

**DEPARTMENT OF TREASURY**  
**Office of the Comptroller of the Currency**  
**12 CFR Parts 3 and 32**  
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**RIN 1557-AE44**

**FEDERAL RESERVE SYSTEM**  
**12 CFR Part 217**  
**[Docket X-XXXX]**  
**RIN XXXX-XXXX**

**FEDERAL DEPOSIT INSURANCE CORPORATION**  
**12 CFR Part 324**  
**RIN 3064-AE80**

**Standardized Approach for Calculating the Exposure Amount of Derivative  
Contracts**

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

**ACTION:** Final rule.

**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 issuing a final rule to implement a new approach—the standardized approach for counterparty credit risk (SA-CCR)—for calculating the exposure amount of derivative contracts under these agencies’ regulatory capital rule. Under the final rule, an advanced approaches banking organization may use SA-CCR or the internal models methodology to calculate its advanced approaches

total risk-weighted assets, and must use SA-CCR, instead of the current exposure methodology, to calculate its standardized total risk-weighted assets. A non-advanced approaches banking organization may use the current exposure methodology or SA-CCR to calculate its standardized total risk-weighted assets.

The final rule also implements SA-CCR in other aspects of the capital rule. Notably, the final rule requires an advanced approaches banking organization to use SA-CCR to determine the exposure amount of derivative contracts included in the banking organization's total leverage exposure, the denominator of the supplementary leverage ratio. In addition, the final rule incorporates SA-CCR into the cleared transactions framework and makes other amendments, generally with respect to cleared transactions.

**DATES:** *Effective date:* April 1, 2020. *Mandatory compliance date:* January 1, 2022, for advanced approaches banking organizations.

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## **I. Introduction and Overview of the Proposal**

### **A. Overview of Derivative Contracts**

In general, derivative contracts represent agreements between parties either to make or receive payments or to buy or sell an underlying asset on a certain date (or dates) in the future. Parties generally use derivative contracts to mitigate risk, although such transactions may serve other purposes. For example, an interest rate derivative contract allows a party to manage the risk associated with a change in interest rates, while a commodity derivative contract allows a party to fix commodity prices in the future and thereby minimize any exposure attributable to unfavorable movements in those prices.

The value of a 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, indicators or indices underlying the contract (reference exposures). A party with a positive current exposure expects to receive a payment or other beneficial transfer from the counterparty and is considered to be "in the money." A party that is in the money is subject to the risk that the

counterparty will default on its obligations and fail to pay the amount owed under the transaction, which is referred to as counterparty credit risk. In contrast, a party with a zero or negative current exposure does not expect to receive a payment or beneficial transfer from the counterparty and is considered to be “at the money” or “out of the money.” A party that has no current exposure to counterparty credit risk may have exposure to counterparty credit risk in the future if the derivative contract becomes “in the money.”

Parties to a derivative contract often exchange collateral to mitigate counterparty credit risk. If a counterparty defaults, the non-defaulting party can sell the collateral to offset its exposure. In the derivatives context, collateral may include variation margin and initial margin (also known as independent collateral). Parties exchange variation margin on a periodic basis during the term of a derivative contract, as typically specified in a variation margin agreement or by regulation.<sup>1</sup> Variation margin offsets changes in the market value of a derivative contract and thereby covers the potential loss arising from the default of a counterparty. Variation margin may not always be sufficient to cover a party’s positive exposure (e.g., due to delays in receiving collateral), and thus parties may exchange initial margin. Parties typically exchange initial margin at the outset of the derivative contract and in amounts that are expected to reduce the likelihood of

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<sup>1</sup> See, e.g., 12 CFR part 45 (OCC); 12 CFR part 237 (Board); and 12 CFR part 349 (FDIC).

a positive exposure amount for the derivative contract in the event of the counterparty's default, resulting in overcollateralization.

To facilitate the exchange of collateral, parties may enter into variation margin agreements that typically provide for a threshold amount and a minimum transfer amount. The threshold amount is the maximum amount by which the market value of the derivative contract can change before a party must collect or post variation margin (in other words, the threshold amount specifies an acceptable amount of under-collateralization). The minimum transfer amount is the smallest amount of collateral that a party must transfer when it is required to exchange collateral under the variation margin agreement. Parties generally apply a discount (also known as a haircut) to non-cash collateral to account for a potential reduction in the value of the collateral during the period between the last exchange of collateral before the close out of the derivative contract (as in the case of default of the counterparty) and replacement of the contract on the market. This period is known as the margin period of risk (MPOR).

Two parties often will enter into a large number of derivative contracts together. In such cases, the parties may enter into a netting agreement to allow for the offsetting of the derivative contracts under the agreement in the event that one of the parties default and to streamline certain aspects of the transactions, including the exchange of collateral. Netting multiple contracts against each other can substantially reduce the exposure if one of the parties were to default. A

netting set reflects those derivative contracts that are subject to the same master netting agreement.<sup>2</sup>

Parties to a derivative contract may also clear their derivative contract through a central counterparty (CCP). The use of central clearing is designed to reduce the risk of engaging in derivative transactions through the multilateral netting of exposures, establishment and enforcement of collateral requirements, and the promotion of market transparency. A party engages with a CCP either as a clearing member or as a clearing member client. A clearing member is a member of, or a direct participant in, a CCP that has authority to enter into transactions with the CCP. A clearing member may act as a financial intermediary with respect to the clearing member client and either take one position with the client and an offsetting position with the CCP (the principal model of clearing) or guarantee the performance of the clearing member client to the CCP (the agency model of clearing). With respect to the latter type of clearing, the clearing member generally is responsible for fulfilling initial and variation margin calls from the CCP on behalf of its client, irrespective of the client's ability to post such collateral.

The capital rule of the Office of the Comptroller of the Currency (OCC), the Board of Governors of the Federal Reserve System (Board), and the Federal

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<sup>2</sup> “Qualifying master netting agreement” is defined in § \_\_.2 and § \_\_.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).



Deposit Insurance Corporation (FDIC) (together, the agencies) requires a banking organization to hold regulatory capital based on the exposure amount of its derivative contracts.<sup>3</sup> The capital rule prescribes different approaches for measuring the exposure amount of derivative contracts based on the size and risk profile of a banking organization. All banking organizations are currently required to use the current exposure method (CEM) to determine the exposure amount of a derivative contract for purposes of calculating standardized total risk-weighted assets.<sup>4</sup> Certain large banking organizations may use CEM or the internal models

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<sup>3</sup> 12 CFR part 3 (OCC); 12 CFR part 217 (Board); 12 CFR part 324 (FDIC). The agencies have codified the capital rule in different parts of title 12 of the CFR (part 3 (OCC); part 217 (Board); and part 324 (FDIC)), but the internal structure of the sections within each agency's rule are identical. All references to sections in the capital rule or the proposal are intended to refer to the corresponding sections in the capital rule of each agency. Banking organizations subject to the agencies' capital rule include national banks, state member banks, insured state nonmember banks, savings associations, and top-tier bank holding companies and savings and loan holding companies domiciled in the United States, but exclude banking organizations subject to the Board's Small Bank Holding Company and Savings and Loan Holding Company Policy Statement (12 CFR part 225, appendix C), and certain savings and loan holding companies that are substantially engaged in insurance underwriting or commercial activities or that are estate trusts, and bank holding companies and savings and loan holding companies that are employee stock ownership plans. The agencies recently adopted a final rule to implement a community bank leverage ratio framework that is applicable, on an optional basis to depository institutions and depository institution holding companies with less than \$10 billion in total consolidated assets and that meet certain other criteria. Such banking organizations that opt into the community bank leverage ratio framework will be deemed compliant with the capital rule's generally applicable requirements and are not required to calculate risk-based capital ratios. (cite or include each agencies link to release).

<sup>4</sup> CEM and IMM are also applied in other parts of the capital rule. For example, advanced approaches banking organizations must use CEM to determine the exposure amount of derivative contracts included in total leverage exposure, the

methodology (IMM) to determine the exposure amount of a derivative contract for advanced approaches risk-weighted assets. In contrast to CEM, IMM is an internal-models-based approach that requires supervisory approval. The capital rule also requires certain large banking organizations to meet a supplementary leverage ratio, measured as the banking organization's tier 1 capital relative to its total leverage exposure.<sup>5</sup> The total leverage exposure measure captures both on- and off-balance sheet assets, including the exposure amount of a banking organization's derivative contracts as determined under CEM.<sup>6</sup>

### **B. The Basel Committee Standard on SA-CCR**

In 2014, the Basel Committee on Banking Supervision released a new approach for calculating the exposure amount of a derivative contract called the standardized approach for counterparty credit risk (SA-CCR) (the Basel Committee standard).<sup>7</sup> Under the Basel Committee standard, a banking organization calculates the exposure amount of its derivative contracts at the netting set level, meaning, those contracts that the standard permits to be netted

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denominator of the supplementary leverage ratio. In addition, the capital rule incorporates CEM into the cleared transactions framework and makes other amendments, generally with respect to cleared transactions. *See* section II.C. of this Supplementary Information for further discussion.

<sup>5</sup> *See infra* n. 23. Category I, II, and III banking organizations are subject to the supplementary leverage ratio.

<sup>6</sup> *See* 12 CFR 3.10(c)(4) (OCC); 12 CFR 217.10(c)(4) (Board); and 12 CFR 324.10(c)(4) (FDIC).

<sup>7</sup> *See* "The standardized approach for measuring counterparty credit risk exposures," Basel Committee on Banking Supervision (March 2014, rev. April 2014), <https://www.bis.org/publ/bcbs279.pdf>.

against each other because they are subject to the same qualifying master netting agreement (QMNA), which must meet certain operational requirements.<sup>8</sup> The exposure amount of a derivative contract not subject to a QMNA is calculated individually, and thus the derivative contract constitutes a netting set of one.

The exposure amount of each netting set is equal to an alpha factor of 1.4 multiplied by the sum of the replacement cost of the netting set and the potential future exposure (PFE) of the netting set:

$$\text{exposure amount} = 1.4 * (\text{replacement cost} + \text{PFE})$$

For netting sets that are not subject to a variation margin agreement, replacement cost reflects a banking organization's current on-balance-sheet credit exposure to its counterparty measured as the maximum of the fair value of the derivative contracts within the netting set less the applicable collateral or zero. For netting sets that are subject to a variation margin agreement, the replacement cost of a netting set reflects the maximum possible unsecured exposure amount of the netting set that would not trigger a variation margin call. For the replacement cost calculation, a banking organization recognizes the collateral amount on a dollar-for-dollar basis, subject to any applicable haircuts.

PFE reflects a measure of potential changes in a banking organization's counterparty exposure for a netting set over a specified period. The PFE calculation allows a banking organization to fully or partially offset derivative

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<sup>8</sup> See *supra* n. 2.

contracts within the same netting set that share similar risk factors, based on the concept of hedging sets. Under the Basel Committee standard, derivative contracts form a hedging set if they share the same primary risk factor, and therefore, are within the same asset class—interest rate, exchange rate, credit, equity, or commodities. As derivatives within the same asset class are highly correlated and thus have an economic relationship,<sup>9</sup> under the Basel Committee standard, derivative contracts within the same hedging set may be able to fully or partially offset each other.

To obtain the PFE for each netting set, a banking organization sums the adjusted derivative contract amount of all hedging sets within the netting set using an asset-class specific aggregation formula and multiples that amount by the PFE multiplier. The PFE multiplier decreases exponentially from a value of one as the value of the financial collateral held by the banking organization exceeds the net fair value of the derivative contracts within the netting set, subject to a floor of five percent. Thus, the PFE multiplier accounts for both over-collateralization and the negative fair value amount of the derivative contracts within the netting set.

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<sup>9</sup> Derivative contracts within the same asset class share the same primary risk factor, which implies a closer alignment between all of the underlying risk factors and a higher correlation factor. For a directional portfolio, greater alignment between the risk factors would result in a more concentrated risk, leading to a higher exposure amount. For a balanced portfolio, greater alignment between the risk factors would result in more offsetting of risk, leading to a lower exposure amount.

For purposes of calculating the hedging set amount, a banking organization calculates the adjusted notional amount of a derivative contract and multiplies that amount by a corresponding supervisory factor, maturity factor, and supervisory delta to determine a conservative estimate of effective expected positive exposure (EEPE), assuming zero fair value and zero collateral.<sup>10</sup> The Basel Committee standard uses supervisory factors that reflect the volatilities observed in the derivatives markets during the financial crisis. The supervisory factors reflect the

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<sup>10</sup> Under IMM, an advanced approaches banking organization uses its own internal models to determine the exposure amount of its derivative contracts. The exposure amount under IMM is calculated as the product of the EEPE for a netting set, which is the time-weighted average of the effective expected exposures (EE) profile over a one-year horizon, and an alpha factor. For the purposes of regulatory capital calculations, the resulting exposure amount is treated as a loan equivalent exposure, which is the amount effectively loaned by the banking organization to the counterparty under the derivative contract. A banking organization arrives at the exposure amount by first determining the EE profile for each netting set. In general, EE profile is determined by computing exposure distributions over a set of future dates using Monte Carlo simulations, and the expectation of exposure at each date is the simple average of all positive Monte Carlo simulated exposures for each date. The expiration of short-term trades can cause the EE profile to decrease, even though a banking organization is likely to replace short-term trades with new trades (i.e., rollover). To account for rollover, a banking organization converts the EE profile for each netting set into an effective EE profile by applying a nondecreasing constraint to the corresponding EE profile over the first year. The nondecreasing constraint prevents the effective EE profile from declining with time by replacing the EE amount at a given future date with the maximum of the EE amounts across this and all prior simulation dates. The EEPE for a netting set is the time-weighted average of the effective EE profile over a one-year horizon. EEPE would be the appropriate loan equivalent exposure in a credit risk capital calculation if the following assumptions were true: there is no concentration risk, systematic market risk, and wrong-way risk (i.e., the size of an exposure is positively correlated with the counterparty's probability of default). However, these conditions nearly never exist with respect to a derivative contract. Thus, to account for these risks, IMM requires a banking organization to multiply EEPE by 1.4.

potential variability of the primary risk factor of the derivative contract over a one-year horizon. The maturity factor scales down the default one-year risk horizon of the supervisory factor to the risk horizon appropriate for the derivative contract. 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. The assumptions of zero fair value and zero collateral allow for recognition of offsetting and diversification benefits between derivative contracts that share similar risk factors (i.e., long and short derivative contracts within the same hedging set could fully or partially offset one another).

### **C. Overview of the Proposal**

On October 30, 2018, the agencies published a notice of proposed rulemaking (proposal) to implement SA-CCR<sup>11</sup> in order to provide important improvements to risk sensitivity and calibration relative to CEM.<sup>12</sup> In particular, the implementation of SA-CCR is responsive to concerns that CEM has not kept

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<sup>11</sup> See 83 FR 64660 (December 17, 2018).

<sup>12</sup> For a description of CEM, see 83 FR 64660, 64664 (December 17, 2018).

pace with certain market practices that have been adopted, particularly by large banking organizations that are active in the derivatives market.<sup>13</sup> The agencies also proposed SA-CCR to provide a method that is less complex and involves less discretion than IMM, which allows banking organizations to use their own internal models to determine the exposure amount of their derivative contracts.<sup>14</sup>

Although IMM is more risk-sensitive than CEM, IMM is significantly more complex and requires prior supervisory approval.<sup>15</sup> The agencies based the core elements of the proposal on the Basel Committee SA-CCR standard.<sup>16</sup>

The agencies received approximately 58 comments on the proposal from interested parties, including banking organizations, trade groups, members of Congress, and advocacy organizations. Banking organizations and trade groups offered widespread support for the implementation of SA-CCR although they also suggested modifications to various components of the proposal largely to address concerns regarding its calibration. Commenters who supported the proposal also expressed concerns with its proposed implementation schedule and potential interaction with certain other U.S. laws and regulations. Other commenters,

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<sup>13</sup> The agencies initially adopted CEM in 1989. *See* 54 FR 4168 (January 27, 1989) (OCC); 54 FR 4186 (January 27, 1989) (Board); and 54 FR 11500 (March 21, 1989) (FDIC). The last significant update to CEM was in 1995, *see* 60 FR 46170 (September 5, 1995).

<sup>14</sup> For a description of IMM, *see* 83 FR 64660, 64665 (December 17, 2018).

<sup>15</sup> *See* 12 CFR 3.122 (OCC); 12 CFR 217.122 (Board); and 12 CFR 324.122 (FDIC).

<sup>16</sup> *See supra* n. 7.

including some commercial entities that use derivative contracts to manage risks arising from their business operations (commercial end-users), opposed the proposal or elements of the proposal. Specifically, these commenters expressed concern that the proposal could indirectly increase the fees they pay to enter into derivative transactions to manage commercial risks in order to help offset the regulatory capital costs of such derivative contracts for banking organizations. The commenters asserted that any such effect would be in contravention of separate public policy objectives designed to support the ability of commercial end-users to engage in derivative transactions for risk-management purposes.<sup>17</sup> By contrast, other commenters that opposed the proposal expressed concerns that it could reduce capital held against derivative contracts.

As discussed in detail below, the agencies are finalizing the proposal with some modifications to address certain concerns raised by commenters. In particular, the final rule removes the alpha factor of 1.4 from the exposure amount calculation for derivative contracts with commercial end-user counterparties. This change will reduce the exposure amount of such derivative contracts by roughly

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<sup>17</sup> See e.g., Sections 731 and 764 of the Dodd-Frank Wall Street Reform and Consumer Protection Act require the agencies to, in establishing capital and margin requirements for non-cleared swaps, provide an exemption for certain types of counterparties (e.g., counterparties that are not financial entities and are using swaps to hedge or mitigate commercial risks) from the mandatory clearing requirement. See 7 U.S.C. 6s(e)(3)(C); 15 U.S.C. 78o–10(e)(3)(C). See also, 12 CFR part 45 (OCC); 12 CFR part 237 (Board); and 12 CFR part 349 (FDIC).



29 percent, in comparison to similar derivative contracts with a counterparty that is not a commercial end-user.

Commenters also raised concerns regarding the proposed netting treatment for settled-to-market derivative contracts.<sup>18</sup> The final rule allows a banking organization to elect, at the netting set level, to treat all such contracts within the same netting set as collateralized-to-market, thus allowing netting of settled-to-market derivative contracts with collateralized-to-market derivative contracts within the same netting set. In order to make the election, a banking organization must treat the settled-to-market derivative contracts as collateralized-to-market derivative contracts for all purposes under the SA-CCR calculation, including by applying the MPOR treatment applicable to collateralized-to-market derivative transactions.<sup>19</sup>

Commenters also criticized the proposal's approach to the recognition of collateral provided to support a derivative contract for purposes of the supplementary leverage ratio. In response to commenters' concerns, and

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<sup>18</sup> Settled-to-market derivatives contracts are those entered into between a central counterparty and a banking organization under which the central counterparty's rulebook considers daily payments of variation margin as a settlement payment for the exposure that arises from marking the derivative contract to fair value. These payments are similar to traditional exchanges of variation margin, except that the receiving party takes title to the payment from the transferring party rather than holding the assets as collateral, and thus effectively settles the contract.

<sup>19</sup> Banking organizations that make such an election would apply the maturity factor applicable to margined transactions under the final rule. *See also* section III.D.4. of this Supplementary Information.

consistent with changes to the Basel Committee leverage ratio standard that occurred during the comment period, the final rule allows for greater recognition of collateral in the calculation of total leverage exposure relating to client-cleared derivative contracts.<sup>20</sup>

## II. Overview of the Final Rule

Figure 1 below provides a high-level overview of SA-CCR under the Final Rule.

<b>Figure 1. Overview of SA-CCR under the Final Rule</b>	
<b>Purpose</b>	<ul style="list-style-type: none"> <li>• The final rule implements the standardized approach for counterparty-credit risk, in a manner consistent with the core elements of the Basel Committee standard.</li> <li>• A banking organization uses SA-CCR (either on a mandatory or an optional basis) to determine the capital requirements for its derivative contracts.</li> </ul>
<b>SA-CCR Mechanics</b>	<p>Under the final rule, a banking organization using SA-CCR determines the exposure amount for a netting set of derivative contracts as follows:</p> $\text{Exposure amount} = \text{alpha factor} \times (\text{replacement cost} + \text{potential future exposure})$
<b>Key Elements of the SA-CCR formula</b>	
<b>Replacement Cost</b>	<p>The <i>replacement cost</i> of a derivative contract reflects the amount that it would cost a banking organization to replace the derivative contract if the counterparty were to immediately default. Under SA-CCR, replacement cost is based on the fair value of a derivative contract under U.S. GAAP, with adjustments to reflect the exchange of collateral for margined transactions.</p> <p>For un-margined transactions: <math>RC = \max\{V - C; 0\}</math>, where replacement cost equals the maximum of the fair value of the</p>

<sup>20</sup> See “Leverage ratio treatment of client cleared derivatives,” Basel Committee on Banking Supervision, June 2019, <https://www.bis.org/bcbs/publ/d467.pdf>. See also section V of this Supplementary Information.

	<p>derivative contract (after excluding any valuation adjustments) (V) less the net amount of any collateral (C) received from the counterparty and zero.</p> <p>For margined transactions: <math>RC = \max\{V - C; TH + MTA - NICA; 0\}</math>, where replacement cost equals the maximum of (1) the sum of the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set less the net amount of collateral applicable to such derivative contracts; (2) the counterparty's maximum exposure to the netting set under the variation margin agreement (TH +MTA),<sup>21</sup> less the net collateral amount applicable to such derivative contracts (NICA<sup>22</sup>); or (3) zero.</p>
<b>Potential Future Exposure</b>	<p>The <i>potential future exposure</i> of a derivative contract reflects the possibility of changes in the value of the derivative contract over a specified period. Under SA-CCR, the potential future exposure amount is based on the notional amount and maturity of the derivative contract, volatilities observed during the financial crisis for different classes of derivative contracts (i.e., interest rate, exchange rate, credit, equity, and commodity), the exchange of collateral, and full or partial offsetting among derivative contracts that share an economic relationship.</p> <p><math>PFE = multiplier \times aggregated\ amount</math>, where the PFE multiplier decreases exponentially from a value of 1 to recognize the amount of any excess collateral and the negative fair values of derivative contracts within the netting set. The aggregated amount accounts for full or partial offsetting among derivative contracts within a hedging set that share an economic relationship, as well as observed volatilities in the reference asset, the maturity of the derivative contract, and the correlation between the derivative contract and the reference exposure (i.e., long or short).</p>
<b>Alpha Factor</b>	<p>The <i>alpha factor</i> is a measure of conservatism that is designed to address risks that are not directly captured under SA-CCR, and to ensure that the capital requirement for a derivative contract under SA-CCR is generally not lower than the one produced under IMM.</p> <p>For most derivative contracts, the alpha factor equals 1.4; however, no alpha factor applies to derivative contracts with commercial end-user counterparties.</p>

<sup>21</sup> Threshold amount plus minimum transfer amount.

