must use the same model calibration process, market data, and transaction data as the [BANKING ORGANIZATION] uses in its CVA calculations for financial reporting purposes, adjusted to meet the requirements of this calculation.

(11) A [BANKING ORGANIZATION]'s generation of market risk factor paths underlying the exposure models must satisfy the following requirements:

(i) Drifts of risk factors must be consistent with a risk-neutral probability measure and a [BANKING ORGANIZATION] may not calibrate drifts of risk factors on a historical basis;

(ii) A [BANKING ORGANIZATION] must calibrate the volatilities and correlations of market risk factors to market data; provided that, where sufficient data from a liquid derivatives market does not exist, a [BANKING ORGANIZATION] may calibrate volatilities and correlations of market risk factors on a historical basis; and

(iii) The distribution of modelled risk factors must adequately account for the possible non-normality of the distribution of exposures.

(12) For purposes of the calculation of the regulatory CVA, a [BANKING ORGANIZATION] must recognize netting in the same manner as used by the [BANKING ORGANIZATION] for financial reporting purposes.

(e) *CVA Sensitivities.* For purposes of calculating the CVA delta capital requirement and the CVA vega capital requirement, a [BANKING ORGANIZATION] must calculate the CVA delta sensitivities and CVA vega sensitivities in accordance with the requirements set forth below.

(1) *Reference value*. For purposes of calculating the CVA delta sensitivity or CVA vega sensitivity of aggregate regulatory CVA to a risk factor, S_k^{CVA}, the reference value is the aggregate regulatory CVA of all standardized CVA risk covered positions. For purposes of calculating the CVA delta sensitivity or CVA vega sensitivity of aggregate market value of standardized CVA hedges to a risk factor, S_k^{Hdg}, the reference value is the aggregate market value of all standardized CVA hedges.

(2) *CVA delta sensitivities definitions*—(i) *Interest rate risk*. (A) For currencies specified in § __.225(a)(1)(ii), a [BANKING ORGANIZATION] must calculate the CVA delta sensitivity to each delta risk factor by changing the risk-free yield for a given tenor for all curves in a given currency by 0.0001 and dividing the resulting change in the reference value by 0.0001. A [BANKING ORGANIZATION] must measure the delta sensitivity to the inflation rate by changing the inflation rate by 0.0001 and dividing the resulting change in the reference value by 0.0001.

(B) For currencies not specified in § __.225(a)(1)(ii), a [BANKING ORGANIZATION] must measure the CVA delta sensitivity to each delta risk factor by applying a parallel shift to all risk-free yield curves in a given currency by 0.0001 and dividing the resulting change in the reference value by 0.0001. A [BANKING ORGANIZATION] must measure the delta sensitivity

to the inflation rate by changing the inflation rate by 0.0001 and dividing the resulting change in the reference value by 0.0001.

(ii) *Foreign exchange risk*. A [BANKING ORGANIZATION] must measure the CVA delta sensitivity to each delta risk factor by multiplying the current value of the exchange rate between the [BANKING ORGANIZATION]'s reporting currency and the other currency (i.e., the value of one unit of another currency expressed in units of the reporting currency) by 1.01 and dividing the resulting change in the reference value by 0.01. For transactions that reference an exchange rate between a pair of non-reporting currencies, a [BANKING ORGANIZATION] must measure the CVA delta sensitivities to the foreign exchange spot rate between the [BANKING ORGANIZATION]'s reporting currency and each of the referenced non-reporting currencies.

(iii) *Counterparty credit spread risk*. For each entity and each tenor point, a [BANKING ORGANIZATION] must measure the CVA delta sensitivity to each delta risk factor for counterparty credit risk by shifting the relevant credit spread by 0.0001 and dividing the resulting change in the reference value by 0.0001.

(iv) *Reference credit spread risk*. A [BANKING ORGANIZATION] must measure the CVA delta sensitivity to each delta risk factor for reference credit spread risk by simultaneously shifting all of the credit spreads for all tenors of all reference names in the bucket by 0.0001 and dividing the resulting change in the reference value by 0.0001.

(v) *Equity risk*. A [BANKING ORGANIZATION] must measure the CVA delta sensitivity to each delta risk factor for equity risk by multiplying the current values of all of the equity spot prices for all reference names in the bucket by 1.01 and dividing the resulting change in the reference value by 0.01.

(vi) *Commodity risk*. A [BANKING ORGANIZATION] must measure the CVA delta sensitivities to each delta risk factor for commodity risk by multiplying the current values of all

of the spot prices of all commodities in the bucket by 1.01 and dividing the resulting change in the reference value by 0.01.

(3) *CVA vega sensitivities definitions*—(i) *Interest rate risk*. A [BANKING ORGANIZATION] must measure the CVA vega sensitivity to each vega risk factor by multiplying the current values of all interest rate or inflation rate volatilities, respectively, by 1.01 and dividing the resulting change in the reference value by 0.01.

(ii) *Foreign exchange risk*. A [BANKING ORGANIZATION] must measure the CVA vega sensitivity to each vega risk factor for foreign exchange risk by multiplying the current values of all volatilities for a given exchange rate between the [BANKING ORGANIZATION]'s reporting currency and another currency by 1.01 and dividing the resulting change in the reference value by 0.01. For transactions that reference an exchange rate between a pair of non-reporting currencies, a [BANKING ORGANIZATION] must measure the volatilities of the foreign exchange spot rates between the [BANKING ORGANIZATION]'s reporting currency and each of the referenced non-reporting currencies.

(iii) *Reference credit spread risk*. A [BANKING ORGANIZATION] must measure the CVA vega sensitivity to each vega risk factor for reference credit spread risk by multiplying the current values of the volatilities of all credit spreads of all tenors for all reference names in the bucket by 1.01 and dividing the resulting change in the reference values by 0.01.

(iv) *Equity risk*. A [BANKING ORGANIZATION] must measure the CVA vega sensitivity to each risk factor for equity risk by multiplying the current values of the volatilities for all reference names in the bucket by 1.01 and dividing the resulting change in the reference value by 0.01.

(v) *Commodity risk*. A [BANKING ORGANIZATION] must measure the CVA vega sensitivity to each vega risk factor for commodity risk by multiplying the current values of the volatilities for all commodities in the bucket by 1.01 and dividing the resulting change in the reference value by 0.01.

(4) Notwithstanding paragraphs (e)(2) and (3) of this section, a [BANKING ORGANIZATION] may use smaller values of risk factor changes than what is specified in paragraphs (e)(2) and (3) of this section if doing so is consistent with internal risk management calculations.

(5) When CVA vega sensitivities are calculated, the volatility shift must apply to both types of volatilities that appear in exposure models:

(i) Volatilities used for generating risk factor paths; and

(ii) Volatilities used for pricing options.

(6) In cases where a standardized CVA risk covered position or a standardized CVA hedge references an index, the sensitivities of the aggregate regulatory CVA or the market value of the eligible CVA hedge to all risk factors upon which the value of the index depends must be calculated. The sensitivity of the aggregate regulatory CVA or the market value of the standardized CVA hedge to risk factor, k, must be calculated by applying the shift of risk factor, k, to all index constituents that depend on this risk factor and recalculating the aggregate regulatory CVA or the market value of the standardized CVA hedge.

(7) Notwithstanding paragraph (e)(6) of this section:

(i) For the risk classes of counterparty credit spread risk, reference credit spread risk, and equity risk, a [BANKING ORGANIZATION] may choose to introduce a set of additional risk factors that directly correspond to qualified credit and equity indices;

(ii) For delta risk, a credit or equity index is qualified if it is listed and well-diversified; for vega risk, any credit or equity index is qualified. If a [BANKING ORGANIZATION] chooses to introduce such additional risk factors, a [BANKING ORGANIZATION] must calculate CVA sensitivities to the qualified index risk factors in addition to sensitivities to the non-index risk factors; and

(iii) For a standardized CVA risk covered position or a standardized CVA hedge whose underlying is a qualified index, its contribution to sensitivities to the index constituents is replaced with its contribution to a single sensitivity to the underlying index, provided that:

(A) For listed and well-diversified equity indices that are not sector specific, where 75 percent of market value of the constituents of the index, taking into account the weightings of the constituents, are mapped to the same sector, the entire index must be mapped to that sector and treated as a single-name sensitivity in that bucket;

(B) For listed and well-diversified credit indices that are not sector specific, where 75 percent of notional value of the constituents of the index, taking into account the weightings of the constituents, are mapped to the same sector, the entire index must be mapped to that sector and treated as a single-name sensitivity in that bucket; and

(C) In all other cases, the sensitivity must be mapped to the applicable index bucket.

§ __.225 Standardized CVA approach: definitions of buckets, risk factors, risk weights, and correlation parameters.

(a) *CVA delta capital requirement*—(1) *Interest rate risk*—(i) *Delta buckets for interest rate risk.* A [BANKING ORGANIZATION] must establish a separate interest rate risk bucket for each currency.

(ii) For the purposes of this section, specified currencies mean United States Dollar, Australian Dollar, Canadian Dollar, Euro, Japanese Yen, Swedish Krona, and United Kingdom Pound, and any additional currencies specified by the [AGENCY].

(A) *Delta risk factors for interest rate risk, specified currencies.* The delta risk factors for interest rate risk for the specified currencies are the absolute changes of the inflation rate and of the risk-free yields for the following five tenors: 1 year, 2 years, 5 years, 10 years, and 30 years.

(B) *Delta risk weights for interest rate risk, specified currencies*. The delta risk weights, RW_k, for interest rate risk for the specified currencies are set out in Table 1 of this section.

Table 1 to § __.225—Delta Risk Weights for Interest Rate Risk (Specified Currencies)

Risk factor	Risk free yields					Inflation
	1 year	2 years	5 years	10 years	30 years	
Risk weight	1.11%	0.93%	0.74%	0.74%	0.74%	1.11%

(C) *Delta within-bucket correlation parameter for interest rate risk, specified currencies*. The correlation parameters, ρ_{kl}, related to the specified currencies are set out in Table 2 of this section.

Table 2 to § __.225—Delta Correlation Parameters, ρ_{kl}, for Interest Rate Risk (Specified Currencies)

	1 year	2 years	5 years	10 years	30 years	Inflation
1 year	100%	91%	72%	55%	31%	40%
2 years		100%	87%	72%	45%	40%
5 years			100%	91%	68%	40%
10 years				100%	83%	40%
30 years					100%	40%
Inflation						100%

(iii) For currencies not specified in paragraph (a)(2)(ii) of this section:

(A) *Delta risk factors for interest rate risk, other currencies.* The delta risk factors for interest rate risk equal the absolute change of the inflation rate and the parallel shift of the entire risk-free yield curve for a given currency;

(B) *Delta risk weights for interest rate risk, other currencies*. The delta risk weights, RW_k, for both the risk-free yield curve and the inflation rate equal 1.58 percent; and

(C) *Delta within-bucket correlation parameter for interest rate risk, other currencies*. The correlation parameter, ρ_{kl}, between the risk-free yield curve and the inflation rate equals 40 percent.

(iv) *Delta cross-bucket correlation parameter for interest rate risk.* The delta cross-bucket correlation parameter, γ_{bc}, for interest rate risk equals 50 percent for all currency pairs.

(2) *Foreign exchange risk*—(i) *Delta buckets for foreign exchange risk*. A [BANKING ORGANIZATION] must establish a separate delta foreign exchange risk bucket for each currency, except for a [BANKING ORGANIZATION]'s own reporting currency.

(ii) *Delta risk factors for foreign exchange risk*. The delta risk factors for foreign exchange risk equal the relative change of the foreign exchange spot rate between a given currency and a [BANKING ORGANIZATION]'s reporting currency or base currency, where the foreign exchange spot rate is the current market price of one unit of another currency expressed in the units of the [BANKING ORGANIZATION]'s reporting currency or base currency.

(iii) *Delta risk weights for foreign exchange risk*. The delta risk weights, RW_k, for foreign exchange risk for all exchange rates between the [BANKING ORGANIZATION]'s reporting currency or base currency and another currency equal 11 percent.

(iv) *Delta cross-bucket correlation parameter for foreign exchange risk.* The delta cross-bucket correlation parameter, γ_{bc}, for foreign exchange risk equals 60 percent for all currency pairs.

(3) *Counterparty credit spread risk*—(i) *Delta buckets for counterparty credit spread risk.* Delta buckets for counterparty credit spread risk are set out in Table 3 of this section. Delta buckets 1 to 7 represent the non-index risk factors and bucket 8 is available for the optional treatment of qualified indices. Under the optional treatment of qualified indices, only standardized CVA hedges of counterparty credit spread risk and reference qualified indices can be assigned to bucket 8, whereas buckets 1 to 7 must be used for calculations of CVA delta sensitivities for standardized CVA risk covered positions and all single-name and all non-qualified index hedges. For any CVA index hedge assigned to buckets 1 to 7, the sensitivity of the hedge to each index constituent must be calculated as described in § __.224(e)(6).

(ii) *Delta risk factors for counterparty credit spread risk*. The delta risk factors for counterparty credit spread risk equal the absolute shifts of credit spreads of individual entities (counterparties and reference names for counterparty credit spread hedges) and qualified indices

(under the optional treatment of qualified indices) for the following tenors: 0.5 years, 1 year, 3 years, 5 years, and 10 years.

(iii) *Delta risk weights for counterparty credit spread risk*. The delta risk weights, RW_k, for counterparty credit spread risk are set out in Table 3 of this section. The same risk weight for a given bucket and given credit quality applies to all tenors.

Table 3 to § __.225—Delta Buckets and Risk Weights for Counterparty Credit Spread Risk

Bucket number	Sector	Risk Weights		
		Investment grade names	Speculative grade names	Sub-speculative grade names
1	(a) Sovereign exposures and MDBs[1]	0.5%	3.0%	7.0%
	(b) PSE, government-backed non-financials, GSE debt, and education and public administration	1.0%	4.0%	
	(c) Government-backed financials	5.0%	12.0%	
2	Financials	5.0%	12.0%	
3	Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	3.0%	7.0%	
4	Consumer goods and services, transportation and storage, and administrative and support service activities	3.0%	8.5%	
5	Technology and telecommunications	2.0%	5.5%	
6	Health care, utilities, and professional and technical activities	1.5%	5.0%	
7	Other sector	5.0%	12.0%	
8	Qualified Indices	1.5%	5.0%	

(iv) *Delta within-bucket correlation parameters,* ρ_{kl}, *for counterparty credit spread risk*. The delta correlation parameters, ρ_{kl}, for counterpart credit spread risk must be defined as follows:

(A) For buckets 1 through 7, a [BANKING ORGANIZATION] must calculate the correlation parameter, ρ_{kl}, between two weighted sensitivities WS_k and WS_l as follows:

$$\rho_{kl} = \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(name)} \cdot \rho_{kl}^{(quality)}$$

where,

(*1*) $\rho_{kl}^{(tenor)}$ equals 100 percent if the two tenors are the same, and 90 percent otherwise;

(*2*) $\rho_{kl}^{(name)}$ equals 100 percent if the two names are the same, 90 percent if the two names are distinct but are affiliates, and 50 percent otherwise; and

(*3*) $\rho_{kl}^{(quality)}$ equals 100 percent if the credit quality of the two names is the same (where speculative and sub-speculative grade is treated as one credit quality category), and 80 percent otherwise.

(B) For bucket 8, a [BANKING ORGANIZATION] must calculate the correlation parameter, ρ_{kl}, between two weighted sensitivities WS_k and WS_l as follows:

$$\rho_{kl} = \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(name)} \cdot \rho_{kl}^{(quality)}$$

where,

(*1*) $\rho_{kl}^{(tenor)}$ equals 100 percent if the two tenors are the same, and 90 percent otherwise;

(*2*) $\rho_{kl}^{(name)}$ equals 100 percent if the two indices are the same and of the same series, 90 percent if the two indices are the same but of distinct series, and 80 percent otherwise; and

(*3*) $\rho_{kl}^{(quality)}$ equals 100 percent if the credit quality of the two indices is the same (where speculative and sub-speculative grade is treated as one credit quality category), and 80 percent otherwise.

(v) *Delta cross-bucket correlation parameters for counterparty credit spread risk.* The delta cross-bucket correlation parameters, γ_{bc}, for counterparty credit spread risk are set out in Table 4 of this section.

Table 4 to § __.225—Delta Cross-Bucket Correlations for Counterparty Credit Spread Delta Risk

Bucket number	1	2	3	4	5	6	7	8
1	100%	10%	20%	25%	20%	15%	0%	45%
2		100%	5%	15%	20%	5%	0%	45%
3			100%	20%	25%	5%	0%	45%
4				100%	25%	5%	0%	45%

5					100%	5%	0%	45%
6						100%	0%	45%
7							100%	0%
8								100%

(4) *Reference credit spread risk*—(i) *Delta buckets for reference credit spread risk.* Delta buckets for reference credit spread risk are set out in Table 5 of this section.

(ii) *Delta risk factors for reference credit spread risk*. The delta risk factor for reference credit spread risk equals the simultaneous absolute shift of all credit spreads for all tenors of all reference names in the bucket.

(iii) *Delta risk weights for reference credit spread risk*. The delta risk weights, RW_k, for reference credit spread risk are set out in Table 5 of this section.

Table 5 to § __.225—Delta and Vega Buckets and Delta Risk Weights for Reference Credit Spread Risk

Bucket number	Credit quality	Sector	Delta risk weights
1	Investment grade	Sovereign exposures and MDBs	0.5%
2		PSE, government-backed non-financials, GSE debt, and education and public administration	1.0%
3		Financials including government-backed financials	5.0%
4		Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	3.0%
5		Consumer goods and services, transportation and storage, and administrative and support service activities	3.0%
6		Technology and telecommunications	2.0%
7		Health care, utilities, and professional and technical activities	1.5%
8	Speculative grade	Sovereign exposures and MDBs	3.0%
	Sub-speculative grade		7.0%
9		PSE, government-backed non-financials, GSE debt, and education and public administration	4.0%
10		Financials including government-backed financials	12.0%

11		Basic materials, energy, industrials, agriculture, manufacturing, and mining and quarrying	7.0%
12		Consumer goods and services, transportation and storage, and administrative and support service activities	8.5%
13		Technology and telecommunications	5.5%
14		Health care, utilities, and professional and technical activities	5.0%
15	(Not applicable)	Other sector	12.0%
16	Investment grade	Qualified Indices	1.5%
17	Speculative grade and sub-speculative grade	Qualified Indices	5.0%

(iv) *Delta cross-bucket correlation parameters for reference credit spread risk.* The delta cross-bucket correlation parameter, γ_{bc}, for reference credit spread risk equals:

(A) The cross-bucket correlation parameters, γ_{bc}, between buckets of the same credit quality (where speculative and sub-speculative grade is treated as one credit quality category) are set out in Table 6 of this section.

Table 6 to —Delta and Vega Cross-Bucket Correlations for Reference Credit Spread Risk (Same Credit Quality)

Bucket number	1 or 8	2 or 9	3or 10	4 or 11	5 or 12	6 or 13	7 or 14	15	16	17
1 or 8	100%	75%	10%	20%	25%	20%	15%	0%	45%	45%
2 or 9		100%	5%	15%	20%	15%	10%	0%	45%	45%
3 or 10			100%	5%	15%	20%	5%	0%	45%	45%
4 or 11				100%	20%	25%	5%	0%	45%	45%
5 or 12					100%	25%	5%	0%	45%	45%
6 or 13						100%	5%	0%	45%	45%
7 or 14							100%	0%	45%	45%
15								100%	0%	0%
16									100%	75%
17										100%

(B) The cross-bucket correlation parameters, γ_{bc}, between buckets 1 to 14 of different credit quality (where speculative and sub-speculative grade is treated as one credit quality category), are set out in Table 7 of this section.

Table 7 to § __.225—Delta and Vega Cross-Bucket Correlations for Reference Credit Spread Risk (Different Credit Quality)

Bucket number	1 or 8	2 or 9	3 or 10	4 or 11	5 or 12	6 or 13	7 or 14
1 or 8	50.0%	37.5%	5.0%	10.0%	12.5%	10.0%	7.5%
2 or 9		50.0%	2.5%	7.5%	10.0%	7.5%	5.0%
3 or 10			50.0%	2.5%	7.5%	10.0%	2.5%
4 or 11				50.0%	10.0%	12.5%	2.5%
5 or 12					50.0%	12.5%	2.5%
6 or 13						50.0%	2.5%
7 or 14							50.0%

(5) *Equity risk*—(i) *Delta buckets for equity risk.* For equity risk, a [BANKING ORGANIZATION] must establish buckets along three dimensions: the reference entity's market capitalization, economy and sector as set out in Table 8 of this section. To assign a delta sensitivity to an economy, a [BANKING ORGANIZATION], at least annually, must review and update the countries and territorial entities that satisfy the requirements of a liquid market economy using the most recent economic data available. To assign a delta sensitivity to a sector, a [BANKING ORGANIZATION] must follow market convention by using classifications that are commonly used in the market for grouping issuers by industry sector. A [BANKING ORGANIZATION] must assign each issuer to one of the sector buckets and must assign all issuers from the same industry to the same sector. Delta sensitivities of any equity issuer that a [BANKING ORGANIZATION] cannot assign to a sector must be assigned to the other sector. For multinational, multi-sector equity issuers, the allocation to a particular bucket must be done according to the most material economy and sector in which the issuer operates.

(ii) *Delta risk factors for equity risk*. The delta risk factor for equity risk equals the simultaneous relative shift of all equity spot prices for all reference entities in the bucket.

(iii) *Delta risk weights for equity risk*. The delta risk weights, RW_k, for equity risk are set out in Table 8 of this section.

Table 8 to § __.225—Delta and Vega Buckets and Delta Risk Weights for Equity Risk

Bucket number	Size	Economy	Sector	Delta risk weight
1	Large market cap	Emerging market economies	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, and utilities	55%
2			Telecommunications and industrials	60%
3			Basic materials, energy, agriculture, manufacturing, and mining and quarrying	45%
4			Financials including government-backed financials, real estate activities, and technology	55%
5		Liquid market economies	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, and utilities	30%
6			Telecommunications and industrials	35%
7			Basic materials, energy, agriculture, manufacturing, and mining and quarrying	40%
8			Financials including government-backed financials, real estate activities, and technology	50%
9	Small market cap	Emerging market economies	All sectors described under bucket numbers 1, 2, 3, and 4	70%
10		Liquid market economies	All sectors described under bucket numbers 5, 6, 7, and 8	50%
11	Other sector			70%
12	Large market cap and liquid market economies		Qualified Indices	15%
13	Other		Qualified Indices	25%

(iv) *Delta cross-bucket correlation parameters for equity risk.* The delta cross-bucket correlation parameter, γ_{bc}, for equity risk equals 15 percent for all cross-bucket pairs that assigned to bucket numbers 1 to 10 and zero percent for all cross-bucket pairs that include bucket 11. The cross-bucket correlation between buckets 12 and 13 equals 75 percent and the cross-

bucket correlation between buckets 12 or 13 and any of the buckets 1 through 10 equals 45 percent.

(6) *Commodity risk*—(i) *Delta buckets for commodity risk.* Delta buckets for commodity risk are set out in Table 9 of this section.

(ii) *Delta risk factors for commodity risk*. The delta risk factor for commodity risk equals the simultaneous relative shift of all of the commodity spot prices for all commodities in the bucket.

(iii) *Delta risk weights for commodity risk*. The delta risk weights, RW_k, for commodity risk are set out in Table 9 of this section.

Table 9 to § __.225—Delta and Vega Buckets and Delta Risk Weights for Commodity Risk

Bucket number	Commodity group	Examples	Delta risk weight
1	Energy – Solid combustibles	Coal, charcoal, wood pellets, and nuclear fuel	30%
2	Energy – Liquid combustibles	Crude oil (such as Light-sweet, heavy, West Texas Intermediate, and Brent); biofuels (such as bioethanol and biodiesel); petrochemicals (such as propane, ethane, gasoline, methanol, and butane); and refined fuels (such as jet fuel, kerosene, gasoil, fuel oil, naphtha, and heating oil and diesel)	35%
3	Energy – Carbon trading	Carbon emissions trading (such as certified emissions reductions, in-delivery month EU allowance, Regional Greenhouse Gas Initiative CO2 allowance, and renewable energy certificates)	60%
4	Freight	Dry-bulk route (such as Capesize, Panamax, Handysize, and Supramax); and liquid-bulk/gas shipping route (such as Suezmax, Aframax, and very large crude carriers)	80%
5	Metals – non-precious	Base metal (such as aluminum, copper, lead, nickel, tin, and zinc); steel raw materials (such as steel billet, steel wire, steel coil, steel scrap and steel rebar, iron ore, tungsten, vanadium, titanium, and tantalum); and minor metals (such as cobalt, manganese, molybdenum)	40%
6	Gaseous combustibles and electricity	Natural gas and liquefied natural gas; and electricity (such as spot, day-ahead, peak, and off-peak)	45%

7	Precious metals (including gold)	Gold, silver, platinum, and palladium	20%
8	Grains and oilseed	Corn; wheat; soybean (such as soybean seed, soybean oil and soybean meal); oats; palm oil; canola; barley; rapeseed (such as rapeseed seed, rapeseed oil, and rapeseed meal); red bean, sorghum; coconut oil; olive oil; peanut oil; sunflower oil; and rice	35%
9	Livestock and dairy	Cattle (such live and feeder), hog, poultry, lamb, fish, shrimp, and dairy (such as milk, whey, eggs, butter, and cheese)	25%
10	Forestry and other agriculturals	Cocoa; coffee (such as arabica and robusta); tea; citrus and orange juice; potatoes; sugar; cotton; wool; lumber and pulp; and rubber	35%
11	Other commodity	Industrial minerals (such as potash, fertilizer, and phosphate rocks), rare earths, terephthalic acid, and flat glass	50%

(iv) *Delta cross-bucket correlation parameters for commodity risk*. The delta cross-bucket correlation, γ_{bc}, for commodity risk equals 20 percent for all cross-bucket pairs assigned to bucket numbers 1 to 10 and zero percent for all cross-bucket pairs that include bucket 11.

(b) *CVA vega capital requirement*—(1) *Interest rate risk.*

(i) *Vega buckets for interest rate risk.* A [BANKING ORGANIZATION] must establish a separate vega interest rate risk bucket for each currency.

(ii) *Vega risk factors for interest rate risk.* The vega risk factors for interest rate risk for all currencies equal a simultaneous relative change of all inflation rate volatilities for each currency and a simultaneous relative change of all interest rate volatilities for each currency.

(iii) *Vega risk weights for interest rate risk.* The vega risk weights, RW_k, for interest rate risk equal 100 percent.

(iv) *Vega within-bucket correlation parameters for interest rate risk.* The vega within-bucket correlation parameter, ρ_{kl}, for interest rate risk equals 40 percent.

(v) *Vega cross-bucket correlation parameter for interest rate risk.* The vega cross-bucket correlation parameter, γ_{bc}, for interest rate risk equals 50 percent for all currency pairs.

(2) *Foreign exchange risk*—(i) *Vega buckets for foreign exchange risk*. A [BANKING ORGANIZATION] must establish a separate vega foreign exchange risk bucket for each currency, except for a [BANKING ORGANIZATION]'s own reporting currency.

(ii) *Vega risk factors for foreign exchange risk*. The vega risk factors for foreign exchange risk equal the simultaneous, relative change of all volatilities for the exchange rate between a [BANKING ORGANIZATION]'s reporting currency or base currency and each other currency.

(iii) *Vega risk weights for foreign exchange risk*. The vega risk weights, RW_k, for foreign exchange risk equal 100 percent.

(iv) *Vega cross-bucket correlation parameter for foreign exchange risk.* The vega cross-bucket correlation parameter, γ_{bc}, for foreign exchange risk equals 60 percent for all currency pairs.

(3) *Reference credit spread risk*—(i) *Vega buckets for reference credit spread risk.* Vega buckets for reference credit spread risk are set out in Table 5 of this section.

(ii) *Vega risk factors for reference credit spread risk*. The vega risk factors for reference credit spread risk equal the simultaneous relative shift of the volatilities of all credit spreads of all tenors for all reference names in the bucket.

(iii) *Vega risk weights for reference credit spread risk*. The vega risk weights, RW_k, for reference credit spread risk equal 100 percent.

(iv) *Vega cross-bucket correlation parameters for reference credit spread risk.* The vega cross-bucket correlation parameter, γ_{bc}, for reference credit spread risk is defined in the same manner as the delta cross-bucket correlation parameter for reference credit spread risk, pursuant to paragraph (a)(4)(iv) of this section.

(4) *Equity risk*—(i) *Vega buckets for equity risk.* The vega buckets for equity risk are defined in the same manner as the delta buckets for equity risk, pursuant to paragraph (a)(5)(i) of this section.

(ii) *Vega risk factors for equity risk*. The vega risk factor for equity risk equals the simultaneous relative shift of the volatilities for all reference entities in the bucket.

(iii) *Vega risk weights for equity risk*. The vega risk weights, RW_k, for equity risk equal 78 percent for large market cap buckets and 100 percent otherwise.

(iv) *Vega cross-bucket correlation parameters for equity risk.* The vega cross-bucket correlation parameter, γ_{bc}, for equity risk equals 15 percent for all cross-bucket pairs that fall within bucket numbers 1 to 10 and zero percent for all cross-bucket pairs that include bucket 11. The cross-bucket correlation between buckets 12 and 13 is set at 75 percent and the cross-bucket correlation between buckets 12 or 13 and any of the buckets 1 to 10 is 45 percent.

(5) *Commodity risk*—(i) *Vega buckets for commodity risk*. The vega buckets for commodity risk are defined in the same manner as the delta buckets for commodity risk, pursuant to paragraph (a)(6)(i) of this section.

(ii) *Vega risk factors for commodity risk*. The vega risk factor for commodity risk equals the simultaneous relative shift of the volatilities for all commodities in the bucket.

(iii) *Vega risk weights for commodity risk*. The vega risk weights for commodity risk RW_k are 100 percent.

(iv) *Vega cross-bucket correlation parameters for commodity risk*. The vega cross-bucket correlation parameter, γ_{bc}, for commodity risk equals 20 percent for all cross-bucket pairs that fall within bucket numbers 1 to 10 and zero percent for all cross-bucket pairs that include bucket 11.

End of Common Rule.

List of Subjects

12 CFR Part 3

Administrative practice and procedure, Banks, banking, Federal Reserve System, Investments, National banks, Reporting and recordkeeping requirements, Savings associations.

12 CFR Part 6

Federal Reserve System, National banks, Penalties.

12 CFR Part 32

National banks, Reporting and recordkeeping requirements, Savings Associations.

12 CFR Part 208

Confidential business information, Crime, Currency, Federal Reserve System, Mortgages, Reporting and recordkeeping requirements, Securities.

12 CFR Part 217

Administrative practice and procedure, Banks, Banking, Capital, Federal Reserve System, Holding companies.

12 CFR Part 225

Administrative practice and procedure, Banks, banking, Federal Reserve System, Holdingcompanies, Reporting and recordkeeping requirements, Securities.

12 CFR Part 238

Administrative practice and procedure, Banks, banking, Federal Reserve System, Holding companies, Reporting and recordkeeping requirements, Securities.

12 CFR Part 252

Administrative practice and procedure, Banks, banking, Credit, Federal Reserve System, Holding companies, Investments, Qualified financial contracts, Reporting and recordkeeping requirements, Securities.

12 CFR Part 324

Administrative practice and procedure, Banks, banking, Capital adequacy, Reporting and recordkeeping requirements, Savings associations, State non-member banks.

Adoption of Common Rule

The proposed adoption of the common rule by the agencies, as modified by the agency-specific text, is set forth below:

DEPARTMENT OF THE TREASURY

Office of the Comptroller of the Currency

12 CFR Chapter I

Authority and Issuance

For the reasons set forth in the common preamble, the OCC proposes to amend parts 3, 6, and 32 of chapter I of title 12 of the Code of Federal Regulations as follows:

PART 3—CAPITAL ADEQUACY STANDARDS

1. The authority citation for part 3 continues to read as follows:

Authority: 12 U.S.C. 93a, 161, 1462, 1462a, 1463, 1464, 1818, 1828(n), 1828 note, 1831n note, 1835, 3907, 3909, 5412(b)(2)(B), and Pub. L. 116–136, 134 Stat. 281.

2. In § 3.1, revise paragraphs (c)(3)(ii), (c)(4)(i) and (iii), and (f) to read as follows:

§ 3.1 Purpose, applicability, reservations of authority, and timing.

* * * * *

(c) * * *

(3) * * *

(ii) Each national bank or Federal savings association subject to subpart E of this part must use the methodologies in subpart E (and subpart F of this part for a market risk national bank or Federal savings association) to calculate expanded total risk-weighted assets.

(4) * * *

(i) Except for a national bank or Federal savings association subject to subpart E of this part, each national bank or Federal savings association with total consolidated assets of $50 billion or more must make the public disclosures described in subpart D of this part.

* * * * *

(iii) Each national bank or Federal savings association subject to subpart E of this part must make the public disclosures described in subpart E of this part.

* * * * *

(f) *Transitions and timing*— (1) *Transitions*. Notwithstanding any other provision of this part, a national bank or Federal savings association must make any adjustments provided in subpart G of this part for purposes of implementing this part.

(2) *Timing.* A national bank or Federal savings association that changes from one category to another category, or that changes from having no category to having a category, must comply with the requirements of its category in this part, including applicable transition provisions of the requirements in this part, no later than on the first day of the second quarter following the change in the national bank's or Federal savings association's category.