<sup>22</sup> Net independent collateral amount.

## A. Scope and Application of the Final Rule

### 1. Scoping criteria

The capital rule provides two methodologies for determining total risk-weighted assets: the standardized approach, which applies to all banking organizations, and the advanced approaches, which apply only to “advanced approaches banking organizations,” (or banking organizations subject to Category I or Category II standards)<sup>23</sup> as defined under the capital rule.<sup>24</sup> Both the

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<sup>23</sup> The agencies recently adopted a final rule to revise the criteria for determining the applicability of regulatory capital and liquidity requirements for large U.S. and foreign banking organizations (tailoring final rule). Under the tailoring final rule, an advanced approaches banking organization means a banking organization subject to Category I or Category II standards. Category I standards apply to U.S. global systemically important bank holding companies (U.S. GSIBs) and their depository institution subsidiaries, as identified based on the methodology in the Board’s U.S. GSIB surcharge rule. Category II standards apply to banking organizations that are not subject to Category I standards and that have \$700 billion or more in total consolidated assets or \$75 billion or more in cross-jurisdictional activity and to their depository institution subsidiaries. Category III standards apply to banking organizations that are not subject to Category I or II standards and that have \$250 billion or more in total consolidated assets or \$75 billion or more in any of nonbank assets, weighted short-term wholesale funding, or off-balance-sheet exposure. Category III standards also apply to depository institution subsidiaries of any holding company subject to Category III standards. Category IV standards apply to banking organizations with total consolidated assets of \$100 billion or more, and their depository institution subsidiaries, that do not meet any of the criteria for a higher category of standards. [cite or include each agencies link to release ].

<sup>24</sup> Standardized total risk-weighted assets serve as a floor on advanced approaches total risk-weighted assets. Advanced approaches banking organizations must therefore calculate total risk-weighted assets under both approaches and use the result that produces a more binding capital requirement. Total risk-weighted

standardized approach and the advanced approaches require a banking organization to determine the exposure amount for derivative contracts transacted through a central counterparty (i.e., cleared transactions) and derivative contracts that are not cleared transactions (i.e., noncleared derivative contracts, otherwise known as over-the-counter derivative contracts).<sup>25</sup> As part of the cleared transactions framework, a banking organization also must determine the risk-weighted asset amounts of any contributions or commitments it may have to mutualized loss sharing agreements with central counterparties (i.e., default fund contributions).<sup>26</sup>

The proposal would have replaced CEM with SA-CCR in the capital rule for advanced approaches banking organizations. Thus, for purposes of the advanced approaches, an advanced approaches banking organization would have been required to use either SA-CCR or IMM to calculate the exposure amount of

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assets are the denominator of the risk-based capital ratios; regulatory capital is the numerator.

<sup>25</sup> Under the standardized approach, the risk-weighted asset amount for a derivative contract currently is the product of the exposure amount of the derivative contract calculated under CEM and the risk weight for the type of counterparty as set forth in the capital rule. Under the advanced approaches, the risk-weighted asset amount for a derivative contract currently is derived using either CEM or the internal models methodology, which multiplies the exposure amount (or exposure at default amount) of the derivative contract by a models-based formula that uses risk parameters determined by a banking organization's internal methodologies. *See generally* 12 CFR 3.132 (OCC); 12 CFR 217.132 (Board); and 12 CFR 324.132 (FDIC).

<sup>26</sup> *See generally* 12 CFR 3.35 and 3.133 (OCC); 12 CFR 217.35 and 217.133 (Board); and 12 CFR 324.35 and 324.133 (FDIC).

its noncleared and cleared derivative contracts and to use SA-CCR to determine the risk-weighted asset amount of its default fund contributions. For purposes of the standardized approach, an advanced approaches banking organization would have been required to use SA-CCR (instead of CEM) to calculate the exposure amount of its noncleared and cleared derivative contracts and to determine the risk-weighted asset amount of its default fund contributions. The proposal also would have revised the total leverage exposure measure of the supplementary leverage ratio by replacing CEM with a modified version of SA-CCR.

Banking organizations that are not advanced approaches banking organizations<sup>27</sup> would have had to choose either CEM or SA-CCR to calculate the exposure amount of noncleared and cleared derivative contracts and to determine the risk-weighted asset amount of default fund contributions under the standardized approach.

Some commenters raised concerns with the proposal's use of multiple methods—CEM, SA-CCR, and IMM—to determine the exposure amount of derivative contracts. Specifically, commenters stated that including multiple approaches for calculating the exposure amount of derivative contracts in the capital rule creates regulatory burden and increases the potential for competitive inequalities. The commenters asked the agencies to adopt one methodology that

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<sup>27</sup> Under this final rule, banking organizations that are not advanced approaches banking organizations (i.e., banking organizations subject to Category III or Category IV standards) are permitted to choose either CEM or SA-CCR for purposes of determining standardized risk-weighted assets. *See supra* n. 23.

all banking organizations would be required to use to determine the exposure amount of derivative contracts or, short of that, to allow all banking organizations (i.e., both advanced approaches and non-advanced approaches banking organizations) to elect to use any approach—CEM, SA-CCR, or IMM—to determine the exposure amount for all derivative contracts, as long as the approach is permitted or required under any of the agencies’ rules to calculate the exposure amount of derivative contracts. Other commenters, however, supported allowing advanced approaches banking organizations the option to use IMM for noncleared and cleared derivative contracts to facilitate closer alignment with internal risk-management practices of banking organizations because, according to the commenters, SA-CCR may not adapt dynamically to changes in market conditions.

Some commenters also requested changes to the applicability criteria for a particular methodology under the capital rule. Specifically, commenters asked the agencies to allow advanced approaches banking organizations to use IMM to calculate the exposure amount of derivative contracts under the standardized approach. Some of these commenters also asked the agencies to tailor the application of SA-CCR based on the composition of a banking organization’s derivatives portfolio, rather than solely based on whether the banking organization meets the definition of an advanced approaches banking organization.

Limiting all banking organizations to a single methodology would be inconsistent with the agencies’ efforts to tailor the application of the capital rule to

the risk profiles of banking organizations.<sup>28</sup> In particular, while SA-CCR offers several improvements to the regulatory capital treatment for derivative contracts relative to CEM, it also requires internal systems enhancements and other operational modifications that could be particularly burdensome for smaller, less complex banking organizations. Moreover, allowing banking organizations to use IMM for purposes of determining standardized total risk-weighted assets would be inconsistent with an intended purpose of the standardized approach, which is to serve as a floor to model-derived outcomes under the advanced approaches.

The proposal to require advanced approaches banking organizations to use either SA-CCR or IMM to determine the exposure amount of their noncleared and cleared derivative contracts under the advanced approaches provides meaningful flexibility, promotes consistency for banking organizations that have substantial operations in multiple jurisdictions, and facilitates regulatory reporting and the supervisory assessment of an advanced approaches banking organization's capital management program. An approach that tailors the applicability of SA-CCR based solely on the composition of a banking organization's derivatives portfolio, as suggested by commenters, would be inconsistent with these objectives.

Consistent with the proposal, the final rule includes CEM, SA-CCR, and IMM as methodologies for banking organizations to use to determine the exposure amount of derivative contracts and prescribes which approach a banking

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<sup>28</sup> *See supra* n. 23.



organization must use based on the category of standards applicable to the banking organization.<sup>29</sup> As under the capital rule currently, the final rule does not permit advanced approaches banking organizations to use IMM to calculate the exposure amount of derivative contracts under the standardized approach.

Under the final rule and as reflected further in Table 1, an advanced approaches banking organization generally may use SA-CCR or IMM for purposes of determining advanced approaches total risk-weighted assets,<sup>30</sup> and must use SA-CCR for purposes of determining standardized total risk-weighted assets as well as the supplementary leverage ratio. A non-advanced approaches banking organization may continue to use CEM or elect to use SA-CCR for purposes of the standardized approach and supplementary leverage ratio (as applicable).<sup>31</sup> Where a banking organization has the option to choose among the approaches applicable to such banking organization under the capital rule, it must use the same approach for all purposes. As discussed in section II.C of this Supplementary Information, the agencies will continue to consider the extent to

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<sup>29</sup> *Id.*

<sup>30</sup> As reflected in Table 1, an advanced approaches banking organization must use SA-CCR to determine its exposure to default fund contributions under the advanced approaches.

<sup>31</sup> The tailoring final rule revised the scope of applicability of the supplementary leverage ratio, such that it applies to U.S and foreign banking organizations subject to Category I, Category II, or Category III standards. *See supra* n. 5 and 23. The use of SA-CCR for purposes of the supplementary leverage ratio is discussed in greater detail in section V of this Supplementary Information.

which SA-CCR should be incorporated into areas of the regulatory framework that are not addressed under this final rule in the context of separate rulemakings.

**Table 1 – Scope and Applicability of the Final Rule**

	<b>Noncleared derivative contracts</b>	<b>Cleared transactions framework</b>	<b>Default fund contribution</b>
<b>Advanced approaches banking organizations, advanced approaches total risk-weighted assets</b>	Option to use SA-CCR or IMM	Must use the same approach selected for purposes of noncleared derivative contracts	Must use SA-CCR
<b>Advanced approaches banking organizations, total risk-weighted assets under the standardized approach</b>	Must use SA-CCR	Must use SA-CCR	Must use SA-CCR
<b>Non-advanced approaches banking organizations, total risk-weighted assets under the standardized approach</b>	Option to use CEM or SA-CCR	Must use the same approach selected for purposes of noncleared derivative contracts	Must use the same approach selected for purposes of noncleared derivative contracts

<b>Advanced approaches banking organizations, supplementary leverage ratio</b>	Must use SA-CCR to determine the exposure amount of derivative contracts for total leverage exposure
<b>Banking organizations subject to Category III capital standards, supplementary leverage ratio</b>	Option to use CEM or SA-CCR to determine the exposure amount of derivative contracts for total leverage exposure. A banking organization must use the same approach, CEM or SA-CCR, for purposes of both standardized total risk-weighted assets and the supplementary leverage ratio.

*2. Applicability to certain derivative contracts*

The proposal would have required a banking organization to calculate the exposure amount for all derivative contracts to which the banking organization has an exposure. Commenters raised concerns regarding the treatment of certain derivative contracts under the proposal. Specifically, several commenters asked the agencies to exclude from banking organizations’ regulatory capital calculations derivative contracts with commercial end-user counterparties, while other commenters suggested that the final rule should exclude physically settled forward contracts. Other commenters requested that the agencies allow advanced approaches banking organizations to continue to use CEM to calculate the exposure amount of their derivative contracts with commercial end-user counterparties.

Excluding certain derivative contracts from the application of the capital rule, as suggested by commenters, would exclude a material source of credit risk from a banking organization's regulatory capital requirements. Moreover, requiring a banking organization to use the same approach for its entire derivative portfolio when calculating either its standardized or advanced approaches total risk-weighted assets promotes consistency in the regulatory capital treatment of derivative contracts, and facilitates the supervisory assessment of a banking organization's capital management program.<sup>32</sup> Therefore, consistent with the proposal, the final rule does not provide an exclusion for specific types of derivative contracts nor does it permit the use of different methodologies based on the type of derivative contract or counterparty.

### *3. Application to new derivative contracts and immaterial exposures*

Under the current capital rule, an advanced approaches banking organization can use CEM for a period of 180 days for material portfolios of new derivative contracts and without time limitations for immaterial portfolios of new derivative contracts to satisfy the requirement that the total exposure amount calculated under IMM must be at least equal to the greater of the expected positive exposure amount under either the modelled stress scenario or the modelled un-

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<sup>32</sup> The final rule does not revise the FR Y-15 report to reflect SA-CCR. This is discussed further in section II.C of this Supplementary Information.

stressed scenario multiplied by 1.4.<sup>33</sup> Some commenters noted that the proposal did not replace CEM with SA-CCR for these purposes and suggested providing advanced approaches banking organizations the option to consider SA-CCR, in place of CEM, to satisfy the same conservatism requirements. The agencies recognize that an advanced approaches banking organization may need time to develop systems and collect sufficient data to appropriately model the exposure amount for material portfolios of new derivatives under IMM. Therefore, under the final rule, an advanced approaches banking organization that elects to use IMM to calculate the exposure amount of its derivative contracts under the advanced approaches may use SA-CCR for a period of 180 days for material portfolios of new derivative contracts and for immaterial portfolios of such contracts without time limitations.<sup>34</sup> This treatment is consistent with the current capital rule.

## **B. Effective Date and Compliance Deadline**

The proposal included a transition period, until July 1, 2020, by which time all advanced approaches banking organizations would have been required to implement SA-CCR; however, both advanced approaches and non-advanced

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<sup>33</sup> See 12 CFR 3.132(d)(10) (OCC); 12 CFR 217.132(d)(10) (Board); and 12 CFR 324.132(d)(10) (FDIC).

<sup>34</sup> Similar to CEM, as a standardized framework, SA-CCR is designed to produce sufficiently conservative exposure amounts, compared to those calculated under IMM, that satisfy the conservatism requirement under § \_\_.132(d)(10)(i). The final rule also makes similar conforming changes elsewhere in § \_\_.132(d) and (e) to incorporate SA-CCR in the place of CEM.

approaches banking organizations would have been able to adopt SA-CCR as of the effective date of the final rule.

Several commenters asked the agencies to delay adoption. Specifically, some of these commenters asked that the agencies delay adoption until completion of a comprehensive study on the effect of the proposal, including the effect of SA-CCR on commercial end-users. Other commenters also asked the agencies to delay adoption of SA-CCR, or alternatively, the mandatory compliance date, in order to align its implementation with potential forthcoming changes to the U.S. regulatory capital framework that might be implemented through separate rulemakings.<sup>35</sup> These commenters expressed concern that the interaction between SA-CCR and related aspects of the U.S. regulatory capital framework could result in increased capital requirements for banking organizations that are not reflective of underlying risk. In addition, some of these commenters specifically urged the agencies to pair the adoption of SA-CCR with the implementation of the Basel Committee's revised comprehensive approach for securities financing transactions.<sup>36</sup> These commenters argued that banking organizations could use derivative transactions as a substitute for securities financing transactions and, therefore, adopting SA-CCR without implementing the revised comprehensive

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<sup>35</sup> For example, the commenters noted potential changes to the regulatory framework as a result of the Basel Committee's December 2017 release. *See* "Basel III: Finalising post-crisis reforms," Basel Committee on Banking Supervision, December 2017, <https://www.bis.org/bcbs/publ/d424.pdf>.

<sup>36</sup> *Id.*

approach for securities financing transactions could lead to further concentration in the derivatives market and decreases in the liquidity of the securities financing transactions market. Alternatively, other commenters urged the agencies to set the mandatory compliance date as of January 2022 to align with other anticipated changes to the U.S. regulatory capital framework, and supported allowing banking organizations to adopt SA-CCR or portions of SA-CCR as early as the issuance of the final rule.

Additionally, several commenters asked the agencies to align U.S. implementation of SA-CCR with its implementation schedule in other jurisdictions, so as not to disadvantage U.S. banking organizations and their U.S. clients relative to foreign firms. These commenters argued that a mandatory compliance date of January 2022 would ensure internationally consistent implementation of SA-CCR across jurisdictions and allow banking organizations ample time to implement SA-CCR for purposes of both existing regulatory capital requirements and any anticipated forthcoming changes to the U.S. regulatory capital framework. Other commenters suggested extending the mandatory compliance date to January 2022 for banking organizations that use CEM currently and do not have extensive derivatives portfolios.

Conversely, several commenters asked the agencies to adopt the proposal as a final rule without delay and to retain the proposed July 2020 mandatory compliance date. Of these, some commenters suggested that the effective date for implementation of SA-CCR should be earlier than July 2020 for the entirety or

portions of the SA-CCR rule. These commenters also asked the agencies to provide interim relief through a reduction in risk weights for certain financial products, such as options, if the implementation of SA-CCR is delayed.

The agencies anticipate that the final rule will not materially change the amount of capital in the banking system, and that any change in a particular banking organization's capital requirements, through either an increase or a decrease in regulatory capital, would reflect the enhanced risk sensitivity of SA-CCR relative to CEM, as well as market conditions.<sup>37</sup> In addition, SA-CCR provides important improvements to risk sensitivity and calibration relative to CEM and is responsive to concerns that CEM has not kept pace with market practices used by large banking organizations that are active in the derivatives market. Therefore, the agencies are not delaying adoption of the final rule. The agencies intend to monitor the implementation of SA-CCR as part of their ongoing assessment of the effectiveness of the overall U.S. regulatory capital framework to determine whether there are opportunities to reduce burden and improve its efficiency in a manner that continues to support the safety and soundness of banking organizations and U.S. financial stability.

However, the agencies recognize that the implementation of SA-CCR requires advanced approaches banking organizations to augment existing systems or develop new ones, as all such banking organizations must adopt SA-CCR for

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<sup>37</sup> The estimated impact of the final rule is described in greater detail in section VII of this Supplementary Information.



the standardized approach even if they plan to continue using IMM under the advanced approaches. Accordingly, the final rule includes a mandatory compliance date for advanced approaches banking organizations of January 1, 2022, to permit these banking organizations additional time to adjust their systems, as needed, to implement SA-CCR. The final rule also includes an effective date shortly after publication that permits any banking organization to elect to adopt SA-CCR prior to the mandatory compliance date. For this reason, the agencies do not believe that it is necessary to provide any interim adjustments to the current framework.

Advanced approaches and non-advanced approaches banking organizations that adopt SA-CCR prior to the mandatory compliance date must notify their appropriate Federal supervisor. Non-advanced approaches banking organizations that adopt SA-CCR after the mandatory compliance date also must notify their appropriate federal supervisor. As the final rule does not allow banking organizations to use SA-CCR for a material subset of derivative exposures under either the standardized or advanced approaches, a banking organization cannot early adopt SA-CCR on a partial basis.<sup>38</sup> In addition, the technical revisions in the

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<sup>38</sup> The final rule allows banking organizations that elect to use SA-CCR to continue to use method 1 or method 2 under CEM to calculate the risk-weighted asset amount for default fund contributions until January 1, 2022. *See* section IV.B. of this Supplementary Information for a more detailed discussion on default fund contributions under the final rule.

final rule, as described in section VI of this Supplementary Information, are effective as of the effective date of the final rule.

### **C. Final Rule's Interaction with Agency Requirements and other Proposals**

The implementation of SA-CCR affects other parts of the regulatory framework. Commenters asked that the agencies clarify the interaction between SA-CCR and other existing aspects of the framework that would be affected by the adoption of SA-CCR, including the FDIC's deposit insurance assessment methodology, the Banking Organization Systemic Risk Report (FR Y-15), the stress test projections in the Board's Comprehensive Capital Analysis and Review (CCAR) process, and the OCC's lending limits. Commenters also asked that the agencies clarify the interaction between SA-CCR and potential future revisions to the U.S. regulatory capital framework, including potential implementation of the December 2017 Basel Committee release, *Basel III: Finalising post-crisis reforms* (Basel III finalization standard),<sup>39</sup> and the Board's stressed capital buffer proposal.

#### *1. FDIC deposit insurance assessment methodology*

Some commenters noted that the adoption of SA-CCR could affect the FDIC assessment methodology. In response to this comment, the FDIC notes that a lack of historical data on derivative exposure using SA-CCR makes the FDIC unable to incorporate the SA-CCR methodology into the deposit insurance

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<sup>39</sup> See *supra* n. 35.

assessment pricing methodology for highly complex institutions<sup>40</sup> upon the effective date of this rule. The FDIC plans to review derivative exposure data reported using SA-CCR, and then consider options for addressing the use of SA-CCR in the deposit insurance assessment system. In the meantime, for purposes of reporting counterparty exposures on Schedule RC-O, memorandum items 14 and 15, highly complex institutions must continue to calculate derivative exposures using CEM (as set forth in 12 CFR 324.34(b) under the final rule), but without any reduction for collateral other than cash collateral that is all or part of variation margin and that satisfies the requirements of 12 CFR 324.10(c)(4)(ii)(C)(1)(ii) and (iii) and 324.10(c)(4)(ii)(C)(3)-(7) (as amended under the final rule). Similarly, highly complex institutions must continue to report the exposure amount associated with securities financing transactions, including cleared transactions that are securities financing transactions, using the standardized approach set forth in 12 CFR 324.37(b) or (c) (as amended under the

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<sup>40</sup> A “highly complex institution” is defined as: (1) an IDI (excluding a credit card bank) that has had \$50 billion or more in total assets for at least four consecutive quarters that either is controlled by a U.S. parent holding company that has had \$500 billion or more in total assets for four consecutive quarters, or is controlled by one or more intermediate U.S. parent holding companies that are controlled by a U.S. holding company that has had \$500 billion or more in assets for four consecutive quarters; or (2) a processing bank or trust company. A processing bank or trust company is an insured depository institution whose last three years’ non-lending interest income, fiduciary revenues, and investment banking fees, combined, exceed 50 percent of total revenues (and its last three years fiduciary revenues are non-zero), whose total fiduciary assets total \$500 billion or more and whose total assets for at least four consecutive quarters have been \$10 billion or more. *See* 12 CFR 327.8(g), (s).

final rule). The FDIC is making technical amendments to its assessment regulations to update cross-references to CEM and cash collateral requirements in 12 CFR Part 324.

## *2. The Banking Organization Systemic Risk Report (FR Y-15)*

Some commenters noted that the adoption of SA-CCR could affect reporting on the Banking Organization Systemic Risk Report (FR Y-15), which must be filed by U.S. bank holding companies and certain savings and loan holding companies with \$100 billion or more in total consolidated assets and foreign banking organizations with \$100 billion or more in combined U.S. assets.<sup>41</sup> In particular, these commenters requested that the agencies exclude the alpha factor from the exposure amount calculation under SA-CCR for purposes of the interconnectedness indicator under the FR Y-15. The Board expects to address the use of SA-CCR for purposes of the FR Y-15 in a separate process. Until such time, banking organizations that must report the FR Y-15 should continue to use CEM to determine the potential future exposure of their derivative contracts for purposes of completing line 11(b) of Schedule B, consistent with the current instructions to the form.

## *3. Stress test projections in CCAR*

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<sup>41</sup> See Reporting Form FR Y-15, Instructions for Preparation of Banking Organization Systemic Risk Report (reissued December 2016). The Board recently finalized modifications the reporting panel and certain substantive requirements of Form FR Y-15. See *supra* n. 23.

Commenters asked the Board to clarify how the implementation of SA-CCR will interact with the supervisory stress-testing program. In particular, some commenters asked the Board to clarify when a banking organization must incorporate SA-CCR into any stress test projections made for purposes of the Comprehensive Capital Analysis and Review (CCAR) exercise relative to the timing of its implementation for regulatory capital purposes. Consistent with past capital planning practice, the Board expects to make revisions so as to not require a banking organization to use SA-CCR for purposes of the CCAR exercise prior to adopting SA-CCR to calculate its risk-based and supplementary leverage capital requirements (as applicable) under the capital rule. To promote comparability of stress test results across banking organizations, for the 2020 stress test cycle all banking organizations would continue to use CEM for the CCAR exercise. However, a banking organization that has elected to adopt SA-CCR in 2020 would be required to use SA-CCR for the CCAR exercise beginning with the 2021 stress test cycle, and those who adopt in 2021 must use SA-CCR for the CCAR exercise beginning with 2022 stress test cycle.<sup>42</sup> Finally, a banking organization that does not adopt SA-CCR until the mandatory compliance date in 2022 would not be required to use SA-CCR for the CCAR exercise until the 2023 and all subsequent stress test cycles. Prior to the time of adoption in stress testing, the Board expects to update the Form FR Y-14 to implement these changes and to provide any

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<sup>42</sup> For banking organizations subject to Category IV supervisory stress test requirements, 2022 is an on-cycle year.

necessary information on how to incorporate SA-CCR into a banking organization's stress test results.<sup>43</sup>

Commenters also suggested aligning certain aspects of the CCAR exercise with SA-CCR. Specifically, commenters asked the Board to revise the CCAR methodology for estimating losses under the largest single counterparty default scenario to distinguish between margined and unmargined counterparty relationships in a manner consistent with SA-CCR. The methodologies for measuring counterparty exposure under SA-CCR and supervisory stress testing are designed to capture different types of risks. In particular, the largest single counterparty default exercise seeks to ensure that a banking organization can absorb losses associated with the default of any counterparty, in addition to losses associated with adverse economic conditions, in an environment of economic uncertainty. The Board regularly reviews its stress testing models, and will continue to evaluate the appropriateness of assumptions related to the largest counterparty default component.

#### *4. Swap margin rule*

Commenters noted that the agencies' margin and capital requirements for covered swap entities rule (swap margin rule) uses a methodology similar to CEM to quantify initial margin requirements for non-cleared swaps and non-cleared

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<sup>43</sup> Banking organizations that report information on the FR Y-14 under SA-CCR must do so for all schedules, including DFAST and CCAR. The anticipated standards described in this section would apply equally for purposes of DFAST and CCAR.

security-based swaps.<sup>44</sup> This final rule does not affect the swap margin rule or the calculation of appropriate margin and, therefore, the implementation of SA-CCR will not require a banking organization to change the way it complies with those requirements.

#### *5. OCC Lending Limits*

In the proposal, the OCC proposed to revise its lending limit rule at 12 CFR part 32, to update cross-references to CEM in the standardized approach and to permit SA-CCR as an option for calculation of exposures under lending limits. Commenters generally supported the OCC's proposal to align measurement of counterparty credit risk across regulatory requirements. The OCC agrees with the commenters and therefore the final rule adopts revisions to the lending limits rule as proposed.

#### *6. Single Counterparty Credit Limit (SCCL)*

As noted in the proposal, the Board's single counterparty credit limit (SCCL) rule authorizes a banking organization subject to the SCCL to use any methodology that such a banking organization is authorized to use under the capital rule to determine the credit exposure associated with a derivative contract for purposes of the SCCL rule.<sup>45</sup> Thus, as under the proposal, as of the mandatory

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<sup>44</sup> 12 CFR part 45 (OCC); 12 CFR part 237 (Board); and 12 CFR part 349 (FDIC).

<sup>45</sup> See 83 FR 38460 (August 6, 2018). The tailoring final rule revised the scope of applicability of the SCCL rule, such that it applies to U.S and foreign banking organizations subject to Category I, II, or III standards, as applicable, and foreign

compliance date for SA-CCR, to determine the credit exposure associated with a derivative contract under the SCCL rule, an advanced approaches banking organization must use SA-CCR or IMM and a banking organization subject to Category III standards, which include the SCCL rule, must use whichever of CEM or SA-CCR that it uses to calculate its standardized total risk-weighted assets.

#### *7. Potential Future Revisions to the Agencies' Rules*

Commenters requested additional information on the interaction of SA-CCR with other potential revisions that the agencies may make to their respective regulatory capital rules. Potential revisions identified by commenters included the implementation of the Basel III finalization standard and the Board's proposal to integrate the capital rule and CCAR and stress test rules published in April 2018.<sup>46</sup> In addition, the proposed net stable funding ratio would cross-reference netting provisions of the agencies' supplementary leverage ratio that are amended under the final rule.<sup>47</sup> The agencies will consider the calibration and operation of SA-CCR for purposes of any such potential revisions through the rulemaking process.

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banking organizations with global consolidated assets of \$250 billion or more. *See supra* n. 23.

<sup>46</sup> *See* 83 FR 18160 (April 25, 2018).

<sup>47</sup> *See* 81 FR 35124 (June 1, 2016).



### **III. Mechanics of the Standardized Approach for Counterparty Credit**

#### **Risk**

##### **A. Exposure amount**

Under the proposal, the exposure amount of a netting set would have been equal to an alpha factor of 1.4 multiplied by the sum of the replacement cost of the netting set and the PFE of the netting set. The purposes of the alpha factor were to address certain risks that are not captured under SA-CCR and to ensure that exposure amounts produced under SA-CCR generally would not be lower than those under IMM, in support of its use as a broadly applicable and standardized methodology. In addition, the proposal would have set the exposure amount at zero for a netting set that consists of only sold options in which the counterparty to the options paid the premiums up front and that the options within the netting set are not subject to a variation margin agreement.

Commenters stated that the proposal would increase the exposure amount of derivative contracts with commercial end-users, relative to CEM, because commercial end-users often have directional, unmargined derivative portfolios, which would not receive the benefits of collateral recognition and netting under SA-CCR in the form of a reduction to the replacement cost and PFE amounts. As a result, commenters expressed concern that banking organizations would pass the costs of higher capital to commercial end-users in the form of higher fees or, alternatively, that banking organizations could be less willing to engage in derivative contracts with commercial end-users who may lack the capability and

scale to provide financial collateral recognized under the capital rule.

Commenters also expressed concern that any increase in hedging costs for commercial end-users could have an adverse impact on the broader economy.

Commenters generally suggested that the agencies address these issues through changes to the alpha factor, either by removing it for all derivative contracts with commercial end-user counterparties, or only for such contracts that are unmargined. Commenters asserted that providing relief for derivative contracts with commercial end-user counterparties would not undermine the goals of the proposal because these transactions comprise a small percentage of outstanding derivatives and may present less risk than other directional, unmargined derivatives. In support of this assertion, commenters argued that commercial end-users typically provide collateral that is not recognized as financial collateral under the capital rule but nonetheless reduces the counterparty credit risk of the underlying transaction.<sup>48</sup> Commenters also argued that removing or reducing the alpha factor for such derivative contracts would be consistent with congressional and regulatory efforts designed to facilitate the ability of such counterparties to enter into derivative contracts to manage commercial risks.<sup>49</sup>

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<sup>48</sup> The types of collateral that commercial end-users provide that do not qualify as financial collateral under the capital rule is discussed in further detail in section III.B. of this Supplementary Information.

<sup>49</sup> *See supra* n. 17.

Some commenters argued that applying the alpha factor to derivative contracts with commercial end-user counterparties is misaligned with the risks that the alpha factor was intended to address under IMM, such as wrong-way risk.<sup>50</sup> Some commenters recommended reducing the alpha factor to 0.65 for derivative contracts with investment grade commercial end-user counterparties, or with non-investment grade commercial end-user counterparties that are supported by a letter of credit or provide a first-priority lien on assets that do not present wrong-way risk with respect to the underlying derivative contract. These commenters argued that reducing the alpha factor to 0.65 would improve risk sensitivity and more closely align with the treatment of investment-grade corporate exposures under the revised Basel III finalization standard.<sup>51</sup>

The agencies recognize that derivative contracts between banking organizations and commercial end-users may include credit risk mitigants that do not qualify as financial collateral under the capital rule.<sup>52</sup> In addition, and in contrast to derivative contracts with financial end-users, derivative contracts with

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<sup>50</sup> Wrong way risk means that the size of an 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. *See supra* n. 10.

<sup>51</sup> *See supra* n. 35.

<sup>52</sup> Under §\_\_.2 of the capital rule, financial collateral means cash or liquid and readily marketable securities, in which a banking organization has a perfected first-priority security interest in the collateral.

commercial end-users have heightened potential to present right-way risk.<sup>53</sup> The final rule removes the alpha factor from the exposure amount formula for derivative contracts with commercial end-user counterparties. The agencies intend for this treatment to better align with the counterparty credit risk presented by such exposures due to the presence of credit risk mitigants and the potential for right-way risk. In particular, the agencies recognize that derivative exposures to commercial end-user counterparties may be less likely to present the types of risks that the alpha factor was designed to address, as discussed previously, and therefore believe that removing the alpha factor for such exposures improves the calibration of SA-CCR. The agencies note that this approach also may mitigate the concerns of commenters regarding the potential effects of the proposal relative to congressional and other regulatory actions designed to mitigate the effect that post-crisis derivatives market reforms have on the ability of these parties to enter into derivative contracts to manage commercial risks. The agencies intend to monitor the implementation of SA-CCR as part of their ongoing assessment of the effectiveness of the overall U.S. regulatory capital framework to determine whether there are opportunities to improve the ability of commercial end-users to enter into derivative contracts with banking organizations in a manner that

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<sup>53</sup> Right way risk means that the size of an exposure is negatively correlated with the counterparty's probability of default. That is, the exposure amount of the derivative contract decreases as the counterparty's probability of default increases.

continues to support the safety and soundness of banking organizations and U.S. financial stability.

Beyond the concerns related to commercial end-users, commenters recommended other changes to the alpha factor. Several commenters suggested removing the alpha factor from the SA-CCR methodology altogether, whereas other commenters suggested that the alpha factor should apply only to the PFE component. Some commenters supported reducing or eliminating the alpha factor as it applies to all or a subset of derivative contracts.

Commenters that recommended removing the alpha factor argued that the rationale for adopting the alpha factor for purposes of IMM does not apply in the context of SA-CCR because, in contrast to IMM, SA-CCR is a non-modelled approach and does not require an adjustment to account for model risk. Similarly, other commenters noted that the alpha factor is less meaningful in the United States because, under the capital rule, the standardized approach serves as a floor to the advanced approaches for total risk-weighted assets. Some of these commenters also stated that the potential elimination of the advanced approaches in connection with the U.S. implementation of the Basel III finalization standard would eliminate use of the IMM, which would undermine the need for the alpha factor. Other commenters argued that because IMM incorporates relatively higher stressed-volatility inputs while the supervisory factors under SA-CCR are static, attempts to have SA-CCR yield a more conservative exposure amount than IMM in all cases could result in SA-CCR producing excessive capital requirements that

are disconnected from the actual risk of the underlying exposures. Alternatively, other commenters recommended only applying the alpha factor to PFE. These commenters argued that applying the alpha factor to replacement cost would be inappropriate as the fair value of on-balance sheet derivatives are not subject to model uncertainty.

Commenters that supported reducing the alpha factor recommended revising the calibration to reflect the derivatives market reforms that followed the financial crisis, such as mandatory clearing requirements promulgated by the Commodity Futures Trading Commission (CFTC)<sup>54</sup> and the swap margin rule.<sup>55</sup> Of these, some commenters supported applying a lower alpha factor to heavily over-collateralized portfolios in order to provide greater collateral recognition.

Additionally, some commenters expressed concern that the alpha factor could adversely affect custody banking organizations. In particular, the commenters asserted that custody banking organizations do not maintain large portfolios of derivative contracts across a broad range of tenors (i.e., the amount of time remaining before the end date of the derivative contract) and asset classes and that the foreign exchange derivative portfolio of a custody banking organization is intended to serve the investment needs of the custody banking organization's clients rather than to take on economic risk.

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<sup>54</sup> See 17 CFR part 50.

<sup>55</sup> See *supra* n. 1.

In contrast, some commenters who supported the alpha factor suggested that concerns regarding its impact on the exposure amount calculated under SA-CCR are overstated. Specifically, these commenters argued that banking organizations have incentives to minimize risk for regulatory capital purposes and that internal models failed to account properly for risk during the crisis and have been criticized in analyses conducted since then. In addition, these commenters stated that although SA-CCR uses estimates of volatility for individual positions that are based on observed, crisis period volatilities, greater recognition of netting and margin under SA-CCR may fully offset any conservatism resulting from the use of updated volatility estimates.

As noted in the proposal, the alpha factor helps to instill an appropriate level of conservatism and further support the use of SA-CCR as a broadly applicable and standardized methodology. Additionally, the alpha factor serves to capture certain risks (e.g., wrong-way risk, non-granular risk exposures, etc.) that are not fully reflected under either IMM or SA-CCR. Adopting commenters' recommendations could reduce the efficacy of SA-CCR as a standardized approach that serves a floor to internal models-based approaches. For large, internationally active banking organizations, consistency with the Basel Committee standard also helps to reduce operational burden and minimize any incentives such banking organizations may have to book activities in legal entities located in jurisdictions that provide relatively more favorable regulatory capital treatment.

Accordingly, the final rule incorporates an alpha factor of 1.4 in the exposure amount formula for a derivative contract, except for derivative contracts with commercial end-user counterparties for which the alpha factor is removed under the final rule. The exposure amount formulas are represented as follows:

$$\textit{exposure amount} = 1.4 * (\textit{replacement cost} + \textit{PFE}).$$

However, for a derivative contract with a commercial end-user counterparty, the exposure amount is represented as follows:

$$\textit{exposure amount} = (\textit{replacement cost} + \textit{PFE}).$$

To operationalize the exposure amount formula for derivative contracts with commercial end-user counterparties, the final rule provides a definition of commercial end-user. Under the final rule, a commercial end-user means a company that is using derivatives to hedge or mitigate commercial risk, and is not a financial entity listed in section 2(h)(7)(C)(i)(I) through (VIII) of the Commodity Exchange Act<sup>56</sup> or is not a financial entity listed in section 3C(g)(3)(A)(i) through (viii) of the Securities Exchange Act.<sup>57</sup> The definition also includes an entity that qualifies for the exemption from clearing under section 2(h)(7)(A) of the Commodity Exchange Act by virtue of section 2(h)(7)(D) of the Commodity Exchange Act, including entities that are exempted from the definition of financial

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<sup>56</sup> 7 U.S.C. 2(h)(7)(C)(i)(I) through (VIII). The commercial end-user definition also applies to transactions with affiliates of entities that enter into derivative contracts on behalf of those entities that meet the criteria under section 2(h)(7)(D) of the Commodity Exchange Act.

<sup>57</sup> 15 U.S.C. 78c-3(g)(3)(A)(i) through (viii).



entity under section 2(h)(7)(C)(iii) of the Commodity Exchange Act;<sup>58</sup> or qualifies for the exemption from clearing under section 3C(g)(1) of the Securities Exchange Act by virtue of section 3C(g)(4) of the Securities Exchange Act.<sup>59</sup> Including these entities within the commercial end-user definition permits affiliates that hedge commercial risks on behalf of a parent entity that is not a financial entity to qualify as a commercial end-user, which would accommodate business organizations that hedge commercial risks through transactions conducted by affiliates rather than directly by the parent company. Overall, the definition covers commercial end-users and generally excludes financial entities.

This definition has the advantage of being generally consistent with other regulations promulgated by the agencies, including the swap margin rule.<sup>60</sup> Referencing provisions of the Commodities Exchange Act or Securities Exchange Act promotes consistency with other regulations and offers a significant compliance benefit to institutions subject to the final rule.<sup>61</sup> In addition, in the swap margin rule context, the agencies observed that differences in risk profiles justified distinguishing between financial end-users and non-financial end-users,

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<sup>58</sup> 7 U.S.C. 2(h)(7)(A), (C)(iii), and (D).

<sup>59</sup> 15 U.S.C. 78c-3(g)(1) and (4).

<sup>60</sup> *See supra* n. 1.

<sup>61</sup> The definition of a commercial end-user in the final rule does not extend to an organization exempted by the CFTC pursuant to section 2(h)(7)(C)(ii) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(C)(ii)) or exempted by the Securities and Exchange Commission pursuant to section 3C(g)(3)(B) of the Securities Exchange Act (15 U.S.C. 78c-3(g)(3)(B)).

on the grounds that financial firms present a higher level of risk than other types of counterparties and are more likely to default during a period of financial stress, thus posing greater risk to the safety and soundness of the counterparty and systemic risk.<sup>62</sup> While some commenters requested an exemption for entities that was slightly narrower or broader than the definition the agencies are adopting in the final rule, as noted above, the distinction drawn by this definition is appropriate to differentiate derivative transactions that have the potential to present right-way risk from those that do not.<sup>63</sup>

Other commenters asked the agencies to clarify that the proposal would apply an exposure amount of zero to sold options in which the counterparty to the options has paid the premiums up front and that are not subject to a variation margin agreement. Consistent with the proposal, under the final rule, an exposure amount of zero applies to sold options that are not subject to a variation margin agreement and for which the counterparty has paid the premiums up front.<sup>64</sup> This treatment is appropriate because the counterparty to the option has no future payment obligation under the derivative contract and the banking organization, as the option seller, has no exposure to counterparty credit risk.

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<sup>62</sup> See 80 FR 74839, 74853 (April 1, 2016).

<sup>63</sup> See 80 FR at 74853 (April 1, 2016).

<sup>64</sup> See § \_\_.132(c)(5)(iii) of the final rule.

## **B. Definition of Netting Sets and Treatment of Financial Collateral**

Under the capital rule, a netting set is currently defined as a group of transactions with a single counterparty that are subject to a qualifying master netting agreement (QMNA) or a qualifying cross-product master netting agreement. The proposal would have revised the definition of netting set to mean either one derivative contract between a banking organization and a single counterparty, or a group of derivative contracts between a banking organization and a single counterparty that are subject to the same qualifying master netting agreement or the same qualifying cross-product master netting agreement. The proposal would have allowed a banking organization to calculate the exposure amount of multiple derivative contracts under the same netting set so long as each derivative contract is subject to the same qualifying master netting agreement (QMNA).

Some commenters raised concerns with the proposal's reliance on netting to reduce exposure amounts on a point-in-time basis instead of on a dynamic basis and suggested revising the proposal to account for situations that may arise during stress periods that could disrupt the availability of netting. As an example, the commenters noted that during the financial crisis some banking organizations requested to novate their "in-the-money" derivative contracts with another counterparty, while leaving the banking organization's "out-of-the-money" positions with the initial counterparty. The agencies believe it is appropriate to allow for the netting of derivative contracts under SA-CCR on a point-in-time

basis, as allowing for netting on a point-in-time basis under SA-CCR is consistent with U.S. generally accepted accounting principles (GAAP) and facilitates implementation of the final rule. The agencies' capital rule relies significantly on banking organizations' U.S. GAAP balance sheets and thus requires banking organizations to determine capital ratios on a point-in-time basis. The risks related to stress events identified by the commenters may be further addressed in the context of stress testing and resolution planning. Thus, the agencies are adopting as final the netting treatment under the proposal, with the exception of the availability of netting among collateralized-to-market and settled-to-market derivative contracts, which is discussed below in section III.D.4. of this Supplementary Information.

Under the final rule, a group of derivative contracts subject to the same QMNA are part of the same netting set.<sup>65</sup> In general, a QMNA means a netting agreement that permits a banking organization to terminate, close-out on a net basis, and promptly liquidate or set off collateral upon an event of default of the counterparty.<sup>66</sup> To qualify as a QMNA, the netting agreement must satisfy certain operational requirements under § \_\_.3 of the capital rule.<sup>67</sup>

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<sup>65</sup> The definition of netting set also clarifies that a netting set can be composed of a single derivative contract and retains certain addendums to the definition that are specific to IMM.

<sup>66</sup> See 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC). In 2017, the agencies adopted a final rule that requires GSIBs and the U.S. operations of foreign GSIBs to amend their qualified financial contracts to prevent their immediate cancellation or termination if such a banking organization enters

Some commenters expressed concern that the proposed definition of netting set could inadvertently affect the treatment for repo-style transactions under other provisions of the capital rule. The proposed definition was intended to reflect that under SA-CCR a banking organization would determine the exposure amount for a derivative contract at the netting set level, which would have included a single derivative contract. However, to address the commenters' concern, the agencies have revised the definition of netting set under the final rule to mean a group of transactions with a single counterparty that are subject to a QMNA and, with respect to derivative contracts only, also includes a single derivative contract between a banking organization and a counterparty.<sup>68</sup> With respect to repo-style transactions, this definition is consistent with the current capital rule.

The proposal set forth definitions for variation margin, variation margin amount, independent collateral, and net independent collateral amount. The proposal would have defined variation margin as financial collateral that is subject to a collateral agreement and provided by one party to its counterparty to meet the

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bankruptcy or a resolution process. Qualified financial contracts include derivative contracts, securities lending, and short-term funding transactions such as repurchase agreements. Under the 2017 final rule, the agencies revised the definition of QMNA under the capital rule such that qualified financial contracts could be subject to a QMNA (notwithstanding other operational requirements). *See* 82 FR 42882 (September 12, 2017).

<sup>67</sup> *See supra* n. 2.

<sup>68</sup> Consistent with the current definition of netting set, for purposes of the internal models methodology in § \_\_.132(d), netting set also includes a qualifying cross-product master netting agreement.

performance of the first party's obligations under one or more derivative contracts between the parties as a result of a change in value of such obligations since the last exchange of such collateral. The variation margin amount would have been equal to the fair value amount of the variation margin that a counterparty to a netting set has posted to a banking organization less the fair value amount of the variation margin posted by the banking organization to the counterparty.

The proposal would have required the variation margin amount to be adjusted by the existing standard supervisory haircuts under § \_\_.132(b)(2)(ii)(A)(1) of the capital rule. The standard supervisory haircuts reflect potential future changes in the value of the financial collateral by adjusting for any potential decrease in the value of the financial collateral received by a banking organization and any potential increase in the value of the financial collateral posted by the banking organization over supervisory-provided holding periods. The standard supervisory haircuts are based on a ten-business-day holding period, and the capital rule requires a banking organization to adjust, as applicable, the standard supervisory haircuts to align with the associated derivative contract (or repo-style transaction) according to the formula in § \_\_.132(b)(2)(ii)(A)(4).<sup>69</sup>

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<sup>69</sup> As described in section III.D. of this Supplementary Information, the final rule applies a five-day holding period for the purpose of the margin period of risk to all derivative contracts subject to a variation margin agreement that are client-facing derivative transactions, as defined in the final rule, regardless of the method the banking organization uses to calculate the exposure amount of the derivative contract. As described in section VI.E. of this Supplementary Information, the

The proposal would have defined independent collateral as financial collateral, other than variation margin, that is subject to a collateral agreement, or in which a banking organization 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 prior security interest granted to a CCP in connection with collateral posted to that CCP), and the amount of which does not change directly in response to the change in value of the derivative contract or contracts that the financial collateral secures.