3. In § 3.2:

a. Redesignate footnotes 3 through 9 as footnotes 1 through 7.

b. Remove the definitions for "Advanced approaches national bank or Federal savings association", "Advanced approaches total risk-weighted assets", and "Advanced market risk-weighted assets";

c. Revise the definitions for "Category II national bank or Federal savings association" and "Category III national bank or Federal savings association";

d. Add, in alphabetical order, the definition for "Category IV national bank or Federal savings association";

e. Revise newly redesignated footnote 1 to paragraph (2) of the definition for "Cleared transaction" and the definition for "Corporate exposure";

f. Remove the definition for "Credit-risk-weighted assets";

g. Add, in alphabetical order, the definition for "CVA risk-weighted assets";

h. Revise the definition for "Effective notional amount";

i. Remove the definition for "Eligible credit reserves";

j. Revise paragraph (10) of the definition for "Eligible guarantee";

k. Add, in alphabetical order, the definition for "Expanded total risk-weighted assets";

l. Remove the definition for "Expected credit loss (ECL)";

m. Revise paragraphs (1) and (4) through (8) of the definition for “Exposure amount”, paragraph (2) of the definition for “Financial collateral”, paragraph (5)(i) of the definition for “Financial institution”, and the definitions for “Indirect exposure” and “Market risk national bank or Federal savings association”;

n. Add, in alphabetical order, the definition for “Market risk-weighted assets”;

o. Revise the definitions for “Net independent collateral amount”, “Netting set”, “Non-significant investment in the capital of an unconsolidated financial institution”, “Protection amount (P)”, paragraph (2) of the definition for “Qualifying central counterparty (QCCP)”, and paragraphs (3) and (4) of the definition for “Qualifying master netting agreement”;

p. In the definition of “Residential mortgage exposure”:

i. Remove paragraph (2);

ii. Redesignate paragraphs (1)(i) and (ii) as paragraphs (1) and (2), respectively; and

iii. In newly redesignated paragraph (2), remove the words “family; and” and add in their place the word “family.”;

q. Revise the definition for “Significant investment in the capital of an unconsolidated financial institution”;

r. Remove the definition for “Specific wrong-way risk”;

s. Revise the definitions for “Speculative grade” and “Standardized market risk-weighted assets”, paragraphs (1)(vi) and (2) of the definition for “Standardized total risk-weighted assets”, and the definitions for “Sub-speculative grade”, “Synthetic exposure”, and “Unregulated financial institution”;

t. Add, in alphabetical order, the definition for “Total credit risk-weighted assets”;

u. Remove the definition for “Value-at-risk (VaR)”;

v. Revise the definition for “Variation margin amount”;

w. Remove the definition for “Wrong-way risk”; and

The additions and revisions read as follows:

§ 3.2 Definitions

* * * * *

Category II national bank or Federal savings association means a national bank or Federal savings association that is not a subsidiary of a global systemically important BHC, as defined pursuant to 12 CFR 252.5, and that:

(1) Is a subsidiary of a Category II banking organization, as defined pursuant to 12 CFR 252.5 or 12 CFR 238.10, as applicable; or

(2)(i) Has total consolidated assets, calculated based on the average of the national bank's or Federal savings association's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, equal to $700 billion or more. If the national bank or Federal savings association has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or the average of the most recent quarters, as applicable; or

(ii)(A) Has total consolidated assets, calculated based on the average of the national bank's or Federal savings association's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, of $100 billion or more but less than $700 billion. If the national bank or Federal savings association has not filed the Call Report for each of the four most recent quarters, total consolidated assets is based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or average of the most recent quarters, as applicable; and

(B) Has cross-jurisdictional activity, calculated based on the average of its cross-jurisdictional activity for the four most recent calendar quarters, of $75 billion or more. Cross-jurisdictional activity is the sum of cross-jurisdictional claims and cross-jurisdictional liabilities, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form.

(3) After meeting the criteria in paragraph (2) of this definition, a national bank or Federal savings association continues to be a Category II national bank or Federal savings association until the national bank or Federal savings association has:

(i) Less than $700 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; and

(ii)(A) Less than $75 billion in cross-jurisdictional activity for each of the four most recent calendar quarters. Cross-jurisdictional activity is the sum of cross-jurisdictional claims and cross-jurisdictional liabilities, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form; or

(B) Less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters.

Category III national bank or Federal savings association means a national bank or Federal savings association that is not a subsidiary of a global systemically important banking organization or a Category II national bank or Federal savings association and that:

(1) Is a subsidiary of a Category III banking organization, as defined pursuant to 12 CFR 252.5 or 12 CFR 238.10, as applicable; or

(2)(i) Has total consolidated assets, calculated based on the average of total consolidated assets for the four most recent calendar quarters as reported on the Call Report, equal to $250 billion or more. If the national bank or Federal savings association has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or average of the most recent quarters, as applicable; or

(ii)(A) Has total consolidated assets, calculated based on the average of total consolidated assets for the four most recent calendar quarters as reported on the Call Report, of $100 billion or more but less than $250 billion. If the national bank or Federal savings association has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is

calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or average of the most recent quarters, as applicable; and

(B) Has at least one of the following in paragraphs (2)(ii)(B)(*1*) through (*3*) of this definition, each calculated as the average of the four most recent calendar quarters, or if the national bank or Federal savings association has not filed each applicable reporting form for each of the four most recent calendar quarters, for the most recent quarter or quarters, as applicable:

(*1*) Total nonbank assets, calculated in accordance with the instructions to the FR Y–9LP or equivalent reporting form, equal to $75 billion or more;

(*2*) Off-balance sheet exposure equal to $75 billion or more. Off-balance sheet exposure is a national bank's or Federal savings association's total exposure, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, minus the total consolidated assets, as reported on the Call Report; or

(*3*) Weighted short-term wholesale funding, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, equal to $75 billion or more.

(iii) After meeting the criteria in paragraph (2)(ii) of this definition, a national bank or Federal savings association continues to be a Category III national bank or Federal savings association until the national bank or Federal savings association:

(A) Has:

(*1*) Less than $250 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters;

(*2*) Less than $75 billion in total nonbank assets, calculated in accordance with the instructions to the FR Y–9LP or equivalent reporting form, for each of the four most recent calendar quarters;

(*3*) Less than $75 billion in weighted short-term wholesale funding, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, for each of the four most recent calendar quarters; and

(*4*) Less than $75 billion in off-balance sheet exposure for each of the four most recent calendar quarters. Off-balance sheet exposure is a national bank's or Federal savings association's total exposure, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, minus the total consolidated assets of the national bank or Federal savings association, as reported on the Call Report; or

(B) Has less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; or

(C) Is a Category II national bank or Federal savings association.

* * * * *

Category IV national bank or Federal savings association means a national bank or Federal savings association that is not a Category II national bank or Federal savings association or Category III national bank or Federal savings association and that:

(1) Is a subsidiary of a Category IV banking organization, as defined pursuant to 12 CFR 252.5 or 12 CFR 238.10, as applicable; or

(2) Has total consolidated assets, calculated based on the average of total consolidated assets for the four most recent calendar quarters as reported on the Call Report, of $100 billion or more. If the national bank or Federal savings association has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on the average of its total consolidated assets, as reported on the Call Report, for the most recent quarter(s) available.

(3) After meeting the criterion in paragraph (2) of this definition, a national bank or Federal savings association continues to be a Category IV national bank or Federal savings association until it:

(i) Has less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; or

(ii) Is a Category II national bank or Federal savings association or Category III national bank or Federal savings association.

* * * * *

Cleared transaction * * *

(2) * * * [1]

* * * * *

Corporate exposure means an exposure to a company that is not:

(1) An exposure to a sovereign, the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the European Stability Mechanism, the European Financial Stability Facility, a multi-lateral development bank (MDB), a depository institution, a foreign bank, or a credit union, a public sector entity (PSE);

(2) An exposure to a Government-Sponsored Enterprises (GSE);

(3) For purposes of subpart D of this part, a residential mortgage exposure;

(4) A pre-sold construction loan;

(5) A statutory multifamily mortgage;

(6) A high volatility commercial real estate (HVCRE) exposure;

(7) A cleared transaction;

(8) A default fund contribution;

(9) A securitization exposure;

(10) An equity exposure;

(11) An unsettled transaction;

(12) A policy loan;

(13) A separate account;

(14) A Paycheck Protection Program covered loan as defined in section 7(a)(36) or (37) of the Small Business Act (15 U.S.C. 636(a)(36)-(37));

(15) For purposes of subpart E of this part, a real estate exposure, as defined in § 3.101 of this part; or

(16) For purposes of subpart E of this part, a retail exposure as defined in § 3.101 of this part.

* * * * *

CVA risk-weighted assets means the measure for CVA risk calculated under § 3.221(a) multiplied by 12.5.

* * * * *

Effective notional amount means for an eligible guarantee or eligible credit derivative, the lesser of the contractual notional amount of the credit risk mitigant and the exposures amount of the hedged exposure, multiplied by the percentage coverage of the credit risk mitigant.

* * * * *

Eligible guarantee * * *

(10) Is provided by an eligible guarantor.

* * * * *

Expanded total risk-weighted assets means the greater of:

(1) The sum of:

(i) Total credit risk-weighted assets;

(ii) Total risk-weighted assets for equity exposures as calculated under §§ 3.141 and 3.142;

(iii) Risk-weighted assets for operational risk as calculated under § 3.150;

(iv) Market risk-weighted assets; and

(v) CVA risk-weighted assets; minus

(vi) Any amount of the national bank's or Federal savings association's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves; or

(2)(i) 72.5 percent of the sum of:

(A) Total credit risk-weighted assets;

(B) Total risk-weighted assets for equity exposures as calculated under §§ 3.141 and 3.142;

(C) Risk-weighted assets for operational risk as calculated under § 3.150;

(D) Standardized market risk-weighted assets; and

(E) CVA risk-weighted assets; minus

(ii) Any amount of the national bank's or Federal savings association's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves.

* * * * *

Exposure amount means:

(1) For the on-balance sheet component of an exposure (other than an available-for-sale or held-to-maturity security, if the national bank or Federal savings association has made an AOCI opt-out election (as defined in § 3.22(b)(2)); an OTC derivative contract; a repo-style transaction or an eligible margin loan for which the national bank or Federal savings association determines the exposure amount under § 3.37 or § 3.121, as applicable; a cleared transaction; a default fund contribution; or a securitization exposure), the national bank's or Federal savings association's carrying value of the exposure.

* * * * *

(4) For the off-balance sheet component of an exposure (other than an OTC derivative contract; a repo-style transaction or an eligible margin loan for which the national bank or Federal savings association calculates the exposure amount under § 3.37 or § 3.121, as applicable; a cleared transaction; a default fund contribution; or a securitization exposure), the notional amount of the off-balance sheet component multiplied by the appropriate credit conversion factor (CCF) in § 3.33 or § 3.112, as applicable.

(5) For an exposure that is an OTC derivative contract, the exposure amount determined under § 3.34 or § 3.113, as applicable.

(6) For an exposure that is a cleared transaction, the exposure amount determined under § 3.35 or § 3.114, as applicable.

(7) For an exposure that is an eligible margin loan or repo-style transaction for which the national bank or Federal savings association calculates the exposure amount as provided in § 3.37 or § 3.121, as applicable, the exposure amount determined under § 3.37 or § 3.121, as applicable.

(8) For an exposure that is a securitization exposure, the exposure amount determined under § 3.42 or § 3.131, as applicable.

* * * * *

Financial collateral * * *

(2) In which the national bank or Federal savings association has a perfected, first-priority security interest or, outside of the United States, the legal equivalent thereof (with the exception of cash on deposit; and notwithstanding the prior security interest of any custodial agent or any priority security interest granted to a CCP in connection with collateral posted to that CCP).

Financial institution * * *

(5) * * *

(i) 85 percent or more of the total consolidated annual gross revenues (as determined in accordance with applicable accounting standards) of the company in either of the two most recent calendar years were derived, directly or indirectly, by the company on a consolidated basis from the activities; or

* * * * *

Indirect Exposure means an exposure that arises from the national bank's or Federal savings association's investment in an investment fund which holds an investment in the national

bank's or Federal savings association's own capital instrument, or an investment in the capital of an unconsolidated financial institution. For a national bank or Federal savings association subject to subpart E of this part, indirect exposure also includes an investment in an investment fund that holds a covered debt instrument.

* * * * *

Market risk national bank or Federal savings association means a national bank or Federal savings association that is described in § 3.201(b)(1).

Market risk-weighted assets means the measure for market risk calculated pursuant to § 3.204(a) multiplied by 12.5.

* * * * *

Net independent collateral amount means the fair value amount of the independent collateral, as adjusted by the haircuts under § 3.121(c)(2)(iii), as applicable, that a counterparty to a netting set has posted to a national bank or Federal savings association less the fair value amount of the independent collateral, as adjusted by the haircuts under § 3.121(c)(2)(iii), as applicable, posted by the national bank or Federal savings association to the counterparty, excluding such amounts held in a bankruptcy-remote manner or posted to a QCCP and held in conformance with the operational requirements in § 3.3.

Netting set means:

(1) A group of transactions with a single counterparty that are subject to a qualifying master netting agreement and that consist only of:

(i) Derivative contracts;

(ii) Repo-style transactions; or

(iii) Eligible margin loans.

(2) For derivative contracts, netting set also includes a single derivative contract between a national bank or Federal savings association and a single counterparty.

Non-significant investment in the capital of an unconsolidated financial institution means an investment by a national bank or Federal savings association subject to subpart E of this part in the capital of an unconsolidated financial institution where the national bank or Federal savings association owns 10 percent or less of the issued and outstanding common stock of the unconsolidated financial institution.

* * * * *

Protection amount (P) means, with respect to an exposure hedged by an eligible guarantee or eligible credit derivative, the effective notional amount of the guarantee or credit derivative, reduced to reflect any currency mismatch, maturity mismatch, or lack of restructuring coverage (as provided in § 3.36 or §3.120, as appropriate).

* * * * *

Qualifying central counterparty (QCCP) * * *

(2) (i) Provides the national bank or Federal savings association with the central counterparty's hypothetical capital requirement or the information necessary to calculate such hypothetical capital requirement, and other information the national bank or Federal savings association is required to obtain under §§ 3.35(d)(3) and 3.113(d)(3);

(ii) Makes available to the OCC and the CCP's regulator the information described in paragraph (2)(i) of this definition; and

(iii) Has not otherwise been determined by the OCC to not be a QCCP due to its financial condition, risk profile, failure to meet supervisory risk management standards, or other weaknesses or supervisory concerns that are inconsistent with the risk weight assigned to qualifying central counterparties under §§ 3.35 and 3.113.

Qualifying master netting agreement * * *

(3) The agreement does not contain a walkaway clause (that is, a provision that permits a non-defaulting counterparty to make a lower payment than it otherwise would make under the

agreement, or no payment at all, to a defaulter or the estate of a defaulter, even if the defaulter or the estate of the defaulter is a net creditor under the agreement); and

(4) In order to recognize an agreement as a qualifying master netting agreement for purposes of this subpart, a national bank or Federal savings association must comply with the requirements of § 3.3(d) with respect to that agreement.

* * * * *

Significant investment in the capital of an unconsolidated financial institution means an investment by a national bank or Federal savings association subject to subpart E of this part in the capital of an unconsolidated financial institution where the national bank or Federal savings association owns more than 10 percent of the issued and outstanding common stock of the unconsolidated financial institution.

* * * * *

Speculative grade means that the entity to which the national bank or Federal savings association is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse economic conditions, such that should economic conditions deteriorate, the issuer or the reference entity would present an elevated default risk.

Standardized market risk-weighted assets means the standardized measure for market risk calculated under § 3.204(b) multiplied by 12.5.

Standardized total risk-weighted assets means:

(1) * * *

(vi) For a market risk national bank or Federal savings association only, market risk-weighted assets; minus

(2) Any amount of the national bank's or Federal savings association's allowance for loan and lease losses or adjusted allowance for credit losses, as applicable, that is not included in tier 2 capital and any amount of allocated transfer risk reserves.

* * * * *

Sub-speculative grade means that the entity to which the national bank or Federal savings association is exposed through a loan or security, or the reference entity with respect to a credit derivative, depends on favorable economic conditions to meet its financial commitments, such that should such economic conditions deteriorate the issuer or the reference entity likely would default on its financial commitments.

* * * * *

Synthetic exposure means an exposure whose value is linked to the value of an investment in the national bank or Federal savings association's own capital instrument or to the value of an investment in the capital of an unconsolidated financial institution. For a national bank or Federal savings association subject to subpart E of this part, synthetic exposure includes an exposure whose value is linked to the value of an investment in a covered debt instrument.

* * * * *

Total credit risk-weighted assets means the sum of:

(1) Total risk-weighted assets for general credit risk as calculated under § 3.110;

(2) Total risk-weighted assets for cleared transactions and default fund contributions as calculated under § 3.114;

(3) Total risk-weighted assets for unsettled transactions as calculated under § 3.115; and

(4) Total risk-weighted assets for securitization exposures as calculated under § 3.132.

* * * * *

Unregulated financial institution means a financial institution that is not a regulated financial institution, including any financial institution that would meet the definition of "Financial institution" under this section but for the ownership interest thresholds set forth in paragraph (4)(i) of that definition.

* * * * *

Variation margin amount means the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 3.121(c)(2)(iii), as applicable, that a counterparty to a netting set has posted to a national bank or Federal savings association less the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 3.121(c)(2)(iii), as applicable, posted by the national bank or Federal savings association to the counterparty.

* * * * *

[1] For the standardized approach treatment of these exposures, see § 3.34(e) (OTC derivative contracts) or § 3.37(c) (repo-style transactions). For the expanded risk-based approach treatment of these exposures, see § 3.113 (OTC derivative contracts) or § 3.121 (repo-style transactions).

* * * * *

§ 3.3 [Amended]

4. In § 3.3, remove and reserve paragraph (c).

5. In § 3.10:

a. Revise paragraph (a)(1)(v);

b. In paragraph (b) introductory text, remove the words "paragraph (c)" and add in their the words "paragraph (d)";

c. Revise paragraph (c);

d. In paragraph (d):

i. Revise the introductory text;

ii. Remove the words "advanced approaches" from paragraphs (d)(1)(ii) and (d)(2)(ii) and and add in their place the word "expanded"; and

iii. Revise paragraph (d)(3)(ii); and

f. In paragraph (e)(1), remove the phrase "(national banks), 12 CFR 167.3(c) (Federal savings associations)".

The revisions read as follows:

§ 3.10 Minimum capital requirements.

(a) * * *

(1) * * *

(v) For a national bank or Federal savings association subject to subpart E of this part, a supplementary leverage ratio of 3 percent.

* * * * *

(c) *Supplementary leverage ratio.* (1) The supplementary leverage ratio of a national bank or Federal savings association subject to subpart E of this part is the ratio of its tier 1 capital to total leverage exposure. Total leverage exposure is calculated as the sum of:

(i) The mean of the on-balance sheet assets calculated as of each day of the reporting quarter; and

(ii) The mean of the off-balance sheet exposures calculated as of the last day of each of the most recent three months, minus the applicable deductions under § 3.22(a), (c), and (d).

(2) For purposes of this part, *total leverage exposure* means the sum of the items described in paragraphs (c)(2)(i) through (viii) of this section, as adjusted pursuant to paragraph (c)(2)(ix) of this section for a clearing member national bank or Federal savings association and paragraph (c)(2)(x) of this section for a custodial banking organization:

(i) The balance sheet carrying value of all of the national bank's or Federal savings association's on-balance sheet assets, net of adjusted allowances for credit losses, plus the value of securities sold under a repurchase transaction or a securities lending transaction that qualifies for sales treatment under GAAP, less amounts deducted from tier 1 capital under § 3.22(a), (c), and (d), less the value of securities received in security-for-security repo-style transactions, where the national bank or Federal savings association acts as a securities lender and includes the securities received in its on-balance sheet assets but has not sold or re-hypothecated the securities received, and less the fair value of any derivative contracts;

(ii) (A) The potential future credit exposure (PFE) for each netting set to which the national bank or Federal savings association is a counterparty (including cleared transactions except as provided in paragraph (c)(2)(viii) of this section and, at the discretion of the national bank or Federal savings association, excluding a forward agreement treated as a derivative contract that is part of a repurchase or reverse repurchase or a securities borrowing or lending transaction that qualifies for sales treatment under GAAP), as determined under § 3.113(g), in which the term C in § 3.113(g)(1) equals zero, and, for any counterparty that is not a commercial end-user, multiplied by 1.4. For purposes of this paragraph (c)(2)(ii)(A), a national bank or Federal savings association may set the value of the term C in § 3.113(g)(1) equal to the amount of collateral posted by a clearing member client of the national bank or Federal savings association in connection with the client-facing derivative transactions within the netting set; and

(B) A national bank or Federal savings association may choose to exclude the PFE of all credit derivatives or other similar instruments through which it provides credit protection when calculating the PFE under § 3.113, provided that it does so consistently over time for the calculation of the PFE for all such instruments;

(iii)(A) The replacement cost of each derivative contract or single product netting set of derivative contracts to which the national bank or Federal savings association is a counterparty, calculated according to the following formula, and, for any counterparty that is not a commercial end-user, multiplied by 1.4:

$$\text{Replacement Cost} = \max\{V - CVM_r + CVM_p; 0\}$$

Where:

V equals the fair value for each derivative contract or each netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(2)(viii) of this section and, at the discretion of the national bank or Federal savings association, excluding a forward agreement treated as a derivative contract that is part of a repurchase or reverse

repurchase or a securities borrowing or lending transaction that qualifies for sales treatment under GAAP);

CVM_r equals the amount of cash collateral received from a counterparty to a derivative contract and that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (H) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral received from the clearing member client; and

CVM_p equals the amount of cash collateral that is posted to a counterparty to a derivative contract and that has not offset the fair value of the derivative contract and that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (H) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral posted to the clearing member client;

(B) Notwithstanding paragraph (c)(2)(iii)(A) of this section, where multiple netting sets are subject to a single variation margin agreement, a national bank or Federal savings association must apply the formula for replacement cost provided in § 3.113(j)(1), in which the term CMA may only include cash collateral that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (H) of this section; and

(C) For purposes of paragraph (c)(2)(iii)(A) of this section a national bank or Federal savings association must treat a derivative contract that references an index as if it were multiple derivative contracts each referencing one component of the index if the national bank or Federal savings association elected to treat the derivative contract as multiple derivative contracts under § 3.113(e)(6);

(D) For derivative contracts that are not cleared through a QCCP, the cash collateral received by the recipient counterparty is not segregated (by law, regulation, or an agreement with the counterparty);

(E) Variation margin is calculated and transferred on a daily basis based on the mark-to-fair value of the derivative contract;

(F) The variation margin transferred under the derivative contract or the governing rules of the CCP or QCCP for a cleared transaction is the full amount that is necessary to fully extinguish the net current credit exposure to the counterparty of the derivative contracts, subject to the threshold and minimum transfer amounts applicable to the counterparty under the terms of the derivative contract or the governing rules for a cleared transaction;

(G) The variation margin is in the form of cash in the same currency as the currency of settlement set forth in the derivative contract, provided that for the purposes of paragraph (c)(2)(iii)(E) of this section, currency of settlement means any currency for settlement specified in the governing qualifying master netting agreement and the credit support annex to the qualifying master netting agreement, or in the governing rules for a cleared transaction; and

(H) The derivative contract and the variation margin are governed by a qualifying master netting agreement between the legal entities that are the counterparties to the derivative contract or by the governing rules for a cleared transaction, and the qualifying master netting agreement or the governing rules for a cleared transaction must explicitly stipulate that the counterparties agree to settle any payment obligations on a net basis, taking into account any variation margin received or provided under the contract if a credit event involving either counterparty occurs;

(iv) The effective notional principal amount (that is, the apparent or stated notional principal amount multiplied by any multiplier in the derivative contract) of a credit derivative, or other similar instrument, through which the national bank or Federal savings association provides credit protection, provided that:

(A) The national bank or Federal savings association may reduce the effective notional principal amount of the credit derivative by the amount of any reduction in the mark-to-fair value of the credit derivative if the reduction is recognized in common equity tier 1 capital;

(B) The national bank or Federal savings association may reduce the effective notional principal amount of the credit derivative by the effective notional principal amount of a purchased credit derivative or other similar instrument, provided that the remaining maturity of

the purchased credit derivative is equal to or greater than the remaining maturity of the credit derivative through which the national bank or Federal savings association provides credit protection and that:

(*1*) With respect to a credit derivative that references a single exposure, the reference exposure of the purchased credit derivative is to the same legal entity and ranks pari passu with, or is junior to, the reference exposure of the credit derivative through which the national bank or Federal savings association provides credit protection; or

(*2*) With respect to a credit derivative that references multiple exposures, the reference exposures of the purchased credit derivative are to the same legal entities and rank pari passu with the reference exposures of the credit derivative through which the national bank or Federal savings association provides credit protection, and the level of seniority of the purchased credit derivative ranks pari passu to the level of seniority of the credit derivative through which the national bank or Federal savings association provides credit protection;

(*3*) Where a national bank or Federal savings association has reduced the effective notional principal amount of a credit derivative through which the national bank or Federal savings association provides credit protection in accordance with paragraph (c)(2)(iv)(A) of this section, the national bank or Federal savings association must also reduce the effective notional principal amount of a purchased credit derivative used to offset the credit derivative through which the national bank or Federal savings association provides credit protection, by the amount of any increase in the mark-to-fair value of the purchased credit derivative that is recognized in common equity tier 1 capital; and

(*4*) Where the national bank or Federal savings association purchases credit protection through a total return swap and records the net payments received on a credit derivative through which the national bank or Federal savings association provides credit protection in net income, but does not record offsetting deterioration in the mark-to-fair value of the credit derivative through which the national bank or Federal savings association provides credit protection in net

income (either through reductions in fair value or by additions to reserves), the national bank or Federal savings association may not use the purchased credit protection to offset the effective notional principal amount of the related credit derivative through which the national bank or Federal savings association provides credit protection;

(v) Where a national bank or Federal savings association acting as a principal has more than one repo-style transaction with the same counterparty and has offset the gross value of receivables due from a counterparty under reverse repurchase transactions by the gross value of payables under repurchase transactions due to the same counterparty, the gross value of receivables associated with the repo-style transactions *less* any on-balance sheet receivables amount associated with these repo-style transactions included under paragraph (c)(2)(i) of this section, unless the following criteria are met:

(A) The offsetting transactions have the same explicit final settlement date under their governing agreements;

(B) The right to offset the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable in the normal course of business and in the event of receivership, insolvency, liquidation, or similar proceeding; and

(C) Under the governing agreements, the counterparties intend to settle net, settle simultaneously, or settle according to a process that is the functional equivalent of net settlement, (that is, the cash flows of the transactions are equivalent, in effect, to a single net amount on the settlement date), where both transactions are settled through the same settlement system, the settlement arrangements are supported by cash or intraday credit facilities intended to ensure that settlement of both transactions will occur by the end of the business day, and the settlement of the underlying securities does not interfere with the net cash settlement;

(vi) The counterparty credit risk of a repo-style transaction, including where the national bank or Federal savings association acts as an agent for a repo-style transaction and indemnifies the customer with respect to the performance of the customer's counterparty in an amount limited

to the difference between the fair value of the security or cash its customer has lent and the fair value of the collateral the borrower has provided, calculated as follows:

(A) If the transaction is not subject to a qualifying master netting agreement, the counterparty credit risk (E*) for transactions with a counterparty must be calculated on a transaction by transaction basis, such that each transaction *i* is treated as its own netting set, in accordance with the following formula, where E_i is the fair value of the instruments, gold, or cash that the national bank or Federal savings association has lent, sold subject to repurchase, or provided as collateral to the counterparty, and C_i is the fair value of the instruments, gold, or cash that the national bank or Federal savings association has borrowed, purchased subject to resale, or received as collateral from the counterparty:

$E_i^* = \max \{0, [E_i — C_i]\}$; and

(B) If the transaction is subject to a qualifying master netting agreement, the counterparty credit risk (E*) must be calculated as the greater of zero and the total fair value of the instruments, gold, or cash that the national bank or Federal savings association has lent, sold subject to repurchase or provided as collateral to a counterparty for all transactions included in the qualifying master netting agreement (ΣE_i), *less* the total fair value of the instruments, gold, or cash that the national bank or Federal savings association borrowed, purchased subject to resale or received as collateral from the counterparty for those transactions (ΣC_i), in accordance with the following formula:

$E^* = \max \{0, [\Sigma Ei - \Sigma Ci]\}$

(vii) If a national bank or Federal savings association acting as an agent for a repo-style transaction provides a guarantee to a customer of the security or cash its customer has lent or borrowed with respect to the performance of the customer's counterparty and the guarantee is not limited to the difference between the fair value of the security or cash its customer has lent and the fair value of the collateral the borrower has provided, the amount of the guarantee that is

greater than the difference between the fair value of the security or cash its customer has lent and the value of the collateral the borrower has provided;

(viii) The credit equivalent amount of all off-balance sheet exposures of the national bank or Federal savings association, excluding repo-style transactions, repurchase or reverse repurchase or securities borrowing or lending transactions that qualify for sales treatment under GAAP, and derivative transactions, determined using the applicable credit conversion factor under § 3.112(b), provided, however, that the minimum credit conversion factor that may be assigned to an off-balance sheet exposure under this paragraph is 10 percent; and

(ix) For a national bank or Federal savings association that is a clearing member:

(A) A clearing member national bank or Federal savings association that guarantees the performance of a clearing member client with respect to a cleared transaction must treat its exposure to the clearing member client as a derivative contract or repo-style transaction, as applicable, for purposes of determining its total leverage exposure;

(B) A clearing member national bank or Federal savings association that guarantees the performance of a CCP with respect to a transaction cleared on behalf of a clearing member client must treat its exposure to the CCP as a derivative contract or repo-style transaction, as applicable, for purposes of determining its total leverage exposure;

(C) A clearing member national bank or Federal savings association that does not guarantee the performance of a CCP with respect to a transaction cleared on behalf of a clearing member client may exclude its exposure to the CCP for purposes of determining its total leverage exposure;

(D) Notwithstanding paragraphs (c)(2)(ix)(A) through (C) of this section, a national bank or Federal savings association that is a clearing member may exclude from its total leverage exposure the effective notional principal amount of credit protection sold through a credit derivative contract, or other similar instrument, that it clears on behalf of a clearing member client through a CCP as calculated in accordance with paragraph (c)(2)(iv) of this section; and

(E) A national bank or Federal savings association may exclude from its total leverage exposure a clearing member's exposure to a clearing member client for a derivative contract if the clearing member client and the clearing member are affiliates and consolidated for financial reporting purposes on the national bank's or Federal savings association's balance sheet.

(x) A custodial banking organization shall exclude from its total leverage exposure the lesser of:

(A) The amount of funds that the custodial banking organization has on deposit at a qualifying central bank; and

(B) The amount of funds in deposit accounts at the custodial banking organization that are linked to fiduciary or custodial and safekeeping accounts at the custodial banking organization. For purposes of this paragraph (c)(2)(x), a deposit account is linked to a fiduciary or custodial and safekeeping account if the deposit account is provided to a client that maintains a fiduciary or custodial and safekeeping account with the custodial banking organization and the deposit account is used to facilitate the administration of the fiduciary or custodial and safekeeping account.

(d) *Expanded capital ratio calculations.* A national bank or Federal savings association subject to subpart E of this part must determine its regulatory capital ratios as described in paragraphs (d)(1) through (3) of this section.

* * * * *

(3) * * *

(ii) The ratio of the national bank's or Federal savings association's expanded risk-based approach-adjusted total capital to expanded total risk-weighted assets. A national bank's or Federal savings association's expanded risk-based approach-adjusted total capital is the national bank's or Federal savings association's total capital after being adjusted as follows:

(A) A national bank or Federal savings association subject to subpart E must deduct from its total capital any adjusted allowance for credit losses included in its tier 2 capital in accordance with § 3.20(d)(3); and

(B) A national bank or Federal savings association subject to subpart E must add to its total capital any adjusted allowance for credit losses up to 1.25 percent of the sum of the national bank's or Federal savings association's total credit risk-weighted assets.

* * * * *

6. In § 3.11, revise paragraphs (b)(1) introductory text, and (b)(1)(ii) and (iii) to read as follows:

§ 3.11 Capital conservation buffer and countercyclical capital buffer amount.

* * * * *

(b) * * *

(1) *General.* A national bank or Federal savings association subject to subpart E of this part must calculate a countercyclical capital buffer amount in accordance with this paragraph (b) for purposes of determining its maximum payout ratio under table 1 to this section.

* * * * *

(ii) *Amount.* A national bank or Federal savings association subject to subpart E of this part has a countercyclical capital buffer amount determined by calculating the weighted average of the countercyclical capital buffer amounts established for the national jurisdictions where the national bank's or Federal savings association's private sector credit exposures are located, as specified in paragraphs (b)(2) and (3) of this section.

(iii) *Weighting.* The weight assigned to a jurisdiction's countercyclical capital buffer amount is calculated by dividing the total risk-weighted assets for the national bank's or Federal savings association's private sector credit exposures located in the jurisdiction by the total risk-weighted assets for all of the national bank's or Federal savings association's private sector credit exposures. The methodology a national bank or Federal savings association uses for

determining risk-weighted assets for purposes of this paragraph (b) must be the methodology that determines its risk-based capital ratios under § 3.10. Notwithstanding the previous sentence, the risk-weighted asset amount for a private sector credit exposure that is a covered position under subpart F of this part is its standardized default risk capital requirement as determined under § 3.210 multiplied by 12.5.