Net independent collateral amount would have been defined as the fair value amount of the independent collateral that a counterparty to a netting set has posted to a banking organization less the fair value amount of the independent collateral posted by the banking organization to the counterparty, excluding such amounts held in a bankruptcy-remote manner,<sup>70</sup> or posted to a qualifying central counterparty (QCCP)<sup>71</sup> and held in conformance with the operational requirements in § \_\_.3 of the capital rule. As with the variation margin amount, the independent

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collateral haircuts for such transactions similarly reflect a five-business-day holding period under the final rule.

<sup>70</sup> “Bankruptcy remote” is defined in § \_\_.2 of the capital rule. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

<sup>71</sup> “Qualifying central counterparty” is defined in § \_\_.2 of the capital rule. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

collateral amount would have been subject to the standard supervisory haircuts under § \_\_.132(b)(2)(ii)(A)(1) of the capital rule.

The agencies did not receive comment on the proposed definitions of variation margin, variation margin amount, independent collateral, and independent collateral amount. Several commenters, however, advocated for recognition of alternative collateral arrangements under SA-CCR to address the potential impact of the proposal on derivative contracts with certain counterparties, including commercial end-users. As noted above, the commenters argued that SA-CCR could unduly increase capital requirements for derivative exposures to commercial end-user counterparties because they typically do not provide collateral in the form of cash or liquid and readily marketable securities. Commenters stated that companies, including commercial end-users, regularly use alternative security arrangements, such as liens on assets, a letter of credit, or a parent company guarantee, to offset the counterparty credit risk of their derivative contracts, and that banking organizations should be able to recognize the credit risk-mitigating benefits of such arrangements under SA-CCR.

In support of their recommendation, commenters noted that a line of credit functions similarly to the exchange of margin because the line of credit is available to be drawn upon by the banking organization in advance of default as the counterparty's creditworthiness deteriorates. Moreover, the line of credit can be structured so that its amount may increase over the life of the derivative contract based on certain credit quality metrics. Commenters added that common



industry practice allows banking organizations to accept these forms of collateral from counterparties and to reflect their credit risk-mitigating benefits when they calculate the exposure amount under IMM. Commenters also argued that derivative contracts with commercial end-users may present right-way risk for banking organizations, in contrast to derivative contracts with financial institution counterparties, and that this feature of these transactions supports recognition of alternative forms of collateral.

The capital rule only recognizes certain forms of collateral that qualify as “financial collateral,” as defined under the rule.<sup>72</sup> In general, the items that qualify as financial collateral under the capital rule exhibit sufficient liquidity and asset quality to serve as credit risk mitigants for risk-based capital purposes. Consistent with the capital rule, the final rule does not recognize the alternative collateral arrangements suggested by commenters. Liens and asset pledges, by contrast, may not be rapidly available to support losses in an event of default because the assets they attach to can be illiquid and thus difficult to value and sell for cash after enforcement of a security interest in the collateral or foreclosure, which is inconsistent with the principle that derivatives should be able to be closed out easily and quickly in an event of default.<sup>73</sup> In addition, recognizing letters of credit would add significant complexity to the capital rule. In particular,

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<sup>72</sup> “Financial collateral” is defined in § \_\_.2 of the capital rule. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

<sup>73</sup> *See* 78 FR 62018, 62106 (October 11, 2013).

recognition of letters of credit as financial collateral would require the introduction of appropriate qualification criteria, as well as a framework for considering the counterparty credit risk of institutions providing the letters of credit. The agencies also believe that the removal of the alpha factor for derivative contract exposures to commercial end-users helps to address commenters' concerns that the proposal would have resulted in unduly high risk-weighted asset amounts for derivative contracts with commercial end-user counterparties.

Accordingly, the agencies are adopting without change the proposed definitions for variation margin, independent collateral, variation margin amount, and independent collateral amount, as well as the proposed application of the standard supervisory haircuts under the capital rule.

### **C. Replacement cost**

The proposal would have provided separate formulas to determine replacement cost that apply depending on whether the counterparty to a banking organization is required to post variation margin. Specifically, the replacement cost for a netting set that is not subject to a variation margin agreement would have equaled the greater of (1) the sum of the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set, less the

net independent collateral amount applicable to such derivative contracts, or (2) zero.<sup>74</sup>

For a netting set that is subject to a variation margin agreement where the counterparty is required to post variation margin, replacement cost would have equaled the greater of (1) 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; (2) 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 (3) zero. As noted in the proposal, the formula to determine the replacement cost of a netting set subject to a variation margin agreement would have accounted for the maximum possible unsecured exposure amount of the netting set that would not trigger a variation margin call. For example, a netting set with a high variation margin threshold has a higher replacement cost compared to an equivalent netting set with a lower variation margin threshold. Therefore, the proposal would have provided definitions for variation margin threshold and the minimum transfer amount.

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<sup>74</sup> Replacement cost is calculated based on the assumption that the counterparty has defaulted. Therefore, this calculation cannot include valuation adjustments based on counterparty's credit quality, such as CVA, which reflect the discounted present value of losses if the counterparty were to default in the future.

Under the proposal, the variation margin threshold would have meant the maximum amount of a banking organization's credit exposure to its counterparty that, if exceeded, would require the counterparty to post variation margin to the banking organization. The minimum transfer amount would have meant the smallest amount of variation margin that may be transferred between counterparties to a netting set. The proposal included this treatment to address transactions for which the variation margin agreement includes a variation margin threshold that is set at a level high enough to make the netting set effectively unmargined. In such a case, the variation margin threshold would result in an inappropriately high replacement cost, because it is not reflective of the risk associated with the derivative contract but rather the terms of the variation margin agreement. To address this issue, the proposal would have provided that the exposure amount of a netting set subject to a variation margin agreement could not exceed the exposure amount of the same netting set calculated as if the netting set were not subject to a variation margin agreement.<sup>75</sup>

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<sup>75</sup> There could be a situation unrelated to the value of the variation margin threshold in which the exposure amount of a margined netting set is greater than the exposure amount of an equivalent unmargined netting set. For example, in the case of a margined netting set composed of short-term transactions with a residual maturity of ten business days or less, the risk horizon equals the MPOR, which under the final rule is set to a minimum floor of ten business days. The risk horizon for an equivalent unmargined netting set also is set to ten business days because this is the floor for the remaining maturity of such a netting set. However, the maturity factor for the margined netting set is greater than the one for the equivalent unmargined netting set because of the application of a factor of 1.5 to margined derivative contracts. In such an instance, the exposure amount of a

In addition, the proposal would have provided adjustments for determining the replacement cost of a netting set that is subject to multiple variation margin agreements or a hybrid netting set, which is a netting set composed of at least one derivative contract subject to a 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, and for multiple netting sets subject to a single variation margin agreement.

Some commenters supported the proposed replacement cost calculation and, in particular, the cap based on the margin exposure threshold and minimum transfer amount. The commenters argued that the unmargined exposure amount more accurately reflects the exposure amount for short-dated trades subject to a higher MPOR, as the close-out period reflected in MPOR cannot be increased beyond the maturity of the transactions. Other commenters advocated subtracting incurred CVA from the exposure amount of a netting set. In support of their recommendation, the commenters noted that IMM allows incurred CVA to be

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margined netting set is more than the exposure amount of an equivalent unmargined netting set by a factor of 1.5, thus triggering the cap. In addition, in the case of margin disputes, the MPOR of a margined netting set is doubled, which could further increase the exposure amount of a margined netting set comprised of short-term transactions with a residual maturity of ten business days or less above an equivalent unmargined netting set. The agencies believe, however, that such instances rarely occur and thus would have minimal effect on banking organizations' regulatory capital. Therefore the final rule limits the exposure amount of a margined netting set to no more than the exposure amount of an equivalent unmargined netting set. However, the agencies expect to monitor the application of this treatment under the final rule.

subtracted from EAD, and that the agencies previously extended such treatment to advanced approaches banking organizations that use CEM to calculate advanced approaches risk-weighted assets.

The final rule adopts the proposed replacement cost formulas and related definitions, with one modification. The agencies recognize that in determining the fair value of a derivative on a banking organization's balance sheet, the recognized CVA on the netting set of OTC derivative contracts is intended to reflect the credit quality of the counterparty. The final rule permits advanced approaches banking organizations to reduce EAD, calculated according to SA-CCR, by the recognized CVA on the balance sheet, for the purposes of calculating advanced approaches total risk-weighted assets. This treatment is consistent with the recognition of CVA under CEM as it applies to advanced approaches banking organizations that use CEM for purposes of determining advanced approaches total risk-weighted assets.<sup>76</sup>

The final rule adopts without change the proposed replacement cost formulas and related definitions, as well as the proposed treatment to cap the exposure amount for a margined netting set at the maximum exposure amount for an unmargined, but otherwise identical, netting set.

Under § \_\_.132(c)(6)(ii) of the final rule, the replacement cost of a netting set that is not subject to a variation margin agreement is represented as follows:

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<sup>76</sup> See 80 FR 41409 (July 15, 2015).

$$\text{replacement cost} = \max\{V - C; 0\},$$

where

V is the fair values (after excluding any valuation adjustments) of the derivative contracts within the netting set; and

C is the net independent collateral amount applicable to such derivative contracts.

The same requirement applies to a netting set that is subject to a variation margin agreement under which the counterparty is not required to post variation margin. For such a netting set, C also includes the negative amount of the variation margin that the banking organization posted to the counterparty (thus increasing replacement cost).

For netting sets subject to a variation margin agreement under which the counterparty must post variation margin, the replacement cost, as provided under § \_\_.132(c)(6)(i) of the final rule, is represented as follows:

$$\text{replacement cost} = \max\{V - C; VMT + MTA - NICA; 0\},$$

where

V is 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 such derivative contracts;

VMT is the variation margin threshold applicable to the derivative contracts within the netting set; and

MTA is the minimum transfer amount applicable to the derivative contracts within the netting set.

NICA is the net independent collateral amount applicable to such derivative contracts.

For a netting set that is subject to multiple variation margin agreements, or a hybrid netting set, a banking organization must determine replacement cost using the methodology described in § \_\_.132(c)(11)(i) of the final rule. Under this paragraph, a banking organization must use the standard replacement cost formula (described in § \_\_.132(c)(6)(i) for a netting set subject to a variation margin agreement), except that the variation margin threshold equals the sum of the variation margin thresholds of all the 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.

For multiple netting sets subject to a single variation margin agreement, a banking organization must assign a single replacement cost to the multiple netting sets, according to the following formula, as provided under § \_\_.132(c)(10)(i) of the final rule:

$$\text{Replacement Cost} = \max\{\sum_{NS} \max\{V_{NS}; 0\} - \max\{C_{MA}; 0\}; 0\} + \max\{\sum_{NS} \min\{V_{NS}; 0\} - \min\{C_{MA}; 0\}; 0\},$$

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.

The component  $\max\{\sum_{NS} \max\{V_{NS}; 0\} - \max\{C_{MA}; 0\}; 0\}$  reflects the exposure amount produced by netting sets that have current positive market value. The banking organization collects variation margin and independent collateral from its counterparty that can offset the current positive market value of these netting sets (i.e., this component contributes to replacement cost only in instances when  $C_{MA}$  is positive).

However, netting sets that have current negative market value are not allowed to offset the exposure amount. The component  $\max\{\sum_{NS} \min\{V_{NS}; 0\} - \min\{C_{MA}; 0\}; 0\}$  reflects the exposure amount produced when the banking organization posts variation margin and independent collateral to its counterparty (i.e., this component contributes to replacement cost only in instances when  $C_{MA}$  is negative).

#### **D. Potential Future Exposure**

Under the proposal, the PFE for a netting set would have equaled the product of the PFE multiplier and the aggregated amount. The aggregated amount would have equaled the sum of all hedging set amounts within a netting set. To determine the aggregated amount, a banking organization would have been required to determine the hedging set amounts for the derivative contracts within a

netting set, where a hedging set is comprised of derivative contracts that share similar risk factors based on asset class (i.e., interest rate, exchange rate, credit, equity, and commodity).

Under the proposal, a banking organization would have used a two-step process to determine the hedging set amount for an asset class. First, a banking organization would have determined the composition of a hedging set using the asset class definitions set forth in the proposal. Second, the banking organization would have determined hedging set amount using asset class specific formulas. The hedging set amount formulas require a banking organization to determine an adjusted derivative contract amount for each derivative contract, and to aggregate those amounts to arrive at the hedging set amount for an asset class. Section III.D.1 of this Supplementary Information discusses the methodology for determining the composition of a hedging set using the asset class distinctions set forth in the final rule. Section III.D.2. of this Supplementary Information discusses the methodology for determining the adjusted derivative contract amount for each derivative contract. Section III.D.3. of this Supplementary Information discusses the PFE multiplier. Section III.D.4. of this Supplementary Information discusses the PFE calculation for nonstandard margin agreements.

As discussed below, the final rule adopts the formula for determining PFE as proposed. Under § \_\_.132(c)(7) of the final rule, the PFE of a netting set equals the product of the PFE multiplier and the aggregated amount. The final rule

defines the aggregated amount as the sum of all hedging set amounts within the netting set. This is represented as follows:

$$PFE = PFE \text{ multiplier} * \text{aggregated amount},$$

where aggregated amount is the sum of each hedging set amount within the netting set.

### *1. Hedging set amounts*

Under the proposal, a banking organization would have determined the hedging set amount by asset class. To specify each asset class, the proposal would have maintained the existing definitions in the capital rule for interest rate, exchange rate, credit, equity, and commodity derivative contracts. The proposal would have provided hedging set definitions for each asset class and sought comment on an alternative approach for the definition and treatment of exchange rate derivative contracts to recognize the economic relationships of exchange rate chains (i.e., when more than one currency pair can offset the risk of another). For example, a Yen/Dollar forward contract and a Dollar/Euro forward contract, taken together, may be economically equivalent, with properly set notional amounts, to a Yen/Euro forward contract when they are subject to the same QMNA. The proposal also would have included separate treatments for volatility derivative contracts and basis derivative contracts.

Some commenters recommended that the agencies revise the definitions for interest rate, exchange rate, equity, and commodity derivative contracts for SA-CCR. In particular, the commenters noted that there could be instances in which

the existing definitions in the capital rule are not aligned with the primary risk factor for a derivative contract, and therefore would differ from the classifications used under SA-CCR. To address this concern, commenters requested allowing banking organizations to use the primary risk factor for the derivative contract instead of one based on the asset class definitions set forth in the proposal.

The final rule maintains the definitions of interest rate, exchange rate, equity, and commodity derivative contracts, as the definitions are largely aligned with existing derivative products and market practices. In addition to being sufficiently broad to capture the various types of derivative contracts, the existing asset class definitions are well-established, well-understood, and generally have functioned as intended in the capital rule. The final rule preserves the ability of the primary federal regulator to address derivative contracts with multiple risk factors by requiring them to be included in multiple hedging sets under § \_\_.132(c)(2)(iii)(H).<sup>77</sup>

Some commenters supported the alternative treatment for recognizing the economic relationships of exchange rate chains described in the proposal, but only if modified to address the potential overstated exposure amounts produced when creating separate hedging sets for each foreign currency. The agencies believe

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<sup>77</sup> For the capital rule, the Board is the primary federal regulator for bank holding companies, savings and loan holding companies, intermediate holding companies of foreign banks, and state member banks; the OCC is the primary federal regulator for all national banks and federal savings associations; and the FDIC is the primary federal regulatory for all state nonmember banks and savings associations.

that the alternative treatment described in the proposal, if modified to incorporate correlation parameters in addition to the supervisory factors as suggested by commenters, would add a level of complexity to the alternative treatment that would make it inappropriate for use in a standardized framework that is intended for potential implementation by all banking organizations. The agencies further believe that the alternative treatment described in the proposal, if modified to require the maximum of long or short risk positions, would not add meaningful risk sensitivity by not taking into account the correlations between currency risk factors. Therefore, the agencies are adopting as final the asset class and hedging set definitions as proposed.

To determine each hedging set amount, a banking organization first must group into separate hedging sets derivative contracts that share similar risk factors based on the following asset classes: interest rate, exchange rate, credit, equity, and commodity. Basis derivative contracts and volatility derivative contracts require separate hedging sets. A banking organization then must determine each hedging set amount using asset-class specific formulas that allow for full or partial offsetting. If the risk of a derivative contract materially depends on more than one risk factor, whether interest rate, exchange rate, credit, equity, or commodity risk factor, a banking organization's primary federal regulator may require the banking organization to include the derivative contract in each appropriate hedging set. Under the final rule, the hedging set amount of a hedging set composed of a single

derivative contract equals the absolute value of the adjusted derivative contract amount of the derivative contract.

Section \_\_.132(c)(2)(iii) of the final rule provides the respective hedging set definitions. As noted, an exchange rate hedging set means as all exchange rate derivative contracts within a netting set that reference the same currency pair. Thus, there could be as many exchange rate hedging sets within a netting set as distinct currency pairs referenced by the exchange rate derivative contracts. An interest rate hedging set means all interest rate derivative contracts within a netting set that reference the same reference currency. Thus, there could be as many interest rate hedging sets in a netting set as distinct currencies referenced by the interest rate derivative contracts in the netting set. A credit hedging set would mean all credit derivative contracts within a netting set. Similarly, an equity hedging set means all equity derivative contracts within a netting set. Consequently, there could be at most one equity hedging set and one credit hedging set within a netting set. A commodity hedging set means all commodity derivative contracts within a netting set that reference one of the following commodity categories: energy, metal, agricultural, or other commodities. Therefore, there could be no more than four commodity derivative contract hedging sets within a netting set.

Consistent with the proposal, the final rule sets forth separate treatments for volatility derivative contracts and basis derivative contracts. A basis derivative contract is a non-foreign-exchange derivative contract (i.e., the contract is

denominated in a single currency) in which the cash flows of the derivative contract depend on the difference between two risk factors that are attributable solely to one of the following derivative asset classes: interest rate, credit, equity, or commodity. A basis derivative contract hedging set means all basis derivative contracts within a netting set that reference the same pair of risk factors and are denominated in the same currency. In contrast, a volatility derivative contract means a derivative contract in which the payoff of the derivative contract explicitly depends on a measure of volatility for the underlying risk factor of the derivative contract. Examples of volatility derivative contracts include variance and volatility swaps and options on realized or implied volatility. A volatility derivative contract hedging set means all volatility derivative 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 § \_\_.132(c)(2)(iii)(A)-(E) of the final rule.

*a. Interest rate derivative contracts*

Under the proposal, the hedging set amount for a hedging set of interest rate derivative contracts would have recognized that interest rate derivative contracts with close tenors (i.e., the amount of time remaining before the end date of the derivative contract) are generally highly correlated, and thus would have provided a greater offset relative to interest rate derivative contracts that do not have close tenors. In particular, the proposed formula for determining the hedging set amount for interest rate derivative contracts would have permitted full offsetting within a

tenor category and partial offsetting across tenor categories, with tenor categories of less than one year, between one and five years, and more than five years. The proposal would have applied a correlation factor of 70 percent across adjacent tenor categories and a correlation factor of 30 percent across nonadjacent tenor categories. The tenor of a derivative contract would have been based on the period between the present date and the end date of the derivative contract, where end date would have meant the last date of the period referenced by the derivative contract, or if the derivative contract references another instrument, the period referenced by the underlying instrument.

Some commenters asked the agencies to allow banking organizations to recognize interest rate derivative contracts within the same QMNA as belonging to the same interest rate hedging set, even if such derivative contracts reference different currencies. According to the commenters, such an approach would allow banking organizations to recognize the diversification benefits of multi-currency interest rate derivative portfolios. Some of these commenters also suggested potential ways to implement this approach. Under the first approach, a banking organization would calculate the maximum exposure for the interest rate derivative contracts within the QMNA under two scenarios using a single-factor model. The first scenario would receive a correlation factor of zero percent across interest rate exposures in different currencies, while the second scenario would receive a correlation factor of 70 percent. The former scenario would produce the largest amount for portfolios primarily balanced across net short and net long



currency exposures, while the latter scenario would produce the largest amount for portfolios that primarily consist of net long or net short currency positions. The second approach would use a single-factor model to aggregate interest rate derivative contracts per currency type to recognize correlations across currencies. Alternatively, other commenters stated that yield curve correlations across major currencies could be used to establish correlation factors for interest rate derivative contracts that reference different currencies. These commenters noted that the Basel Committee’s standard on minimum capital requirements for market risk incorporates a correlation parameter to reflect diversification benefits across multi-currency interest rate portfolios.<sup>78</sup> These commenters also stated that studies regarding the Basel Committee standard suggest that, by not recognizing any hedging or diversification benefits across currencies, the proposed method to calculate the hedging set amount for interest rate derivatives under SA-CCR is conservative.

Other commenters criticized the proposal as not providing a sufficient justification for the requirement that interest rate hedging sets must be settled in the same currency to be included within the same hedging set, in contrast to the proposed treatment for credit, commodity, and equity derivative contracts.

The fact that a set of derivative contracts are subject to the same QMNA is

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<sup>78</sup> See “Minimum capital requirements for market risk,” Basel Committee on Banking Supervision (January 2019, rev. February 2019), <https://www.bis.org/bcbs/publ/d457.pdf>.

not determinative of whether hedging benefits across derivative contracts actually exist. Interest rates in different currencies can move in different directions, rendering correlations unstable. In addition, adopting the commenters' recommendations could add significant complexity to the final rule. The agencies therefore are adopting as final the proposed treatment for determining the hedging set amount of interest rate derivative contracts. Under § \_\_.132(c)(8)(i) of the final rule, a banking organization must calculate the hedging set amount for interest rate derivative contracts according to the following formula:

*Hedging set amount* =

$$\left[ (AddOn_{TB1}^{IR})^2 + (AddOn_{TB2}^{IR})^2 + (AddOn_{TB3}^{IR})^2 + 1.4 * AddOn_{TB1}^{IR} * AddOn_{TB2}^{IR} + 1.4 * AddOn_{TB2}^{IR} * AddOn_{TB3}^{IR} + 0.6 * AddOn_{TB1}^{IR} * AddOn_{TB3}^{IR} \right]^{\frac{1}{2}}, \text{ where}$$

$AddOn_{TB1}^{IR}$  equals the sum of the adjusted derivative contract amounts within the hedging set with an end date of less than one year from the present date;

$AddOn_{TB2}^{IR}$  equals the sum of the adjusted derivative contract amounts within the hedging set with an end date of one to five years from the present date;

and

$AddOn_{TB3}^{IR}$  equals the sum of the adjusted derivative contract amounts within the hedging set with an end date of more than five years from the present date.

Consistent with the proposal, the final rule also includes a simpler formula

that does not provide an offset across tenor categories. Under this approach, the hedging set amount for interest rate derivative contracts equals the sum of the absolute amounts of each tenor category, which is the sum of the adjusted derivative contract amounts within each respective tenor category. The simpler formula always results in a more conservative measure of the hedging set amount for interest rate derivative contracts of different tenor categories, but may be less burdensome for banking organizations with smaller interest rate derivative contract portfolios. A banking organization may use this simpler formula for some or all of its interest rate derivative contracts.

*b. Exchange rate derivative contracts*

Exchange rate derivative contracts that reference the same currency pair generally are driven by the same market factor (i.e., the exchange spot rate between these currencies) and thus are highly correlated. Therefore, under the proposal, the formula for determining the hedging set amount for exchange rate derivative contracts would have allowed for full offsetting within the exchange rate derivative contract hedging set. The agencies did not receive comment regarding the formula for determining the hedging set amount for exchange rate derivative contracts, and are adopting it as proposed. Under § \_\_.132(c)(8)(ii) of the final rule, the hedging set amount for exchange rate derivative contracts equals the absolute value of the sum of the adjusted derivative contract amounts within the hedging set.

*c. Credit derivative contracts and equity derivative contracts*

Under the proposal, a banking organization would have used the same formula to determine the hedging set amount for both its credit derivative contracts and equity derivative contracts. The formula would allow full offsetting for credit or equity contracts that reference the same entity, and partial offsetting when aggregating across distinct reference entities. In addition, the proposal would have provided supervisory correlation parameters for credit derivative contracts and equity derivative contracts based on whether the derivative contract referenced a single-name entity or an index.

A single-name derivative would have received a correlation factor of 50 percent, while an index derivative contract would have received a correlation factor of 80 percent to reflect partial diversification of idiosyncratic risk within an index. As noted in the proposal, the pairwise correlation between two entities is the product of the corresponding correlation factors, so that the pairwise correlation between two single-name derivatives is 25 percent, between one single-name and one index derivative is 40 percent, and between two index derivatives is 64 percent. The application of a higher correlation factor does not necessarily result in a higher exposure amount because the proposal generally would have yielded a lower exposure amount for balanced portfolios relative to directional portfolios.

Several commenters asked the agencies to allow banking organizations to decompose indices within credit and equity asset classes to reflect the exposure of highly correlated net long and short positions within an index. Under §

\_\_.132(c)(5)(vi) of the final rule, a banking organization may elect to decompose indices within credit and equity asset classes, such that a banking organization would treat each component of the index as a separate single-name derivative contract. Thus, under this election, a banking organization would apply the SA-CCR methodology to each component of the index as if it were a separate single-name derivative contract instead of applying the SA-CCR methodology to the index derivative contract. This approach provides enhanced risk sensitivity to the SA-CCR framework by allowing for recognition of the hedging benefits provided by the components of an index. In addition, this approach is similar to other aspects of the capital rule.<sup>79</sup> The agencies will monitor the application of the decomposition approach, including the correlation assumptions between an index and its components, to ensure that the approach is functioning as intended.

Under the final rule, a banking organization must determine the hedging set amount for its credit and equity derivative contracts set forth in § \_\_.132(c)(8)(iii) of the final rule, as follows:

$$\text{Hedging set amount} = [(\sum_{k=1}^K \rho_k * AddOn(Ref_k))^2 + \sum_{k=1}^K (1 - (\rho_k)^2) * (AddOn(Ref_k))^2]^{1/2},$$

where:

*k* is each reference entity within the hedging set;

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<sup>79</sup> See e.g., 12 CFR 3.53 (OCC); 12 CFR 217.53 (Board); and 12 CFR 324.53 (FDIC).

$K$  is the number of reference entities within the hedging set;

$AddOn(Ref_k)$  equals the sum of the adjusted derivative contract amounts for all derivative contracts within the hedging set that reference reference entity  $k$ ; and

$\rho_k$  equals the applicable supervisory correlation factor, as provided in Table 2.

*d. Commodity derivative contracts*

The proposal would have required a banking organization to determine the hedging set amount for commodity derivative contracts based on the following four commodity categories: energy, metal, agricultural and other. The proposal would have permitted full offsetting for all derivative contracts within the same commodity category (i.e., within a hedging set) that reference the same commodity type, and partial offsetting for all derivative contracts within the same commodity category that reference different commodity types.

Under the proposal, a commodity type would have referred to a specific commodity within one of the four commodity categories. Additionally, the proposal would not have provided separate supervisory factors for different commodity types within the energy commodity category.<sup>80</sup> For example, under the proposal, a hedging set could have been composed of crude oil derivative

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<sup>80</sup> See section III.D.2.b. of this Supplementary Information for a more detailed discussion on supervisory factors under the final rule.

contracts and electricity derivative contracts, with each subject to the same supervisory factor. A banking organization would have been able to fully offset all crude oil derivative contracts against each other and all electricity derivative contracts against each other (as they reference the same commodity type). In addition, a banking organization would not have been able to offset commodity derivative contracts that are included in different commodity categories (i.e., a forward contract on crude oil cannot hedge a forward contract on corn).

Several commenters asked the agencies to clarify the offsetting treatment among the different types of contracts within the energy category (e.g., electricity and oil/gas derivative contracts). Some commenters asked the agencies to allow banking organizations to decompose derivative contracts that reference commodity indices, such that a banking organization would treat each component of the index as a separate single-name derivative contract.

Consistent with the proposal, the final rule permits full offsetting for all derivative contracts within a hedging set that reference the same commodity type, and partial offsetting for all derivative contracts within a hedging set that reference different commodity types within the same commodity category.<sup>81</sup> This treatment applies consistently to each of the four commodity categories, including energy.

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<sup>81</sup> The final rule provides separate supervisory factors for electricity derivative contracts and other types of commodity derivative contracts within the energy category as discussed further in section III.D.2.b.iii. of this Supplementary Information.

For example, electricity derivative contracts within the same hedging set may fully offset each other, whereas electricity derivative contracts and non-electricity derivative contracts (e.g., oil derivative contracts) within the same hedging set may only partially offset each other because they are different commodity types within the same commodity category.

In an attempt to appropriately balance risk sensitivity with operational burden, consistent with the proposal, the final rule allows banking organizations to recognize commodity types without regard to characteristics such as location or quality. For example, a banking organization may recognize crude oil as a commodity type, and would not need to distinguish further between West Texas Intermediate and Saudi Light crude oil.

In response to comments, § \_\_.132(c)(5)(vi) of the final rule allows a banking organization to elect to decompose commodity indices, such that a banking organization would treat each component of the index as a separate, single-name derivative contract. Thus, under this election, a banking organization would apply the SA-CCR methodology to each component of the index as if it were a separate, single-name derivative contract, instead of applying the SA-CCR methodology to the index derivative contract. This approach provides enhanced risk sensitivity to the SA-CCR framework by allowing for better recognition of



hedging benefits provided by the components of an index. In addition, this approach is similar to other aspects of the capital rule.<sup>82</sup>

The agencies recognize that specifying separate commodity types is operationally difficult; indeed, it is likely infeasible to sufficiently specify all relevant distinctions between commodity types in order to capture all basis risk. Therefore, the agencies will monitor the commodity-type distinctions made within the industry for purposes of both the full offset treatment for commodity derivative contracts of the same type and the decomposition approach for commodity indices, to ensure that they are being applied and functioning as intended.

Consistent with the proposal, a banking organization must assign a derivative contract to the “other” commodity category if the derivative contract does not meet the criteria for the energy, metal or agricultural commodity categories.

The hedging set amount for commodity derivative contracts would be determined under § \_\_.132(c)(8)(iv) of the final rule, as follows:

*Hedging set amount*

$$= \left[ \left( \rho * \sum_{k=1}^K AddOn(Type_k) \right)^2 + (1 - (\rho)^2) * \sum_{k=1}^K (AddOn(Type_k))^2 \right]^{\frac{1}{2}},$$

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<sup>82</sup> See *supra* n. 79.

where:

$k$  is each commodity type within the hedging set;

$K$  is the number of commodity types within the hedging set;

$\text{AddOn}(\text{Type}_k)$  equals the sum of the adjusted derivative contract amounts for all derivative contracts within the hedging set that reference commodity type  $k$ ; and

$\rho$  equals the applicable supervisory correlation factor, as provided in Table 2.

## 2. *Adjusted derivative contract amount*

Under the proposal, the adjusted derivative contract amount would have represented a conservative estimate of effective expected positive exposure (EEPE)<sup>83</sup> for a netting set consisting of a single derivative contract, assuming zero market value and zero collateral, that is either positive (if a long position) or negative (if a short position). A banking organization would have calculated the adjusted derivative contract amount as a product of four components: the adjusted notional amount, the applicable supervisory factor, the applicable supervisory delta adjustment, and the applicable maturity factor. The adjusted derivative contact amount for each asset class would have been aggregated under the hedging set amount formulas for each asset class, as described above. The agencies received no comments on this aspect of the proposal, and are finalizing the

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<sup>83</sup> *See supra* n. 10.

formula for determining the adjusted derivative contract amount as proposed under § \_\_.132(c)(9) of the final rule.

The formula to determine the adjusted derivative contract amount is represented as follows:

$$\text{adjusted derivative contract amount} = d_i * \delta_i * MF_i * SF_i.$$

Where:

$d_i$  is the adjusted notional amount;

$\delta_i$  is the applicable supervisory delta adjustment;

$MF_i$  is the applicable maturity factor; and

$SF_i$  is the applicable supervisory factor.

The adjusted notional amount accounts for the size of the derivative contract and reflects the attributes of the most common derivative contracts in each asset class. The supervisory factor converts the adjusted notional amount of the derivative contract into an EEPE based on the measured volatility specific to each asset class over a one-year horizon.<sup>84</sup> The supervisory delta adjustment accounts 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

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<sup>84</sup> Specifically, the supervisory factors are intended to reflect the EEPE of a single at-the-money linear trade of unit size, zero market value and one-year maturity referencing a given risk factor in the absence of collateral.

risk factor.<sup>85</sup> Finally, the maturity factor scales down, if necessary, the derivative contract amount from the standard one-year horizon used for supervisory factor calibration to the risk horizon relevant for a given contract.

*a. Adjusted notional amount*

*i. Interest rate and credit derivative contracts*

Under the proposal, a banking organization would have applied the same formula to interest rate derivative contracts and credit derivative contracts to arrive at the adjusted notional amount. For such contracts, the adjusted notional amount would have equaled 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. The supervisory duration would have incorporated measures of the number of business days from the present day until the start date for the derivative contract ( $S$ ), and the number of business days from the present day until the end date for the derivative contract ( $E$ ).

Some commenters argued that the standard notional definition would not produce reasonably accurate exposure estimates of a banking organization's closeout risk for all types of derivative contracts. These commenters

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<sup>85</sup> Sensitivity of a derivative contract to a risk factor is the ratio of the change in the market value of the derivative contract caused by a small change in the risk factor to the value of the change in the risk factor. In a linear derivative contract, the payoff of the derivative contract moves at a constant rate with the change in the value of the underlying risk factor. In a nonlinear contract, the payoff of the derivative contract does not move at a constant rate with the change in the value of the underlying risk factor. The sensitivity is positive if the derivative contract is long the risk factor and negative if the derivative contract is short the risk factor.

recommended allowing banking organizations to use internal methodologies to determine the adjusted notional amount for derivative contracts that are not specifically covered under the formulas and methodologies set forth in the proposal.

The final rule maintains the formulas and methodologies for determining the adjusted notional amount for interest rate and credit derivative contracts, as generally one of these will be applicable for most derivative contracts. However, the agencies recognize that such approaches may not be applicable to all types of derivative contracts, and that a different approach may be necessary to determine the adjusted notional amount of a derivative contract. In such a case, a banking organization must consult with its primary federal regulator prior to using an alternative approach to the formulas or methodologies set forth in the final rule.

Some commenters suggested revising the proposal to provide a separate measure of  $S$  for fixed-to-floating interest rate derivative contracts where the floating rate is determined at the beginning of the reset period and paid at the end, defined as the time period until the earliest reset date, measured in years. According to the commenters, the proposal could overestimate the duration for such derivative contracts, as it would include the time period for which the floating rate (and, therefore, the floating leg payment) is captured in the supervisory duration. The commenters also noted that such treatment could significantly affect the adjusted notional amount for a short-dated interest rate derivative portfolio.

Other commenters recommended changes to the measure of  $S$  for basis derivative contracts, for which the floating rates on the reference exposure are set at the beginning of the payment period. Some of these commenters recommended measuring  $S$  as the period (in years) as the earliest reset date of the two floating-rate components of the contract, if the reset dates are different.

The treatment recommended by the commenters cannot be made applicable to all interest rate derivatives; for example, it would not be appropriate for in arrears swaps, in which the rate is set at the end of the reset period instead of the beginning, and for forward rate agreements. In addition, adopting the commenters' recommendations could add significant complexity to the final rule because it would require additional parameters in the adjusted notional amount formula additional parameters that would be used only in certain circumstances. Such an approach would create additional burden for banking organizations that adopt SA-CCR and could adversely affect the agencies' ability to use SA-CCR to assess comparability across banking organizations at an aggregate level. The agencies therefore are adopting as final the proposed treatment for determining the adjusted notional amount of interest rate and credit derivative contracts.

Some commenters requested changes to address forward-settling mortgage-backed securities traded in the to-be-announced (TBA) market. Specifically, these commenters asked the agencies to recalibrate the adjusted notional amount for TBA derivative contracts to account for the term of the mortgage loans underlying the securities. Other commenters recommended measuring  $S$  for TBA derivative

contracts as the time-weighted average term of the mortgages underlying the securities. In response to commenter concerns, the agencies are clarifying that for an interest rate derivative contract or credit derivative contract that is a variable notional swap, including mortgage-backed securities traded in the TBA market, 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.

Other commenters recommended measuring the adjusted notional amount for basis derivative contracts as the product of the absolute value of the spread between the two underlying risk factors (positive or negative) and the number of units. According to these commenters, such an approach would better reflect the risk of such transactions because SA-CCR requires the use of floating notional values, and the notional value may change after execution based on increases or decreases in the spread. The commenters also argued that such an approach would be consistent with guidance released by the CFTC regarding the notional amount for locational basis derivative contracts.<sup>86</sup> The final rule does not incorporate the commenters' suggestion, as the purpose of the proposed treatment is to obtain the absolute volatility of the contract price, which is related to each risk factor rather than the spread.

The final rule adopts without change the proposed treatment for determining the adjusted notional amount for credit and interest rate derivative

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<sup>86</sup> See CFTC, Division of Swap Dealer and Intermediary Oversight, FAQs About Swap Entities (Oct. 12, 2012), p. 1.

contracts. Under § \_\_.132(c)(9)(ii)(A) of the final rule, the adjusted notional amount for such contracts 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. The formula to determine the supervisory duration is as follows:

$$\text{Supervisory duration} = \max \left\{ \frac{e^{-0.05 * \left(\frac{S}{250}\right)} - e^{-0.05 * \left(\frac{E}{250}\right)}}{0.05}, 0.04 \right\},$$

Where:

*S* is the number of business days from the present day until the start date for 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 for the derivative contract.

A banking organization must calculate the supervisory duration for the period that starts at *S* and ends at *E*, where *S* equals the number of business days between the present date and the start date for the derivative contract, or zero if the start date has passed, and *E* equals the number of business days from the present date until the end date for the derivative contract. The supervisory duration recognizes that interest rate derivative contracts and credit derivative contracts with a longer tenor have a greater degree of variability than an identical derivative contract with a shorter tenor for the same change in the underlying risk factor (interest rate or credit spread), and is based on the assumption of a continuous stream of equal payments and a constant continuously compounded interest rate of



5 percent. The exponential function provides discounting for  $S$  and  $E$  at 5 percent continuously compounded. In all cases, the supervisory duration is floored at ten business days (or 0.04, based on an average of 250 business days per year).

For an interest rate derivative contract or a credit derivative contract that is a variable notional swap, the notional amount equals the time-weighted average of the contract notional amounts of such a swap over the remaining life of the swap.

For an interest rate derivative contract or a credit derivative contract that is a leveraged swap, in which the notional amounts 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 equals the notional amount of an equivalent unleveraged swap.

*ii. Exchange rate derivative contracts*

Under the proposal, the adjusted notional amount for an exchange rate derivative contract would have equaled 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. In general, the non-U.S. dollar denominated currency leg is the source of exchange rate volatility. 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 would have been the largest leg of the derivative contract, measured in U.S. dollars. For an exchange rate derivative contract with multiple exchanges of principal, the notional amount would have equaled the notional amount of the derivative

contract multiplied by the number of exchanges of principal under the derivative contract. The agencies received no comments on the proposed adjusted notional amount for exchange rate derivative contracts, and are adopting it as final under § \_\_.132(c)(9)(ii)(B) of the final rule.

*iii. Equity and commodity derivative contracts*

Under the proposal, a banking organization would have applied the same single-factor formula to equity derivative contracts and commodity derivative contracts. For such contracts, the adjusted notional amount would have equaled 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. By design, the proposed treatment would have reflected the current price of the underlying reference instrument. For example, if a banking organization has a derivative contract that references 15,000 pounds of frozen concentrated orange juice currently priced at \$0.0005 a pound then the adjusted notional amount would be \$7.50. For an equity derivative contract or a commodity derivative contract that is a volatility derivative contract, a banking organization would have been required to 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. By design, the proposed treatment would have reflected that the payoff of a volatility derivative contract generally is determined based on a notional amount and the realized or implied volatility (or variance) referenced by the derivative contract and not

necessarily the unit price of the underlying reference instrument. The agencies received no comments on the proposed adjusted notional amount for equity and commodity derivative contracts, including instances in which such a contract is a volatility derivative contract, and are adopting it without change under § \_\_.132(c)(9)(ii)(C) of the final rule.

*b. Supervisory factor*

*i. Credit derivative contracts*

In contrast to the Basel Committee standard, the proposal would not have provided for the use of credit ratings to determine the supervisory factor for credit derivative contracts due to section 939A of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), which prohibits the use of credit ratings in federal regulations.<sup>87</sup> As an alternative, the proposal would have introduced an approach that satisfies section 939A of the Dodd-Frank Act while allowing for a level of granularity among the supervisory factors applicable to single-name credit derivatives that would have been generally consistent with the Basel Committee standard.<sup>88</sup> Under the proposal for single-name credit derivative contracts, investment grade derivative contracts would have received a supervisory factor of 0.5 percent, speculative grade derivative contracts would have received a

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<sup>87</sup> See Pub. L. 11-203, 124 Stat. 1376 (2010), § 939A. This provision is codified as part of the Securities Exchange Act of 1934 at 15 U.S.C. 78o-7.

<sup>88</sup> Specifically, the supervisory factors in the Basel Committee's SA-CCR standard are as follows (in percent): AAA and AA – 0.38, A – 0.42; BBB – 0.54; BB – 1.06; B – 1.6; CCC – 6.0.

supervisory factor of 1.3 percent, and sub-speculative grade derivative contracts would have received a supervisory factor of 6.0 percent. For credit derivative contracts that reference an index, investment grade derivative contracts would have received 0.38 percent and speculative grade derivative contracts would have received 1.06 percent. The proposal would have revised the capital rule to include definitions for speculative grade and sub-speculative grade (the capital rule already includes a definition for investment grade). The agencies received several comments on the supervisory factors for credit derivative contracts, but no comments on the proposed definitions of speculative grade and sub-speculative grade.

Several commenters encouraged the agencies to reconsider the proposed methodology for determining the supervisory factors for single-name credit derivative contracts. As an alternative, the commenters recommended an approach that maps probability of default (PD) bands to the credit rating categories and the corresponding supervisory factors set forth in the Basel Committee standard for single-name credit derivatives, consistent with the approach used to assign a counterparty risk weight under the simple CVA approach in the advanced approaches.<sup>89</sup> According to the commenters, this approach would more closely align with the granularity and the supervisory factors provided under the Basel Committee standard, while meeting the requirements of section 939A of the Dodd-

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<sup>89</sup> See 12 CFR 3.132(e)(5) (OCC); 12 CFR 217.132(e)(5) (Board); and 12 CFR 324.132(e)(5) (FDIC).

Frank Act. Alternatively, if the agencies declined to adopt the PD band-based approach for purposes of the final rule, the commenters suggested lowering the proposed supervisory factor for investment grade single-name credit derivatives from 0.5 percent to 0.46 percent, to eliminate the impact of rounding (to the nearest tenth) that was conducted for purposes of the proposal. Other commenters suggested aligning the supervisory factor for investment grade single-name credit derivatives to the lowest supervisory factor under the Basel Committee standard, 0.38 percent, based on the view that the most creditworthy issuers in the United States are no more prone to default than the most creditworthy issuers in other jurisdictions.

SA-CCR is a standardized approach, and the use of PD bands to assign supervisory factors to single-name credit derivatives would require the use of internal models, which generally are not appropriate for a standardized approach that is intended to be implementable by banking organizations of all sizes. In addition, providing such treatment as an option in SA-CCR could introduce more risk sensitivity solely for more sophisticated banking organizations that currently determine PD for purposes of the advanced approaches, and potentially provide a competitive advantage to such firms and adversely affect the use of SA-CCR to assess comparability across banking organizations. In addition, lowering the supervisory factor for single-name investment grade credit derivatives to 0.38 percent would fail to recognize the meaningful differences in the risks captured by the investment grade category under the proposal and the final rule, relative to the

category and supervisory factor that correspond solely to an AAA credit rating under the Basel Committee standard. In response to comments, however, the final rule applies a 0.46 percent supervisory factor to investment grade single-name credit derivative contracts. This change will enhance the precision and risk sensitivity of the final rule, without introducing undue complexity or materially affecting the amount of regulatory capital a banking organization must hold for such derivative contracts relative to the proposal.

Therefore, the final rule adopts the supervisory factors for credit derivative contracts, as proposed, with one modification to the supervisory factor for investment grade single-name credit derivative contracts as described above. In addition, the final rule maintains the current definition of investment grade in the capital rule, and adopts the proposed definitions for “speculative grade” and “sub-speculative grade.” The supervisory factors are reflected in Table 2 of this Supplementary Information.