* * * * *

7. In § 3.12, revise paragraph (a)(2) and remove paragraph (a)(4) to read as follows:

§ 3.12 Community bank leverage ratio framework.

(a) * * *

(2) For purposes of this section, a qualifying community banking organization means a national bank or Federal savings association that is not a national bank or Federal savings association subject to subpart E of this part and that satisfies all of the following criteria:

* * * * *

8. In § 3.20, revise paragraphs (c)(1)(xiv), (d)(1)(xi), and (d)(3) to read as follows:

§ 3.20 Capital components and eligibility criteria for regulatory capital instruments.

* * * * *

(c) * * *

(1) * * *

(xiv) For a national bank or Federal savings association subject to subpart E of this part, the governing agreement, offering circular, or prospectus of an instrument issued after the date upon which the national bank or Federal savings association becomes subject to subpart E must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the national bank or Federal savings association enters into a receivership, insolvency, liquidation, or similar proceeding.

* * * * *

(d) * * *

(1) * * *

(xi) For a national bank or Federal savings association subject to subpart E of this part, the governing agreement, offering circular, or prospectus of an instrument issued after the date on which the national bank or Federal savings association becomes subject to subpart E must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the national bank or Federal savings association enters into a receivership, insolvency, liquidation, or similar proceeding.

* * * * *

(3) ALLL or AACL, as applicable, up to 1.25 percent of the national bank's or Federal savings association's standardized total risk-weighted assets, not including any amount of the ALLL or AACL, as applicable (and for a market risk national bank or Federal savings association institution, excluding its market risk weighted assets).

* * * * *

9. In § 3.21:

a. In paragraph (a)(1), remove the words "an advanced approaches national bank or Federal savings association" and add in their place the words "subject to subpart E of this part";

b. In paragraph (b):

i. Revise paragraph (b)(1) introductory text;

ii. Remove the words "advanced approaches" wherever they appear in paragraphs (b)(1)(i) and (b)(2);

iii. In paragraph (b)(3) introductory text, remove the words "an advanced approaches" and add in their place the word "a" and remove the words "the advanced approaches"; and

iv. Remove the words "advanced approaches" wherever they appear in paragraphs (b)(3)(ii), and (b)(4) and (5).

The revision read as follows:

§ 3.21 Minority interest.

* * * * *

(b) (1) *Applicability.* For purposes of § 3.20, a national bank or Federal savings association subject to subpart E of this part is subject to the minority interest limitations in this paragraph (b) if:

* * * * *

10. In § 3.22:

a. Redesignate footnotes 21 through 31 as footnotes 1 through 11.

b. Revise paragraphs (a)(1)(ii) and (a)(4);

c. Remove and reserve paragraph (a)(6);

d. Revise paragraphs (a)(7), (b)(1)(ii) and (iii), (b)(2)(i) through (iii), (b)(2)(iv) introductory text, newly designated footnote 3 to paragraph (c) introductory text, and paragraph (c)(1) introductory text;

e. Add paragraph (c)(1)(iv);

f. Revise paragraph (c)(2) introductory text, paragraphs (c)(2)(ii)(D), (c)(3)(ii), (c)(4), (c)(5)(i) through (iii), (c)(6), paragraph (d)(1) introductory text, and paragraphs (d)(2), (f), and (g); and

The revisions and addition read as follows:

§ 3.22 Regulatory capital adjustments and deductions.

(a) * * *

(1) * * *

(ii) For a national bank or Federal savings association subject to subpart E of this part, goodwill that is embedded in the valuation of a significant investment in the capital of an unconsolidated financial institution in the form of common stock (and that is reflected in the consolidated financial statements of the national bank or Federal savings association), in accordance with paragraph (d) of this section;

* * * * *(4)(i) For a national bank or Federal savings association that is not subject to subpart E of this part, any gain-on-sale in connection with a securitization exposure;

(ii) For a national bank or Federal savings association subject to subpart E of this part, any gain-on-sale in connection with a securitization exposure and the portion of any CEIO that does not constitute an after-tax gain-on-sale;

* * * * *

(7) With respect to a financial subsidiary, the aggregate amount of the national bank's or Federal savings association's outstanding equity investment, including retained earnings, in its financial subsidiaries (as defined in 12 CFR 5.39). A national bank or Federal savings association must not consolidate the assets and liabilities of a financial subsidiary with those of the parent bank, and no other deduction is required under paragraph (c) of this section for investments in the capital instruments of financial subsidiaries.

* * * * *

(b) * * *

(1) * * *

(ii) A national bank or Federal savings association that is subject to subpart E of this part, and a national bank or Federal savings association that has not made an AOCI opt-out election (as defined in paragraph (b)(2) of this section), must deduct any accumulated net gains and add any accumulated net losses on cash flow hedges included in AOCI that relate to the hedging of items that are not recognized at fair value on the balance sheet.

(iii) A national bank or Federal savings association must deduct any net gain and add any net loss related to changes in the fair value of liabilities that are due to changes in the national bank's or Federal savings association's own credit risk. A national bank or Federal savings association subject to subpart E of this part must deduct the difference between its credit spread premium and the risk-free rate for derivatives that are liabilities as part of this adjustment.

(2) * * *

(i) A national bank or Federal savings association that is not subject to subpart E of this part may make a one-time election to opt out of the requirement to include all components of AOCI (with the exception of accumulated net gains and losses on cash flow hedges related to items that are not fair-valued on the balance sheet) in common equity tier 1 capital (AOCI opt-out election). A national bank or Federal savings association that makes an AOCI opt-out election in accordance with this paragraph (b)(2) must adjust common equity tier 1 capital as follows:

(A) Subtract any net unrealized gains and add any net unrealized losses on available-for-sale debt securities;

(B) Subtract any accumulated net gains and add any accumulated net losses on cash flow hedges;

(C) Subtract any amounts recorded in AOCI attributed to defined benefit postretirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans (excluding, at the national bank's or Federal savings association's option, the portion relating to pension assets deducted under paragraph (a)(5) of this section); and

(D) Subtract any net unrealized gains and add any net unrealized losses on held-to-maturity securities that are included in AOCI.

(ii) A national bank or Federal savings association that is not subject to subpart E of this part must make its AOCI opt-out election in the Call Report during the first reporting period after the national bank or Federal savings association is required to comply with subpart A of this part. If the national bank or Federal savings association was previously subject to subpart E of this part, the national bank or Federal savings association must make its AOCI opt-out election in the Call Report during the first reporting period after the national bank or Federal savings association is not subject to subpart E of this part.

(iii) With respect to a national bank or Federal savings association that is not subject to subpart E, each of its subsidiary banking organizations that is subject to regulatory capital

requirements issued by the Board of Governors of the Federal Reserve, the Federal Deposit Insurance Corporation, or the Office of the Comptroller of the Currency[1] must elect the same option as the national bank or Federal savings association pursuant to this paragraph (b)(2).

(iv) With prior notice to the OCC, a national bank or Federal savings association resulting from a merger, acquisition, or purchase transaction and that is not subject to subpart E of this part may change its AOCI opt-out election in its Call Report filed for the first reporting period after the date required for such national bank or Federal savings association to comply with subpart A of this part if:

* * * * *

(c) * * *[3]

(1) *Investment in the national bank's or Federal savings association's own capital or covered debt instruments.* A national bank or Federal savings association must deduct an investment in the national bank's or Federal savings association's own capital instruments, and a national bank or Federal savings association subject to subpart E of this part also must deduct an investment in the national bank's or Federal savings association's own covered debt instruments, as follows:

* * * * *

(iv) A national bank or Federal savings association subject to subpart E of this part must deduct an investment in the institution's own covered debt instruments from its tier 2 capital elements, as applicable. If the national bank or Federal savings association does not have a sufficient amount of tier 2 capital to effect this deduction, the institution must deduct the shortfall amount from the next higher (that is, more subordinated) component of regulatory capital.

* * * * *

(2) *Corresponding deduction approach.* For purposes of subpart C of this part, the corresponding deduction approach is the methodology used for the deductions from regulatory capital related to reciprocal cross holdings (as described in paragraph (c)(3) of this section),

investments in the capital of unconsolidated financial institutions for a national bank or Federal savings association that is not subject to subpart E of this part (as described in paragraph (c)(4) of this section), non-significant investments in the capital of unconsolidated financial institutions for a national bank or Federal savings association subject to subpart E of this part (as described in paragraph (c)(5) of this section), and non-common stock significant investments in the capital of unconsolidated financial institutions for a national bank or Federal savings association subject to subpart E of this part (as described in paragraph (c)(6) of this section). Under the corresponding deduction approach, a national bank or Federal savings association must make deductions from the component of capital for which the underlying instrument would qualify if it were issued by the national bank or Federal savings association itself, as described in paragraphs (c)(2)(i) through (iii) of this section. If the national bank or Federal savings association does not have a sufficient amount of a specific component of capital to effect the required deduction, the shortfall must be deducted according to paragraph (f) of this section.

* * * * *

(ii) * * *

(D) For a national bank or Federal savings association subject to subpart E of this part, a tier 2 capital instrument if it is a covered debt instrument.

* * * * *

(3) * * *

(ii) A national bank or Federal savings association subject to subpart E of this part must deduct an investment in any covered debt instrument that the institution holds reciprocally with another financial institution, where such reciprocal cross holdings result from a formal or informal arrangement to swap, exchange, or otherwise intend to hold each other's capital or covered debt instruments, by applying the corresponding deduction approach in paragraph (c)(2) of this section.

(4) *Investments in the capital of unconsolidated financial institutions.* A national bank or Federal savings association that is not subject to subpart E of this part must deduct its investments in the capital of unconsolidated financial institutions (as defined in § 3.2) that exceed 25 percent of the sum of the national bank or Federal savings association's common equity tier 1 capital elements minus all deductions from and adjustments to common equity tier 1 capital elements required under paragraphs (a) through (c)(3) of this section by applying the corresponding deduction approach in paragraph (c)(2) of this section.[4] The deductions described in this section are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the OCC, a national bank or Federal savings association that underwrites a failed underwriting, for the period of time stipulated by the OCC, is not required to deduct an Investment in the capital of an unconsolidated financial institution pursuant to this paragraph (c) to the extent the investment is related to the failed underwriting.[5]

(5) * * *

(i) A national bank or Federal savings association subject to subpart E of this part must deduct its non-significant investments in the capital of unconsolidated financial institutions (as defined in § 3.2) that, in the aggregate and together with any investment in a covered debt instrument (as defined in § 3.2) issued by a financial institution in which the national bank or Federal savings association does not have a significant investment in the capital of the unconsolidated financial institution (as defined in § 3.2), exceeds 10 percent of the sum of the national bank's or Federal savings association's common equity tier 1 capital elements minus all deductions from and adjustments to common equity tier 1 capital elements required under paragraphs (a) through (c)(3) of this section (the 10 percent threshold for non-significant investments) by applying the corresponding deduction approach in paragraph (c)(2) of this section.[6] The deductions described in this paragraph are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the OCC, a national bank or Federal savings association subject to subpart E of this part that underwrites a

failed underwriting, for the period of time stipulated by the OCC, is not required to deduct from capital a non-significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph (c)(5) to the extent the investment is related to the failed underwriting.[7] For any calculation under this paragraph (c)(5)(i), a national bank or Federal savings association subject to subpart E of this part may exclude the amount of an investment in a covered debt instrument under paragraph (c)(5)(iii) or (iv) of this section, as applicable.

(ii) For a national bank or Federal savings association subject to subpart E of this part, the amount to be deducted under this paragraph (c)(5) from a specific capital component is equal to:

(A) The national bank's or Federal savings association's aggregate non-significant investments in the capital of an unconsolidated financial institution and, if applicable, any investments in a covered debt instrument subject to deduction under this paragraph (c)(5), exceeding the 10 percent threshold for non-significant investments, multiplied by

(B) The ratio of the national bank's or Federal savings association's aggregate non-significant investments in the capital of an unconsolidated financial institution (in the form of such capital component) to the national bank's or Federal savings association's total non-significant investments in unconsolidated financial institutions, with an investment in a covered debt instrument being treated as tier 2 capital for this purpose.

(iii) For purposes of applying the deduction under paragraph (c)(5)(i) of this section, a national bank or Federal savings association subject to subpart E of this part that is not a subsidiary of a global systemically important banking organization, as defined in 12 CFR 252.2, may exclude from the deduction the amount of the national bank's or Federal savings association's gross long position, in accordance with § 3.22(h)(2), in investments in covered debt instruments issued by financial institutions in which the national bank or Federal savings association does not have a significant investment in the capital of the unconsolidated financial institutions up to an amount equal to 5 percent of the sum of the national bank's or Federal

savings association's common equity tier 1 capital elements minus all deductions from and adjustments to common equity tier 1 capital elements required under paragraphs (a) through (c)(3) of this section, net of associated DTLs in accordance with paragraph (e) of this section.

* * * * *

(6) *Significant investments in the capital of unconsolidated financial institutions that are not in the form of common stock.* If a national bank or Federal savings association subject to subpart E of this part has a significant investment in the capital of an unconsolidated financial institution, the national bank or Federal savings association must deduct from capital any such investment issued by the unconsolidated financial institution that is held by the national bank or Federal savings association other than an investment in the form of common stock, as well as any investment in a covered debt instrument issued by the unconsolidated financial institution, by applying the corresponding deduction approach in paragraph (c)(2) of this section.[8] The deductions described in this section are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the OCC, for the period of time stipulated by the OCC, a national bank or Federal savings association subject to subpart E of this part that underwrites a failed underwriting is not required to deduct the significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph (c)(6) if such investment is related to such failed underwriting.

(d) * * *

(1) A national bank or Federal savings association that is not subject to subpart E of this part must make deductions from regulatory capital as described in this paragraph (d)(1).

* * * * *

(2) A national bank or Federal savings association subject to subpart E of this part must make deductions from regulatory capital as described in this paragraph (d)(2).

(i) A national bank or Federal savings association subject to subpart E of this part must deduct from common equity tier 1 capital elements the amount of each of the items set forth in this paragraph (d)(2) that, individually, exceeds 10 percent of the sum of the national bank's or Federal savings association's common equity tier 1 capital elements, less adjustments to and deductions from common equity tier 1 capital required under paragraphs (a) through (c) of this section (the 10 percent common equity tier 1 capital deduction threshold).

(A) DTAs arising from temporary differences that the national bank or Federal savings association could not realize through net operating loss carrybacks, net of any related valuation allowances and net of DTLs, in accordance with paragraph (e) of this section. A national bank or Federal savings association subject to subpart E of this part is not required to deduct from the sum of its common equity tier 1 capital elements DTAs (net of any related valuation allowances and net of DTLs, in accordance with § 3.22(e)) arising from timing differences that the national bank or Federal savings association could realize through net operating loss carrybacks. The national bank or Federal savings association must risk weight these assets at 100 percent. For a national bank or Federal savings association that is a member of a consolidated group for tax purposes, the amount of DTAs that could be realized through net operating loss carrybacks may not exceed the amount that the national bank or Federal savings association could reasonably expect to have refunded by its parent holding company.

(B) MSAs net of associated DTLs, in accordance with paragraph (e) of this section.

(C) Significant investments in the capital of unconsolidated financial institutions in the form of common stock, net of associated DTLs in accordance with paragraph (e) of this section.[10] Significant investments in the capital of unconsolidated financial institutions in the form of common stock subject to the 10 percent common equity tier 1 capital deduction threshold may be reduced by any goodwill embedded in the valuation of such investments deducted by the national bank or Federal savings association pursuant to paragraph (a)(1) of this section. In addition, with the prior written approval of the OCC, for the period of time stipulated

by the OCC, a national bank or Federal savings association subject to subpart E of this part that underwrites a failed underwriting is not required to deduct a significant investment in the capital of an unconsolidated financial institution in the form of common stock pursuant to this paragraph (d)(2) if such investment is related to such failed underwriting.

(ii) A national bank or Federal savings association subject to subpart E of this part must deduct from common equity tier 1 capital elements the items listed in paragraph (d)(2)(i) of this section that are not deducted as a result of the application of the 10 percent common equity tier 1 capital deduction threshold, and that, in aggregate, exceed 17.65 percent of the sum of the national bank's or Federal savings association's common equity tier 1 capital elements, minus adjustments to and deductions from common equity tier 1 capital required under paragraphs (a) through (c) of this section, minus the items listed in paragraph (d)(2)(i) of this section (the 15 percent common equity tier 1 capital deduction threshold). Any goodwill that has been deducted under paragraph (a)(1) of this section can be excluded from the significant investments in the capital of unconsolidated financial institutions in the form of common stock.[11]

(iii) For purposes of calculating the amount of DTAs subject to the 10 and 15 percent common equity tier 1 capital deduction thresholds, a national bank or Federal savings association subject to subpart E of this part may exclude DTAs and DTLs relating to adjustments made to common equity tier 1 capital under paragraph (b) of this section. A national bank or Federal savings association subject to subpart E of this part that elects to exclude DTAs relating to adjustments under paragraph (b) of this section also must exclude DTLs and must do so consistently in all future calculations. A national bank or Federal savings association subject to subpart E of this part may change its exclusion preference only after obtaining the prior approval of the OCC.

* * * * *

(f) *Insufficient amounts of a specific regulatory capital component to effect deductions.* Under the corresponding deduction approach, if a national bank or Federal savings association

does not have a sufficient amount of a specific component of capital to effect the full amount of any deduction from capital required under paragraph (d) of this section, the national bank or Federal savings association must deduct the shortfall amount from the next higher (that is, more subordinated) component of regulatory capital. Any investment by a national bank or Federal savings association subject to subpart E of this part in a covered debt instrument must be treated as an investment in the tier 2 capital for purposes of this paragraph (f). Notwithstanding any other provision of this section, a qualifying community banking organization (as defined in § 3.12) that has elected to use the community bank leverage ratio framework pursuant to § 3.12 is not required to deduct any shortfall of tier 2 capital from its additional tier 1 capital or common equity tier 1 capital.

(g) *Treatment of assets that are deducted.* A national bank or Federal savings association must exclude from standardized total risk-weighted assets and, as applicable, expanded total risk-weighted assets any item that is required to be deducted from regulatory capital.

* * * * *

[1] These rules include the regulatory capital requirements set forth at 12 CFR part 3 (OCC); 12 CFR part 225 (Board); 12 CFR part 325, and 12 CFR part 390 (FDIC).

* * * * *

[3]The national bank or Federal savings association must calculate amounts deducted under paragraphs (c) through (f) of this section after it calculates the amount of AACL includable in tier 2 capital under § 3.20(d)(3).

[4] With the prior written approval of the OCC, for the period of time stipulated by the OCC, a national bank or Federal savings association is not required to deduct a non-significant investment in the capital instrument of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph if the financial institution is in distress and if such investment is made for the purpose of providing financial support to the financial institution, as determined by the OCC.

[5] Any non-significant investments in the capital of an unconsolidated financial institution that is not required to be deducted under this paragraph (c)(4) or otherwise under this section must be assigned the appropriate risk weight under subparts D, E, or F of this part, as applicable.

[6] With the prior written approval of the OCC, for the period of time stipulated by the OCC, a national bank or Federal savings association subject to subpart E of this part is not required to deduct a non-significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph if the financial institution is in distress and if such investment is made for the purpose of providing financial support to the financial institution, as determined by the OCC.

[7] Any non-significant investment in the capital of an unconsolidated financial institution or any investment in a covered debt instrument that is not required to be deducted under this paragraph (c)(5) or otherwise under this section must be assigned the appropriate risk weight under subparts D, E, or F of this part, as applicable.

[8] With prior written approval of the OCC, for the period of time stipulated by the OCC, a national bank or Federal savings association subject to subpart E of this part is not required to deduct a significant investment in the capital of an unconsolidated financial institution, including an investment in a covered debt instrument, under this paragraph (c)(6) or otherwise under this section if such investment is made for the purpose of providing financial support to the financial institution as determined by the OCC.

* * * * *

[10] With the prior written approval of the OCC, for the period of time stipulated by the OCC, a national bank or Federal savings association subject to subpart E of this part is not required to deduct a significant investment in the capital instrument of an unconsolidated financial institution in distress in the form of common stock pursuant to this section if such investment is made for the purpose of providing financial support to the financial institution as determined by the OCC.

[11] The amount of the items in paragraph (d)(2) of this section that is not deducted from common equity tier 1 capital pursuant to this section must be included in the risk-weighted assets of the national bank or Federal savings association subject to subpart E of this part and assigned a 250 percent risk weight for purposes of standardized total risk-weighted assets and assigned the appropriate risk weight for the investment under subpart E of this part for purposes of expanded total risk-weighted assets.

§ 3.30 [Amended]

11. In § 3.30, in paragraph (b), remove the words "covered positions" and add in their place the words "market risk covered positions".

12. In § 3.34, revise paragraph (a) to read as follows:

§ 3.34 Derivative contracts.

(a) *Exposure amount for derivative contracts*—(1) *National bank or Federal savings association not subject to subpart E of this part.*

(i) A national bank or Federal savings association that is not subject to subpart E of this part must use the current exposure methodology (CEM) described in paragraph (b) of this section to calculate the exposure amount for all its OTC derivative contracts, unless the national bank or Federal savings association makes the election provided in paragraph (a)(1)(ii) of this section.

(ii) A national bank or Federal savings association that is not subject to subpart E of this part may elect to calculate the exposure amount for all its OTC derivative contracts under the standardized approach for counterparty credit risk (SA–CCR) in § 3.113 by notifying the OCC, rather than calculating the exposure amount for all its derivative contracts using CEM. A national bank or Federal savings association that elects under this paragraph (a)(1)(ii) to calculate the exposure amount for its OTC derivative contracts under SA–CCR must apply the treatment of cleared transactions under § 3.114 to its derivative contracts that are cleared transactions and to all default fund contributions associated with such derivative contracts, rather than applying § 3.35. A national bank or Federal savings association that is not subject to subpart

E of this part must use the same methodology to calculate the exposure amount for all its derivative contracts and, if a national bank or Federal savings association has elected to use SA–CCR under this paragraph (a)(1)(ii), the national bank or Federal savings association may change its election only with prior approval of the OCC.

(2) *National bank or Federal savings association subject to subpart E of this part.* A national bank or Federal savings association that is subject to subpart E of this part must calculate the exposure amount for all its derivative contracts using SA–CCR in § 3.113 for purposes of standardized total risk-weighted assets. A national bank or Federal savings association subject to subpart E of this part must apply the treatment of cleared transactions under § 3.114 to its derivative contracts that are cleared transactions and to all default fund contributions associated with such derivative contracts for purposes of standardized total risk-weighted assets.

* * * * *

13. In § 3.35, revise paragraph (a)(3) to read as follows:

§ 3.35 Cleared transactions.

(a) * * *

(3) *Alternate requirements.* Notwithstanding any other provision of this section, a national bank or Federal savings association that is subject to subpart E of this part or a national bank or Federal savings association that is not subject to subpart E of this part and that has elected to use SA–CCR under § 3.34(a)(1) must apply § 3.114 to its derivative contracts that are cleared transactions rather than this section.

* * * * *

§ 3.37 [Amended]

14. In § 3.37, in paragraph (c)(1), remove the words “VaR-based measure” and add in their place the words “measure for market risk”.

15. Revise § 3.61 to read as follows:

§ 3.61 Purpose and scope.

Sections 3.61 through 3.63 of this subpart establish public disclosure requirements related to the capital requirements described in subpart B of this part for a national bank or Federal savings association with total consolidated assets of $50 billion or more as reported on the national bank's or Federal savings association's most recent year-end Call Report that is not making public disclosures pursuant to §§ 3.160 and 3.161 of this part. A national bank or Federal savings association with total consolidated assets of $50 billion or more as reported on the national bank's or Federal savings association's most recent year-end Call Report that is not making public disclosures pursuant to §§ 3.160 and 3.161 of this part must comply with § 3.62 unless it is a consolidated subsidiary of a bank holding company, savings and loan holding company, or depository institution that is subject to the disclosure requirements of § 3.62 or a subsidiary of a non-U.S. banking organization that is subject to comparable public disclosure requirements in its home jurisdiction. For purposes of this section, total consolidated assets are determined based on the average of the national bank's or Federal savings association's total consolidated assets in the four most recent quarters as reported on the Call Report or the average of the national bank or Federal savings association's total consolidated assets in the most recent consecutive quarters as reported quarterly on the national bank's or Federal savings association's Call Report if the national bank or Federal savings association has not filed such a report for each of the most recent four quarters.

16. In § 3.63:

a. In table 3, revise entry (c); and

b. Remove paragraphs (d) and (e).

The revision reads as follows:

§ 3.63 Disclosures by national banks or Federal savings associations described in § 3.61.

* * * * *

Table 3 to § 3.63—Capital Adequacy

* * * * *

* * * * * * *		
	(c)	Market risk-weighted assets as calculated under subpart F of this part.
* * * * * * *		

Subparts E and F [Amended]

17. Subparts E and F are amended as follows:

a. Revise subparts E and F as set forth at the end of the common preamble;

b. Remove "[AGENCY]" and add "OCC" in its place wherever it appears;

c. Remove "[BANKING ORGANIZATION]" and add "national bank or Federal savings association" in its place wherever it appears;

d. Remove "[BANKING ORGANIZATION]'s" and add "national bank's or Federal savings association's" in its place, wherever it appears;

e. Remove "[REAL ESTATE LENDING GUIDELINES]" and add "12 CFR part 34, appendix A to subpart D" in its place wherever it appears;

f. Remove "[APPRAISAL RULE]" and add "12 CFR part 34, subpart C" in its place wherever it appears;

g. Remove "[REGULATORY REPORT]" and add "Call Report" in its place wherever it appears; and

h. Remove "__." and add "3." in its place wherever it appears.

18. In § 3.100, revise paragraph (b)(1) introductory text to read as follows:

§ 3.100 Purpose and applicability.

* * * * *

(b) * * *

(1) This subpart applies to any national bank or Federal savings association that is a subsidiary of a global systemically important BHC, a Category II national bank or Federal savings association, a Category III national bank or Federal savings association, or a Category IV national bank or Federal savings association, as defined in § 3.2.

* * * * *

§ 3.111 [Amended]

19. In § 3.111:

a. Remove paragraph (j)(1)(i);

b. Redesignate paragraph (j)(1)(ii) as paragraph (j)(1); and

c. Remove paragraphs (k).

20. In § 3.132, revise paragraphs (h)(1)(iv) and (h)(4)(i) to read as follows.

§ 3.132 Risk-weighted assets for securitization exposures.

* * * * *

(h) * * *

(1) * * *

(iv) The national bank or Federal savings association is well capitalized, as defined in part 6 of this chapter. For purposes of determining whether a national bank or Federal savings association is well capitalized for purposes of this paragraph (h), the national bank's or Federal savings association's capital ratios must be calculated without regard to the capital treatment for transfers of small-business obligations with recourse specified in paragraph (h)(1) of this section.

* * * * *

(4) * * *

(i) Determining whether a national bank or Federal savings association is adequately capitalized, undercapitalized, significantly undercapitalized, or critically undercapitalized under part 6 of this chapter; and

* * * * *

21. In § 3.162, revise paragraph (c) as follows:

§ 3.162 Disclosures by a national bank or Federal savings association described in § 3.160.

* * * * *

(c) *Regulatory capital instrument and other instruments eligible for total loss absorbing capacity (TLAC) disclosures.* A national bank or Federal savings association described in § 3.160 must provide a description of the main features of its regulatory capital instruments, in accordance with table 15 to paragraph (c). If the national bank or Federal savings asasociation issues or repays a capital instrument, or in the event of a redemption, conversion, write down, or other material change in the nature of an existing instrument, but in no event less frequently than semiannually, the national bank or Federal savings association must update the disclosures provided in accordance with table 15 to paragraph (c). A national bank or Federal savings association also must disclose the full terms and conditions of all instruments included in regulatory capital.

22. In § 3.201, revise paragraphs (b)(1)(i), (b)(2), (b)(4)(i), (b)(5)(i), and (c)(6) to read as follows:

§ 3.201 Purpose, applicability, and reservations of authority.

* * * * *

(b) * * *

(1) * * *

(i) The national bank or Federal savings association is:

(A) A Category II national bank or Federal savings association, a Category III national bank or Federal savings association, or a Category IV national bank or Federal savings association;

(B) A subsidiary of a global systemically important BHC; or

* * * * *

(2) *CVA Risk*. The CVA risk-based capital requirements specified in §§ 3.220 through 3.225 apply to any national bank or Federal savings association that is a subsidiary of a global systemically important BHC, a Category II national bank or Federal savings association, a Category III national bank or Federal savings association, or a Category IV national bank or Federal savings association.

* * * * *

(4) * * *

(i) A national bank or Federal savings association that meets at least one of the standards in paragraph (b)(1) of this section shall remain subject to the relevant requirements of this subpart F unless and until it does not meet any of the standards in paragraph (b)(1)(ii) of this section for each of four consecutive quarters as reported in the national bank's or Federal savings association's Call Report, it is no longer a subsidiary of a depository institution holding company, Category II national bank or Federal savings association, or a Category III national bank or Federal savings association and the national bank or Federal savings association provides notice to the OCC.

* * * * *

(5) * * *

(i) A national bank or Federal savings association that meets at least one of the standards in paragraph (b)(1) of this section shall remain subject to the relevant requirements of this subpart F unless and until it does not meet any of the standards in paragraph (b)(1)(ii) of this section for each of four consecutive quarters as reported in the national bank's or Federal savings association's Call Report, and it is not a subsidiary of a global systemically important BHC, a Category II national bank or Federal savings association, a Category III national bank or Federal savings association, or Category IV national bank or Federal savings association, and the national bank or Federal savings association provides notice to the OCC.

* * * * *

(c) * * *

(6) In making determinations under paragraphs (c)(1) through (5) of this section, the OCC will apply notice and response procedures generally in the same manner as the notice and response procedures set forth in 12 CFR 3.404.

* * * * *

23. In § 3.300:

a. Revise paragraph (a);

b. Add paragraph (b);

c. Remove paragraphs (c) and (d);

d. Redesignate paragraph (e) as new paragraph (c); and

e. Remove paragraphs (f) through (h).

The revision and addition read as follows:

§ 3.300 Transitions.

(a) *Transition adjustments for AOCI.* Beginning July 1, 2025, a Category III national bank or Federal savings association or a Category IV national bank or Federal savings association must subtract from the sum of its common equity tier 1 elements, before making deductions required under § 3.22(c) or (d), the AOCI adjustment amount multiplied by the percentage provided in Table 1 to § 3.300. The transition AOCI adjustment amount is the sum of:

(1) Net unrealized gains or losses on available-for-sale debt securities, plus

(2) Accumulated net gains or losses on cash flow hedges, plus

(3) Any amounts recorded in AOCI attributed to defined benefit postretirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans, plus

(4) Net unrealized holding gains or losses on held-to-maturity securities that are included in AOCI.

Table 1 to § 3.300

Transition AOCI Adjustment	
Transition period	**Percentage applicable to transition AOCI adjustment amount**
July 1, 2025 to June 30, 2026	75
July 1, 2026 to June 30, 2027	50
July 1, 2027 to June 30, 2028	25
July 1, 2028 and thereafter	0

(b) *Expanded total risk-weighted assets*. Beginning July 1, 2025, a national bank or Federal savings association subject to subpart E of this part must comply with the requirements of subpart B of this part using transition expanded total risk-weighted assets as calculated under this paragraph in place of expanded total risk-weighted assets. Transition expanded total risk-weighted assets is a national bank or Federal savings association's expanded total risk-weighted assets multiplied by the percentage provided in Table 2 to § 3.300.

Table 2 to § 3.300

Transition Expanded Total Risk-Weighted Asset Adjustment	
Transition period	**Percentage of expanded total risk-weighted assets**
July 1, 2025 to June 30, 2026	80
July 1, 2026 to June 30, 2027	85
July 1, 2027 to June 30, 2028	90
July 1, 2028 and thereafter	100

* * * * *

24. In § 3.301:

a. Remove paragraph (b)(5);

b. Revise paragraph (c)(2);

c. Revise paragraph (d)(2)(ii); and

d. Remove and reserve paragraph (e).

The revisions read as follows:

§ 3.301 Current expected credit losses (CECL) transition.

* * * * *

(c) * * *

(2) For purposes of the election described in paragraph (a)(1) of this section, a national bank or Federal savings association subject to subpart E of this part must increase total leverage exposure for purposes of the supplementary leverage ratio by seventy-five percent of its CECL transitional amount during the first year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by fifty percent of its CECL transitional amount during the second year of the transition period, and increase total leverage exposure for purposes of the supplementary leverage ratio by twenty-five percent of its CECL transitional amount during the third year of the transition period.

(d) * * *

(2) * * *

(ii) A national bank or Federal savings association subject to subpart E of this part that has elected the 2020 CECL transition provision described in this paragraph (d) may increase total leverage exposure for purposes of the supplementary leverage ratio by one-hundred percent of its modified CECL transitional amount during the first year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by one hundred percent of its modified CECL transitional amount during the second year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by seventy-five percent of its modified CECL transitional amount during the third year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by fifty percent of its modified CECL transitional amount during the fourth year of the transition period, and increase total leverage exposure for purposes of the supplementary leverage ratio by twenty-five percent of its modified CECL transitional amount during the fifth year of the transition period.

* * * * *

§ 3.302 [Amended]

25. In § 3.302, remove the words "advanced approaches total risk-weighted assets" and add in their place the words "expanded total risk-weighted assets".

§§ 3.303 and 3.304 [Removed and Reserved]

26. Remove and reserve §§ 3.303 and 3.304.

§ 3.305 [Amended]

27. In § 3.305, remove the words "advanced approaches total risk-weighted assets" and add in their place the words "expanded total risk-weighted assets".

PART 6—PROMPT CORRECTIVE ACTION

28. The authority citation for part 6 continues to read as follows:

Authority: 12 U.S.C. 93a, 1831o, 5412(b)(2)(B).

29. In § 6.2:

a. Remove the definition for "Advanced approaches national bank or advanced approaches Federal savings association";

b. Add, in alphabetical order, the definition for "National bank or Federal savings association subject to part 3, subpart E of this chapter"; and

c. Revise the definition for "Total risk-weighted assets".

The addition and revision read as follows:

§ 6.2 Definitions.

* * * * *

National bank or Federal savings association subject to part 3, subpart E of this chapter means a bank that is subject to part 3, subpart E of this chapter.

* * * * *

Total risk-weighted assets means standardized total risk-weighted assets, and for a national bank or Federal savings association subject to part 3, subpart E of this chapter, also includes expanded risk-weighted assets, as defined in § 3.2 of this chapter.

30. In § 6.4, revise paragraphs (a)(1)(iv)(B), (b)(1)(i)(D)(*2*), (b)(2)(iv)(B), and (b)(3)(iv)(B) to read as follows:

§ 6.4 Capital measures and capital categories.

(a) * * *

(1) * * *

(iv) * * *

(B) With respect to a national bank or Federal savings association subject to subpart E of part 3 of this chapter, the supplementary leverage ratio; and

* * * * *

(b) * * *

(1) * * *

(i) * * *

(D) * * *

(*2*) With respect to a national bank or Federal savings association that is controlled by a bank holding company designated as a global systemically important bank holding company pursuant to § 252.82 of this title, the national bank or Federal savings association has a supplementary leverage ratio of 6.0 percent or greater; and

* * * * *

(2) * * *

(iv) * * *

(B) With respect to national bank or Federal savings association subject to subpart E of part 3 of this chapter, the national bank or Federal savings association has a supplementary leverage ratio of 3.0 percent or greater;

* * * * *

(3) * * *

(iv) * * *

(B) With respect to national bank Federal savings association subject to subpart E of part 3 of this chapter, the national bank or Federal savings association has a supplementary leverage ratio of less than 3.0 percent.

* * * * *

PART 32—LENDING LIMITS

31. The authority citation for part 32 continues to read as follows:

Authority: 12 U.S.C. 1 *et seq.*, 12 U.S.C. 84, 93a, 1462a, 1463, 1464(u), 5412(b)(2)(B), and 15 U.S.C. 1639h.

32. In § 32.2, revise paragraph (m)(1) to read as follows:

§ 32.2 Definitions.

* * * * *

(m) *Eligible credit derivative* * * *

(1) The derivative contract meets the requirements of paragraphs (1) through (9) of an eligible guarantee, as defined in § 3.2 of this chapter, and has been confirmed by the protection purchaser and the protection provider;

* * * * *

33. In § 32.9, revise paragraphs (b)(1)(i)(C), (b)(1)(iv), and (c)(1)(i) and (iii) to read as follows:

§ 32.9 Credit exposure arising from derivative and securities financing transactions.

* * * * *

(b) * * *

(1) * * *

(i) * * *

(C) *Calculation of potential future credit exposure.* A bank or savings association shall calculate its potential future credit exposure by using any appropriate model the use of which has been approved in writing for purposes of this section by the appropriate Federal banking agency.

Any substantive revisions to a model made after the appropriate Federal banking agency has approved the use of the model must be approved by the agency before a bank or savings association may use the revised model for purposes of this part.

* * * * *

(iv) *Standardized Approach for Counterparty Credit Risk Method.* The credit exposure arising from a derivative transaction (other than a credit derivative transaction) under the Standardized Approach for Counterparty Credit Risk Method shall be calculated pursuant to 12 CFR 3.113(c)(5) or 324.113(c)(5), as appropriate.

* * * * *

(c) * * *

(1) * * *

(i) *Model method.* A bank or savings association may calculate the credit exposure of a securities financing transaction by using any appropriate model the use of which has been approved in writing for purposes of this section by the appropriate Federal banking agency. Any substantive revisions to a model made after the appropriate Federal banking agency has approved the use of the model must be approved by the agency before a bank or savings association may use the revised model for purposes of this part.

* * * * *

(iii) *Basel collateral haircut method.* A bank or savings association may calculate the credit exposure of a securities financing transaction pursuant to 12 CFR 3.113(b)(2)(i) and (ii) or 324.113(b)(2)(i) and (ii), as appropriate.

* * * * *

Board of Governors of the Federal Reserve System

12 CFR Chapter II

Authority and Issuance

For the reasons set forth in the common preamble, the Board of Governors of the Federal Reserve System proposes to amend chapter II of title 12 of the Code of Federal Regulations as follows:

PART 208—MEMBERSHIP OF STATE BANKING INSTITUTIONS IN THE FEDERAL RESERVE SYSTEM (REGULATION H)

34. The authority citation for part 208 continues to read as follows:

Authority: 12 U.S.C. 24, 36, 92a, 93a, 248(a), 248(c), 321–338a, 371d, 461, 481–486, 601, 611, 1814, 1816, 1817(a)(3), 1817(a)(12), 1818, 1820(d)(9), 1833(j), 1828(o), 1831, 1831o, 1831p-1, 1831r-1, 1831w, 1831x, 1835a, 1882, 2901–2907, 3105, 3310, 3331–3351, 3905–3909, 5371, and 5371 note; 15 U.S.C. 78b, 78I(b), 78*l*(i), 78o-4(c)(5), 78q, 78q-1, 78w, 1681s, 1681w, 6801, and 6805; 31 U.S.C. 5318; 42 U.S.C. 4012a, 4104a, 4104b, 4106, and 4128.

Subpart D—Prompt Corrective Action

35. Revise § 208.41 to read as follows:

§ 208.41 Definitions for purposes of this subpart.

For purposes of this subpart, except as modified in this section or unless the context otherwise requires, the terms used have the same meanings as set forth in section 38 and section 3 of the FDI Act. As used in this subpart:

Bank means an insured depository institution as defined in section 3 of the FDI Act (12 U.S.C. 1813).

Bank subject to subpart E of 12 CFR part 217 means a bank that is subject to part 217, subpart E of this chapter.

Common equity tier 1 capital means the amount of capital as defined in § 217.2 of this chapter.

Common equity tier 1 risk-based capital ratio means the ratio of common equity tier 1 capital to total risk-weighted assets, as calculated in accordance with § 217.10(b)(1) or § 217.10(d)(1) of this chapter, as applicable.

Control—(1) *Control* has the same meaning assigned to it in section 2 of the Bank Holding Company Act (12 U.S.C. 1841), and the term *controlled* shall be construed consistently with the term *control.*

(2) *Exclusion for fiduciary ownership.* No insured depository institution or company controls another insured depository institution or company by virtue of its ownership or control of shares in a fiduciary capacity. Shares shall not be deemed to have been acquired in a fiduciary capacity if the acquiring insured depository institution or company has sole discretionary authority to exercise voting rights with respect to the shares.

(3) *Exclusion for debts previously contracted.* No insured depository institution or company controls another insured depository institution or company by virtue of its ownership or control of shares acquired in securing or collecting a debt previously contracted in good faith, until two years after the date of acquisition. The two-year period may be extended at the discretion of the appropriate Federal banking agency for up to three one-year periods.

Controlling person means any person having control of an insured depository institution and any company controlled by that person.

Global systemically important BHC has the same meaning as in § 217.2 of this chapter.

Leverage ratio means the ratio of tier 1 capital to average total consolidated assets, as calculated in accordance with § 217.10 of this chapter.

Management fee means any payment of money or provision of any other thing of value to a company or individual for the provision of management services or advice to the bank, or related overhead expenses, including payments related to supervisory, executive, managerial, or policy making functions, other than compensation to an individual in the individual's capacity as an officer or employee of the bank.

Supplementary leverage ratio means the ratio of tier 1 capital to total leverage exposure, as calculated in accordance with § 217.10 of this chapter.

Tangible equity means the amount of tier 1 capital, plus the amount of outstanding perpetual preferred stock (including related surplus) not included in tier 1 capital.

Tier 1 capital means the amount of capital as defined in § 217.20 of this chapter.

Tier 1 risk-based capital ratio means the ratio of tier 1 capital to total risk-weighted assets, as calculated in accordance with § 217.10(b)(2) or § 217.10(d)(2) of this chapter, as applicable.

Total assets means quarterly average total assets as reported in a bank's Call Report, minus items deducted from tier 1 capital. At its discretion the Federal Reserve may calculate total assets using a bank's period-end assets rather than quarterly average assets.

Total leverage exposure means the total leverage exposure as defined in § 217.10(c)(2) of this chapter.

Total risk-based capital ratio means the ratio of total capital to total risk-weighted assets, as calculated in accordance with § 217.10(b)(3) or § 217.10(d)(3) of this chapter, as applicable.

Total risk-weighted assets means standardized total risk-weighted assets, and for an expanded risk-based bank also includes expanded total risk-weighted assets, as defined in § 217.2 of this chapter.

Subpart D [Amended]

36. In subpart D:

a. Remove the words "advanced approaches bank" and "advanced approaches banks" wherever they appear and add in their place the words "bank subject to subpart E of 12 CFR part 217" and "banks subject to subpart E of 12 CFR part 217", respectively; and

b. Remove the words "bank or bank that is a Category III Board-regulated institution (as defined in § 217.2 of this chapter)," wherever they appear and add in their place the word "bank,".

Subpart G—Financial Subsidiaries of State Member Banks

37. In § 208.73:

a. Revise paragraph (a) introductory text;

b. Remove paragraph (b); and

c. Redesignate paragraphs (c) through (f) as (b) through (e), respectively.

The revision reads as follows:

§ 208.73 What additional provisions are applicable to state member banks with financial subsidiaries?

(a) *Capital requirements*. A state member bank that controls or holds an interest in a financial subsidiary must comply with the rules set forth in § 217.22(a)(7) of Regulation Q (12 CFR 217.22(a)(7)) in determining its compliance with applicable regulatory capital standards (including the well capitalized standard of § 208.71(a)(1)).

* * * * *

38. In **Appendix C,** revise footnote 2 to read as follows:

Appendix C to Part 208 – Interagency Guidelines for Real Estate Lending Policies

* * * * *

[2] The term "total capital" refers to that term as defined in 12 CFR part 3, 12 CFR part 217, or 12 CFR part 324, as applicable.

PART 217—CAPITAL ADEQUACY OF BANK HOLDING COMPANIES, SAVINGS AND LOAN HOLDING COMPANIES, AND STATE MEMBER BANKS (REGULATION Q)

39. The authority citation for part 217 reads as follows:

Authority: 12 U.S.C. 248(a), 321–338a, 481–486, 1462a, 1467a, 1818, 1828, 1831n, 1831o, 1831p-1, 1831w, 1835, 1844(b), 1851, 3904, 3906–3909, 4808, 5365, 5368, 5371, and 5371 note, and sec. 4012, Pub. L. 116–136, 134 Stat. 281..

40. Revise subparts E and F of part 217 as set forth at the end of the common preamble.

41. In part 217, subparts E and F:

a. Remove "[AGENCY]" and add "Board" in its place wherever it appears;

b. Remove "[BANKING ORGANIZATION]" and add "Board-regulated institution" in its place wherever it appears;

c. Remove "[BANKING ORGANIZATION]'s" and add "Board-regulated institution's" in its place wherever it appears;

d. Remove "[REAL ESTATE LENDING GUIDELINES]" and add "12 CFR part 208, appendix C" in its place wherever it appears;

e. Remove "[APPRAISAL RULE]" and add "12 CFR part 208, subpart E, or 12 CFR part 225, subpart G, as applicable" in its place wherever it appears; and

f. Remove "__." and add "217." in its place wherever it appears.

Subpart A—General Provisions

42. In § 217.1:

a. Add paragraph (c)(6); and

b. Revise paragraph (f).

The addition and revision read as follows:

§ 217.1 Purpose, applicability, reservations of authority, and timing.

* * * * *

(c) * * *

(6) *Transitions*. Notwithstanding any other provision of this part, a Board-regulated institution must make any adjustments provided in subpart G of this part for purposes of implementing this part.

* * * * *

(f) *Timing.* A Board-regulated institution that changes from one category of Board-regulated institution to another of such categories, or that changes from having no category of Board-regulated institution to having a such category, must comply with the requirements of its category in this part, including applicable transition provisions of the requirements in this part, no later than on the first day of the second quarter following the change in the company's category.

43. In § 217.2:

a. Remove the definitions for “Advanced approaches Board-regulated institution”, “Advanced approaches total risk-weighted assets”, and “Advanced market risk-weighted assets”;

b. In the definition for “Category II Board-regulated institution”:

i. Remove paragraph (3);

ii. Redesignate paragraph (4) as paragraph (3);

iii. Revise newly redesignated paragraph (3)(i);

iv. In newly redesiganted paragraph (3)(iii) introductory text, remove the words “paragraph (4)(i) of this section” and add, in their place, the words “paragraph (3)(ii) of this definition”;

c. In the definition of “Category III Board-regulated institution”:

i. Remove paragraph (3);

ii. Redesignate paragraph (4) as paragraph (3);

iii. Revise newly redesignated paragraph (3) introductory text;

iv. Revise newly redesignated paragraph (3)(i); and

vi. In newly redesignated paragraph (3)(iv) introductory text, remove the words “paragraph (4)(ii) of this definition” and add, in their place, the words “paragraph (3)(ii) of this definition”;

d. Add, in alphabetical order, the definition for “Category IV Board-regulated institution”;

e. Revise footnote 3 to paragraph (2) of the definition for “*Cleared transaction*.”

f. Revise the definition for “Corporate exposure”;

g. Remove the definition for “Credit-risk-weighted assets”;

h. Add, in alphabetical order, the definition for “CVA risk-weighted assets”;

i. Revise the definition for “Effective notional amount”;

j. Remove the definition for “Eligible credit reserves”;

k. Revise the definition for “Eligible guarantee”;

l. Add, in alphabetical order, “Expanded total risk-weighted assets”;

m. Remove the definition for “Expected credit loss (ECL)”;

n. Revise the definitions for “Exposure amount”, “Market risk Board-regulated institution”, “Net independent collateral amount”, Netting set”, “Protection amount (P)”, and paragraphs (3) and (4) of the definition for “Qualifying master netting agreement”;

o. In the definition of “Residential mortgage exposure”:

i. Remove paragraph (2);

ii. Redesignate paragraphs (1)(i) and (1)(ii) as paragraphs (1) and (2), respectively; and

iii. In newly redesignated paragraph (2), remove the words “family; and” and add, in their place, the word “family.”;

p. Remove the definition for “Specific wrong-way risk”;

q. Revise the definitions for “Speculative grade”, “Standardized market risk-weighted assets”, “Standardized total risk-weighted assets”, “Sub-speculative grade”;

r. Add, in alphabetical order, the definition for “Total credit risk-weighted assets”;

s. Revise the definition for “Unregulated financial institution”;

r. Remove the definition for “Value-at-risk (VaR)”; and

s. Revise the definition for “Variation margin amount”.

The additions and revisions read as follows:

§ 217.2 Definitions.

* * * * *

Category II Board-regulated institution means:

* * * * *

(3) * * *

(i) Is a subsidiary of a Category II banking organization, as defined pursuant to § 252.5 of this chapter or § 238.10 of this chapter, as applicable; or

* * * * *

Category III Board-regulated institution means:

* * * * *

(3) A state member bank that is not a Category II Board-regulated institution and that:

(i) Is a subsidiary of a Category III banking organization, as defined pursuant to § 252.5 of this chapter or § 238.10 of this chapter, as applicable; or

* * * * *

Category IV Board-regulated institution means:

(1) A depository institution holding company that is identified as a Category IV banking organization pursuant to § 252.5 of this chapter or § 238.10 of this chapter, as applicable;

(2) A U.S. intermediate holding company that is identified as a Category IV banking organization pursuant to § 252.5 of this chapter;

(3) A state member bank that is not a Category II Board-regulated institution or Category III Board-regulated institution and that:

(i) Is a subsidiary of a Category IV banking organization, as defined pursuant to § 252.5 of this chapter or § 238.10 of this chapter, as applicable; or

(ii) Has total consolidated assets, calculated based on the average of the depository institution's total consolidated assets for the four most recent calendar quarters as reported on the Call Report of $100 billion or more. If the depository institution has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or the average of the four most recent quarters, as applicable.

(iii) After meeting the criterion in paragraph (3)(ii) of this definition, a state member bank continues to be a Category IV Board-regulated institution until the state member bank:

(A) Has less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; or

(B) Is a Category II or Category III Board-regulated institution.

* * * * *

Cleared transaction * * *

(2) * * *[3]

[3] For the standardized approach treatment of these exposures, see § 217.34(e) (OTC derivative contracts) or § 217.37(c) (repo-style transactions). For the expanded risk-based treatment of these exposures, see § 217.113 (OTC derivative contracts) or § 217.121 (repo-style transactions).

* * * * *

Corporate exposure means an exposure to a company that is not:

(1) An exposure to a sovereign, the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the European Stability Mechanism, the European Financial Stability Facility, a multi-lateral development bank (MDB), a depository institution, a foreign bank, or a credit union, a public sector entity (PSE);

(2) An exposure to a government-sponsored enterprise (GSE);

(3) For purposes of subpart D of this part, a residential mortgage exposure;

(4) A pre-sold construction loan;

(5) A statutory multifamily mortgage;

(6) A high volatility commercial real estate (HVCRE) exposure;

(7) A cleared transaction;

(8) A default fund contribution;

(9) A securitization exposure;

(10) An equity exposure;

(11) An unsettled transaction;

(12) A policy loan;

(13) A separate account;

(14) A Paycheck Protection Program covered loan as defined in section 7(a)(36) or (37) of the Small Business Act (15 U.S.C. 636(a)(36)-(37));

(15) For purposes of subpart E of this part, a real estate exposure, as defined in § 217.101; or

(16) For purposes of subpart E of this part, a retail exposure as defined in § 217.101.

* * * * *

CVA risk-weighted assets means the measure for CVA risk calculated under § 217.221(a) multiplied by 12.5.

* * * * *

Effective notional amount means for an eligible guarantee or eligible credit derivative, the lesser of the contractual notional amount of the credit risk mitigant and the exposures amount of the hedged exposure, multiplied by the percentage coverage of the credit risk mitigant.

* * * * *

Eligible guarantee means a guarantee that:

(1) Is written;

(2) Is either:

(i) Unconditional, or

(ii) A contingent obligation of the U.S. government or its agencies, the enforceability of which is dependent upon some affirmative action on the part of the beneficiary of the guarantee or a third party (for example, meeting servicing requirements);

(3) Covers all or a pro rata portion of all contractual payments of the obligated party on the reference exposure;

(4) Gives the beneficiary a direct claim against the protection provider;

(5) Is not unilaterally cancelable by the protection provider for reasons other than the breach of the contract by the beneficiary;

(6) Except for a guarantee by a sovereign, is legally enforceable against the protection provider in a jurisdiction where the protection provider has sufficient assets against which a judgment may be attached and enforced;

(7) Requires the protection provider to make payment to the beneficiary on the occurrence of a default (as defined in the guarantee) of the obligated party on the reference exposure in a timely manner without the beneficiary first having to take legal actions to pursue the obligor for payment;

(8) Does not increase the beneficiary's cost of credit protection on the guarantee in response to deterioration in the credit quality of the reference exposure;

(9) Is not provided by an affiliate of the Board-regulated institution, unless the affiliate is an insured depository institution, foreign bank, securities broker or dealer, or insurance company that:

(i) Does not control the Board-regulated institution; and

(ii) Is subject to consolidated supervision and regulation comparable to that imposed on depository institutions, U.S. securities broker-dealers, or U.S. insurance companies (as the case may be); and

(10) Is provided by an eligible guarantor.

* * * * *

Expanded total risk-weighted assets means the greater of:

(1) The sum of:

(i) Total credit risk-weighted assets;

(ii) Total risk-weighted assets for equity exposures as calculated under § 217.141 and 217.142;

(iii) Risk-weighted assets for operational risk as calculated under § 217.150;

(iv) Market risk-weighted assets; and

(v) CVA risk-weighted assets; minus

(vi) Any amount of the Board-regulated institution's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves; or

(2) (i) 72.5 percent of the sum of:

(A) Total credit risk-weighted assets;

(B) Total risk-weighted assets for equity exposures as calculated under § 217.141 and 217.142;

(C) Risk-weighted assets for operational risk as calculated under § 217.150;

(D) Standardized market risk-weighted assets; and

(E) CVA risk-weighted assets; minus

(ii) Any amount of the Board-regulated institution's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves.

* * * * *

Exposure amount means:

(1) For the on-balance sheet component of an exposure (other than an available-for-sale or held-to-maturity security, if the Board-regulated institution has made an AOCI opt-out election (as defined in § 217.22(b)(2)); an OTC derivative contract; a repo-style transaction or an eligible margin loan for which the Board-regulated institution determines the exposure amount under § 217.37 or § 217.121, as applicable; a cleared transaction; a default fund contribution; or a securitization exposure), the Board-regulated institution's carrying value of the exposure.

(2) For a security (that is not a securitization exposure, equity exposure, or preferred stock classified as an equity security under GAAP) classified as available-for-sale or held-to-maturity if the Board-regulated institution has made an AOCI opt-out election (as defined in § 217.22(b)(2)), the Board-regulated institution's carrying value (including net accrued but unpaid interest and fees) for the exposure less any net unrealized gains on the exposure and plus any net unrealized losses on the exposure.

(3) For available-for-sale preferred stock classified as an equity security under GAAP if the Board-regulated institution has made an AOCI opt-out election (as defined in § 217.22(b)(2)), the Board-regulated institution's carrying value of the exposure less any net unrealized gains on the exposure that are reflected in such carrying value but excluded from the Board-regulated institution's regulatory capital components.

(4) For the off-balance sheet component of an exposure (other than an OTC derivative contract; a repo-style transaction or an eligible margin loan for which the Board-regulated institution calculates the exposure amount under § 217.37 or § 217.121, as applicable; a cleared transaction; a default fund contribution; or a securitization exposure), the notional amount of the off-balance sheet component multiplied by the appropriate credit conversion factor (CCF) in § 217.33 or § 217.112, as applicable.

(5) For an exposure that is an OTC derivative contract, the exposure amount determined under § 217.34 or § 217.113, as applicable.

(6) For an exposure that is a cleared transaction, the exposure amount determined under § 217.35 or § 217.114, as applicable.

(7) For an exposure that is an eligible margin loan or repo-style transaction for which the bank calculates the exposure amount as provided in § 217.37 or § 217.131, as applicable, the exposure amount determined under § 217.37 or § 217.121, as applicable.

(8) For an exposure that is a securitization exposure, the exposure amount determined under § 217.42 or § 217.131, as applicable.

* * * * *

Market risk Board-regulated institution means a Board-regulated institution that is described in § 217.201(b)(1).

Market risk-weighted assets means the measure for market risk calculated pursuant to § 217.204(a) multiplied by 12.5.

* * * * *

Net independent collateral amount means the fair value amount of the independent collateral, as adjusted by the haircuts under § 217.121(c)(2)(iii), as applicable, that a counterparty to a netting set has posted to a Board-regulated institution less the fair value amount of the independent collateral, as adjusted by the haircuts under § 217.121(c)(2)(iii), as applicable, posted by the Board-regulated institution to the counterparty, excluding such amounts held in a

bankruptcy-remote manner or posted to a QCCP and held in conformance with the operational requirements in § 217.3

Netting set means:

(1) A group of transactions with a single counterparty that are subject to a qualifying master netting agreement and that consist only of:

(i) Derivative contracts;

(ii) Repo-style transactions; or

(iii) Eligible margin loans.

(2) For derivative contracts, netting set also includes a single derivative contract between a Board-regulated institution and a single counterparty.

* * * * *

Protection amount (P) means, with respect to an exposure hedged by an eligible guarantee or eligible credit derivative, the effective notional amount of the guarantee or credit derivative, reduced to reflect any currency mismatch, maturity mismatch, or lack of restructuring coverage (as provided in § 217.36 or 217.120, as appropriate).

* * * * *

Qualifying master netting agreement means a written, legally enforceable agreement provided that:

* * *

(3) The agreement does not contain a walkaway clause (that is, a provision that permits a non-defaulting counterparty to make a lower payment than it otherwise would make under the agreement, or no payment at all, to a defaulter or the estate of a defaulter, even if the defaulter or the estate of the defaulter is a net creditor under the agreement); and

(4) In order to recognize an agreement as a qualifying master netting agreement for purposes of this subpart, a Board-regulated institution must comply with the requirements of § 217.3(d) with respect to that agreement.

* * * * *

Speculative grade means that the entity to which the Board-regulated institution is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse economic conditions, such that should economic conditions deteriorate, the issuer or the reference entity would present an elevated default risk.

Standardized market risk-weighted assets means the standardized measure for market risk calculated under § 217.204(b) multiplied by 12.5.

Standardized total risk-weighted assets means:

(1) The sum of:

(i) Total risk-weighted assets for general credit risk as calculated under § 217.31;

(ii) Total risk-weighted assets for cleared transactions and default fund contributions as calculated under § 217.35;

(iii) Total risk-weighted assets for unsettled transactions as calculated under § 217.38;

(iv) Total risk-weighted assets for securitization exposures as calculated under § 217.42;

(v) Total risk-weighted assets for equity exposures as calculated under § 217.52 and § 217.53; and

(vi) For a market risk Board-regulated institution only, market risk-weighted assets; less

(2) Any amount of the Board-regulated institution's allowance for loan and lease losses or adjusted allowance for credit losses, as applicable, that is not included in tier 2 capital and any amount of "allocated transfer risk reserves."

* * * * *

Sub-speculative grade means that the entity to which the Board-regulated institution is exposed through a loan or security, or the reference entity with respect to a credit derivative, depends on favorable economic conditions to meet its financial commitments, such that should

such economic conditions deteriorate the issuer or the reference entity likely would default on its financial commitments.

* * * * *

Total credit risk-weighted assets means the sum of:

(1) Total risk-weighted assets for general credit risk as calculated under § 217.110;

(2) Total risk-weighted assets for cleared transactions and default fund contributions as calculated under § 217.114;

(3) Total risk-weighted assets for unsettled transactions as calculated under § 217.115; and

(4) Total risk-weighted assets for securitization exposures as calculated under § 217.132.

* * * * *

Unregulated financial institution means a financial institution that is not a regulated financial institution, including any financial institution that would meet the definition of "financial institution" under this section but for the ownership interest thresholds set forth in paragraph (4)(i) of that definition.

* * * * *

Variation margin amount means the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 217.121(c)(2)(iii), as applicable, that a counterparty to a netting set has posted to a Board-regulated institution less the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 217.121(c)(2)(iii), as applicable, posted by the Board-regulated institution to the counterparty.

* * * * *

§ 217.3 [Amended]

44. In § 217.3, remove and reserve paragraph (c).

Subpart B—Capital Ratio Requirements and Buffers

45. In § 217.10:

a. Revise paragraph (a)(1)(v);

b. Revise paragraph (b) introductory text;

c. Revise paragraph (c);

d. Revise paragraph (d) introductory text; and

e. Revise paragraph (d)(3)(ii).

The revisions read as follows:

§ 217.10 Minimum capital requirements.

(a) * * *

(1) * * *

(v) For a Board-regulated institution subject to subpart E of this part, a supplementary leverage ratio of 3 percent.

* * * * *

(b) *Standardized capital ratio calculations.* Other than as provided in paragraph (d) of this section:

* * * * *

(c) *Supplementary leverage ratio.* (1) The supplementary leverage ratio of a Board-regulated institution subject to subpart E of this part is the ratio of its tier 1 capital to total leverage exposure. Total leverage exposure is calculated as the sum of:

(i) The mean of the on-balance sheet assets calculated as of each day of the reporting quarter; and

(ii) The mean of the off-balance sheet exposures calculated as of the last day of each of the most recent three months, minus the applicable deductions under § 217.22(a), (c), and (d).

(2) For purposes of this part, *total leverage exposure* means the sum of the items described in paragraphs (c)(2)(i) through (viii) of this section, as adjusted pursuant to paragraph (c)(2)(ix) of this section for a clearing member Board-regulated institution and paragraph (c)(2)(x) of this section for a custodial banking organization:

(i) The balance sheet carrying value of all of the Board-regulated institution's on-balance

sheet assets, net of adjusted allowances for credit losses, *plus* the value of securities sold under a repurchase transaction or a securities lending transaction that qualifies for sales treatment under GAAP, *less* amounts deducted from tier 1 capital under § 217.22(a), (c), and (d), *less* the value of securities received in security-for-security repo-style transactions, where the Board-regulated institution acts as a securities lender and includes the securities received in its on-balance sheet assets but has not sold or re-hypothecated the securities received, and *less* the fair value of any derivative contracts;

(ii)(A) The PFE for each netting set to which the Board-regulated institution is a counterparty (including cleared transactions except as provided in paragraph (c)(2)(ix) of this section and, at the discretion of the Board-regulated institution, excluding a forward agreement treated as a derivative contract that is part of a repurchase or reverse repurchase or a securities borrowing or lending transaction that qualifies for sales treatment under GAAP), as determined under § 217.113(g), in which the term C in § 217.113(g)(1) equals zero, and, for any counterparty that is not a commercial end-user, multiplied by 1.4. For purposes of this paragraph (c)(2)(ii)(A), a Board-regulated institution may set the value of the term C in § 217.113(g)(1) equal to the amount of collateral posted by a clearing member client of the Board-regulated institution in connection with the client-facing derivative transactions within the netting set; and

(B) A Board-regulated institution may choose to exclude the PFE of all credit derivatives or other similar instruments through which it provides credit protection when calculating the PFE under § 217.113, provided that it does so consistently over time for the calculation of the PFE for all such instruments;

(iii)(A)*(1)* The replacement cost of each derivative contract or single product netting set of derivative contracts to which the Board-regulated institution is a counterparty, calculated according to the following formula, and, for any counterparty that is not a commercial end-user, multiplied by 1.4:

$$\text{Replacement Cost} = \max\{V - CVM_r + CVM_p; 0\}$$

Where:

V equals the fair value for each derivative contract or each netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(2)(ix) of this section and, at the discretion of the Board-regulated institution, excluding a forward agreement treated as a derivative contract that is part of a repurchase or reverse repurchase or a securities borrowing or lending transaction that qualifies for sales treatment under GAAP);

CVM_r equals the amount of cash collateral received from a counterparty to a derivative contract and that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (F) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral received from the clearing member client; and

CVM_p equals the amount of cash collateral that is posted to a counterparty to a derivative contract and that has not offset the fair value of the derivative contract and that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (F) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral posted to the clearing member client;

(2) Notwithstanding paragraph (c)(2)(iii)(A)(*1*) of this section, where multiple netting sets are subject to a single variation margin agreement, a Board-regulated institution must apply the formula for replacement cost provided in § 217.113(j)(1), in which the term CMA may only include cash collateral that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (F) of this section; and

(3) For purposes of paragraph (c)(2)(iii)(A)(*1*) of this section, a Board-regulated institution must treat a derivative contract that references an index as if it were multiple derivative contracts each referencing one component of the index if the Board-regulated institution elected to treat the derivative contract as multiple derivative contracts under § 217.113(e)(6);

(B) For derivative contracts that are not cleared through a QCCP, the cash collateral received by the recipient counterparty is not segregated (by law, regulation, or an agreement with

the counterparty);

(C) Variation margin is calculated and transferred on a daily basis based on the mark-to-fair value of the derivative contract;

(D) The variation margin transferred under the derivative contract or the governing rules of the CCP or QCCP for a cleared transaction is the full amount that is necessary to fully extinguish the net current credit exposure to the counterparty of the derivative contracts, subject to the threshold and minimum transfer amounts applicable to the counterparty under the terms of the derivative contract or the governing rules for a cleared transaction;

(E) The variation margin is in the form of cash in the same currency as the currency of settlement set forth in the derivative contract, provided that for the purposes of this paragraph (c)(2)(iii)(E), currency of settlement means any currency for settlement specified in the governing qualifying master netting agreement and the credit support annex to the qualifying master netting agreement, or in the governing rules for a cleared transaction; and

(F) The derivative contract and the variation margin are governed by a qualifying master netting agreement between the legal entities that are the counterparties to the derivative contract or by the governing rules for a cleared transaction, and the qualifying master netting agreement or the governing rules for a cleared transaction must explicitly stipulate that the counterparties agree to settle any payment obligations on a net basis, taking into account any variation margin received or provided under the contract if a credit event involving either counterparty occurs;

(iv) The effective notional principal amount (that is, the apparent or stated notional principal amount multiplied by any multiplier in the derivative contract) of a credit derivative, or other similar instrument, through which the Board-regulated institution provides credit protection, provided that:

(A) The Board-regulated institution may reduce the effective notional principal amount of the credit derivative by the amount of any reduction in the mark-to-fair value of the credit derivative if the reduction is recognized in common equity tier 1 capital;

(B) The Board-regulated institution may reduce the effective notional principal amount of the credit derivative by the effective notional principal amount of a purchased credit derivative or other similar instrument, provided that the remaining maturity of the purchased credit derivative is equal to or greater than the remaining maturity of the credit derivative through which the Board-regulated institution provides credit protection and that:

(1) With respect to a credit derivative that references a single exposure, the reference exposure of the purchased credit derivative is to the same legal entity and ranks pari passu with, or is junior to, the reference exposure of the credit derivative through which the Board-regulated institution provides credit protection; or