The investment grade category generally captures single-name credit derivative contracts consistent with the three highest supervisory factor categories under the Basel Committee standard. The capital rule defines investment grade to mean 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 contract, 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, as the risk of its default is low and the full and timely repayment of principal is expected.<sup>90</sup>

The speculative grade category generally captures single-name credit derivative contracts consistent with the next two lower supervisory factor categories under the Basel Committee standard. The final rule defines the term speculative grade to mean that the reference entity 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 reference entity would present elevated default risk. The sub-speculative grade category corresponds to the lowest supervisory factor category under the Basel Committee standard, with the term sub-speculative grade defined under the final rule to mean that the reference entity depends on favorable economic conditions to meet its financial commitments, such that should economic conditions deteriorate, the reference entity likely would default on its financial commitments. Each of these categories includes exposures that perform largely in accordance with the performance criteria that define each category under the final rule, and therefore result in capital requirements that are broadly equivalent to those resulting from application of the supervisory factors under the Basel Committee standard.<sup>91</sup>

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<sup>90</sup> “Investment grade” is defined in § \_\_.2 of the capital rule. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

<sup>91</sup> An empirical analysis for the supervisory factors applied to the investment grade and speculative grade categories is set forth in the Supplementary Information section of the proposal. *See supra* n. 11, at 64675.

The agencies expect that banking organizations would conduct their own due diligence to determine the appropriate category for a single-name credit derivative, in view of the performance criteria in the definitions for each category under the final rule. A banking organization may consider the credit rating for a single-name credit derivative in making that determination as part of a multi-factor analysis. In addition, the agencies expect a banking organization to have and retain support for its analysis and assignment of the respective credit categories.

*ii. Equity derivative contracts*

Under the proposal, single-name equity derivative contracts would have received a supervisory factor of 32 percent and equity derivative contracts that reference an index would have received a supervisory factor of 20 percent. The agencies received several comments regarding the proposed supervisory factors for equity derivative contracts. In general, the commenters recommended various approaches to distinguish among the risks of single-name equity derivative contracts and thereby provide additional granularity in the supervisory factors that correspond to such exposures. The approaches offered by the commenters would distinguish among (1) investment grade and non-investment grade issuers; (2) issuers in advanced and emerging markets; (3) issuers with large market capitalizations and those with small market capitalizations; and (4) issuers in different industry sectors. Some of the approaches suggested by commenters align



with the Basel Committee market risk standard.<sup>92</sup> Commenters also suggested various permutations of these approaches (e.g., use of sector differentiation in combination with a distinction for advanced and emerging markets). Some commenters provided analysis suggesting that each of these approaches could offer additional granularity and allow for lower supervisory factors for investment grade, advanced markets, and large cap issuers, relative to the supervisory factors under the proposal and the Basel Committee standard. Commenters also suggested incorporating one of the above distinctions into the supervisory factors for equity indices.

The agencies acknowledge that certain aspects of the proposal could be revised to enhance its risk sensitivity; however, any such revisions must be balanced against the objectives of simplicity and ensuring comparability among banking organizations that implement SA-CCR. Attempting to define different categories of market types or allocating exposures across the various alternate categories posed by commenters, and then calibrating supervisory factors associated with each of those sub-categories, would increase the complexity of applying SA-CCR and reduce comparability among banking organizations. Further adjustments to the supervisory factor for equity derivative contracts to align with the revised Basel III market risk standard, as recommended by commenters, potentially could be considered if that standard is implemented in the

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<sup>92</sup> *See supra* n. 78.

United States in a future rulemaking. Therefore, the final rule adopts as proposed the supervisory factors for equity derivative contracts, as reflected in Table 2 of the final rule.

*iii. Commodity derivative contracts*

The proposal would have established four commodity categories: energy, metals, agriculture, and other. Energy derivative contracts would have received a supervisory factor of 40 percent, whereas derivative contracts in the non-energy commodity categories (i.e., metal, agricultural, and other) each would have received a supervisory factor of 18 percent.

The agencies received a number of comments on the proposed supervisory factors for commodity derivative contracts. Several commenters encouraged the agencies to recalibrate the supervisory factors for commodity derivative contracts to reflect the market price of forward contracts, stating that this would better reflect the actual volatility of the commodity derivatives market compared to the market price of spot contracts. According to these commenters, such an approach would reflect the widespread use of commodity derivative contracts in the market, as a way to hedge commodity price risk for months or years into the future. As an alternative to this recommendation, commenters suggested full alignment with the supervisory factors for commodity derivative contracts in the Basel Committee standard, which applies a 40 percent supervisory factor to electricity derivative contracts and an 18 percent supervisory factor to oil/gas derivative contracts, each within the energy category.

Other commenters expressed concern that the proposed supervisory factors for commodity derivative contracts were not sufficiently granular. These commenters argued that each of the commodity categories set forth in the proposal would include a wide range of commodity types that present different levels of risk. As a result, the commenters expressed concern that the proposal would overstate the amount of capital that must be held for certain lower-risk commodities, particularly natural gas and certain types of agricultural commodities.<sup>93</sup> Several commenters expressed concern that the proposed supervisory factors for commodity derivative contracts would indirectly increase the cost of such contracts for commercial end-user counterparties, who may use commodity derivative contracts to manage commercial risk.

In response to comments, the final rule adopts a separate supervisory factor of 18 percent for all energy derivative contracts except for electricity derivative contracts, which receive a supervisory factor of 40 percent. This treatment enhances the risk sensitivity of the supervisory factors for derivative contracts within the energy commodity category in a manner that aligns with the Basel Committee standard.<sup>94</sup> The final rule does not revise the other supervisory factors

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<sup>93</sup> See section III.D.1.d. of this Supplementary Information.

<sup>94</sup> As described in section III.D.1.d. of this Supplementary Information, for purposes of calculating the hedging set amount, the final rule permits full offsetting for all derivative contracts within a hedging set that reference the same commodity type, and partial offsetting for all derivative contracts within a hedging set that reference different commodity type.

proposed for commodity derivatives, or provide for more granularity in the supervisory factors. In addition to presenting significant challenges and materially increasing the complexity of the framework (as noted in section III.D.1.d. of this Supplementary Information), revising the proposal to include additional commodity categories for specific commodity types could limit the full offset treatment available to commodity types within the same category. Recalibrating the supervisory factors for commodity derivative contracts to reflect the volatility driven by forward prices also would not be appropriate for all commodity derivative contracts because the value of short-term derivative contracts—which also are prevalent within the market—is driven by spot prices rather than forward prices. Moreover, such an approach would materially deviate from the Basel Committee standard and create material inconsistencies in the international treatment of derivative contracts across jurisdictions. Any such inconsistencies could create regulatory compliance burdens for large, internationally active banking organizations that would be required to determine capital requirements for derivative contracts under multiple regulatory regimes, and could provide incentives for such banking organizations to book commodity derivatives in an entity located in the jurisdiction that provides for the most favorable treatment from a regulatory capital perspective.

Other commenters recommended revising the proposal to provide separate recognition for derivative contracts that reference commodity indices. According to these commenters, diversification across different commodities significantly

lowers the volatility of a diversified index when compared to the undiversified volatilities of the index constituents. The final rule does not include a specific treatment for commodity indices because they are typically highly heterogeneous depending on their compositions and maturities and, as a result, a single calibration for such a broad asset class will not provide for the risk sensitivity intended by SA-CCR.

Under the proposal, a banking organization would have been required to treat a gold derivative contract as a commodity derivative contract rather than an exchange rate derivative contract, and apply a supervisory factor of 18 percent. Several commenters argued for revising the proposal to recognize gold derivative contracts as a type of exchange rate derivative contract. According to the commenters, such a treatment would be consistent with CEM, IMM, the Basel Committee's Basel II accord issued in 2004 (Basel II),<sup>95</sup> and industry practice. The commenters also asserted that, similar to currencies, gold serves as a macro-economic hedge to dynamic market conditions including declining equity prices, inflationary pressures, and political crises.

Based on an analysis of price data for gold, silver, nickel and platinum from January 2001 to January 2019, gold exhibits historical volatility levels that are generally consistent with those observed for other metals, and are nearly identical

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<sup>95</sup> See "International Convergence of Capital Measurement and Capital Standards: A Revised Framework," Basel Committee on Banking Supervision (June 2004), <https://www.bis.org/publ/bcbs107.pdf>.

to the historical volatility levels observed for platinum over the same period. Accordingly, treating a gold derivative contract as an exchange rate derivative contract would significantly understate the risk associated with such exposures, notwithstanding their treatment under either Basel II, IMM or CEM. Moreover, the supervisory factors under SA-CCR are calibrated to volatilities observed in the primary risk factor, and are not based on the purpose for which such a derivative contract may be entered into. Therefore, consistent with the proposal, under the final rule a banking organization must treat a gold derivative contract as a commodity derivative contract, with a supervisory factor of 18 percent.

The final rule adopts the supervisory factors for commodity derivative contracts, as proposed, with one modification to the supervisory factor for energy derivative contracts that are not electricity derivative contracts. The supervisory factors are reflected in Table 2 of this Supplementary Information.

*iv. Interest rate derivative contracts*

Under the proposal, interest rate derivative contracts would have received a supervisory factor of 0.5 percent. The agencies did not receive comments on this aspect of the proposal, and are adopting it as proposed, as reflected in Table 2 of this Supplementary Information.

*v. Exchange rate derivative contracts*

Under the proposal, exchange rate derivative contracts would have received a supervisory factor of 4 percent. As noted in the discussion on supervisory factors for commodity derivative contracts, several commenters supported treating

gold derivative contracts as a type of exchange rate derivative contract. However, as noted previously, treating a gold derivative as an exchange rate derivative contract would significantly understate the risk associated with such exposures. The agencies are therefore adopting as final the proposal to treat a gold derivative contract as a commodity derivative contract. The agencies did not receive comments on other aspects of the proposed supervisory factors for exchange rate derivative contracts, and are adopting them as final, as reflected in Table 2 of this Supplementary Information.

*vi. Volatility derivative contracts and basis derivative contracts*

For volatility derivative contracts, the proposal would have required a banking organization to multiply the applicable supervisory factor based on the asset class related to the volatility measure by a factor of five. This treatment would have recognized that volatility derivative contracts are inherently subject to more price volatility than the underlying asset classes they reference.

For basis derivative contracts, the proposal would have required a banking organization to multiply the applicable supervisory factor based on the asset class related to the basis measure by a factor of one half. This treatment would have reflected that the volatility of a basis derivative contract is based on the difference in volatilities of highly correlated risk factors, which would have resulted in a lower volatility than a derivative contract that is not a basis derivative contract. The agencies did not receive comments on the proposed supervisory factors for

volatility derivative contracts and basis derivative contracts, and the final rule adopts this aspect of the proposal without change.

Table 2—Supervisory Option Volatility and Supervisory Factors for Derivative Contracts

<b>Asset Class</b>	<b>Category</b>	<b>Type</b>	<b>Supervisory Option Volatility</b>	<b>Supervisory Correlation Factor</b>	<b>Supervisory Factor<sup>1</sup></b>
<b>Interest rate</b>	N/A	N/A	50%	N/A	0.50%
<b>Exchange rate</b>	N/A	N/A	15%	N/A	4.0%
<b>Credit, single name</b>	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%
<b>Credit, index</b>	Investment Grade	N/A	80%	80%	0.38%
	Speculative Grade	N/A	80%	80%	1.06%
	N/A	N/A	120%	50%	32%
<b>Equity, index</b>	N/A	N/A	75%	80%	20%
<b>Commodity</b>	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%

<sup>1</sup> The applicable supervisory factor for basis derivative contract hedging sets is equal to one-half of the supervisory factor provided in Table 2, and the applicable supervisory



factor for volatility derivative contract hedging sets is equal to 5 times the supervisory factor provided in Table 2.

*c. Supervisory delta adjustment*

Under the proposal, a banking organization would have applied the supervisory delta adjustment to account for the sensitivity of a derivative contract to the underlying primary risk factor, including the correct sign (positive for long and negative for short) to account for the direction of the derivative contract amount relative to the primary risk factor. Because option contracts are nonlinear, the proposal would have required a banking organization to use the Black-Scholes Model to determine the supervisory delta adjustment.

Some commenters argued that use of the Black-Scholes Model is not appropriate for certain path-dependent options, because their price is not determined by a single price but instead is determined by the path of the price for the underlying asset during the option's tenor. For such path-dependent options, the commenters asked that banking organizations instead be allowed to use existing internal models. Similarly, other commenters requested allowing banking organizations to use modeled volatilities for purposes of the supervisory delta adjustment, rather than the volatilities prescribed by the proposal. Conversely, other commenters supported the agencies' proposal with respect to the calibration of supervisory deltas.

As generally noted above, SA-CCR is a standardized framework, and the use of internal models to determine option volatility would generally not be

appropriate for a standardized approach that is intended to be implementable by all banking organizations and used to facilitate supervisory assessments of comparability across banking organizations. Allowing banking organizations to use internal models for purposes of the final rule would not support these objectives. The agencies note that advanced approaches banking organizations may continue to use IMM, which is a model-based approach, to determine the exposure amount of derivative contracts for purposes of calculating advanced approaches total risk-weighted assets.<sup>96</sup>

The final rule adopts the supervisory delta adjustment as proposed. Under § \_\_.132(c)(9)(iii) of the final rule, the supervisory delta adjustment for derivative contracts that are not options or collateralized debt obligation tranches must account only for the direction of the derivative contract (positive or negative) with respect to the underlying risk factor, as such contracts are considered to be linear in the primary risk factor. Accordingly, the supervisory delta adjustment equals one if such a derivative contract is long the primary risk factor and negative one if it is short the primary risk factor.

As noted above, because options contracts are nonlinear, a banking organization must use the Black-Scholes Model to determine the supervisory delta adjustment for options contracts. However, because the Black-Scholes Model assumes that the underlying risk factor is greater than zero, consistent with the

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<sup>96</sup> *See supra* n. 24.

proposal, the final rule incorporates a parameter, lambda ( $\lambda$ ), so that the Black-Scholes Model may be used where the underlying risk factor has a negative value. In particular, the Black Scholes formula provides a ratio, P/K, as an input to the natural logarithm function. P is the fair value of the underlying instrument and K is the strike price. The natural logarithm function can be defined only for amounts greater than zero, and therefore, a reference risk factor with a negative value (e.g., negative interest rates) would make the supervisory delta adjustment inoperable.

Table 3 – Supervisory Delta Adjustment for Options<sup>97</sup>

	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	$-\Phi \left( \frac{\ln \left( \frac{P + \lambda}{K + \lambda} \right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}} \right)$	$\Phi \left( \frac{\ln \left( \frac{P + \lambda}{K + \lambda} \right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}} \right)$

Where:

$\Phi$  is the standard normal cumulative distribution function;

P equals the current fair value of the instrument or risk factor, as applicable, underlying the option;

<sup>97</sup> Under the final rule, a banking organization must represent binary options with strike K 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. The size of the position in the European options must be such that the payoff of the binary option is reproduced exactly outside the region between the two strikes. 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.

K equals the strike price of the option;

T equals the number of business days until the latest contractual exercise date of the option; and

$\lambda$  equals zero for all derivative contracts, except that for interest rate options that reference currencies currently associated with negative interest rates  $\lambda$  must be equal to  $\max\{-L + 0.1\%; 0\}$ ;<sup>98</sup> and

$\sigma$  equals the supervisory option volatility, determined in accordance with Table 2.

Consistent with the proposal, under the final rule, 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),<sup>99</sup> a banking

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<sup>98</sup> The same value of  $\lambda_i$  must be used for all interest rate options that are denominated in the same currency. The value of  $\lambda_i$  for a given currency would be equal to the lowest value L of  $P_i$  and  $K_i$  of all interest rate options in a given currency that the banking organization has with all counterparties.

<sup>99</sup> A collar is a combination of a long position in the stock, a long put option and a short call option, in which the investor gives up the upside on the stock (by selling the call option) to obtain downside protection (through the purchase of the put option).

A butterfly spread consists of a long put (call) with a low exercise price, a long put (call) with a high exercise price, and two short puts (calls) with an intermediate exercise price, in which the investor earns a profit if the underlying asset equals the intermediate exercise price of two short puts (calls) but has limited their potential loss to no more than the low exercise price of the long put (call).

A calendar spread consists of a short call (put) option and a long call (put) option on the same underlying stock and with the same exercise price, but with different maturities. If the investor expects limited price movement on the stock in the near-term but a significant longer-term price increase, the investor will sell the short-dated call option and purchase the long-dated call option.

organization must treat each standard option component as a separate derivative contract. For a derivative contract that includes multiple-payment options (such as interest rate caps and floors),<sup>100</sup> a banking organization must represent each payment option as a combination of effective single-payment options (such as interest rate caplets and floorlets). A banking organization cannot decompose linear derivative contracts (such as swaps) into components.

For a derivative contract that is a collateralized debt obligation tranche, a banking organization must determine the supervisory delta adjustment according to the following formula:

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

Where:

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A straddle consists of a long (short) call option and long (short) put option on the same underlying stock, with the same exercise price and with the same maturity, in which the investor pays (receives) two option premiums upfront. In a long straddle, the investor pays two premiums upfront for the options in order to hedge against expected large future stock price moves regardless of direction. In a short straddle, the investor receives two option premiums upfront based on their expectation of low future price volatility.

A strangle consists of a call and put option on the same underlying stock and with the same exercise date, but with different exercise prices. The strategy is similar to the straddle, but the investor is purchasing (selling) out-of-the-money options in a strangle, while in a straddle, the investor is purchasing (selling) at-the-money options.

<sup>100</sup> An interest rate cap is a series of interest rate call options (“caplets”) in which the option seller pays the option buyer when the reference rate exceeds the predetermined level in the contract. An interest rate floor is a series of interest rate put options (“floorlets”) in which the option seller pays the options buyer when the reference rate falls below the contractual floor.

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;<sup>101</sup> and

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.

The final rule applies a positive sign to the resulting amount if the banking organization purchased the collateralized debt obligation tranche and applies a negative sign if the banking organization sold the collateralized debt obligation tranche.

*d. Maturity factor*

The proposal would have provided separate maturity factors based on whether a derivative contract is subject to a variation margin agreement. For derivative contracts subject to a variation margin agreement, the maturity factor would have been based on the ratio of the supervisory-provided MPOR applicable to the type of derivative contract and 250 business days. The proposal would have

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<sup>101</sup> In the case of a first-to-default credit derivative, there are no underlying exposures that are subordinated to the banking organization's exposure and  $A=0$ . 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.

defined MPOR as the period from the most recent exchange of collateral under a variation margin agreement with a defaulting counterparty until the derivative contracts are closed out and the resulting market risk is re-hedged. For derivative contracts subject to a variation margin agreement that are not cleared transactions, MPOR would have been floored at ten business days. For derivative contracts subject to a variation margin agreement and that are cleared transactions, MPOR would have been floored at five business days. For derivative contracts not subject to a variation margin agreement, the maturity factor would have been based on the ratio of the remaining maturity of the derivative contract, capped at 250 business days, with the numerator floored at ten business days.

Several commenters asked the agencies to clarify whether a five-business-day MPOR floor would apply to the exposure of a clearing member banking organization to its client that arises when the clearing member banking organization is acting as a financial intermediary and enters into an offsetting derivative contract with a CCP or when the clearing member banking organization provides a guarantee to the CCP on the performance of the client on a derivative contract with the CCP. In response to comments, the final rule applies a five-business-day MPOR floor to the exposure of a clearing member banking organization to its client that arises when the clearing member banking organization is acting as a financial intermediary and enters into an offsetting derivative contract with a QCCP or when the clearing member banking organization provides a guarantee to the QCCP on the performance of the client on

a derivative contract with the QCCP (defined under this final rule as a “client-facing derivative transaction,” as described below).<sup>102</sup>

Some commenters noted that the criteria for doubling the MPOR under the proposal is different from the existing criteria under the IMM. Under the proposal, a banking organization would have been required to double the applicable MPOR floor if the derivative contract is subject to an outstanding dispute over margin. Under the IMM, a banking organization must double the applicable MPOR only if over the two previous quarters more than two margin disputes in a netting set have occurred and lasted longer than the MPOR. The agencies are aligning the treatment in the final rule with this approach. Therefore, a banking organization must double the applicable MPOR only if over the two previous quarters more than two margin disputes in a netting set have occurred, and each margin dispute lasted longer than the MPOR.<sup>103</sup> This approach is consistent with the treatment under IMM, which has generally functioned as

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<sup>102</sup> Section 132(c)(9)(iv)(A)(2)(ii) of the proposed rule text would have applied a five-business-day MPOR floor to cleared transactions subject to a variation margin agreement. In order to capture the longer close-out period required in the event of a central counterparty failure, the final rule text at section 132(c)(9)(iv)(A)(1) provides that MPOR cannot be less than ten business days for transactions subject to a variation margin agreement that are not client-facing derivative transactions. The final rule is consistent with the Basel Committee standard regarding capital requirements for bank exposures to central counterparties and with the treatment of these transactions under the agencies’ implementation of CEM. *See infra* n. 115.

<sup>103</sup> The adopted treatment is also consistent with the application of the standard supervisory haircuts under § \_\_.132(b)(2)(ii)(A)(4) of the final rule.



intended. In addition, alignment with IMM will reduce operational burden for firms that are required to use SA-CCR for calculating standardized risk-weighted assets, but have received prior supervisory approval to use IMM to calculate risk-weighted assets under the advanced approaches.

Other commenters requested revising the proposal to allow banking organizations to treat all derivative contracts with a commercial end-user counterparty as subject to a variation margin agreement and apply a holding period of no more than ten business days, regardless of whether the derivative contract is subject to a variation margin agreement. The reasons provided by commenters for this request were to help address the types of concerns raised by commenters regarding exposures to commercial end-user counterparties, as discussed previously. The final rule does not provide maturity factors based on the type of counterparty to the derivative contract because the agencies intend for the maturity factor to capture the time period to close out a defaulted counterparty and the degree of legal certainty with respect to such close-out period. With respect to comments regarding the MPOR for exposures to commercial end-user counterparties, removing the alpha factor for derivative contracts with such counterparties should help to address the commenters' concerns.

Some commenters asked the agencies to replace the term “exotic derivative contracts”<sup>104</sup> under the proposal with “derivative contracts that are not easily replaceable” in order to allow banking organizations to rely on existing operational processes rather than requiring the establishment of new ones to identify “exotic derivative contracts.” These commenters noted that banking organizations have already established the operational processes necessary for identifying derivative contracts as “not easily replaceable” to comply with other aspects of the capital rule. In response to commenters’ concerns, the agencies are replacing the term “exotic derivative contract” with “derivative contract that cannot be easily replaced.”