(2) With respect to a credit derivative that references multiple exposures, the reference exposures of the purchased credit derivative are to the same legal entities and rank pari passu with the reference exposures of the credit derivative through which the Board-regulated institution provides credit protection, and the level of seniority of the purchased credit derivative ranks pari passu to the level of seniority of the credit derivative through which the Board-regulated institution provides credit protection;

(3) Where a Board-regulated institution has reduced the effective notional principal amount of a credit derivative through which the Board-regulated institution provides credit protection in accordance with paragraph (c)(2)(iv)(A) of this section, the Board-regulated institution must also reduce the effective notional principal amount of a purchased credit derivative used to offset the credit derivative through which the Board-regulated institution provides credit protection, by the amount of any increase in the mark-to-fair value of the purchased credit derivative that is recognized in common equity tier 1 capital; and

(4) Where the Board-regulated institution purchases credit protection through a total return swap and records the net payments received on a credit derivative through which the Board-regulated institution provides credit protection in net income, but does not record offsetting deterioration in the mark-to-fair value of the credit derivative through which the

Board-regulated institution provides credit protection in net income (either through reductions in fair value or by additions to reserves), the Board-regulated institution may not use the purchased credit protection to offset the effective notional principal amount of the related credit derivative through which the Board-regulated institution provides credit protection;

(v) Where a Board-regulated institution acting as a principal has more than one repo-style transaction with the same counterparty and has offset the gross value of receivables due from a counterparty under reverse repurchase transactions by the gross value of payables under repurchase transactions due to the same counterparty, the gross value of receivables associated with the repo-style transactions *less* any on-balance sheet receivables amount associated with these repo-style transactions included under paragraph (c)(2)(i) of this section, unless the following criteria are met:

(A) The offsetting transactions have the same explicit final settlement date under their governing agreements;

(B) The right to offset the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable in the normal course of business and in the event of receivership, insolvency, liquidation, or similar proceeding; and

(C) Under the governing agreements, the counterparties intend to settle net, settle simultaneously, or settle according to a process that is the functional equivalent of net settlement, (that is, the cash flows of the transactions are equivalent, in effect, to a single net amount on the settlement date), where both transactions are settled through the same settlement system, the settlement arrangements are supported by cash or intraday credit facilities intended to ensure that settlement of both transactions will occur by the end of the business day, and the settlement of the underlying securities does not interfere with the net cash settlement;

(vi) The counterparty credit risk of a repo-style transaction, including where the Board-regulated institution acts as an agent for a repo-style transaction and indemnifies the customer with respect to the performance of the customer's counterparty in an amount limited to the

difference between the fair value of the security or cash its customer has lent and the fair value of the collateral the borrower has provided, calculated as follows:

(A) If the transaction is not subject to a qualifying master netting agreement, the counterparty credit risk (E*) for transactions with a counterparty must be calculated on a transaction by transaction basis, such that each transaction *i* is treated as its own netting set, in accordance with the following formula, where E_i is the fair value of the instruments, gold, or cash that the Board-regulated institution has lent, sold subject to repurchase, or provided as collateral to the counterparty, and C_i is the fair value of the instruments, gold, or cash that the Board-regulated institution has borrowed, purchased subject to resale, or received as collateral from the counterparty:

$E_i^* = \max \{0, [E_i — C_i]\}$; and

(B) If the transaction is subject to a qualifying master netting agreement, the counterparty credit risk (E*) must be calculated as the greater of zero and the total fair value of the instruments, gold, or cash that the Board-regulated institution has lent, sold subject to repurchase or provided as collateral to a counterparty for all transactions included in the qualifying master netting agreement (ΣE_i), *less* the total fair value of the instruments, gold, or cash that the Board-regulated institution borrowed, purchased subject to resale or received as collateral from the counterparty for those transactions (ΣC_i), in accordance with the following formula:

$E^* = \max \{0, [\Sigma ei - \Sigma ci]\}$

(vii) If a Board-regulated institution acting as an agent for a repo-style transaction provides a guarantee to a customer of the security or cash its customer has lent or borrowed with respect to the performance of the customer's counterparty and the guarantee is not limited to the difference between the fair value of the security or cash its customer has lent and the fair value of the collateral the borrower has provided, the amount of the guarantee that is greater than the difference between the fair value of the security or cash its customer has lent and the value of the collateral the borrower has provided;

(viii) The credit equivalent amount of all off-balance sheet exposures of the Board-regulated institution, excluding repo-style transactions, repurchase or reverse repurchase or securities borrowing or lending transactions that qualify for sales treatment under GAAP, and derivative transactions, determined using the applicable credit conversion factor under § 217.112(b), provided, however, that the minimum credit conversion factor that may be assigned to an off-balance sheet exposure under this paragraph is 10 percent; and

(ix) For a Board-regulated institution that is a clearing member:

(A) A clearing member Board-regulated institution that guarantees the performance of a clearing member client with respect to a cleared transaction must treat its exposure to the clearing member client as a derivative contract or repo-style transaction, as applicable, for purposes of determining its total leverage exposure;

(B) A clearing member Board-regulated institution that guarantees the performance of a CCP with respect to a transaction cleared on behalf of a clearing member client must treat its exposure to the CCP as a derivative contract or repo-style transaction, as applicable, for purposes of determining its total leverage exposure;

(C) A clearing member Board-regulated institution that does not guarantee the performance of a CCP with respect to a transaction cleared on behalf of a clearing member client may exclude its exposure to the CCP for purposes of determining its total leverage exposure;

(D) A Board-regulated institution that is a clearing member may exclude from its total leverage exposure the effective notional principal amount of credit protection sold through a credit derivative contract, or other similar instrument, that it clears on behalf of a clearing member client through a CCP as calculated in accordance with paragraph (c)(2)(iv) of this section; and

(E) Notwithstanding paragraphs (c)(2)(ix)(A) through (C) of this section, a Board-regulated institution may exclude from its total leverage exposure a clearing member's exposure to a clearing member client for a derivative contract if the clearing member client and the

clearing member are affiliates and consolidated for financial reporting purposes on the Board-regulated institution's balance sheet.

(x) A custodial banking organization shall exclude from its total leverage exposure the lesser of:

(A) The amount of funds that the custodial banking organization has on deposit at a qualifying central bank; and

(B) The amount of funds in deposit accounts at the custodial banking organization that are linked to fiduciary or custodial and safekeeping accounts at the custodial banking organization. For purposes of this paragraph (c)(2)(x), a deposit account is linked to a fiduciary or custodial and safekeeping account if the deposit account is provided to a client that maintains a fiduciary or custodial and safekeeping account with the custodial banking organization and the deposit account is used to facilitate the administration of the fiduciary or custodial and safekeeping account.

(d) *Expanded capital ratio calculations.* A Board-regulated institution subject to subpart E of this part must determine its regulatory capital ratios as described in paragraphs (d)(1) through (3) of this section.

* * * * *

(3) * * *

(ii) The ratio of the Board-regulated institution's expanded risk-based approach-adjusted total capital to expanded total risk-weighted assets. A Board-regulated institution's expanded risk-based approach-adjusted total capital is the Board-regulated institution's total capital after being adjusted as follows:

(A) A Board-regulated institution subject to subpart E of this part must deduct from its total capital any AACL included in its tier 2 capital in accordance with § 217.20(d)(3); and

(B) A Board-regulated institution subject to subpart E of this part must add to its total capital any AACL up to 1.25 percent of the Board-regulated institution's total credit risk-weighted assets.

* * * * *

46. Revise § 217.11 to read as follows:

§ 217.11 Capital conservation buffer, countercyclical capital buffer amount, and GSIB surcharge.

(a) *Capital conservation buffer*—(1) *Composition of the capital conservation buffer.* The capital conservation buffer is composed solely of common equity tier 1 capital.

(2) *Definitions.* For purposes of this section, the following definitions apply:

(i) *Eligible retained income.* The eligible retained income of a Board-regulated institution is the greater of:

(A) The Board-regulated institution's net income, calculated in accordance with the instructions to the FR Y–9C or Call Report, as applicable, for the four calendar quarters preceding the current calendar quarter, net of any distributions and associated tax effects not already reflected in net income; and

(B) The average of the Board-regulated institution's net income, calculated in accordance with the instructions to the FR Y–9C or Call Report, as applicable, for the four calendar quarters preceding the current calendar quarter.

(ii) *Maximum payout amount.* A Board-regulated institution's maximum payout amount for the current calendar quarter is equal to the Board-regulated institution's eligible retained income, multiplied by its maximum payout ratio.

(iii) *Maximum payout ratio.* The maximum payout ratio is the percentage of eligible retained income that a Board-regulated institution can pay out in the form of distributions and discretionary bonus payments during the current calendar quarter. For a Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170, the maximum payout ratio is

determined by the Board-regulated institution's capital conservation buffer, calculated as of the last day of the previous calendar quarter, as set forth in table 1 to § 217.11(a)(4)(iv) of this section. For a Board-regulated institution that is subject to 12 CFR 225.8 or 238.170, the maximum payout ratio is determined under paragraph (c)(1)(ii) of this section.

(iv) *Private sector credit exposure.* Private sector credit exposure means an exposure to a company or an individual that is not an exposure to a sovereign, the Bank for International Settlements, the European Central Bank, the European Commission, the European Stability Mechanism, the European Financial Stability Facility, the International Monetary Fund, a MDB, a PSE, or a GSE.

(v) *Leverage buffer requirement.* A bank holding company's leverage buffer requirement is 2.0 percent.

(vi) *Stress capital buffer requirement.* (A) The stress capital buffer requirement for a Board-regulated institution subject to 12 CFR 225.8 or 238.170 is the stress capital buffer requirement determined under 12 CFR 225.8 or 238.170 except as provided in paragraph (a)(2)(vi)(B) of this section.

(B) If a Board-regulated institution subject to 12 CFR 225.8 or 238.170 has not yet received a stress capital buffer requirement, its stress capital buffer requirement for purposes of this part is 2.5 percent.

(3) *Calculation of capital conservation buffer.* (i) A Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170 has a capital conservation buffer equal to the lowest of the following ratios, calculated as of the last day of the previous calendar quarter:

(A) The Board-regulated institution's common equity tier 1 capital ratio minus the Board-regulated institution's minimum common equity tier 1 capital ratio requirement under § 217.10;

(B) The Board-regulated institution's tier 1 capital ratio minus the Board-regulated institution's minimum tier 1 capital ratio requirement under § 217.10; and

(C) The Board-regulated institution's total capital ratio minus the Board-regulated institution's minimum total capital ratio requirement under § 217.10; or

(ii) Notwithstanding paragraphs (a)(3)(i)(A) through (C) of this section, if a Board-regulated institution's common equity tier 1, tier 1, or total capital ratio is less than or equal to the Board-regulated institution's minimum common equity tier 1, tier 1, or total capital ratio requirement under § 217.10, respectively, the Board-regulated institution's capital conservation buffer is zero.

(4) *Limits on distributions and discretionary bonus payments.* (i) A Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170 shall not make distributions or discretionary bonus payments or create an obligation to make such distributions or payments during the current calendar quarter that, in the aggregate, exceed its maximum payout amount.

(ii) A Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170 and that has a capital conservation buffer that is greater than 2.5 percent plus 100 percent of its applicable countercyclical capital buffer amount in accordance with paragraph (b) of this section is not subject to a maximum payout amount under paragraph (a)(2)(ii) of this section.

(iii) Except as provided in paragraph (a)(4)(iv) of this section, a Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170 may not make distributions or discretionary bonus payments during the current calendar quarter if the Board-regulated institution's:

(A) Eligible retained income is negative; and

(B) Capital conservation buffer was less than 2.5 percent as of the end of the previous calendar quarter.

(iv) Notwithstanding the limitations in paragraphs (a)(4)(i) through (iii) of this section, the Board may permit a Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170 to make a distribution or discretionary bonus payment upon a request of the Board-regulated institution, if the Board determines that the distribution or discretionary bonus payment

would not be contrary to the purposes of this section, or to the safety and soundness of the Board-regulated institution. In making such a determination, the Board will consider the nature and extent of the request and the particular circumstances giving rise to the request.

Table 1 to § 217.11(a)(4)(iv)—Calculation of Maximum Payout Amount

Capital conservation buffer	Maximum payout ratio
Greater than 2.5 percent plus 100 percent of the Board-regulated institution's applicable countercyclical capital buffer amount	No payout ratio limitation applies.
Less than or equal to 2.5 percent plus 100 percent of the Board-regulated institution's applicable countercyclical capital buffer amount, *and* greater than 1.875 percent plus 75 percent of the Board-regulated institution's applicable countercyclical capital buffer amount	60 percent.
Less than or equal to 1.875 percent plus 75 percent of the Board-regulated institution's applicable countercyclical capital buffer amount, *and* greater than 1.25 percent plus 50 percent of the Board-regulated institution's applicable countercyclical capital buffer amount	40 percent.
Less than or equal to 1.25 percent plus 50 percent of the Board-regulated institution's applicable countercyclical capital buffer amount *and* greater than 0.625 percent plus 25 percent of the Board-regulated institution's applicable countercyclical capital buffer amount	20 percent.
Less than or equal to 0.625 percent plus 25 percent of the Board-regulated institution's applicable countercyclical capital buffer amount	0 percent.

(v) Additional limitations on distributions may apply under 12 CFR 225.4 and 263.202 to a Board-regulated institution that is not subject to 12 CFR 225.8 or 238.170.

(b) *Countercyclical capital buffer amount*—(1) *General.* A Board-regulated institution subject to subpart E of this part must calculate a countercyclical capital buffer amount in accordance with this paragraph (b) for purposes of determining its maximum payout ratio under Table 1 to § 217.11(a)(4)(iv) of this section and, if applicable, Table 2 to § 217.11(c)(4)(iii) of this section.

(i) *Extension of capital conservation buffer.* The countercyclical capital buffer amount is an extension of the capital conservation buffer as described in paragraph (a) or (c) of this section, as applicable.

(ii) *Amount.* A Board-regulated institution subject to subpart E of this part has a countercyclical capital buffer amount determined by calculating the weighted average of the countercyclical capital buffer amounts established for the national jurisdictions where the Board-regulated institution's private sector credit exposures are located, as specified in paragraphs (b)(2) and (3) of this section.

(iii) *Weighting.* The weight assigned to a jurisdiction's countercyclical capital buffer amount is calculated by dividing the total risk-weighted assets for the Board-regulated institution's private sector credit exposures located in the jurisdiction by the total risk-weighted assets for all of the Board-regulated institution's private sector credit exposures. The methodology a Board-regulated institution uses for determining risk-weighted assets for purposes of this paragraph (b) must be the methodology that determines its risk-based capital ratios under § 217.10. Notwithstanding the previous sentence, the risk-weighted asset amount for a private sector credit exposure that is a covered position under subpart F of this part is its standardized default risk capital requirement as determined under § 217.210 multiplied by 12.5.

(iv) *Location.* (A) Except as provided in paragraphs (b)(1)(iv)(B) and (C) of this section, the location of a private sector credit exposure is the national jurisdiction where the borrower is located (that is, where it is incorporated, chartered, or similarly established or, if the borrower is an individual, where the borrower resides).

(B) If, in accordance with subpart D or E of this part, the Board-regulated institution has assigned to a private sector credit exposure a risk weight associated with a protection provider on a guarantee or credit derivative, the location of the exposure is the national jurisdiction where the protection provider is located.

(C) The location of a securitization exposure is the location of the underlying exposures, or, if the underlying exposures are located in more than one national jurisdiction, the national jurisdiction where the underlying exposures with the largest aggregate unpaid principal balance

are located. For purposes of this paragraph (b), the location of an underlying exposure shall be the location of the borrower, determined consistent with paragraph (b)(1)(iv)(A) of this section.

(2) *Countercyclical capital buffer amount for credit exposures in the United States*—(i) *Initial countercyclical capital buffer amount with respect to credit exposures in the United States.* The initial countercyclical capital buffer amount in the United States is zero.

(ii) *Adjustment of the countercyclical capital buffer amount.* The Board will adjust the countercyclical capital buffer amount for credit exposures in the United States in accordance with applicable law.[1]

[1] The Board expects that any adjustment will be based on a determination made jointly by the Board, OCC, and FDIC.

(iii) *Range of countercyclical capital buffer amount.* The Board will adjust the countercyclical capital buffer amount for credit exposures in the United States between zero percent and 2.5 percent of risk-weighted assets.

(iv) *Adjustment determination.* The Board will base its decision to adjust the countercyclical capital buffer amount under this section on a range of macroeconomic, financial, and supervisory information indicating an increase in systemic risk including, but not limited to, the ratio of credit to gross domestic product, a variety of asset prices, other factors indicative of relative credit and liquidity expansion or contraction, funding spreads, credit condition surveys, indices based on credit default swap spreads, options implied volatility, and measures of systemic risk.

(v) *Effective date of adjusted countercyclical capital buffer amount*—(A) *Increase adjustment.* A determination by the Board under paragraph (b)(2)(ii) of this section to increase the countercyclical capital buffer amount will be effective 12 months from the date of announcement, unless the Board establishes an earlier effective date and includes a statement articulating the reasons for the earlier effective date.

(B) *Decrease adjustment.* A determination by the Board to decrease the established countercyclical capital buffer amount under paragraph (b)(2)(ii) of this section will be effective on the day following announcement of the final determination or the earliest date permissible under applicable law or regulation, whichever is later.

(vi) *Twelve-month sunset.* The countercyclical capital buffer amount will return to zero percent 12 months after the effective date that the adjusted countercyclical capital buffer amount is announced, unless the Board announces a decision to maintain the adjusted countercyclical capital buffer amount or adjust it again before the expiration of the 12-month period.

(3) *Countercyclical capital buffer amount for foreign jurisdictions.* The Board will adjust the countercyclical capital buffer amount for private sector credit exposures to reflect decisions made by foreign jurisdictions consistent with due process requirements described in paragraph (b)(2) of this section.

(c) *Calculation of buffers for Board-regulated institutions subject to 12 CFR 225.8 or 238.170*—(1) *Limits on distributions and discretionary bonus payments.* (i) *General.* A Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 shall not make distributions or discretionary bonus payments or create an obligation to make such distributions or payments during the current calendar quarter that, in the aggregate, exceed its maximum payout amount.

(ii) *Maximum payout ratio.* The maximum payout ratio of a Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 is the lowest of the payout ratios determined by its capital conservation buffer; and, if applicable, leverage buffer; as set forth in table 2 to § 217.11(c)(3)(iii).

(iii) *Capital conservation buffer requirement.* A Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 has a capital conservation buffer requirement equal to its stress capital buffer requirement plus its applicable countercyclical capital buffer amount in accordance with paragraph (b) of this section plus its applicable GSIB surcharge in accordance with paragraph (d) of this section.

(iv) *No maximum payout amount limitation.* A Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 is not subject to a maximum payout amount under paragraph (a)(2)(ii) of this section if it has:

(A) A capital conservation buffer, calculated under paragraph (c)(2) of this section, that is greater than its capital conservation buffer requirement calculated under paragraph (c)(1)(iii) of this section; and

(B) If applicable, a leverage buffer, calculated under paragraph (c)(3) of this section, that is greater than its leverage buffer requirement as set forth in paragraph (a)(2)(v) of this section.

(v) *Negative eligible retained income.* Except as provided in paragraph (c)(1)(vi) of this section, a Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 may not make distributions or discretionary bonus payments during the current calendar quarter if, as of the end of the previous calendar quarter, the Board-regulated institution's:

(A) Eligible retained income is negative; and

(B) (*1*) Capital conservation buffer was less than its capital conservation buffer requirement; or

(*2*) If applicable, leverage buffer was less than its leverage buffer requirement.

(vi) *Prior approval.* Notwithstanding the limitations in paragraphs (c)(1)(i) through (v) of this section, the Board may permit a Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 to make a distribution or discretionary bonus payment upon a request of the Board-regulated institution, if the Board determines that the distribution or discretionary bonus payment would not be contrary to the purposes of this section, or to the safety and soundness of the Board-regulated institution. In making such a determination, the Board will consider the nature and extent of the request and the particular circumstances giving rise to the request.

(vii) *Other limitations on distributions.* Additional limitations on distributions may apply under 12 CFR 225.4, 225.8, 238.170, 252.63, 252.165, and 263.202 to a Board-regulated institution that is subject to 12 CFR 225.8 or 238.170.

(2) *Capital conservation buffer.* (i) The capital conservation buffer for Board-regulated institutions subject to 12 CFR 225.8 or 238.170 is composed solely of common equity tier 1 capital.

(ii) A Board-regulated institution that is subject to 12 CFR 225.8 or 238.170 has a capital conservation buffer that is equal to the lowest of the following ratios, calculated as of the last day of the previous calendar quarter:

(A) The Board-regulated institution's common equity tier 1 capital ratio minus the Board-regulated institution's minimum common equity tier 1 capital ratio requirement under § 217.10;

(B) The Board-regulated institution's tier 1 capital ratio minus the Board-regulated institution's minimum tier 1 capital ratio requirement under § 217.10; and

(C) The Board-regulated institution's total capital ratio minus the Board-regulated institution's minimum total capital ratio requirement under § 217.10; or

(iii) Notwithstanding paragraph (c)(2)(ii) of this section, if a Board-regulated institution's common equity tier 1, tier 1, or total capital ratio is less than or equal to the Board-regulated institution's minimum common equity tier 1, tier 1, or total capital ratio requirement under § 217.10, respectively, the Board-regulated institution's capital conservation buffer is zero.

(3) *Leverage buffer.* (i) The leverage buffer is composed solely of tier 1 capital.

(ii) A global systemically important BHC has a leverage buffer that is equal to the global systemically important BHC's supplementary leverage ratio minus 3 percent, calculated as of the last day of the previous calendar quarter.

(iii) Notwithstanding paragraph (c)(3)(ii) of this section, if the global systemically important BHC's supplementary leverage ratio is less than or equal to 3 percent, the global systemically important BHC's leverage buffer is zero.

Table 2 to § 217.11(c)(3)(iii)—Calculation of Maximum Payout Ratio

Capital buffer[1]	Payout ratio
Greater than the Board-regulated institution's buffer requirement[2]	No payout ratio limitation applies.
Less than or equal to 100 percent of the Board-regulated institution's buffer requirement, *and* greater than 75 percent of the Board-regulated institution's buffer requirement	60 percent.
Less than or equal to 75 percent of the Board-regulated institution's buffer requirement, *and* greater than 50 percent of the Board-regulated institution's buffer requirement	40 percent.
Less than or equal to 50 percent of the Board-regulated institution's buffer requirement, *and* greater than 25 percent of the Board-regulated institution's buffer requirement	20 percent.
Less than or equal to 25 percent of the Board-regulated institution's buffer requirement	0 percent.

[1] A Board-regulated institution's "capital buffer" means each of, as applicable, its capital conservation buffer and leverage buffer.

[2] A Board-regulated institution's "buffer requirement" means each of, as applicable, its capital conservation buffer requirement and leverage buffer requirement.

(d) *GSIB surcharge.* A global systemically important BHC must use its GSIB surcharge calculated in accordance with subpart H of this part for purposes of determining its maximum payout ratio under Table 2 to § 217.11(c)(3)(iii).

Subpart C—Definition of Capital

47. In § 217.20, revise paragraphs (c)(1)(xiv), (d)(1)(xi) and (d)(3) to read as follows:

§ 217.20 Capital components and eligibility criteria for regulatory capital instruments.

* * * * *

(c) * * *

(1) * * *

(xiv) For a Board-regulated institution subject to subpart E of this part, the governing agreement, offering circular, or prospectus of an instrument issued after the date upon which the Board-regulated institution becomes subject to subpart E must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the Board-regulated institution enters into a receivership, insolvency, liquidation, or similar proceeding.

* * * * *

(d) * * *

(1) * * *

(xi) For a Board-regulated institution subject to subpart E of this part, the governing agreement, offering circular, or prospectus of an instrument issued after the date on which the Board-regulated institution becomes subject to subpart E must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the Board-regulated institution enters into a receivership, insolvency, liquidation, or similar proceeding.

* * * * *

(3) ALLL or AACL, as applicable, up to 1.25 percent of the Board-regulated institution's standardized total risk-weighted assets not including any amount of the ALLL or AACL, as applicable (and excluding the case of a market risk Board-regulated institution, its market risk weighted assets).

* * * * *

48. In § 217.21:

a. In paragraph (a)(1), remove the words "an advanced approaches Board-regulated institution" and add in their place the words "subject to subpart E of this part"; and

b. Revise paragraph (b).

The revision reads as follows:

§ 217.21 Minority interest.

* * * * *

(b) (1) *Applicability*. For purposes of § 217.20, a Board-regulated institution that is subject to subpart E of this part is subject to the minority interest limitations in this paragraph (b) if:

(i) A consolidated subsidiary of the Board-regulated institution has issued regulatory capital that is not owned by the Board-regulated institution; and

(ii) For each relevant regulatory capital ratio of the consolidated subsidiary, the ratio exceeds the sum of the subsidiary's minimum regulatory capital requirements plus its capital conservation buffer.

(2) *Difference in capital adequacy standards at the subsidiary level*. For purposes of the minority interest calculations in this section, if the consolidated subsidiary issuing the capital is not subject to capital adequacy standards similar to those of the Board-regulated institution, the Board-regulated institution must assume that the capital adequacy standards of the Board-regulated institution apply to the subsidiary.

(3) *Common equity tier 1 minority interest includable in the common equity tier 1 capital of the Board-regulated institution*. For each consolidated subsidiary of a Board-regulated institution, the amount of common equity tier 1 minority interest the Board-regulated institution may include in common equity tier 1 capital is equal to:

(i) The common equity tier 1 minority interest of the subsidiary; minus

(ii) The percentage of the subsidiary's common equity tier 1 capital that is not owned by the Board-regulated institution, multiplied by the difference between the common equity tier 1 capital of the subsidiary and the lower of:

(A) The amount of common equity tier 1 capital the subsidiary must hold, or would be required to hold pursuant to this paragraph (b), to avoid restrictions on distributions and discretionary bonus payments under § 217.11 or equivalent standards established by the subsidiary's home country supervisor; or

(B) (*1*) The standardized total risk-weighted assets of the Board-regulated institution that relate to the subsidiary multiplied by

(*2*) The common equity tier 1 capital ratio the subsidiary must maintain to avoid restrictions on distributions and discretionary bonus payments under § 217.11 or equivalent standards established by the subsidiary's home country supervisor.

(4) *Tier 1 minority interest includable in the tier 1 capital of the Board-regulated institution*. For each consolidated subsidiary of the Board-regulated institution, the amount of tier 1 minority interest the Board-regulated institution may include in tier 1 capital is equal to:

(i) The tier 1 minority interest of the subsidiary; minus

(ii) The percentage of the subsidiary's tier 1 capital that is not owned by the Board-regulated institution multiplied by the difference between the tier 1 capital of the subsidiary and the lower of:

(A) The amount of tier 1 capital the subsidiary must hold, or would be required to hold pursuant to this paragraph (b), to avoid restrictions on distributions and discretionary bonus payments under § 217.11 or equivalent standards established by the subsidiary's home country supervisor, or

(B) (*1*) The standardized total risk-weighted assets of the Board-regulated institution that relate to the subsidiary multiplied by

(*2*) The tier 1 capital ratio the subsidiary must maintain to avoid restrictions on distributions and discretionary bonus payments under § 217.11 or equivalent standards established by the subsidiary's home country supervisor.

(5) *Total capital minority interest includable in the total capital of the Board-regulated institution*. For each consolidated subsidiary of the Board-regulated institution, the amount of total capital minority interest the Board-regulated institution may include in total capital is equal to:

(i) The total capital minority interest of the subsidiary; minus

(ii) The percentage of the subsidiary's total capital that is not owned by the Board-regulated institution multiplied by the difference between the total capital of the subsidiary and the lower of:

(A) The amount of total capital the subsidiary must hold, or would be required to hold pursuant to this paragraph (b), to avoid restrictions on distributions and discretionary bonus

payments under § 217.11 or equivalent standards established by the subsidiary's home country supervisor, or

(B) (*1*) The standardized total risk-weighted assets of the Board-regulated institution that relate to the subsidiary multiplied by

(*2*) The total capital ratio the subsidiary must maintain to avoid restrictions on distributions and discretionary bonus payments under § 217.11 or equivalent standards established by the subsidiary's home country supervisor.

49. In § 217.22:

a. Revise paragraphs (a)(1) and (4); and

b. Remove paragraph (a)(6); and

c. Redesignate paragraph (a)(7) as new paragraph (a)(6); and

d. In paragraph (b)(2)(i), remove the words "an advanced approaches Board-regulated institution" and add in their place the words "subject to subpart E of this part";

e. Revise paragraph (b)(2)(ii);

f. In paragraph (b)(2)(iii), remove the words "an advanced approaches Board-regulated institution" and add in their place the words "subject to subpart E of this part";

g. In paragraph (b)(2)(iv), remove the words "or FR Y-9SP";

h. In footnote 22, in paragraph (b)(2)(iv)(A), remove the words "12 CFR part 225 (Board)", and add in its place "12 CFR part 217 (Board)";

i. Revise paragraph (c)(2);

j. In paragraph (c)(4), remove the words "an advanced approaches Board-regulated institution" and add in their place the words "subject to subpart E of this part"; and

k. Revise paragraphs (c)(5)(i) and (ii), (c)(6), and (d)(2).

The revisions read as follows:

§ 217.22 Regulatory capital adjustments and deductions.

(a) * * *

(1)(i) Goodwill, net of associated deferred tax liabilities (DTLs) in accordance with paragraph (e) of this section; and

(ii) For a Board-regulated institution subject to subpart E of this part, goodwill that is embedded in the valuation of a significant investment in the capital of an unconsolidated financial institution in the form of common stock (and that is reflected in the consolidated financial statements of the Board-regulated institution), in accordance with paragraph (d) of this section;

* * * * *

(4) (i) For a Board-regulated institution that is not subject to subpart E of this part, any gain-on-sale in connection with a securitization exposure;

(ii) For a Board-regulated institution subject to subpart E of this part, any gain-on-sale in connection with a securitization exposure and the portion of any CEIO that does not constitute an after-tax gain-on-sale;

(b) * * *

(2) * * *

(ii) A Board-regulated institution that is not subject to subpart E of this part must make its AOCI opt-out election in the Call Report during the first reporting period after the Board-regulated institution is required to comply with subpart A of this part. If the Board-regulated institution was previously subject to subpart E of this part, the Board-regulated institution must make its AOCI opt-out election in the Call Report during the first reporting period after the Board-regulated institution is not subject to subpart E of this part.

* * * * *

(c) * * *

(2) *Corresponding deduction approach.* For purposes of subpart C of this part, the corresponding deduction approach is the methodology used for the deductions from regulatory capital related to reciprocal cross holdings (as described in paragraph (c)(3) of this section),

investments in the capital of unconsolidated financial institutions for a Board-regulated institution that is not subject to subpart E of this part (as described in paragraph (c)(4) of this section), non-significant investments in the capital of unconsolidated financial institutions for a Board-regulated institution subject to subpart E of this part (as described in paragraph (c)(5) of this section), and non-common stock significant investments in the capital of unconsolidated financial institutions for a Board-regulated institution subject to subpart E of this part (as described in paragraph (c)(6) of this section). Under the corresponding deduction approach, a Board-regulated institution must make deductions from the component of capital for which the underlying instrument would qualify if it were issued by the Board-regulated institution itself, as described in paragraphs (c)(2)(i) through (iii) of this section. If the Board-regulated institution does not have a sufficient amount of a specific component of capital to effect the required deduction, the shortfall must be deducted according to paragraph (f) of this section.

* * * * *

(5) * * *

(i) A Board-regulated institution subject to subpart E of this part must deduct its non-significant investments in the capital of unconsolidated financial institutions (as defined in § 217.2) that, in the aggregate and together with any investment in a covered debt instrument (as defined in § 217.2) issued by a financial institution in which the Board-regulated institution does not have a significant investment in the capital of the unconsolidated financial institution (as defined in § 217.2), exceeds 10 percent of the sum of the Board-regulated institution's common equity tier 1 capital elements minus all deductions from and adjustments to common equity tier 1 capital elements required under paragraphs (a) through (c)(3) of this section (the 10 percent threshold for non-significant investments) by applying the corresponding deduction approach in paragraph (c)(2) of this section.[26] The deductions described in this paragraph are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the Board, a Board-regulated institution subject to subpart E of this part that

underwrites a failed underwriting, for the period of time stipulated by the Board, is not required to deduct from capital a non-significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph (c)(5) to the extent the investment is related to the failed underwriting.[27] For any calculation under this paragraph (c)(5)(i), a Board-regulated institution subject to subpart E of this part may exclude the amount of an investment in a covered debt instrument under paragraph (c)(5)(iii) or (iv) of this section, as applicable.

(ii) For a Board-regulated institution subject to subpart E of this part, the amount to be deducted under this paragraph (c)(5) from a specific capital component is equal to:

(A) The Board-regulated institution's aggregate non-significant investments in the capital of an unconsolidated financial institution and, if applicable, any investments in a covered debt instrument subject to deduction under this paragraph (c)(5), exceeding the 10 percent threshold for non-significant investments, multiplied by

(B) The ratio of the Board-regulated institution's aggregate non-significant investments in the capital of an unconsolidated financial institution (in the form of such capital component) to the Board-regulated institution's total non-significant investments in unconsolidated financial institutions, with an investment in a covered debt instrument being treated as tier 2 capital for this purpose.

* * * * *

(6) *Significant investments in the capital of unconsolidated financial institutions that are not in the form of common stock.* If a Board-regulated institution subject to subpart E of this part has a significant investment in the capital of an unconsolidated financial institution, the Board-regulated institution must deduct from capital any such investment issued by the unconsolidated financial institution that is held by the Board-regulated institution other than an investment in the form of common stock, as well as any investment in a covered debt instrument issued by the unconsolidated financial institution, by applying the corresponding deduction approach in

paragraph (c)(2) of this section.[28] The deductions described in this section are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the Board, for the period of time stipulated by the Board, a Board-regulated institution subject to subpart E of this part that underwrites a failed underwriting is not required to deduct the significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph (c)(6) if such investment is related to such failed underwriting.

* * * * *

(d) * * *

(2) A Board-regulated institution subject to subpart E of this part must make deductions from regulatory capital as described in this paragraph (d)(2).

(i) A Board-regulated institution subject to subpart E of this part must deduct from common equity tier 1 capital elements the amount of each of the items set forth in this paragraph (d)(2) that, individually, exceeds 10 percent of the sum of the Board-regulated institution's common equity tier 1 capital elements, less adjustments to and deductions from common equity tier 1 capital required under paragraphs (a) through (c) of this section (the 10 percent common equity tier 1 capital deduction threshold).

(A) DTAs arising from temporary differences that the Board-regulated institution could not realize through net operating loss carrybacks, net of any related valuation allowances and net of DTLs, in accordance with paragraph (e) of this section. A Board-regulated institution subject to subpart E of this part is not required to deduct from the sum of its common equity tier 1 capital elements DTAs (net of any related valuation allowances and net of DTLs, in accordance with § 217.22(e)) arising from timing differences that the Board-regulated institution could realize through net operating loss carrybacks. The Board-regulated institution must risk weight these assets at 100 percent. For a state member bank that is a member of a consolidated group for tax purposes, the amount of DTAs that could be realized through net operating loss carrybacks may

not exceed the amount that the state member bank could reasonably expect to have refunded by its parent holding company.

(B) MSAs net of associated DTLs, in accordance with paragraph (e) of this section.

(C) Significant investments in the capital of unconsolidated financial institutions in the form of common stock, net of associated DTLs in accordance with paragraph (e) of this section.[30] Significant investments in the capital of unconsolidated financial institutions in the form of common stock subject to the 10 percent common equity tier 1 capital deduction threshold may be reduced by any goodwill embedded in the valuation of such investments deducted by the Board-regulated institution pursuant to paragraph (a)(1) of this section. In addition, with the prior written approval of the Board, for the period of time stipulated by the Board, a Board-regulated institution subject to subpart E of this part that underwrites a failed underwriting is not required to deduct a significant investment in the capital of an unconsolidated financial institution in the form of common stock pursuant to this paragraph (d)(2) if such investment is related to such failed underwriting.

(ii) A Board-regulated institution subject to subpart E of this part must deduct from common equity tier 1 capital elements the items listed in paragraph (d)(2)(i) of this section that are not deducted as a result of the application of the 10 percent common equity tier 1 capital deduction threshold, and that, in aggregate, exceed 17.65 percent of the sum of the Board-regulated institution's common equity tier 1 capital elements, minus adjustments to and deductions from common equity tier 1 capital required under paragraphs (a) through (c) of this section, minus the items listed in paragraph (d)(2)(i) of this section (the 15 percent common equity tier 1 capital deduction threshold). Any goodwill that has been deducted under paragraph (a)(1) of this section can be excluded from the significant investments in the capital of unconsolidated financial institutions in the form of common stock.[31]

(iii) For purposes of calculating the amount of DTAs subject to the 10 and 15 percent common equity tier 1 capital deduction thresholds, a Board-regulated institution subject to

subpart E of this part may exclude DTAs and DTLs relating to adjustments made to common equity tier 1 capital under paragraph (b) of this section. A Board-regulated institution subject to subpart E of this part that elects to exclude DTAs relating to adjustments under paragraph (b) of this section also must exclude DTLs and must do so consistently in all future calculations. A Board-regulated institution subject to subpart E of this part may change its exclusion preference only after obtaining the prior approval of the Board.

* * * * *

[26] With the prior written approval of the Board, for the period of time stipulated by the Board, a Board-regulated institution subject to subpart E of this part is not required to deduct a non-significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph if the financial institution is in distress and if such investment is made for the purpose of providing financial support to the financial institution, as determined by the Board.

[27] Any non-significant investment in the capital of an unconsolidated financial institution or any investment in a covered debt instrument that is not required to be deducted under this paragraph (c)(5) or otherwise under this section must be assigned the appropriate risk weight under subparts D, E, or F of this part, as applicable.

[28] With prior written approval of the Board, for the period of time stipulated by the Board, a Board-regulated institution subject to subpart E of this part is not required to deduct a significant investment in the capital of an unconsolidated financial institution, including an investment in a covered debt instrument, under this paragraph (c)(6) or otherwise under this section if such investment is made for the purpose of providing financial support to the financial institution as determined by the Board.

* * * * *

[30] With the prior written approval of the Board, for the period of time stipulated by the Board, a Board-regulated institution subject to subpart E of this part is not required to deduct a

significant investment in the capital instrument of an unconsolidated financial institution in distress in the form of common stock pursuant to this section if such investment is made for the purpose of providing financial support to the financial institution as determined by the Board.

[31] The amount of the items in paragraph (d)(2) of this section that is not deducted from common equity tier 1 capital pursuant to this section must be included in the risk-weighted assets of the Board-regulated institution subject to subpart E of this part and assigned a 250 percent risk weight for purposes of standardized total risk-weighted assets and assigned the appropriate risk weight for the investment under subpart E of this part for purposes of expanded total risk-weighted assets.

Subpart D—Risk-Weighted Assets—Standardized Approach

§ 217.30 [Amended]

50. In § 217.30, in paragraph (b), remove the words "covered positions" and add in their place the words "market risk covered positions".

§ 217.34 [Amended]

51. In § 217.34, in paragraph (a), remove the citation "§ 217.132(c)" wherever it appears, and add in its place the citation "§ 217.113".

52. In § 217.37, revise paragraph (c)(1) to read as follows:

§ 217. 37 Collateralized transactions.

* * * * *

(c) *Collateral haircut approach*—(1) *General.* A Board-regulated institution may recognize the credit risk mitigation benefits of financial collateral that secures an eligible margin loan, repo-style transaction, collateralized derivative contract, or single-product netting set of such transactions, and of any collateral that secures a repo-style transaction that is included in the Board-regulated institution's measure for market risk under subpart F of this part by using the collateral haircut approach in this section. A Board-regulated institution may use the standard

supervisory haircuts in paragraph (c)(3) of this section or, with prior written approval of the Board, its own estimates of haircuts according to paragraph (c)(4) of this section.

* * * * *

§ 217.61 [Amended]

53. In § 217.61:

a. Remove the citation "§ 217.172" wherever it appears, and add in its place the citations "§§ 217.160 and 217.161"; and

b. Remove the sentence "An advanced approaches Board-regulated institution that has not received approval from the Board to exit parallel run pursuant to § 217.121(d) is subject to the disclosure requirements described in §§ 217.62 and 217.63.".

54. In § 217.63:

a. In table 3, revise entry (c); and

b. Remove paragraphs (d) and (e).

The revision reads as follows:

§ 217.63 Disclosures by Board-regulated institutions described in § 217.61.

* * * * *

Table 3 to § 217.63—Capital Adequacy

* * * * * * *		
	(c)	Market risk-weighted assets as calculated under subpart F of this part 217.
* * * * * * *		

* * * * *

Subpart G—Transition Provisions

55. In § 217.300:

a. Revise paragraph (a);

b. Add paragraph (b); and

c. Remove and reserve paragraphs (f) through (i).

The revision and addition read as follows:

§ 217.300 Transitions.

(a) *Transition adjustments for AOCI.* Beginning July 1, 2025, a Category III Board-regulated institution or a Category IV Board-regulated institution must subtract from the sum of its common equity tier 1 elements, before making deductions required under § 217.22(c) or (d), the AOCI adjustment amount multiplied by the percentage provided in Table 1 to § 217.300.

The transition AOCI adjustment amount is the sum of:

(1) Net unrealized gains or losses on available-for-sale debt securities, plus

(2) Accumulated net gains or losses on cash flow hedges, plus

(3) Any amounts recorded in AOCI attributed to defined benefit postretirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans, plus

(4) Net unrealized holding gains or losses on held-to-maturity securities that are included in AOCI.

Table 1 to § 217.300

Transition AOCI Adjustment	
Transition period	**Percentage applicable to transition AOCI adjustment amount**
July 1, 2025 to June 30, 2026	75
July 1, 2026 to June 30, 2027	50
July 1, 2027 to June 30, 2028	25
July 1, 2028 and thereafter	0

(b) *Expanded total risk-weighted assets*. Beginning July 1, 2025, a Board-regulated institution subject to subpart E of this part must comply with the requirements of subpart B of this part using transition expanded total risk-weighted assets as calculated under this paragraph (b) in place of expanded total risk-weighted assets. Transition expanded total risk-weighted assets is a Board-regulated institution's expanded total risk-weighted assets multiplied by the percentage provided in Table 2 to § 217.300.

Table 2 to § 217.300

Transition Expanded Total Risk-Weighted Asset Adjustment	
Transition period	**Percentage of expanded total risk-weighted assets**
July 1, 2025 to June 30, 2026	80
July 1, 2026 to June 30, 2027	85
July 1, 2027 to June 30, 2028	90
July 1, 2028 and thereafter	100

* * * * *

56. In § 217.301:

a. Remove paragraph (b)(5);

b. Revise paragraph (c)(2);

c. Revise paragraph (d)(2)(ii); and

d. Remove and reserve paragraph (e).

The revisions read as follows:

§ 217.301 Current expected credit losses (CECL) transition.

* * * * *

(c) * * *

(2) For purposes of the election described in paragraph (a)(1) of this section, a Board-regulated institution subject to subpart E of this part must increase total leverage exposure for purposes of the supplementary leverage ratio by seventy-five percent of its CECL transitional amount during the first year of the transition period, increase total leverage exposure for

purposes of the supplementary leverage ratio by fifty percent of its CECL transitional amount during the second year of the transition period, and increase total leverage exposure for purposes of the supplementary leverage ratio by twenty-five percent of its CECL transitional amount during the third year of the transition period.

(d) * * *

(2) * * *

(ii) A Board-regulated institution subject to subpart E of this part that has elected the 2020 CECL transition provision described in this paragraph (d) may increase total leverage exposure for purposes of the supplementary leverage ratio by one-hundred percent of its modified CECL transitional amount during the first year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by one hundred percent of its modified CECL transitional amount during the second year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by seventy-five percent of its modified CECL transitional amount during the third year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by fifty percent of its modified CECL transitional amount during the fourth year of the transition period, and increase total leverage exposure for purposes of the supplementary leverage ratio by twenty-five percent of its modified CECL transitional amount during the fifth year of the transition period.

* * * * *

§ 217.303 [Removed and Reserved]

57. Remove and reserve § 217.303.

§ 217.304 [Removed and Reserved]

58. Remove and reserve § 217.304.

§§ 217.1, 217.2, 217.10, 217.12, 217.22, 217.34, 217.35, 217.61, 217.300, Appendix A to Part 217 [Amended]

59. In the table below, for each section indicated in the left column, remove the words indicated in the middle column from wherever it appears in the section, and add the words indicated in the right column:

Sections:	**Remove the following words:**	**Add the following words:**
217.1	"an advanced approaches Board-regulated institution"	"a Board-regulated institution subject to subpart E of this part 217"
217.2		
217.12(a)(2) introductory text		
217.22(b)(1)(ii), (b)(1)(iii), (c)(1), (c)(2)(ii)(D), (c)(3)(ii), footnote [24] of (c)(4), (c)(5)(iii), (d)(1), and (f);		
217.34		
217.35(a)(3)		
217.61		
217.300(c)		
217.1	"advanced approaches Board-regulated institution"	"Board-regulated institution subject to subpart E of this part 217"
217.2		
217.22(b)(1)(ii), (b)(1)(iii), (c)(1), (c)(2)(ii)(D), (c)(3)(ii), (c)(5)(iii), (d)(1), and (f); and		
217.34		
217.1	"advanced approaches total risk-weighted assets"	"expanded total risk-weighted assets"
217.10(d); and		
217.22(g).		
217.2, in the definition of "qualifying central counterparty (QCCP)"	"§ 217.133"	"§ 217.114"
217.34(a)		
217.35(a)(3)		
Part 217 Appendix A	"advanced approaches institutions"	"institutions subject to subpart E of the agencies' capital rule"

	"advanced approaches banking organizations"	"banking organizations subject to subpart E of the agencies' capital rule"
Part 217 Appendix A, paragraph 1.(a)	"(FDIC)"	"(FDIC, and together with the Board and OCC, the agencies)"

60. In Appendix A to part 217, revise footnotes 2 and 4 to read as follows:

Appendix A to Part 217 – The Federal Reserve Board's Framework for Implementing the Countercyclical Capital Buffer

* * * * *

[2] 12 CFR 217.11(b). The CCyB applies only to banking organizations subject to subpart E of the Federal banking agencies' capital rule, which generally applies to those banking organizations with greater than $250 billion in average total consolidated assets and those banking organizations with greater than $100 billion in average total consolidated assets and at least $75 billion in average total nonbank assets, average weighted short-term wholesale funding, or average off-balance-sheet exposure. *See, e.g.*, 12 CFR 217.100(b).

* * * * *

[4] The CcyB was subject to a phase-in arrangement between 2016 and 2019.

* * * * *

61. Redesignate the footnotes in part 217, as follows:

Section	Current Footnote Number	New Footnote Number
217.2 – "Cleared transaction"	3	1
217.2 – "Collateral agreement"	4	2
217.2 – "Eligible margin loan"	5	3
217.2 – "Eligible margin loan"	6	4
217.2 – "Qualifying master netting agreement"	7	5
217.2 – "Repo-style transaction"	8	6
217.2 – "Statutory multifamily mortgage"	9	7
217.20(b)(3)	11	1
217.20(c)(1)(v)(C)	12	2
217.20(c)(1)(xiii)	13	3
217.20(c)(3)(i)	14	4
217.20(c)(3)(i)	15	5
217.20(c)(3)(ii)	16	6

217.20(d)(1)(iv)	16	7
217.20(d)(1)(v)(C)	17	8
217.20(d)(1)(ix)	18	9
217.20(d)(4)(i)	19	10
217.20(d)(4)(i)	20	11
217.20(d)(4)(ii)	21	12
217.22(b)(2)(iv)(A)	22	1
217.22(c) paragraph heading	23	2
217.22(c)(4)	24	3
217.22(c)(4)	25	4
217.22(c)(5)(i)	26	5
217.22(c)(5)(i)	27	6
217.22(c)(6)	28	7
217.22(d)(1)(i)	29	8
217.22(d)(2)(i)(C)	30	9
217.22(d)(2)(ii)	31	10

PART 225—BANK HOLDING COMPANIES AND CHANGE IN BANK CONTROL (REGULATION Y)

62. The authority citation for part 225 continues to read as follows:

Authority: 12 U.S.C. 1817(j)(13), 1818, 1828(o), 1831i, 1831p–1, 1843(c)(8), 1844(b), 1972(1), 3106, 3108, 3310, 3331–3351, 3906, 3907, and 3909; 15 U.S.C. 1681s, 1681w, 6801, and 6805.

Subpart A—General Provisions

63. In § 225.8:

a. Remove paragraph (d)(1);

b. Redesignate paragraphs (d)(2) through (21) as (d)(1) through (20), respectively;

c. Revise newly redesignated paragraphs (d)(9) and (16);

d. Add paragraph (e)(1)(iv); and

e. Revise paragraph (f)(2).

The revisions and addition read as follows:

§ 225.8 Capital planning and stress capital buffer requirement.

* * * * *

(d) * * *

(9) *Effective capital distribution limitations* means any limitations on capital distributions established by the Board by order or regulation, including pursuant to 12 CFR 217.11, 225.4, 252.63, 252.165, and 263.202.

* * * * *

(16) *Regulatory capital ratio* means a capital ratio for which the Board has established minimum requirements for the bank holding company by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12 CFR 248.12.

* * * * *

(e) * * *

(1) * * *

(iv) For purposes of paragraph (e) of this section, a bank holding company must calculate its regulatory capital ratios using either 12 CFR part 217, subpart D, or 12 CFR part 217, subpart E, whichever subpart resulted in the higher amount of total risk-weighted assets as of the last day of the previous capital plan cycle.

* * * * *

(f) * * *

(2) *Stress capital buffer requirement calculation.* A bank holding company's stress capital buffer requirement is equal to the greater of:

(i) The following calculation:

(A) The bank holding company's common equity tier 1 capital ratio as of the last day of the previous capital plan cycle, unless otherwise determined by the Board; minus

(B) The bank holding company's lowest projected common equity tier 1 capital ratio in any quarter of the planning horizon under a supervisory stress test; plus

(C) The ratio of:

(*1*) The sum of the bank holding company's planned common stock dividends (expressed as a dollar amount) for each of the fourth through seventh quarters of the planning horizon; to

(*2*) The risk-weighted assets of the bank holding company in the quarter in which the bank holding company had its lowest projected common equity tier 1 capital ratio in any quarter of the planning horizon under a supervisory stress test; and

(ii) 2.5 percent.

* * * * *

PART 238—SAVINGS AND LOAN HOLDING COMPANIES (REGULATION LL)

64. The authority citation for part 238 continues to read as follows:

Authority: 5 U.S.C. 552, 559; 12 U.S.C. 1462, 1462a, 1463, 1464, 1467, 1467a, 1468, 5365; 1813, 1817, 1829e, 1831i, 1972; 15 U.S.C. 78*l*.

Subpart O—Supervisory Stress Test Requirements for Covered Savings and Loan Holding Companies

65. In § 238.130:

a. Remove the definition of "Advanced approaches"; and

b. Revise the definition of "Regulatory capital ratio".

The revision reads as follows:

§ 238.130 Definitions.

* * * * *

Regulatory capital ratio means a capital ratio for which the Board has established minimum requirements for the company by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12 CFR 248.12; for purposes of this section, regulatory capital ratios may be calculated using each of 12 CFR part 217, subpart D, and 12 CFR part 217, subpart E.

* * * * *

Subpart P—Company-Run Stress Test Requirements for Savings and Loan Holding Companies

66. In § 238.141:

a. Remove the definition of "Advanced approaches"; and

b. Revise the definition of "Regulatory capital ratio".

The revision reads as follows:

§ 238.141 Definitions.

* * * * *

Regulatory capital ratio means a capital ratio for which the Board has established minimum requirements for the company by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12 CFR 248.12; except that a savings and loan holding company must calculate its regulatory capital ratios using either 12 CFR part 217, subpart D, or 12 CFR part 217, subpart E, whichever subpart resulted in the higher amount of total risk-weighted assets as of the last day of the previous stress test cycle.

* * * * *

Subpart Q—Single Counterparty Credit Limits for Covered Savings and Loan Holding Companies

§ 238.151 [Amended]

67. In § 238.151, remove the words "in table 1 to § 217.132 of this chapter" wherever they appear and add in their place the words "in table 1 to § 217.121 of this chapter".

§ 238.153 [Amended]

68. In § 238.153, remove the words "any of the methods that the covered company is authorized to use under 12 CFR part 217, subparts D and E" wherever they appear and add in their place the words "the method specified in 12 CFR part 217 subpart E".

Subpart S—Capital Planning and Stress Capital Buffer Requirement

69. In § 238.170:

a. Remove paragraph (d)(1);

b. Redesignate paragraphs (d)(2) through (18) as (d)(1) through (17), respectively;

c. Revise newly redesignated paragraphs (d)(9) and (14);

d. Add paragraph (e)(1)(iv); and

e. Revise paragraph (f)(2).

The revisions and addition read as follows:

§ 238.170 Capital planning and stress capital buffer requirement.

* * * * *

(d) * * *

(9) *Effective capital distribution limitations* means any limitations on capital distributions established by the Board by order or regulation, including pursuant to 12 CFR 217.11.

* * * * *

(14) *Regulatory capital ratio* means a capital ratio for which the Board has established minimum requirements for the covered savings and loan holding company by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12 CFR 248.12.

* * * * *

(e) * * *

(1) * * *

(iv) For purposes of this paragraph (e), a savings and loan holding company must calculate its regulatory capital ratios using either 12 CFR part 217, subpart D, or 12 CFR part 217, subpart E, whichever subpart resulted in the higher amount of total risk-weighted assets as of the last day of the previous capital plan cycle.

* * * * *

(f) * * *

(2) *Stress capital buffer requirement calculation.* A covered savings and loan holding company's stress capital buffer requirement is equal to the greater of:

(i) The following calculation:

(A) The covered savings and loan holding company's common equity tier 1 capital ratio as of the last day of the previous capital plan cycle, unless otherwise determined by the Board; minus

(B) The covered savings and loan holding company's lowest projected common equity tier 1 capital ratio in any quarter of the planning horizon under a supervisory stress test; plus

(C) The ratio of:

(*1*) The sum of the covered savings and loan holding company's planned common stock dividends (expressed as a dollar amount) for each of the fourth through seventh quarters of the planning horizon; to

(*2*) The risk-weighted assets of the covered savings and loan holding company in the quarter in which the covered savings and loan holding company had its lowest projected common equity tier 1 capital ratio in any quarter of the planning horizon under a supervisory stress test; and

(ii) 2.5 percent.

* * * * *

PART 252—ENHANCED PRUDENTIAL STANDARDS (REGULATION YY)

70. The authority citation for part 252 continues to read as follows:

Authority: 12 U.S.C. 321–338a, 481–486, 1467a, 1818, 1828, 1831n, 1831o, 1831p–1, 1831w, 1835, 1844(b), 1844(c), 3101 *et seq.*, 3101 note, 3904, 3906–3909, 4808, 5361, 5362, 5365, 5366, 5367, 5368, 5371.

Subpart B—Company-Run Stress Test Requirements for State Member Banks With Total Consolidated Assets Over $250 Billion

71. In § 252.12:

a. Remove the definition of "Advanced approaches"; and

b. Revise the definition of "Regulatory capital ratio".

The revision reads as follows:

§ 252.12 Definitions.

* * * * *

Regulatory capital ratio means a capital ratio for which the Board has established minimum requirements for the state member bank by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12 CFR 248.12; except that the state member bank must calculate its regulatory capital ratios using either 12 CFR part 217, subpart D, or 12 CFR part 217, subpart E, whichever subpart resulted in the higher amount of total risk-weighted assets as of the last day of the previous stress test cycle.

* * * * *

Subpart E—Supervisory Stress Test Requirements for Certain U.S. Banking Organizations With $100 Billion or More in Total Consolidated Assets and Nonbank Financial Companies Supervised by the Board

72. In § 252.42:

a. Remove the definition of "Advanced approaches"; and

b. Revise the definition of "Regulatory capital ratio".

The revision reads as follows:

§ 252.42 Definitions.

* * * * *

Regulatory capital ratio means a capital ratio for which the Board has established minimum requirements for the company by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12

CFR 248.12; for purposes of this section regulatory capital ratios may be calculated using each of 12 CFR part 217, subpart D, and 12 CFR part 217, subpart E.

* * * * *

Subpart F—Company-Run Stress Test Requirements for Certain U.S. Bank Holding Companies and Nonbank Financial Companies Supervised by the Board

73. In § 252.52:

a. Remove the definition of "Advanced approaches"; and

b. Revise the definition of "Regulatory capital ratio".

The revision reads as follows:

§ 252.52 Definitions.

* * * * *

Regulatory capital ratio means a capital ratio for which the Board has established minimum requirements for the company by regulation or order, including, as applicable, any regulatory capital ratios calculated under 12 CFR part 217 and the deductions required under 12 CFR 248.12; except that the covered company must calculate its regulatory capital ratios using either 12 CFR part 217, subpart D, or 12 CFR part 217, subpart E, whichever subpart resulted in the higher amount of total risk-weighted assets as of the last day of the previous stress test cycle.

* * * * *

Subpart G—External Long-term Debt Requirement, External Total Loss-absorbing Capacity Requirement and Buffer, and Restrictions on Corporate Practices for U.S. Global Systemically Important Banking Organizations

74. In § 252.61, revise the definition of "Total risk-weighted assets" to read as follows:

§ 252.61 Definitions.

* * * * *

Total risk-weighted assets means the greater of standardized total risk-weighted assets and expanded total risk-weighted assets, each as calculated under part 217 of this chapter.

Subpart H—Single-Counterparty Credit Limits

§ 252.71 [Amended]

75. In § 252.71, remove the words "in Table 1 to § 217.132 of the Board's Regulation Q (12 CFR 217.132)" wherever they appear and add in their place the words "in Table 1 to § 217.121 of the Board's Regulation Q (12 CFR 217.121)".

§ 252.73 [Amended]

76. In § 252.73, remove the words "any of the methods that the covered company is authorized to use under the Board's Regulation Q (12 CFR part 217, subparts D and E)" wherever they appear and add, in their place, the words "the method specified in 12 CFR part 217 subpart E".

Subpart N—Enhanced Prudential Standards for Foreign Banking Organizations With Total Consolidated Assets of $100 Billion or More and Combined U.S. Assets of Less Than $100 Billion

77. In § 252.147, revise paragraph (e)(1)(i) to read as follows:

§ 252.147 U.S. intermediate holding company requirement for foreign banking organizations with combined U.S. assets of less than $100 billion and U.S. non-branch assets of $50 billion or more.

* * * * *

(e) * * *

(1) * * *

(i) A U.S. intermediate holding company must comply with 12 CFR part 217 in the same manner as a bank holding company.

* * * * *

Subpart O—Enhanced Prudential Standards for Foreign Banking Organizations With Total Consolidated Assets of $100 Billion or More and Combined U.S. Assets of $100 Billion or More

78. In § 252.153, revise paragraph (e)(1)(i) to read as follows:

§ 252.153 U.S. intermediate holding company requirement for foreign banking organizations with combined U.S. assets of $100 billion or more and U.S. non-branch assets of $50 billion or more.

* * * * *

(e) * * *

(1) * * *

(i) A U.S. intermediate holding company must comply with 12 CFR part 217 in the same manner as a bank holding company.

* * * * *

Subpart Q—Single Counterparty Credit Limits

§ 252.171 [Amended]

79. In § 252.171, remove the words "in Table 1 to § 217.132 of the Board's Regulation Q (12 CFR 217.132)" wherever they appear and add in their place the words "in Table 1 to § 217.121 of the Board's Regulation Q (12 CFR 217.121)".

§ 252.173 [Amended]

80. In § 252.173, remove the words "any of the methods that the covered company is authorized to use under the Board's Regulation Q (12 CFR part 217, subparts D and E)" wherever they appear and add, in their place, the words "the method specified in 12 CFR part 217 subpart E".

Federal Deposit Insurance Corporation

12 CFR Chapter III

Authority and Issuance

For the reasons stated in the common preamble, the Federal Deposit Insurance Corporation proposes to amend 12 CFR part 324 as follows:

PART 324—CAPITAL ADEQUACY OF FDIC-SUPERVISED INSTITUTIONS

81. The authority citation for part 324 continues to read as follows:

Authority: 12 U.S.C. 1815(a), 1815(b), 1816, 1818(a), 1818(b), 1818(c), 1818(t), 1819(Tenth), 1828(c), 1828(d), 1828(i), 1828(n), 1828(o), 1831o, 1835, 3907, 3909, 4808; 5371; 5412; Pub. L. 102–233, 105 Stat. 1761, 1789, 1790 (12 U.S.C. 1831n note); Pub. L. 102–242, 105 Stat. 2236, 2355, as amended by Pub. L. 103–325, 108 Stat. 2160, 2233 (12 U.S.C. 1828 note); Pub. L. 102–242, 105 Stat. 2236, 2386, as amended by Pub. L. 102–550, 106 Stat. 3672, 4089 (12 U.S.C. 1828 note); Pub. L. 111–203, 124 Stat. 1376, 1887 (15 U.S.C. 78o–7 note), Pub. L. 115–174; section 4014 § 201, Pub. L. 116–136, 134 Stat. 281 (15 U.S.C. 9052).

82. Revisesubpart E and subpart F of part 324 as set forth at the end of the common preamble.

83. For purposes of part 324, Subpart E and subpart F of the common rule are amended as follows:

a. Remove "[AGENCY]" and add "FDIC" in its place wherever it appears;

b. Remove "[BANKING ORGANIZATION]" and add "FDIC-supervised institution" in its place wherever it appears;

c. Remove "[BANKING ORGANIZATIONS]" and add "FDIC-supervised institutions" in its place wherever it appears;

d. Remove "[BANKING ORGANIZATION]'s" and add "FDIC-supervised institution's" in its place, wherever it appears;

e. Remove "[bank]" and add "FDIC-supervised institution" in its place, wherever it appears;

f. Remove "[REAL ESTATE LENDING GUIDELINES]" and add "12 CFR part 365, Subpart A, Appendix A" in its place wherever it appears;

g. Remove "[APPRAISAL RULE]" and add "12 CFR part 323, Subpart A" in its place wherever it appears;

h. Remove "__." And add "324." In its place wherever it appears;

i. Remove "[REGULATORY REPORT]" and add "Call Report" in its place wherever it appears.

Subpart A—General Provisions

84. In § 324.1, revise paragraph (f) to read as follows.

§ 324.1 Purpose, applicability, reservations of authority, and timing.

* * * * *

(f) *Transitions and timing*—(1) *Transitions*. Notwithstanding any other provision of this part, an FDIC-supervised institution must make any adjustments provided in subpart G of this part for purposes of implementing this part.

(2) *Timing.* An FDIC-supervised institution that changes from one category to another category, or that changes from having no category to having a category, must comply with the requirements of its category in this part, including applicable transition provisions of the requirements in this part, no later than on the first day of the second quarter following the change in the FDIC-supervised institution's category.

* * * * *

85. Amend § 324.2 as follows:

a. Redesignate footnotes 3 through 9 as footnotes 1 through 7, respectively.

b. Remove the definitions for "Advanced approaches FDIC-supervised institution", "Advanced approaches total risk-weighted assets", and "Advanced market risk-weighted assets";

c. Revise the definitions for "Category II FDIC-supervised institution" and "Category III FDIC-supervised institution";

d. Add the definition for "Category IV FDIC-supervised institution" in alphabetical order;

e. Revise newly redesignated footnote 1 to paragraph (2) of the definition for "Cleared transaction";

f. Revise the definition for "Corporate exposure";

g. Remove the definition for “Credit-risk-weighted assets;

h. Add the definition for “CVA risk-weighted assets” in alphabetical order;

i. Revise the definition for “Effective notional amount”;

j. Remove the definition for “Eligible credit reserves”;

k. Revise the definition for “Eligible guarantee”;

l. Add the definition for “Expanded total risk-weighted assets” in alphabetical order;

m. Remove the definition for “Expected credit loss (ECL)”;

n. Revise the definitions for “Exposure amount”, paragraph (5)(i) of the definition for “Financial institution”, and the definition for “Market risk FDIC-supervised institution”;

o. Add the definition for “Market risk-weighted assets” in alphabetical order;

p. Revise the definitions for “Net independent collateral amount”, “Netting set”, and “Protection amount (P)”;

q. In the definition for “Residential mortgage exposure”:

i. Remove paragraph (2);

ii. Redesignate paragraphs (1)(i) and (ii) as paragraphs (1) and (2), respectively; and

iii. In newly redesiganted paragraph (2), remove the words “family; and” and add, in their place, the word “family.”;

r. Remove the definition for “Specific wrong-way risk”;

s. Revise the definitions for “Speculative grade”, “Standardized market risk-weighted assets”, “Standardized total risk-weighted assets”, and “Sub-speculative grade”;

t. Add the definition for “Total credit risk-weighted assets” in alphabetical order;

u. Revise the definition for “Unregulated financial institution”;u. Remove the definition for “Value-at-Risk (VaR)”;

v. Revise the definition for “Variation margin amount”;

The additions and revisions read as follows:

§ 324.2 Definitions

* * * * *

Category II FDIC-supervised institution means an FDIC-supervised institution that is not a subsidiary of a global systemically important BHC, as defined pursuant to 12 CFR 252.5, and that:

(1) Is a subsidiary of a Category II banking organization, as defined pursuant to 12 CFR 252.5 or 12 CFR 238.10, as applicable; or

(2)(i) Has total consolidated assets, calculated based on the average of the FDIC-supervised institution's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, equal to $700 billion or more. If the FDIC-supervised institution has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or the average of the most recent quarters, as applicable; or

(ii)(A) Has total consolidated assets, calculated based on the average of the FDIC-supervised institution's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, of $100 billion or more but less than $700 billion. If the FDIC-supervised institution has not filed the Call Report for each of the four most recent quarters, total consolidated assets is based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or average of the most recent quarters, as applicable; and

(B) Has cross-jurisdictional activity, calculated based on the average of its cross-jurisdictional activity for the four most recent calendar quarters, of $75 billion or more. Cross-jurisdictional activity is the sum of cross-jurisdictional claims and cross-jurisdictional liabilities, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form.

(3) After meeting the criteria in paragraph (2) of this definition, an FDIC supervised-institution continues to be a Category II FDIC-supervised institution until the FDIC-supervised institution has:

(i) Less than $700 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; and

(ii) (A) Less than $75 billion in cross-jurisdictional activity for each of the four most recent calendar quarters. Cross-jurisdictional activity is the sum of cross-jurisdictional claims and cross-jurisdictional liabilities, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form; or

(B) Less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters.