For the reasons described above, the agencies are adopting as final the proposed maturity factor adjustment under § \_\_.132(c)(9)(iv), subject to the clarifications and revisions discussed above. Under the final rule, for derivative contracts not subject to a variation margin agreement, or derivative contracts subject to a variation margin agreement under which the counterparty to the variation margin agreement is not required to post variation margin to the banking organization, a banking organization must determine the maturity factor using the following formula:

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<sup>104</sup> Under the proposal, a banking organization would have been required to use a MPOR of 20 business days 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 if a netting set contains one or more trades involving illiquid collateral or exotic derivative contracts.

$$\text{Maturity factor} = \sqrt{\frac{\min\{M;250\}}{250}},$$

Where M equals the greater of ten business days and the remaining maturity of the contract, as measured in business days.

For derivative contracts subject to a variation margin agreement under which the counterparty must post variation margin, a banking organization must determine the maturity factor using 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 under a variation margin agreement with a defaulting counterparty until the derivative contracts are closed out and the resulting market risk is re-hedged.

The final rule introduces the term “client-facing derivative transactions” to describe the exposure of a clearing member banking organization to its client that arises when the clearing member banking organization is either acting as a financial intermediary and enters into an offsetting derivative contract with a QCCP or when the clearing member banking organization provides a guarantee to the QCCP on the performance of the client for a derivative contract with the QCCP. Under the final rule, the agencies are clarifying that the MPOR is floored at five business days for derivative contracts subject to a variation margin agreement that are client-facing derivative transactions. For all other derivative contracts subject to a variation margin agreement, the MPOR is floored at ten business days. If over the previous two quarters a netting set is subject to two or

more outstanding margin disputes that lasted longer than the MPOR, the applicable MPOR is twice the MPOR provided for those transactions in the absence of such disputes.<sup>105</sup> 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 if a netting set contains one or more transactions involving illiquid collateral or a derivative contract that cannot be easily replaced, the MPOR is floored at 20 business days.

For a cleared derivative contract in which on specified dates any outstanding exposure of the derivative contract is settled and the fair value of the derivative contract is reset to zero, the remaining maturity of the derivative contract is the period until the next reset date.<sup>106</sup> In addition, derivative contracts with daily settlement would be treated as unmargined derivative contracts. However, as discussed in section III.D.4. of this Supplementary Information, a banking organization may elect to treat settled-to-market derivative contracts as collateralized-to-market derivative contracts subject to a variation margin

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<sup>105</sup> In general, a party will not have violated its obligation to collect or post variation margin from or to a counterparty if: the counterparty has refused or otherwise failed to provide or accept the required variation margin to or from the party; and the party has made the necessary efforts to collect or post the required variation margin, including the timely initiation and continued pursuit of formal dispute resolution mechanisms; or has otherwise demonstrated that it has made appropriate efforts to collect or post the required variation margin; or commenced termination of the derivative contract with the counterparty promptly following the applicable cure period and notification requirements.

<sup>106</sup> See 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

agreement and apply the maturity factor for derivative contracts subject to a variation margin agreement.

### *3. PFE multiplier*

Under the proposal, the PFE multiplier would have recognized, if present, the amount of excess collateral available and the negative fair value of the derivative contracts within the netting set. Specifically, the PFE multiplier would have decreased exponentially from a value of one as the value of the financial collateral held exceeds the net fair value of the derivative contracts within the netting set, subject to a floor of 5 percent. This function accounted for the fact that the proposed aggregated amount formula would not have recognized financial collateral and would have assumed a zero market value for all derivative contracts.

Several commenters argued that the PFE multiplier is too conservative and does not appropriately account for the risk-reducing effects of collateral. Some commenters argued that the calibration of the aggregated amount for a netting set would result in an overly conservative PFE multiplier amount, and that the aggregated amount in the PFE multiplier should be divided by at least two to mitigate such conservatism. Other commenters argued that because other factors under SA-CCR already contribute to the conservative recognition of initial margin (e.g., the calibration of the add-on, use of an exponential function, and reflection of collateral volatility through haircuts that do not allow any diversification across collateral), the agencies should decrease the floor to 1 percent because initial margin requirements for uncleared swaps under the swap margin rule generally are

calibrated to a 99 percent confidence level. Additionally, these commenters argued that the floor should not be a component of the PFE multiplier function but instead should act as an independent floor to the recognition of collateral under the PFE function. According to these comments, while these changes would result in more risk-sensitive initial margin recognition for heavily overcollateralized netting sets, the overall impact would remain conservative due to the overcalibration of the add-on. Other commenters asked the agencies to recognize the effect of collateral on a dollar-for-dollar basis, subject to haircuts, similar to the recognition of collateral under the replacement cost component of SA-CCR.

Relative to CEM, SA-CCR is more sensitive to the risk-reducing benefits of collateral. However, the agencies recognize that as a standardized framework, SA-CCR may not appropriately capture risks in all cases (e.g., collateral haircuts may be less than those realized in stress periods) and therefore believe it is appropriate to instill conservatism. The combination of the exponential function and the floor provides adequate recognition of collateral while maintaining a sufficient level of conservatism by limiting decreases in PFE due to large amounts of collateral and preventing PFE from reaching zero for any amount of margin. This ensures that some amount of capital will be maintained even in situations where the transaction is overcollateralized. The commenters' recommendations could, in certain circumstances, undermine these objectives. Therefore, the final rule adopts the PFE multiplier as proposed.

Under the final rule, a banking organization must calculate the PFE

multiplier using the formula set forth in § \_\_.132(c)(7)(i) of the final rule, as follows:

$$PFE \text{ multiplier} = \min \left\{ 1; 0.05 + 0.95 * e^{\left(\frac{V-C}{1.9*A}\right)} \right\},$$

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.

The PFE multiplier decreases as the net fair value of the derivative contracts within the netting set less the amount of collateral decreases below zero. Specifically, when the component  $V - C$  is greater than zero, the multiplier is equal to one. When the component  $V - C$  is less than zero, the multiplier is equal to an amount less than one and decreases exponentially in value as the absolute value of  $V - C$  increases. The PFE multiplier approaches a floor of 5 percent as the absolute value of  $V - C$  becomes very large as compared with the aggregated amount of the netting set.

#### *4. PFE calculation for nonstandard margin agreements*

When a single variation margin agreement covers multiple netting sets, the parties exchange variation margin based on the aggregated market value of the netting sets—i.e., netting sets with positive and negative market values can offset

one another to reduce the amount of variation margin that the parties are required to exchange. This can result, however, in a situation in which margin exchanged between the parties will be insufficient relative to the banking organization's exposure amount for the netting sets.<sup>107</sup> To address such a situation, the proposal would have required a banking organization to assign a single PFE to each netting set covered by a single variation margin agreement, calculated as if none of the derivative contracts within the netting set are subject to a variation margin agreement. The agencies did not receive comments on this aspect of the proposal, and are adopting it as proposed under § \_\_.132(c)(10)(ii) of the final rule.

The proposal also would have provided a separate calculation to determine PFE for a situation in which a netting set is subject to more than one variation margin agreement, or for a hybrid netting set. Under the proposal, a banking organization would have divided the netting set into sub-netting sets and calculated the aggregated amount for each sub-netting set. In particular, 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

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<sup>107</sup> For example, consider a variation margin agreement with a zero threshold amount that covers two separate netting sets, one with a positive market value of 100 and the other with a market value of negative 100. The aggregate market value of the netting sets would be zero and thus no variation margin would be exchanged. However, the banking organization's aggregate exposure amount for these netting sets would be equal to 100 because the negative market value of the second netting set would not be available to offset the positive market value of the first netting set. In the event of default of the counterparty, the banking organization would pay the counterparty 100 for the second netting set and would be exposed to a loss of 100 on the first netting set.



counterparty is not required to post variation margin would have formed a single sub-netting set. A banking organization would have been required to calculate the aggregated amount for this sub-netting set as if the netting set were not subject to a variation margin agreement. All derivative contracts within the netting set that are subject to variation margin agreements under which the counterparty must post variation margin and that share the same MPOR value would have formed another sub-netting set. A banking organization would have been required to calculate the aggregated amount for this sub-netting set as if the netting set were subject to a variation margin agreement, using the MPOR value shared by the derivative contracts within the netting set.

Several commenters asked the agencies to allow banking organizations to net based solely on whether a QMNA that provides for closeout netting per applicable law in the event of default is in place. These commenters asserted that netting should not be limited to derivative contracts with the same MPOR because the purpose of the MPOR is to capture the risks associated with an extended closeout period upon a counterparty's default and that differences in MPOR are unrelated to the legal ability to net upon closeout, which should be based only on legal certainty which is established under U.S. law if the netting agreement is a QMNA. In particular, commenters were concerned that the proposal would prohibit banking organizations from being able to net settled-to-market<sup>108</sup>

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<sup>108</sup> See supra n.18.

derivative contracts with collateralized-to-market derivative contracts,<sup>109</sup> as well as futures-style options and options with equity-style margining,<sup>110</sup> even if such contracts are within the same netting set.

The proposal's distinction between margined and unmargined derivative contracts would not have fully captured the relationship between settled-to-market derivative contracts and collateralized-to-market derivative contracts that are cleared transactions as defined under § \_\_.2 of the capital rule. In particular, under both cleared settled-to-market and cleared collateralized-to-market derivative transactions a banking organization must either make a settlement payment or exchange collateral to support its outstanding credit obligation to the counterparty on a periodic basis. Such contracts are functionally and economically similar from a credit risk perspective, and therefore, the final rule allows a banking organization to elect, at the netting set level, to treat all the settled-to-market derivative contracts within the netting set that are cleared

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<sup>109</sup> In general, in a collateralized-to-market derivative contract, title of transferred collateral stays with the posting party.

<sup>110</sup> In general, for margining for options, the buyer of the option pays a premium upfront to the seller and there is no exchange of variation margin. The buyer, however, may credit the net value of the option against its initial margin requirements. The seller, in turn, receives a debit against its initial margin requirement in the amount of the net option value. The option is subject to daily revaluation with increases and decreases to the net option value resulting in adjustments to the buyer's and the seller's net option value credits and debits. In addition, under U.S. GAAP, the option is an asset and the banking organization could use it in the event of a client's default to offset any other losses the buyer may have.

transactions as subject to a variation margin agreement and receive the benefits of netting with cleared collateralized-to-market derivative contracts. That is, a banking organization that makes such election will treat such cleared settled-to-market derivative contracts as cleared collateralized-to-market derivative contracts, using the higher maturity factor applicable to collateralized-to-market derivative contracts.<sup>111</sup>

Similarly, for listed options, the agencies are clarifying that a banking organization may elect to treat listed options on securities or listed options on futures with equity-style margining that are cleared transactions as margined derivatives. Under the final rule, a banking organization may elect to treat all such transactions within the same netting set as being subject to a variation margin agreement with a zero threshold amount and a zero minimum transfer amount, given that the daily net option value credits and debits are economically equivalent to an exchange of variation margin under a zero threshold and a zero minimum transfer amount. Consistent with the treatment described above for settled-to-market derivative contracts that are treated as collateralized-to-market, a banking organization that elects to apply this treatment must apply the maturity factor applicable to margined derivative contracts.

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<sup>111</sup> § \_\_.132(c)(9)(iv)(A) of the final rule. Similar to the treatment under CEM, SA-CCR provides a lower maturity factor for cleared settled-to-market derivative contracts that meet certain criteria. *See* “Regulatory Capital Treatment of Certain Centrally-cleared Derivative Contracts Under Regulatory Capital Rules” (August 14, 2017), OCC Bulletin: 2017-27; Board SR letter 07-17; and FDIC Letter FIL-33-2017.

Except for the changes described above, the agencies are adopting the proposed approach for netting sets subject to more than one variation margin agreement, or for a hybrid netting set.<sup>112</sup>

#### **IV. Revisions to the Cleared Transactions Framework**

Under the capital rule, a banking organization must maintain regulatory capital for its exposure to, and certain collateral posted in connection with, a derivative contract that is a cleared transaction (as defined under § \_\_.2 of the capital rule). A clearing member banking organization also must hold risk-based capital for its default fund contributions.<sup>113</sup> The proposal would have revised the cleared transactions framework under the capital rule by replacing CEM with SA-CCR for advanced approaches banking organizations in both the advanced approaches and standardized approach. Non-advanced approaches banking organizations would have been permitted to elect to use SA-CCR or CEM for noncleared and cleared derivative contracts, but would have been required to use the same approach for both.<sup>114</sup> In addition, the proposal would have simplified the

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<sup>112</sup> § \_\_.132(c)(11)(ii) of the final rule.

<sup>113</sup> A default fund contribution means the funds contributed or commitments made by a clearing member banking organization to a CCP's mutualized loss-sharing arrangement. *See* 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2, (FDIC).

<sup>114</sup> At the time of the proposal, an advanced approaches banking organization meant a banking organization that has at least \$250 billion in total consolidated assets or if it has consolidated on-balance sheet foreign exposures of at least \$10 billion, or if it is a subsidiary of a depository institution, bank holding company, savings and loan holding company or intermediate holding company that is an

formula that a clearing member banking organization must use to determine the risk-weighted asset amount for its default fund contributions. The proposed revisions were consistent with standards developed by the Basel Committee.<sup>115</sup>

#### **A. Trade Exposure Amount**

Under the proposal, an advanced approaches banking organization that elected to use SA-CCR for purposes of determining the exposure amount of a noncleared derivative contract under the advanced approaches would have been required to also use SA-CCR (instead of IMM) to determine the trade exposure amount for a cleared derivative contract under the advanced approaches. In addition, an advanced approaches banking organization would have been required to use SA-CCR to determine the exposure amount for both its cleared and noncleared derivative contracts under the standardized approach. A non-advanced approaches banking organization that elected to use SA-CCR for purposes of determining the exposure amount of a non-cleared derivative contract would have

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advanced approaches banking organization. Under the tailoring proposal, the supplementary leverage ratio also applies to banking organizations subject to Category III. Banking organizations subject to Category III standards would have been permitted to use CEM or a modified version of SA-CCR for purposes of the supplementary leverage ratio, but consistent with proposal to implement SA-CCR, they would have been required to use the same approach (CEM or SA-CCR) for all purposes under the capital rule. *See supra* n. 23.

<sup>115</sup> *See* “Capital requirements for bank exposures to central counterparties,” Basel Committee on Banking Supervision (April 2014), <https://www.bis.org/publ/bcbs282.pdf>.

been required to use SA-CCR (instead of CEM) to determine the trade exposure amount for a cleared derivative contract.

Several commenters recommended providing advanced approaches banking organizations the option to use SA-CCR or IMM for purposes of the cleared transactions framework, regardless of the banking organization's election to use SA-CCR or IMM to determine the exposure amount of noncleared derivative contracts under the advanced approaches. As discussed in section II.A. of this Supplementary Information, the agencies believe that requiring an advanced approaches banking organization to use one of either SA-CCR or IMM for both cleared and noncleared derivative contracts under the advanced approaches promotes consistency in the regulatory capital treatment of derivative contracts and facilitates the supervisory assessment of a banking organization's capital management program.

Some commenters asked the agencies to remove from the calculation of trade exposure amount the requirement to include non-cash initial margin posted to a CCP that is not held in a bankruptcy-remote manner. According to commenters, this requirement would overstate the banking organization's exposure to such collateral, because collateral posted to a CCP remains on the balance sheet of the banking organization and must be reflected in risk-weighted assets under the capital rule. Collateral held in a manner that is not bankruptcy remote exposes a banking organization to risk of loss should the CCP fail and the banking organization is unable to recover its collateral. This counterparty credit

risk is separate from, and in addition to, the risk inherent to the collateral itself.

Thus, the final rule does not remove from the calculation of trade exposure amount the requirement to include non-cash initial margin posted to a CCP that is not held in a bankruptcy remote manner.

Other commenters asked for clarification regarding the scope of transactions that would be subject to the cleared transactions framework. In particular, the commenters asked the agencies to clarify the treatment of an exposure between a banking organization and a clearing member where the banking organization acts as agent for its client for a cleared transaction by providing a guarantee to the clearing member of the QCCP for the performance of the client. The final rule clarifies that, in such a situation, the banking organization may treat its exposure to the transaction as if the banking organization were the clearing member and directly facing the QCCP (i.e., the banking organization would have no exposure to the clearing member or the QCCP as long as it does not provide a guarantee to the client on the performance of the clearing member or QCCP).<sup>116</sup> Furthermore, in such a situation, the banking organization may treat the exposure resulting from the guarantee of the client's performance obligations with respect to the underlying derivative contract

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<sup>116</sup> See 12 CFR 3.3(a) (OCC); 12 CFR 217.3(a) (Board); and 12 CFR 324.3(a) (FDIC).

as a client-facing derivative transaction.<sup>117</sup> Similarly, under CEM, the banking organization may adjust the exposure amount for the client-facing derivative transaction by applying a scaling factor of the square root of  $\frac{1}{2}$  (which equals 0.707107) to such exposure or higher if the banking organization determines a longer holding period is appropriate.<sup>118</sup>

Some commenters asked the agencies to clarify how a clearing member banking organization that acts as agent on behalf of a client should reflect its temporary exposure to the client for the collateral posted by the clearing member banking organization to the CCP, which the client subsequently will post to the clearing member banking organization. The commenters stated that the collateral advanced by the clearing member banking organization on behalf of the client creates a receivable under U.S. GAAP until the clearing member banking organization receives the collateral from the client. Accordingly, the commenters sought clarification on whether the amount of such receivables should be reflected in exposure amount of the client-facing derivative transaction or treated as a separate exposure to the client. Such receivables expose the clearing member banking organization to risk of loss should the client fail to subsequently post the

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<sup>117</sup> As described in section III.D.2.d. of this Supplementary Information, for the client-facing derivative transaction (i.e., the banking organization's exposure to the client due to the guarantee), the banking organization would treat the exposure as a non-cleared derivative contract using the five-business-day minimum MPOR.

<sup>118</sup> See 12 CFR 3.34(e) (OCC); 12 CFR 217.34(e) (Board); and 12 CFR 324.34(e) (FDIC).



collateral to the clearing member banking organization. This credit risk is separate from, and in addition to, the counterparty credit risk of the exposure arising from the client-facing derivative transaction, which represents the guarantee the clearing member banking organization provides for the client's performance on the underlying derivative transaction. Thus, consistent with U.S. GAAP, a clearing member banking organization must treat such a receivable as a credit exposure to the client for purposes of the capital rule, separate from the treatment applicable to the client-facing derivative transaction under this final rule.

For the reasons discussed above, the agencies are adopting as final under § \_\_.133(b) of the final rule the proposal to replace CEM with SA-CCR for advanced approaches banking organizations in the capital rule, with one modification to introduce the defined term “client-facing derivative transactions” and clarify that such exposures receive a five-business-day minimum MPOR under SA-CCR, as discussed above. An advanced approaches banking organization that elects to use SA-CCR for purposes of determining the exposure amount of its noncleared derivative contracts under the advanced approaches must also use SA-CCR (instead of IMM) to determine the trade exposure amount for its cleared derivative contracts under the advanced approaches.<sup>119</sup>

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<sup>119</sup> As discussed in section II.A. of this Supplementary Information, an advanced approaches banking organization must use SA-CCR to determine the trade exposure amount for its cleared and exposure amount for its noncleared derivative contracts under the standardized approach.

A non-advanced approaches banking organization may continue to use CEM to determine the trade exposure amount for its cleared derivative contracts under the standardized approach. However, a non-advanced approaches banking organization that elects to use SA-CCR to calculate the exposure amount for its noncleared derivative contracts must use SA-CCR to calculate the trade exposure amount for its cleared derivative contracts.

### **B. Treatment of Default Fund Contributions**

The proposal would have revised certain of the approaches that a banking organization could use to determine the risk-weighted asset amount for its default fund contributions. Specifically, the proposal would have eliminated method one and method two under section 133(d)(3) of the capital rule, either of which may be used by a clearing member banking organization to determine the risk-weighted asset amount for its default fund contributions to a QCCP.<sup>120</sup> In its place, the proposal would have implemented a single approach for a clearing member banking organization to determine the risk-weighted asset amount for its default fund contributions to a QCCP, which would have been less complex than method one but also more granular than method two. The proposal would have maintained the approach by which a clearing member banking organization

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<sup>120</sup> Method one is a complex three-step approach that compares the default fund of the QCCP to the capital the QCCP would be required to hold if it were a banking organization and provides a method to allocate the default fund deficit or excess back to the clearing member. Method two is a simplified approach in which the risk-weighted asset amount for a default fund contribution to a QCCP equals 1,250 percent multiplied by the default fund contribution, subject to a cap.

determines its risk-weighted asset amount for its default fund contributions to a CCP that is not a QCCP.<sup>121</sup>

Some commenters asked the agencies to clarify that a banking organization's commitment to enter into reverse repurchase agreements with a CCP are not default fund contributions. Certain CCPs may require clearing members to provide funding in the form of reverse repurchase agreements in the event of a clearing member's default in order to support the liquidity needs of the CCP. The capital rule defines default fund contributions as the funds contributed to or commitments made by a clearing member to a CCP's mutualized loss sharing arrangements. The proposal did not contemplate changes to the definition of default fund contributions and the final rule does not revise this definition. Whether or not a particular arrangement meets the definition in the regulation depends on the facts and circumstances of the particular arrangement. The agencies may consider whether revisions to the definition are necessary in connection with future rulemakings if the definition is not functioning as intended.

Other commenters asked the Board to revise Regulation HH<sup>122</sup> to require QCCPs regulated by the Board to make available to clearing member banking organizations the information required to calculate the QCCP's hypothetical

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<sup>121</sup> In that case, the risk-weighted asset amount is the sum of the clearing member banking organization's default fund contributions multiplied by 1,250 percent.

<sup>122</sup> See 12 CFR part 234. Regulation HH relates to the regulation of designated financial market utilities by the Board.

capital requirement. The commenters raised concerns that while domestic QCCPs will likely be prepared to provide the requisite data to calculate the hypothetical capital requirement, no regulation requires them to do so, and that foreign QCCPs are not subject to U.S. regulation and may not be prepared to provide the requisite data. The commenters also encouraged the agencies to work with the SEC and the CFTC to make similar revisions to their regulations applicable to domestic QCCPs and with international standard setters and foreign regulators to ensure that foreign QCCPs will be capable of providing U.S. banking organizations with the data required for the hypothetical capital calculations under the proposal. Lastly, the commenters asked that the agencies clarify that banking organizations may rely on the amount of a foreign QCCP's hypothetical capital requirement produced under a Basel-compliant SA-CCR regime.