Category III FDIC-supervised institution means an FDIC-supervised institution that is not a subsidiary of a global systemically important banking organization or a Category II FDIC-supervised institution and that:

(1) Is a subsidiary of a Category III banking organization, as defined pursuant to 12 CFR 252.5 or 12 CFR 238.10, as applicable; or

(2)(i) Has total consolidated assets, calculated based on the average of the FDIC-supervised institution's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, equal to $250 billion or more. If the FDIC-supervised institution has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or average of the most recent quarters, as applicable; or

(ii)(A) Has total consolidated assets, calculated based on the average of the FDIC-supervised institution's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, of $100 billion or more but less than $250 billion. If the FDIC-supervised institution has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on its total consolidated assets, as reported on the Call Report, for the most recent quarter or average of the most recent quarters, as applicable; and

(B) Has at least one of the following in paragraphs (2)(ii)(B)(*1*) through (*3*) of this definition, each calculated as the average of the four most recent calendar quarters, or if the FDIC-supervised institution has not filed each applicable reporting form for each of the four most recent calendar quarters, for the most recent quarter or quarters, as applicable:

(*1*) Total nonbank assets, calculated in accordance with the instructions to the FR Y–9LP or equivalent reporting form, equal to $75 billion or more;

(*2*) Off-balance sheet exposure equal to $75 billion or more. Off-balance sheet exposure is a FDIC-supervised institution's total exposure, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, minus the total consolidated assets of the FDIC-supervised institution, as reported on the Call Report; or

(*3*) Weighted short-term wholesale funding, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, equal to $75 billion or more.

(iii) After meeting the criteria in paragraph (2)(ii) of this definition, an FDIC-supervised institution continues to be a Category III FDIC-supervised institution until the FDIC-supervised institution:

(A) Has:

(*1*) Less than $250 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters;

(*2*) Less than $75 billion in total nonbank assets, calculated in accordance with the instructions to the FR Y–9LP or equivalent reporting form, for each of the four most recent calendar quarters;

(*3*) Less than $75 billion in weighted short-term wholesale funding, calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, for each of the four most recent calendar quarters; and

(*4*) Less than $75 billion in off-balance sheet exposure for each of the four most recent calendar quarters. Off-balance sheet exposure is an FDIC-supervised institution's total exposure,

calculated in accordance with the instructions to the FR Y–15 or equivalent reporting form, minus the total consolidated assets of the FDIC-supervised institution, as reported on the Call Report; or

(B) Has less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; or

(C) Is a Category II FDIC-supervised institution.

Category IV FDIC-supervised institution means an FDIC-supervised institution that is not a subsidiary of a global systemically important banking organization, a Category II FDIC-supervised institution, or a Category III FDIC-supervised institution and that:

(1) Is a subsidiary of a Category IV banking organization, as defined pursuant to 12 CFR 252.5 or 12 CFR 238.10, as applicable; or:

(2) Has total consolidated assets, calculated based on the average of the FDIC-supervised institution's total consolidated assets for the four most recent calendar quarters as reported on the Call Report, of $100 billion or more. If the FDIC-supervised institution has not filed the Call Report for each of the four most recent calendar quarters, total consolidated assets is calculated based on the average of its total consolidated assets, as reported on the Call Report, for the most recent quarter(s) available.

(3) After meeting the criterion in paragraph (2) of this definition, an FDIC-supervised institution continues to be a Category IV FDIC-supervised institution until it:

(i) Has less than $100 billion in total consolidated assets, as reported on the Call Report, for each of the four most recent calendar quarters; or

(ii) Is a Category II FDIC-supervised institution or Category III FDIC-supervised institution.

* * * * *

Cleared transaction * * *

(2) * * *

[1] For the standardized approach treatment of these exposures, see § 324.34(e) (OTC derivative contracts) or § 324.37(c) (repo-style transactions). For the expanded risk-based approach treatment of these exposures, see § 324.113 (OTC derivative contracts) or § 324.121 (repo-style transactions).

* * * * *

Corporate exposure means an exposure to a company that is not:

(1) An exposure to a sovereign, the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the European Stability Mechanism, the European Financial Stability Facility, a multi-lateral development bank (MDB), a depository institution, a foreign bank, or a credit union, a public sector entity (PSE);

(2) An exposure to a government-sponsored enterprises (GSE);

(3) For purposes of subpart D of this part, a residential mortgage exposure;

(4) A pre-sold construction loan;

(5) A statutory multifamily mortgage;

(6) A high volatility commercial real estate (HVCRE) exposure;

(7) A cleared transaction;

(8) A default fund contribution;

(9) A securitization exposure;

(10) An equity exposure;

(11) An unsettled transaction;

(12) A policy loan;

(13) A separate account;

(14) A Paycheck Protection Program covered loan as defined in section 7(a)(36) or (37) of the Small Business Act (15 U.S.C. 636(a)(36)-(37));

(15) For purposes of subpart E of this part, a real estate exposure, as defined in § 324.101; or

(16) For purposes of subpart E of this part, a retail exposure as defined in § 324.101.

* * * * *

CVA risk-weighted assets means the measure for CVA risk calculated under § 324.221(a) multiplied by 12.5.

* * * * *

Effective notional amount means for an eligible guarantee or eligible credit derivative, the lesser of the contractual notional amount of the credit risk mitigant and the exposures amount of the hedged exposure, multiplied by the percentage coverage of the credit risk mitigant.

* * * * *

Eligible guarantee means a guarantee that:

(1) Is written;

(2) Is either:

(i) Unconditional, or

(ii) A contingent obligation of the U.S. government or its agencies, the enforceability of which is dependent upon some affirmative action on the part of the beneficiary of the guarantee or a third party (for example, meeting servicing requirements);

(3) Covers all or a pro rata portion of all contractual payments of the obligated party on the reference exposure;

(4) Gives the beneficiary a direct claim against the protection provider;

(5) Is not unilaterally cancelable by the protection provider for reasons other than the breach of the contract by the beneficiary;

(6) Except for a guarantee by a sovereign, is legally enforceable against the protection provider in a jurisdiction where the protection provider has sufficient assets against which a judgment may be attached and enforced;

(7) Requires the protection provider to make payment to the beneficiary on the occurrence of a default (as defined in the guarantee) of the obligated party on the reference

exposure in a timely manner without the beneficiary first having to take legal actions to pursue the obligor for payment;

(8) Does not increase the beneficiary's cost of credit protection on the guarantee in response to deterioration in the credit quality of the reference exposure;

(9) Is not provided by an affiliate of the FDIC-supervised institution, unless the affiliate is an insured depository institution, foreign bank, securities broker or dealer, or insurance company that:

(i) Does not control the FDIC-supervised institution; and

(ii) Is subject to consolidated supervision and regulation comparable to that imposed on depository institutions, U.S. securities broker-dealers, or U.S. insurance companies (as the case may be); and

(10) Is provided by an eligible guarantor.

* * * * *

Expanded total risk-weighted assets means the greater of:

(1) The sum of:

(i) Total credit risk-weighted assets;

(ii) Total risk-weighted assets for equity exposures as calculated under §§ 324.141 and 324.142;

(iii) Risk-weighted assets for operational risk as calculated under § 324.150;

(iv) Market risk-weighted assets; and

(v) CVA risk-weighted assets; minus

(vi) Any amount of the FDIC-supervised institution's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves; or

(2) (i) 72.5 percent of the sum of:

(A) Total credit risk-weighted assets;

(B) Total risk-weighted assets for equity exposures as calculated under § 324.141 and

324.142;

(C) Risk-weighted assets for operational risk as calculated under § 324.150;

(D) Standardized market risk-weighted assets; and

(E) CVA risk-weighted assets; minus

(ii) Any amount of the FDIC-supervised institution's adjusted allowance for credit losses that is not included in tier 2 capital and any amount of allocated transfer risk reserves.

* * * * *

Exposure amount means:

(1) For the on-balance sheet component of an exposure (other than an available-for-sale or held-to-maturity security, if the FDIC-supervised institution has made an AOCI opt-out election (as defined in § 324.22(b)(2)); an OTC derivative contract; a repo-style transaction or an eligible margin loan for which the FDIC-supervised institution determines the exposure amount under § 324.37 or § 324.121, as applicable; a cleared transaction; a default fund contribution; or a securitization exposure), the FDIC-supervised institution's carrying value of the exposure.

(2) For a security (that is not a securitization exposure, equity exposure, or preferred stock classified as an equity security under GAAP) classified as available-for-sale or held-to-maturity if the FDIC-supervised institution has made an AOCI opt-out election (as defined in § 324.22(b)(2)), the FDIC-supervised institution's carrying value (including net accrued but unpaid interest and fees) for the exposure less any net unrealized gains on the exposure and plus any net unrealized losses on the exposure.

(3) For available-for-sale preferred stock classified as an equity security under GAAP if the FDIC-supervised institution has made an AOCI opt-out election (as defined in § 324.22(b)(2)), the FDIC-supervised institution's carrying value of the exposure less any net unrealized gains on the exposure that are reflected in such carrying value but excluded from the FDIC-supervised institution's regulatory capital components.

(4) For the off-balance sheet component of an exposure (other than an OTC derivative

contract; a repo-style transaction or an eligible margin loan for which the FDIC-supervised institution calculates the exposure amount under § 324.37 or § 324.121, as applicable; a cleared transaction; a default fund contribution; or a securitization exposure), the notional amount of the off-balance sheet component multiplied by the appropriate credit conversion factor (CCF) in § 324.33 or § 324.112, as applicable.

(5) For an exposure that is an OTC derivative contract, the exposure amount determined under § 324.34 or § 324.113, as applicable.

(6) For an exposure that is a cleared transaction, the exposure amount determined under § 324.35 or § 324.114, as applicable.

(7) For an exposure that is an eligible margin loan or repo-style transaction for which the FDIC-supervised institution calculates the exposure amount as provided in § 324.37 or § 324.121, as applicable, the exposure amount determined under § 324.37 or § 324.121, as applicable.

(8) For an exposure that is a securitization exposure, the exposure amount determined under § 324.42 or § 324.131, as applicable.

* * * * *

Financial institution * * *

(5) * * *

(i) 85 percent or more of the total consolidated annual gross revenues (as determined in accordance with applicable accounting standards) of the company in either of the two most recent calendar years were derived, directly or indirectly, by the company on a consolidated basis from the activities; or

* * * * *

Market risk FDIC-supervised institution means a FDIC-supervised institution that is described in § 324.201(b)(1).

Market risk-weighted assets means the measure for market risk calculated pursuant to §

324.204(a) multiplied by 12.5.

* * * * *

Net independent collateral amount means the fair value amount of the independent collateral, as adjusted by the haircuts under § 324.121(c)(2)(iii), as applicable, that a counterparty to a netting set has posted to an FDIC-supervised institution less the fair value amount of the independent collateral, as adjusted by the haircuts under § 324.121(c)(2)(iii), as applicable, posted by the FDIC-supervised institution to the counterparty, excluding such amounts held in a bankruptcy-remote manner or posted to a QCCP and held in conformance with the operational requirements in § 324.3.

Netting set means:

(1) A group of transactions with a single counterparty that are subject to a qualifying master netting agreement and that consist only of:

(i) Derivative contracts;

(ii) Repo-style transactions; or

(iii) Eligible margin loans.

(2) For derivative contracts, netting set also includes a single derivative contract between an FDIC-supervised institution and a single counterparty.

* * * * *

Protection amount (P) means, with respect to an exposure hedged by an eligible guarantee or eligible credit derivative, the effective notional amount of the guarantee or credit derivative, reduced to reflect any currency mismatch, maturity mismatch, or lack of restructuring coverage (as provided in § 324.36 or § 324.120, as appropriate).

* * * * *

Speculative grade means that the entity to which the FDIC-supervised institution is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse

economic conditions, such that should economic conditions deteriorate, the entity would present an elevated default risk.

Standardized market risk-weighted assets means the standardized measure for market risk calculated under § 324.204(b) multiplied by 12.5.

Standardized total risk-weighted assets means:

(1) The sum of:

(i) Total risk-weighted assets for general credit risk as calculated under § 324.31;

(ii) Total risk-weighted assets for cleared transactions and default fund contributions as calculated under § 324.35;

(iii) Total risk-weighted assets for unsettled transactions as calculated under § 324.38;

(iv) Total risk-weighted assets for securitization exposures as calculated under § 324.42;

(v) Total risk-weighted assets for equity exposures as calculated under § 324.52 and § 324.53; and

(vi) For a market risk FDIC-supervised institution only, market risk-weighted assets; less

(2) Any amount of the FDIC-supervised institution's allowance for loan and lease losses or adjusted allowance for credit losses, as applicable, that is not included in tier 2 capital and any amount of "allocated transfer risk reserves."

* * * * *

Sub-speculative grade means that the entity to which the FDIC-supervised institution is exposed through a loan or security, or the reference entity with respect to a credit derivative, depends on favorable economic conditions to meet its financial commitments, such that should such economic conditions deteriorate the entity likely would default on its financial commitments.

* * * * *

Total credit risk-weighted assets means the sum of:

(1) Total risk-weighted assets for general credit risk as calculated under §324.110;

(2) Total risk-weighted assets for cleared transactions and default fund contributions as calculated under § 324.114;

(3) Total risk-weighted assets for unsettled transactions as calculated under § 324.115; and

(4) Total risk-weighted assets for securitization exposures as calculated under § 324.132.

* * * * *

Unregulated financial institution means a financial institution that is not a regulated financial institution, including any financial institution that would meet the definition of "Financial institution" under this section but for the ownership interest thresholds set forth in paragraph (4)(i) of that definition.

* * * * *

Variation margin amount means the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 324.121(c)(2)(iii), as applicable, that a counterparty to a netting set has posted to an FDIC-supervised institution less the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 324.121(c)(2)(iii), as applicable, posted by the FDIC-supervised institution to the counterparty.

* * * * *

§ 324.3 [Amended]

86. In § 324.3, remove and reserve paragraph (c).

87. In § 324.4:

a. Redesignate footnote 10 as footnote 1; and

b. Revise newly redesignated footnote 1.

The revision reads as follows:

§ 324.4 Inadequate capital as an unsafe or unsound practice or condition.

* * * * *

[1] The term total assets shall have the same meaning as provided in 12 CFR 324.401(g).

Subpart B—Capital Ratio Requirements and Buffers

88. In § 324.10, revise paragraphs (a)(1)(v), (b) introductory text, (b)(5), (c), (d) introductory text, (d)(3)(ii), and (d)(4) to read as follows.

§ 324.10 Minimum capital requirements.

* * * * *

(a) * * *

(1) * * *

(v) For an FDIC-supervised institution subject to subpart E of this part, a supplementary leverage ratio of 3 percent.

* * * * *

(b) *Standardized capital ratio calculations.* Other than as provided in paragraph (d) of this section:

* * * * *

(5) *State savings association tangible capital ratio.* A state savings association's tangible capital ratio is the ratio of the state savings association's core capital (tier 1 capital) to total assets. For purposes of this paragraph (b)(5), the term total assets shall have the meaning provided in § 324.401(g).

* * * * *

(c) *Supplementary leverage ratio.* (1) The supplementary leverage ratio of an FDIC-supervised institution subject to subpart E of this part is the ratio of its tier 1 capital to total leverage exposure. Total leverage exposure is calculated as the sum of:

(i) The mean of the on-balance sheet assets calculated as of each day of the reporting quarter; and

(ii) The mean of the off-balance sheet exposures calculated as of the last day of each of the most recent three months, minus the applicable deductions under § 324.22(a), (c), and (d).

(2) For purposes of this part, *total leverage exposure* means the sum of the items

described in paragraphs (c)(2)(i) through (viii) of this section, as adjusted pursuant to paragraph (c)(2)(ix) of this section for a clearing member FDIC-supervised institution and paragraph (c)(2)(x) of this section for a custody bank:

(i) The balance sheet carrying value of all of the FDIC-supervised institution's on-balance sheet assets, net of adjusted allowances for credit losses, *plus* the value of securities sold under a repurchase transaction or a securities lending transaction that qualifies for sales treatment under GAAP, *less* amounts deducted from tier 1 capital under § 324.22(a), (c), and (d), *less* the value of securities received in security-for-security repo-style transactions, where the FDIC-supervised institution acts as a securities lender and includes the securities received in its on-balance sheet assets but has not sold or re-hypothecated the securities received, and *less* the fair value of any derivative contracts;

(ii)(A) The potential future exposure (PFE) for each netting set to which the FDIC-supervised institution is a counterparty (including cleared transactions except as provided in paragraph (c)(2)(ix) of this section and, at the discretion of the FDIC-supervised institution, excluding a forward agreement treated as a derivative contract that is part of a repurchase or reverse repurchase or a securities borrowing or lending transaction that qualifies for sales treatment under GAAP), as determined under § 324.113(g), in which the term C in § 324.113(g)(1) equals zero, and, for any counterparty that is not a commercial end-user, multiplied by 1.4. For purposes of this paragraph (c)(2)(ii)(A), an FDIC-supervised institution may set the value of the term C in § 324.113(g)(1) equal to the amount of collateral posted by a clearing member client of the FDIC-supervised institution in connection with the client-facing derivative transactions within the netting set; and

(B) An FDIC-supervised institution may choose to exclude the PFE of all credit derivatives or other similar instruments through which it provides credit protection when calculating the PFE under § 324.113, provided that it does so consistently over time for the calculation of the PFE for all such instruments;

(iii)(A)*(1)* The replacement cost of each derivative contract or single product netting set of derivative contracts to which the FDIC-supervised institution is a counterparty, calculated according to the following formula, and, for any counterparty that is not a commercial end-user, multiplied by 1.4:

$$\text{Replacement Cost} = \max\{V - CVM_r + CVM_p; 0\}$$

Where:

V equals the fair value for each derivative contract or each netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(2)(ix) of this section and, at the discretion of the FDIC-supervised institution, excluding a forward agreement treated as a derivative contract that is part of a repurchase or reverse repurchase or a securities borrowing or lending transaction that qualifies for sales treatment under GAAP);

CVM_r equals the amount of cash collateral received from a counterparty to a derivative contract and that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (F) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral received from the clearing member client; and

CVM_p equals the amount of cash collateral that is posted to a counterparty to a derivative contract and that has not offset the fair value of the derivative contract and that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (F) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral posted to the clearing member client;

(2) Notwithstanding paragraph (c)(2)(iii)(A)*(1)* of this section, where multiple netting sets are subject to a single variation margin agreement, a FDIC-supervised institution must apply the formula for replacement cost provided in § 324.113(j)(1), in which the term CMA may only include cash collateral that satisfies the conditions in paragraphs (c)(2)(iii)(B) through (F) of this section; and

(3) For purposes of paragraph (c)(2)(iii)(A) of this section, a FDIC-supervised institution must treat a derivative contract that references an index as if it were multiple derivative contracts

each referencing one component of the index if the FDIC-supervised institution elected to treat the derivative contract as multiple derivative contracts under § 324.113(e)(6);

(B) For derivative contracts that are not cleared through a QCCP, the cash collateral received by the recipient counterparty is not segregated (by law, regulation, or an agreement with the counterparty);

(C) Variation margin is calculated and transferred on a daily basis based on the mark-to-fair value of the derivative contract;

(D) The variation margin transferred under the derivative contract or the governing rules of the CCP or QCCP for a cleared transaction is the full amount that is necessary to fully extinguish the net current credit exposure to the counterparty of the derivative contracts, subject to the threshold and minimum transfer amounts applicable to the counterparty under the terms of the derivative contract or the governing rules for a cleared transaction;

(E) The variation margin is in the form of cash in the same currency as the currency of settlement set forth in the derivative contract, provided that for the purposes of this paragraph (c)(2)(iii)(E), currency of settlement means any currency for settlement specified in the governing qualifying master netting agreement and the credit support annex to the qualifying master netting agreement, or in the governing rules for a cleared transaction; and

(F) The derivative contract and the variation margin are governed by a qualifying master netting agreement between the legal entities that are the counterparties to the derivative contract or by the governing rules for a cleared transaction, and the qualifying master netting agreement or the governing rules for a cleared transaction must explicitly stipulate that the counterparties agree to settle any payment obligations on a net basis, taking into account any variation margin received or provided under the contract if a credit event involving either counterparty occurs;

(iv) The effective notional principal amount (that is, the apparent or stated notional principal amount multiplied by any multiplier in the derivative contract) of a credit derivative, or

other similar instrument, through which the FDIC-supervised institution provides credit protection, provided that:

(A) The FDIC-supervised institution may reduce the effective notional principal amount of the credit derivative by the amount of any reduction in the mark-to-fair value of the credit derivative if the reduction is recognized in common equity tier 1 capital;

(B) The FDIC-supervised institution may reduce the effective notional principal amount of the credit derivative by the effective notional principal amount of a purchased credit derivative or other similar instrument, provided that the remaining maturity of the purchased credit derivative is equal to or greater than the remaining maturity of the credit derivative through which the FDIC-supervised institution provides credit protection and that:

(1) With respect to a credit derivative that references a single exposure, the reference exposure of the purchased credit derivative is to the same legal entity and ranks pari passu with, or is junior to, the reference exposure of the credit derivative through which the FDIC-supervised institution provides credit protection; or

(2) With respect to a credit derivative that references multiple exposures, the reference exposures of the purchased credit derivative are to the same legal entities and rank pari passu with the reference exposures of the credit derivative through which the FDIC-supervised institution provides credit protection, and the level of seniority of the purchased credit derivative ranks pari passu to the level of seniority of the credit derivative through which the FDIC-supervised institution provides credit protection;

(3) Where an FDIC-supervised institution has reduced the effective notional principal amount of a credit derivative through which the FDIC-supervised institution provides credit protection in accordance with paragraph (c)(2)(iv)(A) of this section, the FDIC-supervised institution must also reduce the effective notional principal amount of a purchased credit derivative used to offset the credit derivative through which the FDIC-supervised institution

provides credit protection, by the amount of any increase in the mark-to-fair value of the purchased credit derivative that is recognized in common equity tier 1 capital; and

(4) Where the FDIC-supervised institution purchases credit protection through a total return swap and records the net payments received on a credit derivative through which the FDIC-supervised institution provides credit protection in net income, but does not record offsetting deterioration in the mark-to-fair value of the credit derivative through which the FDIC-supervised institution provides credit protection in net income (either through reductions in fair value or by additions to reserves), the FDIC-supervised institution may not use the purchased credit protection to offset the effective notional principal amount of the related credit derivative through which the FDIC-supervised institution provides credit protection;

(v) Where an FDIC-supervised institution acting as a principal has more than one repo-style transaction with the same counterparty and has offset the gross value of receivables due from a counterparty under reverse repurchase transactions by the gross value of payables under repurchase transactions due to the same counterparty, the gross value of receivables associated with the repo-style transactions *less* any on-balance sheet receivables amount associated with these repo-style transactions included under paragraph (c)(2)(i) of this section, unless the following criteria are met:

(A) The offsetting transactions have the same explicit final settlement date under their governing agreements;

(B) The right to offset the amount owed to the counterparty with the amount owed by the counterparty is legally enforceable in the normal course of business and in the event of receivership, insolvency, liquidation, or similar proceeding; and

(C) Under the governing agreements, the counterparties intend to settle net, settle simultaneously, or settle according to a process that is the functional equivalent of net settlement, (that is, the cash flows of the transactions are equivalent, in effect, to a single net amount on the settlement date), where both transactions are settled through the same settlement system, the

settlement arrangements are supported by cash or intraday credit facilities intended to ensure that settlement of both transactions will occur by the end of the business day, and the settlement of the underlying securities does not interfere with the net cash settlement;

(vi) The counterparty credit risk of a repo-style transaction, including where the FDIC-supervised institution acts as an agent for a repo-style transaction and indemnifies the customer with respect to the performance of the customer's counterparty in an amount limited to the difference between the fair value of the security or cash its customer has lent and the fair value of the collateral the borrower has provided, calculated as follows:

(A) If the transaction is not subject to a qualifying master netting agreement, the counterparty credit risk (E*) for transactions with a counterparty must be calculated on a transaction by transaction basis, such that each transaction *i* is treated as its own netting set, in accordance with the following formula, where E_i is the fair value of the instruments, gold, or cash that the FDIC-supervised institution has lent, sold subject to repurchase, or provided as collateral to the counterparty, and C_i is the fair value of the instruments, gold, or cash that the FDIC-supervised institution has borrowed, purchased subject to resale, or received as collateral from the counterparty:

$E_i^* = \max \{0, [E_i — C_i]\}$; and

(B) If the transaction is subject to a qualifying master netting agreement, the counterparty credit risk (E*) must be calculated as the greater of zero and the total fair value of the instruments, gold, or cash that the FDIC-supervised institution has lent, sold subject to repurchase or provided as collateral to a counterparty for all transactions included in the qualifying master netting agreement (ΣE_i), *less* the total fair value of the instruments, gold, or cash that the FDIC-supervised institution borrowed, purchased subject to resale or received as collateral from the counterparty for those transactions (ΣC_i), in accordance with the following formula:

$E^* = \max \{0, [\Sigma ei - \Sigma ci]\}$

(vii) If an FDIC-supervised institution acting as an agent for a repo-style transaction provides a guarantee to a customer of the security or cash its customer has lent or borrowed with respect to the performance of the customer's counterparty and the guarantee is not limited to the difference between the fair value of the security or cash its customer has lent and the fair value of the collateral the borrower has provided, the amount of the guarantee that is greater than the difference between the fair value of the security or cash its customer has lent and the value of the collateral the borrower has provided;

(viii) The credit equivalent amount of all off-balance sheet exposures of the FDIC-supervised institution, excluding repo-style transactions, repurchase or reverse repurchase or securities borrowing or lending transactions that qualify for sales treatment under GAAP, and derivative transactions, determined using the applicable credit conversion factor under § 324.112(b), provided, however, that the minimum credit conversion factor that may be assigned to an off-balance sheet exposure under this paragraph (c)(2)(viii) is 10 percent; and

(ix) For an FDIC-supervised institution that is a clearing member:

(A) A clearing member FDIC-supervised institution that guarantees the performance of a clearing member client with respect to a cleared transaction must treat its exposure to the clearing member client as a derivative contract or repo-style transaction, as applicable, for purposes of determining its total leverage exposure;

(B) A clearing member FDIC-supervised institution that guarantees the performance of a CCP with respect to a transaction cleared on behalf of a clearing member client must treat its exposure to the CCP as a derivative contract or repo-style transaction, as applicable, for purposes of determining its total leverage exposure;

(C) A clearing member FDIC-supervised institution that does not guarantee the performance of a CCP with respect to a transaction cleared on behalf of a clearing member client may exclude its exposure to the CCP for purposes of determining its total leverage exposure;

(D) An FDIC-supervised institution that is a clearing member may exclude from its total

leverage exposure the effective notional principal amount of credit protection sold through a credit derivative contract, or other similar instrument, that it clears on behalf of a clearing member client through a CCP as calculated in accordance with paragraph (c)(2)(iv) of this section; and

(E) Notwithstanding paragraphs (c)(2)(ix)(A) through (C) of this section, an FDIC-supervised institution may exclude from its total leverage exposure a clearing member's exposure to a clearing member client for a derivative contract if the clearing member client and the clearing member are affiliates and consolidated for financial reporting purposes on the FDIC-supervised institution's balance sheet.

(x) A custody bank shall exclude from its total leverage exposure the lesser of:

(A) The amount of funds that the custody bank has on deposit at a qualifying central bank; and

(B) The amount of funds in deposit accounts at the custody bank that are linked to fiduciary or custodial and safekeeping accounts at the custody bank. For purposes of this paragraph (c)(2)(x), a deposit account is linked to a fiduciary or custodial and safekeeping account if the deposit account is provided to a client that maintains a fiduciary or custodial and safekeeping account with the custody bank and the deposit account is used to facilitate the administration of the fiduciary or custodial and safekeeping account.

* * * * *

(d) *Expanded capital ratio calculations.* An FDIC-supervised institution subject to subpart E of this part must determine its regulatory capital ratios as described in paragraphs (d)(1) through (3) of this section.

* * * * *

(3) * * *

(ii) The ratio of the FDIC-supervised institution's expanded risk-based approach-adjusted total capital to expanded total risk-weighted assets. An FDIC-supervised institution's expanded

risk-based approach-adjusted total capital is the FDIC-supervised institution's total capital after being adjusted as follows:

(A) A FDIC-supervised institution subject to subpart E of this part must deduct from its total capital any AACL included in its tier 2 capital in accordance with § 324.20(d)(3); and

(B) An FDIC-supervised institution subject to subpart E of this part must add to its total capital any AACL up to 1.25 percent of the FDIC-supervised institution's total credit risk-weighted assets.

(4) *State savings association tangible capital ratio.* A state savings association's tangible capital ratio is the ratio of the state savings association's core capital (tier 1 capital) to total assets. For purposes of this paragraph, the term total assets shall have the meaning provided in 12 CFR 324.401(g).

* * * * *

89. In § 324.11:

a. In paragraph (b)(1), remove the words "advanced approaches FDIC-supervised institution or a Category III FDIC-supervised institution" and add in their place the words "FDIC-supervised institution subject to subpart E of this part";

b. Revise paragraph (b)(1)(iii).

c. In paragraph (b)(2)(ii), redesignate footnote 11 as footnote 1; and

The revision reads as follows:

§ 324.11 Capital conservation buffer and countercyclical capital buffer amount

* * * * *

(b) * * *

(1) * * *

(iii) *Weighting*. The weight assigned to a jurisdiction's countercyclical capital buffer amount is calculated by dividing the total risk-weighted assets for the FDIC-supervised institution's private sector credit exposures located in the jurisdiction by the total risk-weighted

assets for all of the FDIC-supervised institution's private sector credit exposures. The methodology an FDIC-supervised institution uses for determining risk-weighted assets for purposes of this paragraph (b) must be the methodology that determines its risk-based capital ratios under § 324.10. Notwithstanding the previous sentence, the risk-weighted asset amount for a private sector credit exposure that is a covered position under subpart F of this part is its standardized default risk capital requirement as determined under § 324.210 multiplied by 12.5.

* * * * *

§ 324.12 [Amended]

90. In § 324.12, remove paragraph (a)(4).

Subpart C—Definition of Capital

91. In § 324.20:

a. Revise paragraphs (c)(1)(xiv), (d)(1)(xi), and (d)(3); and

b. Redesignate footnotes 12 through 23 as footnotes 1 through 12, respectively;

The revisions read as follows:

§ 324.20 Capital components and eligibility criteria for regulatory capital instruments.

* * * * *

(c) * * *

(1) * * *

(xiv) For an FDIC-supervised institution subject to subpart E of this part, the governing agreement, offering circular, or prospectus of an instrument issued after the date upon which the FDIC-supervised institution becomes subject to subpart E must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the FDIC-supervised institution enters into a receivership, insolvency, liquidation, or similar proceeding.

* * * * *

(d) * * *

(1) * * *

(xi) For an FDIC-supervised institution subject to subpart E of this part, the governing agreement, offering circular, or prospectus of an instrument issued after the date on which the FDIC-supervised institution becomes subject to subpart E must disclose that the holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the FDIC-supervised institution enters into a receivership, insolvency, liquidation, or similar proceeding.

* * * * *

(3) ALLL or AACL, as applicable, up to 1.25 percent of the FDIC-supervised institution's standardized total risk-weighted assets not including any amount of the ALLL or AACL, as applicable (and excluding the case of a market risk FDIC-supervised institution, its market risk weighted assets).

* * * * *

92. In § 324.21:

a. In paragraph (a)(1), remove the words "an advanced approaches FDIC-supervised institution" and add in their place the words "subject to subpart E of this part"; and

b. Revise paragraph (b).

The revision reads as follows:

§ 324.21 Minority interest.

* * * * *

(b) (1) *Applicability*. For purposes of § 324.20, an FDIC-supervised institution that is subject to subpart E of this part is subject to the minority interest limitations in this paragraph (b) if:

(i) A consolidated subsidiary of the FDIC-supervised institution has issued regulatory capital that is not owned by the FDIC-supervised institution; and

(ii) For each relevant regulatory capital ratio of the consolidated subsidiary, the ratio

exceeds the sum of the subsidiary's minimum regulatory capital requirements plus its capital conservation buffer.

(2) *Difference in capital adequacy standards at the subsidiary level*. For purposes of the minority interest calculations in this section, if the consolidated subsidiary issuing the capital is not subject to capital adequacy standards similar to those of the FDIC-supervised institution subject to subpart E of this part, the FDIC-supervised institution subject to subpart E of this part must assume that the capital adequacy standards of the FDIC-supervised institution apply to the subsidiary.

(3) *Common equity tier 1 minority interest includable in the common equity tier 1 capital of the FDIC-supervised institution*. For each consolidated subsidiary of an FDIC-supervised institution subject to subpart E of this part, the amount of common equity tier 1 minority interest the FDIC-supervised institution may include in common equity tier 1 capital is equal to:

(i) The common equity tier 1 minority interest of the subsidiary; minus

(ii) The percentage of the subsidiary's common equity tier 1 capital that is not owned by the FDIC-supervised institution, multiplied by the difference between the common equity tier 1 capital of the subsidiary and the lower of:

(A) The amount of common equity tier 1 capital the subsidiary must hold, or would be required to hold pursuant to this paragraph (b), to avoid restrictions on distributions and discretionary bonus payments under § 324.11 or equivalent standards established by the subsidiary's home country supervisor; or

(B) (*1*) The standardized total risk-weighted assets of the FDIC-supervised institution that relate to the subsidiary multiplied by

(*2*) The common equity tier 1 capital ratio the subsidiary must maintain to avoid restrictions on distributions and discretionary bonus payments under § 324.11 or equivalent standards established by the subsidiary's home country supervisor.

(4) *Tier 1 minority interest includable in the tier 1 capital of the FDIC-supervised*

institution subject to subpart E of this part. For each consolidated subsidiary of the FDIC-supervised institution subject to subpart E of this part, the amount of tier 1 minority interest the FDIC-supervised institution may include in tier 1 capital is equal to:

(i) The tier 1 minority interest of the subsidiary; minus

(ii) The percentage of the subsidiary's tier 1 capital that is not owned by the FDIC-supervised institution multiplied by the difference between the tier 1 capital of the subsidiary and the lower of:

(A) The amount of tier 1 capital the subsidiary must hold, or would be required to hold pursuant to this paragraph (b), to avoid restrictions on distributions and discretionary bonus payments under § 324.11 or equivalent standards established by the subsidiary's home country supervisor, or

(B) (*1*) The standardized total risk-weighted assets of the FDIC-supervised institution that relate to the subsidiary multiplied by

(*2*) The tier 1 capital ratio the subsidiary must maintain to avoid restrictions on distributions and discretionary bonus payments under § 324.11 or equivalent standards established by the subsidiary's home country supervisor.

(5) *Total capital minority interest includable in the total capital of the FDIC-supervised institution*. For each consolidated subsidiary of the FDIC-supervised institution subject to subpart E of this part, the amount of total capital minority interest the FDIC-supervised institution may include in total capital is equal to:

(i) The total capital minority interest of the subsidiary; minus

(ii) The percentage of the subsidiary's total capital that is not owned by the FDIC-supervised institution multiplied by the difference between the total capital of the subsidiary and the lower of:

(A) The amount of total capital the subsidiary must hold, or would be required to hold pursuant to this paragraph (b), to avoid restrictions on distributions and discretionary bonus

payments under § 324.11 or equivalent standards established by the subsidiary's home country supervisor, or

(B) (*1*) The standardized total risk-weighted assets of the FDIC-supervised institution that relate to the subsidiary multiplied by

(*2*) The total capital ratio the subsidiary must maintain to avoid restrictions on distributions and discretionary bonus payments under § 324.11 or equivalent standards established by the subsidiary's home country supervisor.

93. In § 324.22:

a. Redesignate footnotes 22 through 31 as footnotes 1 through 10, respectively;

b. Revise paragraph (a)(4), and remove and reserve paragraph (a)(6);

c. Revise paragraph (b)(1)(ii);

d. In paragraph (b)(2)(i), remove the words "an advanced approaches FDIC-supervised institution" and add, in their place, the words "subject to subpart E of this part";

e. Revise paragraphs (b)(2)(ii), (b)(2)(iii), and (b)(2)(iv) introductory text, and (c)(2) introductory text;

f. In paragraph (c)(4), remove the words "an advanced approaches FDIC-supervised institution" and add in their place the words "subject to subpart E of this part"; and

e. Revise paragraphs (c)(5)(i) and (ii), (c)(6), (d)(1) introductory text, (d)(2), and (f),

The revisions read as follows:

§ 324.22 Regulatory capital adjustments and deductions

* * * * *

(a) * * *

(4) (i) For an FDIC-supervised institution that is not subject to subpart E of this part, any gain-on-sale in connection with a securitization exposure;

(ii) For an FDIC-supervised institution subject to subpart E of this part, any gain-on-sale in connection with a securitization exposure and the portion of any CEIO that does not constitute

an after-tax gain-on-sale;

* * * * *

(b) * * *

(1) * * *

(ii) An FDIC-supervised institution that is subject to subpart E of this part, and a FDIC-supervised institution that has not made an AOCI opt-out election (as defined in paragraph (b)(2) of this section), must deduct any accumulated net gains and add any accumulated net losses on cash flow hedges included in AOCI that relate to the hedging of items that are not recognized at fair value on the balance sheet.

* * * * *

(2) * * *

(i) An FDIC-supervised institution that is not subject to subpart E of this part may make a one-time election to opt out of the requirement to include all components of AOCI (with the exception of accumulated net gains and losses on cash flow hedges related to items that are not fair-valued on the balance sheet) in common equity tier 1 capital (AOCI opt-out election). An FDIC-supervised institution that makes an AOCI opt-out election in accordance with this paragraph (b)(2) must adjust common equity tier 1 capital as follows:

* * * * *

(ii) An FDIC-supervised institution that is not subject to subpart E of this part must make its AOCI opt-out election in the Call Report during the first reporting period after the FDIC-supervised institution is required to comply with subpart A of this part. If the FDIC-supervised institution was previously subject to subpart E of this part, the FDIC-supervised institution must make its AOCI opt-out election in the Call Report during the first reporting period after the FDIC-supervised institution is not subject to subpart E of this part.

(iii) With respect to an FDIC-supervised institution that is not subject to subpart E of this part, each of its subsidiary banking organizations that is subject to regulatory capital

requirements issued by the Federal Reserve, the FDIC, or the OCC[1] must elect the same option as the FDIC-supervised institution pursuant to this paragraph (b)(2).

(iv) With prior notice to the FDIC, an FDIC-supervised institution resulting from a merger, acquisition, or purchase transaction that is not subject to subpart E of this part may change its AOCI opt-out election in its Call Report filed for the first reporting period after the date required for such FDIC-supervised institution to comply with subpart A of this part as set forth in § 324.1(f) if:

* * * * *

(c) * * *

(2) *Corresponding deduction approach.* For purposes of subpart C of this part, the corresponding deduction approach is the methodology used for the deductions from regulatory capital related to reciprocal cross holdings (as described in paragraph (c)(3) of this section), investments in the capital of unconsolidated financial institutions for an FDIC-supervised institution that is not subject to subpart E of this part (as described in paragraph (c)(4) of this section), non-significant investments in the capital of unconsolidated financial institutions for an FDIC-supervised institution subject to subpart E of this part (as described in paragraph (c)(5) of this section), and non-common stock significant investments in the capital of unconsolidated financial institutions for an FDIC-supervised institution subject to subpart E of this part (as described in paragraph (c)(6) of this section). Under the corresponding deduction approach, an FDIC-supervised institution must make deductions from the component of capital for which the underlying instrument would qualify if it were issued by the FDIC-supervised institution itself, as described in paragraphs (c)(2)(i) through (iii) of this section. If the FDIC-supervised institution does not have a sufficient amount of a specific component of capital to effect the required deduction, the shortfall must be deducted according to paragraph (f) of this section.

* * * * *

(5) * * *

(i) An FDIC-supervised institution subject to subpart E of this part must deduct its non-significant investments in the capital of unconsolidated financial institutions (as defined in § 324.2) that, in the aggregate and together with any investment in a covered debt instrument (as defined in § 324.2) issued by a financial institution in which the FDIC-supervised institution does not have a significant investment in the capital of the unconsolidated financial institution (as defined in § 324.2), exceeds 10 percent of the sum of the FDIC-supervised institution's common equity tier 1 capital elements minus all deductions from and adjustments to common equity tier 1 capital elements required under paragraphs (a) through (c)(3) of this section (the 10 percent threshold for non-significant investments) by applying the corresponding deduction approach in paragraph (c)(2) of this section.[5] The deductions described in this paragraph are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the FDIC, an FDIC-supervised institution subject to subpart E of this part that underwrites a failed underwriting, for the period of time stipulated by the FDIC, is not required to deduct from capital a non-significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph (c)(5) to the extent the investment is related to the failed underwriting.[6] For any calculation under this paragraph (c)(5)(i), an FDIC-supervised institution subject to subpart E of this part may exclude the amount of an investment in a covered debt instrument under paragraph (c)(5)(iii) or (iv) of this section, as applicable.

(ii) For an FDIC-supervised institution subject to subpart E of this part, the amount to be deducted under this paragraph (c)(5) from a specific capital component is equal to:

(A) The FDIC-supervised institution's aggregate non-significant investments in the capital of an unconsolidated financial institution and, if applicable, any investments in a covered debt instrument subject to deduction under this paragraph (c)(5), exceeding the 10 percent threshold for non-significant investments, multiplied by

(B) The ratio of the FDIC-supervised institution's aggregate non-significant investments

in the capital of an unconsolidated financial institution (in the form of such capital component) to the FDIC-supervised institution's total non-significant investments in unconsolidated financial institutions, with an investment in a covered debt instrument being treated as tier 2 capital for this purpose.

* * * * *

(6) *Significant investments in the capital of unconsolidated financial institutions that are not in the form of common stock.* If an FDIC-supervised institution subject to subpart E of this part has a significant investment in the capital of an unconsolidated financial institution, the FDIC-supervised institution must deduct from capital any such investment issued by the unconsolidated financial institution that is held by the FDIC-supervised institution other than an investment in the form of common stock, as well as any investment in a covered debt instrument issued by the unconsolidated financial institution, by applying the corresponding deduction approach in paragraph (c)(2) of this section.[7] The deductions described in this section are net of associated DTLs in accordance with paragraph (e) of this section. In addition, with the prior written approval of the FDIC, for the period of time stipulated by the FDIC, an FDIC-supervised institution subject to subpart E of this part that underwrites a failed underwriting is not required to deduct the significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph (c)(6) if such investment is related to such failed underwriting.

(d) * * *

(1) An FDIC-supervised institution that is not subject to subpart E of this part must make deductions from regulatory capital as described in this paragraph (d)(1).

* * * * *

(2) An FDIC-supervised institution subject to subpart E of this part must make deductions from regulatory capital as described in this paragraph (d)(2).

(i) An FDIC-supervised institution subject to subpart E of this part must deduct from

common equity tier 1 capital elements the amount of each of the items set forth in this paragraph (d)(2) that, individually, exceeds 10 percent of the sum of the FDIC-supervised institution's common equity tier 1 capital elements, less adjustments to and deductions from common equity tier 1 capital required under paragraphs (a) through (c) of this section (the 10 percent common equity tier 1 capital deduction threshold).

(A) DTAs arising from temporary differences that the FDIC-supervised institution could not realize through net operating loss carrybacks, net of any related valuation allowances and net of DTLs, in accordance with paragraph (e) of this section. An FDIC-supervised institution subject to subpart E of this part is not required to deduct from the sum of its common equity tier 1 capital elements DTAs (net of any related valuation allowances and net of DTLs, in accordance with § 324.22(e)) arising from timing differences that the FDIC-supervised institution could realize through net operating loss carrybacks. The FDIC-supervised institution must risk weight these assets at 100 percent. For an FDIC-supervised institution that is a member of a consolidated group for tax purposes, the amount of DTAs that could be realized through net operating loss carrybacks may not exceed the amount that the FDIC-supervised institution could reasonably expect to have refunded by its parent holding company.

(B) MSAs net of associated DTLs, in accordance with paragraph (e) of this section.

(C) Significant investments in the capital of unconsolidated financial institutions in the form of common stock, net of associated DTLs in accordance with paragraph (e) of this section.[9] Significant investments in the capital of unconsolidated financial institutions in the form of common stock subject to the 10 percent common equity tier 1 capital deduction threshold may be reduced by any goodwill embedded in the valuation of such investments deducted by the FDIC-supervised institution pursuant to paragraph (a)(1) of this section. In addition, with the prior written approval of the FDIC, for the period of time stipulated by the FDIC, an FDIC-supervised institution subject to subpart E of this part that underwrites a failed underwriting is not required to deduct a significant investment in the capital of an unconsolidated financial institution in the

form of common stock pursuant to this paragraph (d)(2) if such investment is related to such failed underwriting.

(ii) A FDIC-supervised institution subject to subpart E of this part must deduct from common equity tier 1 capital elements the items listed in paragraph (d)(2)(i) of this section that are not deducted as a result of the application of the 10 percent common equity tier 1 capital deduction threshold, and that, in aggregate, exceed 17.65 percent of the sum of the FDIC-supervised institution's common equity tier 1 capital elements, minus adjustments to and deductions from common equity tier 1 capital required under paragraphs (a) through (c) of this section, minus the items listed in paragraph (d)(2)(i) of this section (the 15 percent common equity tier 1 capital deduction threshold). Any goodwill that has been deducted under paragraph (a)(1) of this section can be excluded from the significant investments in the capital of unconsolidated financial institutions in the form of common stock.[10]

(iii) For purposes of calculating the amount of DTAs subject to the 10 and 15 percent common equity tier 1 capital deduction thresholds, a FDIC-supervised institution subject to subpart E of this part may exclude DTAs and DTLs relating to adjustments made to common equity tier 1 capital under paragraph (b) of this section. A FDIC-supervised institution subject to subpart E of this part that elects to exclude DTAs relating to adjustments under paragraph (b) of this section also must exclude DTLs and must do so consistently in all future calculations. A FDIC-supervised institution subject to subpart E of this part may change its exclusion preference only after obtaining the prior approval of the FDIC.

* * * * *

(f) *Insufficient amounts of a specific regulatory capital component to effect deductions.* Under the corresponding deduction approach, if a FDIC-supervised institution does not have a sufficient amount of a specific component of capital to effect the full amount of any deduction from capital required under paragraph (d) of this section, the FDIC-supervised institution must deduct the shortfall amount from the next higher (that is, more subordinated) component of

regulatory capital. Any investment by a FDIC-supervised institution subject to subpart E of this part in a covered debt instrument must be treated as an investment in the tier 2 capital for purposes of this paragraph (f). Notwithstanding any other provision of this section, a qualifying community banking organization (as defined in § 324.12) that has elected to use the community bank leverage ratio framework pursuant to § 324.12 is not required to deduct any shortfall of tier 2 capital from its additional tier 1 capital or common equity tier 1 capital.

* * * * *

[1] These rules include the regulatory capital requirements set forth at 12 CFR part 3 (OCC); 12 CFR part 217 (Board); 12 CFR part 324 (FDIC).

* * * * *

[5] With the prior written approval of the FDIC, for the period of time stipulated by the FDIC, an FDIC-supervised institution subject to subpart E of this part is not required to deduct a non-significant investment in the capital of an unconsolidated financial institution or an investment in a covered debt instrument pursuant to this paragraph if the financial institution is in distress and if such investment is made for the purpose of providing financial support to the financial institution, as determined by the FDIC.

[6] Any non-significant investment in the capital of an unconsolidated financial institution or any investment in a covered debt instrument that is not required to be deducted under this paragraph (c)(5) or otherwise under this section must be assigned the appropriate risk weight under subparts D, E, or F of this part, as applicable.

[7] With prior written approval of the FDIC, for the period of time stipulated by the FDIC, an FDIC-supervised institution subject to subpart E of this part is not required to deduct a significant investment in the capital of an unconsolidated financial institution, including an investment in a covered debt instrument, under this paragraph (c)(6) or otherwise under this section if such investment is made for the purpose of providing financial support to the financial institution as determined by the FDIC.

* * * * *

[9] With the prior written approval of the FDIC, for the period of time stipulated by the FDIC, an FDIC-supervised institution subject to subpart E of this part is not required to deduct a significant investment in the capital instrument of an unconsolidated financial institution in distress in the form of common stock pursuant to this section if such investment is made for the purpose of providing financial support to the financial institution as determined by the FDIC.

[10] The amount of the items in paragraph (d)(2) of this section that is not deducted from common equity tier 1 capital pursuant to this section must be included in the risk-weighted assets of the FDIC-supervised institution subject to subpart E of this part and assigned a 250 percent risk weight for purposes of standardized total risk-weighted assets and assigned the appropriate risk weight for the investment under subpart E of this part for purposes of expanded total risk-weighted assets.

Subpart D—Risk-Weighted Assets—Standardized Approach

§ 324.30 [Amended]

94. In § 324.30, in paragraph (b), remove the words "covered positions" and add in their place the words "market risk covered positions".

95. In § 324.34, revise paragraph (a) to read as follows:

§ 324.34 Derivative contracts.

(a) *Exposure amount for derivative contracts*—(1) *An FDIC-supervised institution not subject to subpart E of this part.* (i) An FDIC-supervised institution that is not subject to subpart E of this part must use the current exposure methodology (CEM) described in paragraph (b) of this section to calculate the exposure amount for all its OTC derivative contracts, unless the FDIC-supervised institution makes the election provided in paragraph (a)(1)(ii) of this section.

(ii) An FDIC-supervised institution that is not subject to subpart E of this part may elect to calculate the exposure amount for all its OTC derivative contracts under the standardized

approach for counterparty credit risk (SA–CCR) in § 324.113 by notifying the FDIC, rather than calculating the exposure amount for all its derivative contracts using CEM. An FDIC-supervised institution that elects under this paragraph (a)(1)(ii) to calculate the exposure amount for its OTC derivative contracts under SA–CCR must apply the treatment of cleared transactions under § 324.114 to its derivative contracts that are cleared transactions and to all default fund contributions associated with such derivative contracts, rather than applying § 324.35. An FDIC-supervised institution that is not subject to subpart E of this part must use the same methodology to calculate the exposure amount for all its derivative contracts and, if an FDIC-supervised institution has elected to use SA–CCR under this paragraph (a)(1)(ii), the FDIC-supervised institution may change its election only with prior approval of the FDIC.

(2) *An FDIC-supervised institution subject to subpart E of this part.* An FDIC-supervised institution that is subject to subpart E of this part must calculate the exposure amount for all its derivative contracts using SA–CCR in § 324.113 for purposes of standardized total risk-weighted assets. An FDIC-supervised institution subject to subpart E of this part must apply the treatment of cleared transactions under § 324.114 to its derivative contracts that are cleared transactions and to all default fund contributions associated with such derivative contracts for purposes of standardized total risk-weighted assets.

* * * * *

96. In § 324.35, revise paragraph (a)(3) to read as follows:

§ 324.35 Cleared transactions.

(a) * * *

(3) *Alternate requirements.* Notwithstanding any other provision of this section, an FDIC-supervised institution that is subject to subpart E of this part or an FDIC-supervised institution that is not subject to subpart E of this part and that has elected to use SA–CCR under § 324.34(a)(1) must apply § 324.114 to its derivative contracts that are cleared transactions rather than this section.

97. In § 324.37, revise paragraph (c)(1) to read as follows:

§ 324.37 Collateralized transactions.

* * * * *

(c) *Collateral haircut approach* —(1) *General.* An FDIC-supervised institution may recognize the credit risk mitigation benefits of financial collateral that secures an eligible margin loan, repo-style transaction, collateralized derivative contract, or single-product netting set of such transactions, and of any collateral that secures a repo-style transaction that is included in the FDIC-supervised institution's measure for market risk under subpart F of this part by using the collateral haircut approach in this section. An FDIC-supervised institution may use the standard supervisory haircuts in paragraph (c)(3) of this section or, with prior written approval of the FDIC, its own estimates of haircuts according to paragraph (c)(4) of this section.

* * * * *

§ 324.61 [Amended]

98. In § 324.61:

a. Remove the citation "§ 324.172" wherever it appears, and add in its place the citations "§§ 324.160 and 324.161"; and

b. Remove the sentence "An advanced approaches FDIC-supervised institution that has not received approval from the FDIC to exit parallel run pursuant to § 324.121(d) is subject to the disclosure requirements described in §§ 324.62 and 324.63.".

99. In § 324.63:

a. In table 3, revise entry (c); and

b. Remove paragraphs (d) and (e).

The revision reads as follows:

§ 324.63 Disclosures by FDIC-supervised institutions described in § 324.61.

* * * * *

Table 3 to § 324.63—Capital Adequacy

* * * * * * *		
	(c)	Market risk-weighted assets as calculated under subpart F of this part.
* * * * * * *		

* * * * *

Subpart E – Risk-Weighted Assets – Expanded Risk-Based Approach

100. In § 324.100, revise paragraph (b)(1) to read as follows:

§ 324.100 Purpose and applicability.

* * * * *

(b) * * *

(1) This subpart applies to any FDIC-supervised institution that is a subsidiary of a global systemically important BHC or a Category II FDIC-supervised institution, a Category III FDIC-supervised institution, or a Category IV FDIC-supervised institution, as defined in § 324.2.

* * * * *

§ 324.111[Amended]

101. In § 324.111:

a. Remove paragraph (j)(1)(i) and redesignate paragraph (j)(1)(ii) as paragraph (j)(1); and

b. Remove paragraphs (k).

102. In § 324.132, revise paragraphs (h)(1)(iv) and (h)(4)(i) to read as follows:

§ 324.132 Risk-weighted assets for securitization exposures.

* * * * *

(h) * * *

(1) * * *

(iv) The FDIC-supervised institution is well capitalized, as defined in subpart H of this part. For purposes of determining whether a FDIC-supervised institution is well capitalized for purposes of this paragraph (h), the FDIC-supervised institution's capital ratios must be calculated without regard to the capital treatment for transfers of small-business obligations with recourse specified in paragraph (h)(1) of this section.

* * * * *

(4) * * *

(i) Determining whether a FDIC-supervised institution is adequately capitalized, undercapitalized, significantly undercapitalized, or critically undercapitalized under subpart H of this part; and

* * * * *

103. In § 324.162, revise paragraph (c) as follows:

§ 324.162 Mechanics of risk-weighted asset calculation.

* * * * *

(c) *Regulatory capital instrument and other instruments eligible for total loss absorbing capacity (TLAC) disclosures.* A FDIC-supersvied institution described in § 324.160 must provide a description of the main features of its regulatory capital instruments, in accordance with table 15 to paragraph (c). If the FDIC-supervised institution issues or repays a capital instrument, or in the event of a redemption, conversion, write down, or other material change in the nature of an existing instrument, but in no event less frequently than semiannually, the FDIC-supervised institution must update the disclosures provided in accordance with table 15 to paragraph (c). A FDIC-supervised institution also must disclose the full terms and conditions of all instruments included in regulatory capital.

Table 15 to paragraph (c)—Main Features of Regulatory Capital Instruments and of Other TLAC-Eligible Instruments

Qualitative Disclosures	(a)	For each regulatory capital instrument and any other instrument that is an eligible debt security as defined in 12 CFR 252.61, the [BANKING ORGANIZATION] must provide the following information:
		(1) The issuer's legal entity.
		(2) The unique identifier.
		(3) The governing law(s) of the instrument.
		(4) The regulatory capital treatment.
		(5) The level(s) within the [BANKING ORGANIZATION] at which the instrument is included in capital.
		(6) The instrument type.
		(7) The amount recognized in regulatory capital.
		(8) The par value of the instrument.
		(9) The accounting classification as debt or equity.
		(10) The original date of issuance.
		(11) Whether perpetual or dated.
		(12) The original maturity date.
		(13) Whether an issuer call option subject to prior supervisory approval exists.
		(14) For an instrument with an issuer call option: (i) the first date of call if the instrument has a call option on a specific date (day, month, and year); (ii) the instrument has a tax and/or regulatory event call; and (iii) the redemption price.
		(15) Whether there are subsequent call option dates and, if so, their frequency.
		(16) Whether the coupon or dividend is fixed over the life of the instrument, floating over the life of the instrument, currently fixed but will move to a floating rate in the future, or currently floating but will move to a fixed rate in the future.
		(17) The coupon rate of the instrument and any related index that the coupon or dividend rate references.
		(18) Whether the non-payment of a coupon or dividend on the instrument prohibits the payment of dividends on common shares.
		(19) Whether the issuer has full, partial, or no discretion over whether a coupon or dividend is paid.
		(20) Whether there is a step-up or other incentive to redeem.
		(21) Whether the dividends or coupons are cumulative or non-cumulative.
		(22) Whether the instrument is convertible or non-convertible.
		(23) If the instrument is convertible, the conditions under which the instrument will convert, including point of non-viability. Where one or more authorities have the ability to trigger conversion, the authorities should be listed. For each of the authorities, state whether the legal basis for the authority to trigger conversion is provided by the terms of the contract of the instrument (a contractual approach) or statutory means (a statutory approach).
		(24) If the instrument is convertible, whether the instrument will: (i) always convert fully; (ii) may convert fully or partially; or (iii) will always convert partially.
		(25) If the instrument is convertible, the rate of conversion into the more loss-absorbent instrument.
		(26) If the instrument is convertible, whether conversion is mandatory or optional.
		(27) If the instrument is convertible, the instrument type into which it is convertible.
		(28) If the instrument is convertible, the issuer of the instrument into which it converts.
		(29) Whether a write-down feature exists.

		(30) If there is a write-down feature, the trigger at which write-down occurs, including point of non-viability. Where one or more authorities have the ability to trigger write-down, the authorities should be listed. For each of the authorities it should be stated whether the legal basis for the authority to trigger conversion is provided by the terms of the contract of the instrument or statutory means.
		(31) If there is a write-down feature, for each write-down trigger separately, whether the instrument will: (i) always be written down fully; (ii) may be written down partially; or (iii) will always be written down partially.
		(32) If there is a write-down feature, whether the write-down is permanent or temporary.
		(33) For instruments that have a temporary write-down, a description of the writeup mechanism.
		(34) The type of subordination.
		(35) A description of the position in subordination hierarchy in liquidation, including by specifying the instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned.

Subpart F—Risk-weighted Assets – Market Risk and Credit Valuation Adjustment (CVA)

104. In § 324.201:

a. Revise paragraphs (b)(1)(i), (b)(2), and (b)(5)(i); and

b. In paragraph (c)(6), remove the citations "12 CFR 3.404, 12 CFR 263.202,".

The revisions are as follows:

§ 324.201 Purpose, applicability, and reservation of authority.

* * * * *

(b) * * *

(1) * * *

(i) The FDIC-supervised institution is:

(A) A Category II FDIC-supervised institution, a Category III FDIC-supervised institution or a Category IV FDIC-supervised institution;

(B) A subsidiary of a global systemically important BHC; or

* * * * *

(2) *CVA Risk*. The CVA risk-based capital requirements specified in § 324.220 through § 324.225 apply to any FDIC-supervised institution that is a subsidiary of a global systemically important BHC, a Category II FDIC-supervised institution, a Category III FDIC-supervised

institution, or a Category IV FDIC-supervised institution.

* * * * *

(5) * * *

(i) An FDIC-supervised institution that meets at least one of the standards in paragraph (b)(1) of this section shall remain subject to the relevant requirements of this subpart F unless and until it does not meet any of the standards in paragraph (b)(1)(ii) of this section for each of four consecutive quarters as reported in the FDIC-supervised institution's Call Report, and it is not a subsidiary of a global systemically important BHC, a Category II FDIC-supervised institution, a Category III FDIC-supervised institution, or Category IV FDIC-supervised institution, and the FDIC-supervised institution provides notice to the FDIC.

* * * * *

105. In § 324.202, revise the definition for "Prime RMBS" to read as follows:

§ 324.202 Definitions

* * * * *

Prime RMBS means a security that references underlying exposures that consist primarily of qualified residential mortgages as defined under § 373.13(a) of this subchapter.

* * * * *

Subpart G—Transition Provisions

106. In § 324.300:

a. Revise paragraph (a);

b. Add paragraph (b);

c. Remove paragraphs (c) and (d);

d. Redesignate paragraph (e) as new paragraph (c); and

e. Remove paragraphs (f) through (h).

The revision and addition read as follows:

§ 324.300 Transitions.

(a) *Transition adjustments for AOCI.* Beginning July 1, 2025, a Category III FDIC-supervised institution or a Category IV FDIC-supervised institution must subtract from the sum of its common equity tier 1 elements, before making deductions required under § 324.22(c) or (d), the AOCI adjustment amount multiplied by the percentage provided in Table 1 to § 324.300.

The transition AOCI adjustment amount is the sum of:

(1) Net unrealized gains or losses on available-for-sale debt securities, plus

(2) Accumulated net gains or losses on cash flow hedges, plus

(3) Any amounts recorded in AOCI attributed to defined benefit postretirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans, plus

(4) Net unrealized holding gains or losses on held-to-maturity securities that are included in AOCI.

Table 1 to § 324.300

Transition AOCI Adjustment	
Transition period	**Percentage applicable to transition AOCI adjustment amount**
July 1, 2025 to June 30, 2026	75
July 1, 2026 to June 30, 2027	50
July 1, 2027 to June 30, 2028	25
July 1, 2028 and thereafter	0

(b) *Expanded total risk-weighted assets*. Beginning July 1, 2025, an FDIC-supervised institution subject to subpart E of this part must comply with the requirements of subpart B of this part using transition expanded total risk-weighted assets as calculated under this paragraph in place of expanded total risk-weighted assets. Transition expanded total risk-weighted assets is an FDIC-supervised institution's expanded total risk-weighted assets multiplied by the percentage provided in Table 2 to § 324.300.

Table 2 to § 324.300

Transition Expanded Total Risk-Weighted Asset Adjustment

Transition period	Percentage of expanded total risk-weighted assets
July 1, 2025 to June 30, 2026	80
July 1, 2026 to June 30, 2027	85
July 1, 2027 to June 30, 2028	90
July 1, 2028 and thereafter	100

* * * * *

107. In § 324.301:

a. Remove paragraph (b)(5);

b. Revise paragraph (c)(2);

c. Revise paragraph (d)(2)(ii); and

d. Remove and reserve paragraph (e).

The revisions read as follows:

§ 324.301 Current expected credit losses (CECL) transition.

* * * * *

(c) * * *

(2) For purposes of the election described in paragraph (a)(1) of this section, an FDIC-supervised institution subject to subpart E of this part must increase total leverage exposure for purposes of the supplementary leverage ratio by seventy-five percent of its CECL transitional amount during the first year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by fifty percent of its CECL transitional amount during the second year of the transition period, and increase total leverage exposure for purposes of the supplementary leverage ratio by twenty-five percent of its CECL transitional amount during the third year of the transition period.

(d) * * *

(2) * * *

(ii) An FDIC-supervised institution subject to subpart E of this part that has elected the

2020 CECL transition provision described in this paragraph (d) may increase total leverage exposure for purposes of the supplementary leverage ratio by one-hundred percent of its modified CECL transitional amount during the first year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by one hundred percent of its modified CECL transitional amount during the second year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by seventy-five percent of its modified CECL transitional amount during the third year of the transition period, increase total leverage exposure for purposes of the supplementary leverage ratio by fifty percent of its modified CECL transitional amount during the fourth year of the transition period, and increase total leverage exposure for purposes of the supplementary leverage ratio by twenty-five percent of its modified CECL transitional amount during the fifth year of the transition period.

* * * * *

§ 324.303 [Removed and Reserved]

108. Remove and reserve § 324.303.

§ 324.304 [Removed and Reserved]

109. Remove and reserve § 324.304.

Subpart H—Prompt Corrective Action

110. In § 324.401:

a. Revise paragraph (c);

b. Remove and reserve paragraph (f); and

c. Revise paragraph (g).

The revisions read as follows:

§ 324.401 Authority, purpose, scope, other supervisory authority, disclosure of capital categories, and transition procedures

* * * * *

(c) *Scope.* This subpart H implements the provisions of section 38 of the FDI Act as they

apply to FDIC–supervised institutions and insured branches of foreign banks for which the FDIC is the appropriate Federal banking agency. Certain of these provisions also apply to officers, directors and employees of those insured institutions. In addition, certain provisions of this subpart apply to all insured depository institutions that are deemed critically undercapitalized.

* * * * *

(g) For purposes of subpart H, total assets means quarterly average total assets as reported in an FDIC–supervised institution's Call Report, minus amounts deducted from tier 1 capital under § 324.22(a), (c), and (d). At its discretion, the FDIC may calculate total assets using an FDIC–supervised institution's period-end assets rather than quarterly average assets.

111. Amend § 324.403, by revising paragraphs (a)(1)(iv)(B), (b)(2)(vi), and (b)(3)(v) to read as follows:

§ 324.403 Capital measures and capital category definitions.

(a) * * *

(1) * * *

(iv) * * *

(B) With respect to an FDIC–supervised institution subject to subpart E of this part, the supplementary leverage ratio.

* * * * *

(b) * * *

(2) * * *

(vi) An FDIC–supervised institution subject to subpart E of this part will be deemed to be "adequately capitalized" if it satisfies paragraphs (b)(2)(i) through (v) of this section and has a supplementary leverage ratio of 3.0 percent or greater, as calculated in accordance with § 324.10.

(3) * * *

(v) An FDIC–supervised institution subject to subpart E of this part will be deemed to be

"undercapitalized" if it has a supplementary leverage ratio of less than 3.0 percent, as calculated in accordance with § 324.10.

* * * * *

§§ 324.1, 324.2, 324.10, 324.12, 324.22, 324.61, 324.302, 324.305 [Amended]

112. In the table below, for each section indicated in the left column, remove the words indicated in the middle column from wherever it appears in the section, and add the words indicated in the right column:

Sections:	**Remove the following words:**	**Add the following words:**
324.1	"an advanced approaches FDIC-supervised institution"	"an FDIC-supervised institution subject to subpart E of this part"
324.2		
324.12(a)(2) introductory text		
324.22 (a)(1)(ii), (b)(1)(iii), (c)(2)(ii)(D), (c)(3)(ii), and (c)(5)(iii), and		
324.61		
324.1	"advanced approaches FDIC-supervised institution"	"FDIC-supervised institution subject to subpart E of this part"
324.2, and		
324.22 (a)(1)(ii)		
324.1	"advanced approaches total risk-weighted assets"	"expanded total risk-weighted assets"
324.10(d)		
324.22(g)		
324.302, and		
324.305		
324.2, in the definition of "qualifying central counterparty (QCCP)"	"§ 324.133"	"§ 324.114"

Michael J. Hsu,
Acting Comptroller of the Currency.

By order of the Board of Governors of the Federal Reserve System.
Ann E. Misback,
Secretary of the Board.

Federal Deposit Insurance Corporation.
By order of the Board of Directors.
Dated at Washington, DC, on July 27, 2023.
James P. Sheesley,
Assistant Executive Secretary.

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