The proposal did not contemplate changes to Regulation HH and thus the agencies view these comments as out of scope for this rulemaking. In addition, the Board's Regulation HH serves a different purpose than the capital rule and covers a different set of entities. However, the agencies recognize, the concerns raised by the commenters with respect to potential difficulties for banking organizations in calculating the hypothetical capital requirement of a QCCP and intend to monitor whether banking organizations experience difficulties obtaining the hypothetical capital requirement (or the requisite information required to

calculated it) from the QCCP to perform this calculation.<sup>123</sup> In recognition of these concerns, the final rule allows banking organizations that elect to use SA-CCR to continue to use method 1 or method 2 under CEM to calculate the risk-weighted asset amount for default fund contributions until January 1, 2022.<sup>124</sup> This is intended to provide sufficient time for clearing member banking organizations to coordinate with CCPs to obtain the hypothetical capital requirement produced under SA-CCR (or the requisite information to calculate it) from the CCPs, in order for such entities to qualify as QCCPs after the mandatory compliance date. The agencies are also clarifying that after January 1, 2022, the mandatory compliance date, a banking organization that is using SA-CCR may only consider a foreign CCP to be a QCCP for purposes of the capital rule if the foreign CCP produces its hypothetical capital requirement under SA-CCR (as implemented by the CCP's home country in a manner consistent with the Basel Committee standard). The agencies intend to monitor whether banking organizations experience difficulties obtaining the hypothetical capital requirement (or alternatively, the required data) after the January 1, 2022,

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<sup>123</sup> Under the capital rule, if a CCP does not provide the hypothetical capital requirement (or, alternatively, the required data) the CCP is not a QCCP and a banking organization must apply a risk-weight of 1250 percent to its default fund contributions to the CCP. *See* definition of “qualifying central counterparty” in 12 CFR 3.2 (OCC); 12 CFR 217.2 (Board); and 12 CFR 324.2 (FDIC).

<sup>124</sup> In cases where a banking organization uses method 1 to calculate the risk-weighted asset amount for a default fund contribution, a QCCP that provides the banking organization its hypothetical capital requirement produced using CEM would still qualify as a QCCP until January 1, 2022.

mandatory compliance date. If, after January 2022, significant obstacles remain after a banking organization has made best efforts to obtain the necessary information from CCPs (e.g., due to delays in the implementation of the Basel Committee standard other jurisdictions), its primary federal regulator may permit the banking organization to use method 2 of CEM to calculate risk-weighted asset amounts for default fund contributions for a specified period.

The agencies otherwise are generally adopting without change the proposed revisions to the risk-weighted asset calculation for default fund contributions under § \_\_.133(d) of the final rule.<sup>125</sup> Thus, to determine the capital requirement for a default fund contribution to a QCCP, a clearing member banking organization first calculates the hypothetical capital requirement of the QCCP ( $K_{CCP}$ ), unless the QCCP has already disclosed it, in which case the banking organization must rely on that disclosed figure. In either case, a banking organization may choose to use a higher amount of  $K_{CCP}$  than the minimum calculated under the formula or disclosed by the QCCP if the banking organization has concerns about the nature, structure, or characteristics of the QCCP. In effect,  $K_{CCP}$  serves as a consistent measure of a QCCP's default fund amount.

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<sup>125</sup> In a non-substantive change, the agencies moved paragraphs (i) and (ii) of § \_\_.133(d)(3) of the proposed rule text to paragraphs (iv) and (v) under § \_\_.133(d)(6) of the final rule text. The agencies made this change because these sections provide instruction on calculating EAD for default fund contribution accounts, which are covered under § \_\_.133(d)(6). In addition, the agencies changed the reference to (e)(4) in § \_\_.133(d)(3) of the proposed rule text to (d)(4).

Under the final rule, a clearing member banking organization must calculate  $K_{CCP}$  according to the following formula:

$$K_{CCP} = \sum_{CM_i} EAD_i * 1.6 \text{ percent},$$

Where:

$CM_i$  is each clearing member of the QCCP; and

$EAD_i$  is the exposure amount of the QCCP to each clearing member of the QCCP, as determined under § \_\_.133(d)(6).<sup>126</sup>

The component  $EAD_i$  includes both the clearing member banking organization's own transactions, the client transactions guaranteed by the clearing member, and all values of collateral held by the QCCP (including the clearing member banking organization's pre-funded default fund contribution) against these transactions. The 1.6 percent amount represents the product of a capital ratio of 8 percent and a 20 percent risk weight of a clearing member banking organization.

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<sup>126</sup> Section 133(d)(6) of the proposed rule text would have required a banking organization to sum the exposure amount of all underlying transactions, the collateral held by the CCP, and any prefunded default contributions. In a technical correction to the proposal, and to recognize that collateral held by the QCCP and any prefunded default fund contributions serve to mitigate this exposure, the final rule text at section 133(d)(6) clarifies that banking organizations under the final rule must subtract from the exposure amount the value of collateral held by the QCCP and any prefunded default contributions. The final rule is consistent with the Basel Committee standard regarding capital requirements for bank exposures to central counterparties. *See supra* n. 115.

Subject to the transitional provisions described above, as of January 1, 2022, a banking organization that is required or elects to use SA-CCR to determine the exposure amount for its derivative contracts under the standardized approach must use a  $K_{CCP}$  calculated using SA-CCR for both the standardized approach and the advanced approaches.<sup>127</sup> For purposes of calculating  $K_{CCP}$ , the PFE multiplier includes collateral held by a QCCP in which the QCCP has a legal claim in the event of the default of the member or client, including default fund contributions of that member. In addition, the QCCP must use a MPOR of ten business days in the maturity factor adjustment. A banking organization that elects to use CEM to determine the exposure amount of its derivative contracts under the standardized approach must use a  $K_{CCP}$  calculated using CEM.

EAD must be calculated separately for each clearing member banking organization's sub-client accounts and sub-house account (i.e., for the clearing member's propriety activities). If the clearing member banking organization's collateral and its client's collateral are held in the same account, then the EAD of that account would be the sum of the EAD for the client-related transactions within the account and the EAD of the house-related transactions within the account. In such a case, for purposes of determining such EADs, the independent collateral of the clearing member banking organization and its client must be

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<sup>127</sup> The final rule does not revise the calculations for determining the exposure amount of repo-style transactions for purposes of determining the risk-weighted asset amount of a banking organization's default fund contributions.



allocated in proportion to the respective total amount of independent collateral posted by the clearing member banking organization to the QCCP. This treatment protects against a clearing member banking organization recognizing client collateral to offset the QCCP's exposures to the clearing member banking organization's proprietary activity in the calculation of  $K_{CCP}$ .

In addition, if any account or sub-account contains both derivative contracts and repo-style transactions, the EAD of that account is the sum of the EAD for the derivative contracts within the account and the EAD 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. The respective product specific exposure amounts must be calculated, excluding the effects of collateral, according to § \_\_.132(b) of the capital rule for repo-style transactions and to § \_\_.132(c)(5) for derivative contracts.

A clearing member banking organization also must calculate its capital requirement ( $K_{CM_i}$ ), which is the capital requirement for its default fund contribution, subject to a floor equal to a 2 percent risk weight multiplied by the clearing member banking organization's prefunded default fund contribution to the QCCP and an 8 percent capital ratio. This calculation allocates  $K_{CCP}$  on a pro rata basis to each clearing member based on the clearing member's share of the overall default fund contributions. Thus, a clearing member banking

organization's capital requirement increases as its contribution to the default fund increases relative to the QCCP's own prefunded amounts and the total prefunded default fund contributions from all clearing members to the QCCP. In all cases, a clearing member banking organization's capital requirement for its default fund contribution to a QCCP may not exceed the capital requirement that would apply if the same exposure were calculated as if it were to a CCP that is not a QCCP.

A clearing member banking organization calculates  $K_{CM_i}$  according to the following formula:<sup>128</sup>

$$K_{CM_i} = \max \left( K_{CCP} * \left( \frac{DF^{pref}}{DF_{CCP} + DF_{CM}^{pref}} \right); 0.16\% * DF^{pref} \right),$$

Where:

$K_{CCP}$  is the hypothetical capital requirement of the QCCP;

$DF^{pref}$  is the prefunded default fund contribution of the clearing member banking organization to the QCCP;

$DF_{CCP}$  is the QCCP's own prefunded amounts (e.g., contributed capital, retained earnings) that are contributed to the default fund waterfall and are junior or pari passu to the default fund contribution of the members; and

$DF_{CM}^{pref}$  is the total prefunded default fund contributions from clearing members of the QCCP.

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<sup>128</sup> The agencies are clarifying that  $K_{CM_i}$  must be multiplied by 12.5 to arrive at the risk weighted assets amount for default fund contribution.

## V. Revisions to the Supplementary Leverage Ratio

Under the capital rule, advanced approaches banking organizations and banking organizations subject to Category III standards must satisfy a minimum supplementary leverage ratio requirement of 3 percent.<sup>129</sup> The supplementary leverage ratio is the ratio of tier 1 capital to total leverage exposure, where total leverage exposure includes both on-balance sheet assets and certain off-balance sheet exposures.<sup>130</sup>

The proposal would have revised the capital rule to require advanced approaches banking organizations to use a modified version of SA-CCR, instead of CEM, to determine the on- and off-balance sheet amounts of derivative contracts for purposes of calculating total leverage exposure. The modified version of SA-CCR would have limited the recognition of collateral to certain cash variation margin<sup>131</sup> in the replacement cost calculation, but would not have allowed recognition of any financial collateral in the PFE component.<sup>132</sup>

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<sup>129</sup> See *supra* n. 31.

<sup>130</sup> See 12 CFR 3.10(c)(4)(ii) (OCC); 12 CFR 217.10(c)(4)(ii) (Board); and 12 CFR 324.10(c)(4)(ii) (FDIC).

<sup>131</sup> Consistent with CEM, the proposal would have permitted an advanced approaches banking organization to recognize cash variation margin in the on-balance component calculation only if (1) the cash variation margin met the conditions under §1.10(c)(4)(ii)(C)(3)–(7) of the proposed rule; and (2) it had not been recognized in the form of a reduction in the fair value of the derivative contracts within the netting set under the advanced approaches banking organization’s operative accounting standard.

<sup>132</sup> To determine the carrying value of derivative contracts, U.S. GAAP provides a banking organization with the option to reduce any positive fair value of a

The proposal sought comment on whether the agencies should broaden the recognition of collateral in the supplementary leverage ratio to also include collateral provided by a client to a clearing member banking organization in connection with a cleared transaction (client collateral), in recognition of recent policy efforts to support migration of derivative transactions to CCPs, including an October 2018 consultative release by the Basel Committee on the treatment of client collateral in the international leverage ratio standard.<sup>133</sup> Several commenters urged the agencies to recognize greater amounts of client collateral, including margin, in either PFE or in both replacement cost and PFE. Other commenters, however, argued that the agencies should not recognize greater amounts of client collateral, including cash or non-cash initial and variation margin, in connection with cleared transactions entered into on behalf of clients or

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derivative contract by the amount of any cash collateral received from the counterparty, provided the relevant GAAP criteria for offsetting are met (the GAAP offset option). Similarly, under the GAAP offset option, a banking organization has the option to offset the negative mark-to-fair value of a derivative contract with a counterparty. *See* Accounting Standards Codification paragraphs 815-10-45-1 through 7 and 210-20-45-1. Under the capital rule, a banking organization that applies the GAAP offset option to determine the carrying value of its derivative contracts would be required to reverse the effect of the GAAP offset option for purposes of determining total leverage exposure, unless the collateral is cash variation margin recognized as settled with the derivative contract as a single unit of account for balance sheet presentation and satisfies the conditions under § \_\_.10(c)(4)(ii)(C)(1)(ii) through (iii) and § \_\_.10(c)(4)(ii)(C)(3)-(7) of the capital rule.

<sup>133</sup> *See* “Consultative Document: Leverage ratio treatment of client cleared derivatives,” Basel Committee on Banking Supervision (October 2018), <https://www.bis.org/bcbs/publ/d451.pdf>.

any amount of margin collateral within the supplementary leverage ratio. In addition, some commenters urged the agencies to assess the effectiveness of collateral in offsetting the operational risks arising from the provision of client clearing services.

Commenters that supported greater recognition of client collateral argued that such an approach would be consistent with the G20 mandate to establish policies that support the use of central clearing for derivative transactions,<sup>134</sup> as it could decrease the regulatory capital cost of providing clearing services and thereby improve access to clearing services for clients, reduce concentration among clearing member banking organizations, and improve the portability of client positions to other clearing members, particularly in times of stress. Other commenters argued that allowing an advanced approaches banking organization to use the same SA-CCR methodology as proposed for the risk-based framework would simplify the capital rule for advanced approaches banking organizations.

Some commenters urged the agencies to consider the risk to financial stability if implementation of SA-CCR further exacerbates the trend towards concentration among clearing service providers or leads to a reduction in access to clearing for non-clearing-member entities. Of these, some commenters also argued that the proposed SA-CCR methodology could indirectly adversely affect

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<sup>134</sup> See “Leaders’ Statement: The Pittsburgh Summit,” G-20 (September 24-25, 2009), [https://www.treasury.gov/resource-center/international/g7-g20/Documents/pittsburgh\\_summit\\_leaders\\_statement\\_250909.pdf](https://www.treasury.gov/resource-center/international/g7-g20/Documents/pittsburgh_summit_leaders_statement_250909.pdf).

clearing member clients with directional and long-dated portfolios, such as pension funds, mutual funds, life insurance companies and other end-users that use derivatives largely for risk management purposes. Specifically, these commenters argued that such entities have already experienced difficulty in obtaining and maintaining access to central clearing from banking organizations due to the treatment of client margin, which substantially increases the capital requirements under the supplementary leverage ratio for banking organizations that provide clearing services.

Other commenters argued that limiting the recognition of client collateral in the supplementary leverage ratio could have pro-cyclical effects that undermine the core objectives of the clearing framework. These commenters asserted that CCPs typically increase collateral requirements during stress periods, and therefore can cause clearing member banking organizations to be bound, or further bound, by the supplementary leverage ratio during that time. According to the commenters, procyclicality in the capital requirements for a clearing member could undermine the client-account portability objective of the central clearing framework if the clearing member is unable to acquire a book of cleared derivatives from another failing clearing member due to the regulatory capital costs of such acquisition.

Furthermore, some commenters posited that greater recognition of the risk-reducing effects of client collateral for purposes of the supplementary leverage ratio would be appropriate due to the manner in which clearing member banking

organizations collect such collateral and the protections such collateral receives under existing regulations. Specifically, these commenters noted that CFTC regulations prohibit rehypothecation of client collateral, and explicitly limit a clearing member banking organization's use of collateral received from a client to purposes that fulfil the clearing member's obligations to the CCP or to cover losses in the event of that client's default.

By contrast, commenters who opposed greater recognition of the risk-reducing effects of client collateral under the supplementary leverage ratio expressed concern that such an approach would decrease capital levels among clearing member banking organizations and therefore could increase risks to both safety and soundness and U.S. financial stability. In particular, some commenters noted that solvency of clearing member banking organizations is critical to the stability of CCPs and that broadening the recognition of client collateral under the supplementary leverage ratio could undermine the advances made by central clearing mandates in stabilizing global financial markets. These commenters added that higher levels of regulatory capital at clearing member banking organizations could improve their ability to assume client positions from a defaulted clearing member in stress, and that the agencies have authority to provide temporary relief to leverage capital requirements if doing so would be necessary to allow a banking organization to absorb the client positions of an insolvent clearing member. With respect to concentration concerns, these commenters argued that lowering capital requirements for clearing member

banking organizations would not reduce concentration in the provision of clearing services; rather, any further reduction in capital requirements for clearing member banking organizations would only benefit banking organizations that already provide these services. In addition, these commenters expressed concern regarding the introduction of risk mitigants into the leverage capital requirements, and stated that such a revision could blur the distinction between leverage and risk-based capital requirements.

The final rule allows a clearing member banking organization to recognize the risk-reducing effect of client collateral in replacement cost and PFE for purposes of calculating total leverage exposure under certain circumstances.<sup>135</sup> This treatment applies to a banking organization's exposure to its client-facing derivative transactions. For such exposures, the banking organization would use SA-CCR, as applied for risk-based capital purposes, which permits recognition of both cash and non-cash margin received from a client in replacement cost and PFE. The agencies believe that this treatment appropriately recognizes recent developments in the use of central clearing and maintains levels of capital consistent with safe and sound operations of banking organizations engaged in these activities. Although there are some risks associated with CCPs, the agencies believe that central clearing through CCPs generally reduces the effective exposure of derivative contracts through the multilateral netting of exposures,

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<sup>135</sup> The recognition of client collateral provided under the final rule only applies in the context of SA-CCR, not CEM.



establishment and enforcement of collateral requirements, and promotion of market transparency. Also, this treatment is consistent with the G20 mandate to establish policies that support the use of central clearing, and recent developments by the Basel Committee. Specifically, on June 26, 2019, the Basel Committee released a standard that revises the leverage ratio treatment of client-cleared derivatives contracts to generally align with the measurement of such exposures under SA-CCR as used for risk-based capital purposes.<sup>136</sup> The standard was designed to balance the robustness of the supplementary leverage ratio as a non-risk-based safeguard against unsustainable sources of leverage with the policy objective set by G20 leaders to promote central clearing of standardized derivative contracts as part of mitigating systemic risk and making derivative markets safer. The final rule similarly maintains the complementary purpose of risk-based and leverage capital requirements, in a manner that is expected to have minimal impact on overall capital levels, will reduce burden by reducing the number of separate calculations required, and will not impede important policy objectives regarding central clearing.

Banking organizations subject to the supplementary leverage ratio under Category III that continue to use CEM to determine the total leverage exposure measure are not permitted to recognize the risk-reducing effects of client collateral other than with respect to certain transfers of cash variation margin in replacement

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<sup>136</sup> See “Leverage ratio treatment of client cleared derivatives,” Basel Committee on Banking Supervision (June 2019), <https://www.bis.org/bcbs/publ/d467.pdf>.

cost. Relative to CEM, SA-CCR is more sensitive to the recognition of collateral, and therefore the commenters' concerns are more pronounced in that context. Moreover, most clearing member banking organizations are advanced approaches banking organizations that are required to use SA-CCR or IMM for the cleared transactions framework, and extending such treatment to CEM would have limited impact, if any, in the aggregate.

Some commenters noted that section 34 of the capital rule allows a banking organization subject to the supplementary leverage ratio to exclude the PFE of all credit derivatives or other similar instruments through which it provides credit protection, but without regard to credit risk mitigation, provided that it does not adjust the net-to-gross ratio. Under the capital rule, a banking organization subject to the supplementary leverage ratio that chooses to exclude the PFE of credit derivatives or other similar instruments through which it provides credit protection must do so consistently over time for the calculation of the PFE for all such instruments. The agencies are clarifying that the same treatment would apply under SA-CCR for purposes of the supplementary leverage ratio.<sup>137</sup> In particular, a banking organization subject to the supplementary leverage ratio may choose to exclude from the PFE component of the exposure amount calculation the portion of a written credit derivative that is not offset according to § \_\_.10(c)(4)(ii)(D)(I)-

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<sup>137</sup> See 79 FR 57725, 57731-57732 (Sept. 26, 2014).

(2) and for which the effective notional amount of the written credit derivative is included in total leverage exposure.

The agencies generally are adopting as final the proposed requirement that a banking organization that is required to use SA-CCR or elects to use SA-CCR to calculate the exposure amount of its derivative contracts for purposes of the supplementary leverage ratio, must use the modified version of SA-CCR described in § \_\_.10(c)(4)(ii) of the final rule, with a few revisions.<sup>138</sup> For a client-facing derivative transaction, however, the banking organization calculates the exposure amount under § \_\_.132(c)(5).

Consistent with the proposal, written options must be included in total leverage exposure even though the final rule allows certain written options to receive an exposure amount of zero for risk-based capital purposes.<sup>139</sup>

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<sup>138</sup> Some commenters requested clarification regarding the items to be summed under § \_\_.10(c)(4)(ii)(C)(1) of the proposed rule. The agencies are clarifying that the items to be summed under this paragraph (now located at § \_\_.10(c)(4)(ii)(C)(2)(i) of the final rule) are the replacement cost of each derivative contract or single product netting set of derivative contracts to which the advanced approaches banking organization is a counterparty, as described under 10(c)(4)(ii)(C)(2)(i) of the final rule. Section 10(c)(4)(ii)(C)(2)(ii) of the final rule serves to adjust, under certain situations, the items to be summed under § \_\_.10(c)(4)(ii)(C)(2)(i). In addition, these commenters requested clarification of the application of § \_\_.10(c)(4)(ii)(C)(2) in the proposal. The agencies are removing § \_\_.10(c)(4)(ii)(C)(2) from the final rule, as this provision is captured under the definition of the cash variation margin terms in the formula described under § \_\_.10(c)(4)(ii)(C)(2)(i).

<sup>139</sup> Under the final rule, 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. See section III.A. of this Supplementary Information for further discussion.

## **VI. Technical Amendments**

The proposal would have made several technical corrections and clarifications to the capital rule to address certain provisions that warrant revision based on questions presented by banking organizations and further review by the agencies. The agencies did not receive comment on these technical amendments, and are finalizing them as proposed. The agencies did receive several suggestions for other clarifications and technical changes to the proposal. The agencies are adopting many of these suggestions in the final rule. These changes are described below.

### **A. Receivables Due From a QCCP**

The final rule revises § \_\_.32 of the capital rule to clarify that cash collateral posted by a clearing member banking organization to a QCCP, and which could be considered a receivable due from the QCCP under U.S. GAAP, should not be risk-weighted as a corporate exposure. Instead, for a client-cleared trade the cash collateral posted to a QCCP receives a risk weight of 2 percent, if the cash associated with the trade meets the requirements under § \_\_.35(b)(3)(A) or § \_\_.133(b)(3)(A) of the capital rule, or 4 percent, if the collateral does not meet the requirements necessary to receive the 2 percent risk weight. For a trade made on behalf of the clearing member's own account, the cash collateral posted to a QCCP receives a 2 percent risk weight. The agencies intend for this amendment to maintain incentives for banking organizations to post cash collateral and recognize that a receivable from a QCCP that arises in the context of a trade

exposure should not be treated as equivalent to a receivable that would arise if, for example, a banking organization made a loan to a CCP.

### **B. Treatment of Client Financial Collateral Held by a CCP**

Under § \_\_.2 of the capital rule, financial collateral means, in part, collateral in which a banking organization has a perfected first-priority security interest in the collateral. However, when a banking organization is acting on behalf of a client, it generally is required to post any client collateral to the CCP, in which case the CCP establishes and maintains a perfected first-priority security interest in the collateral instead of the clearing member. As a result, the capital rule does not permit a clearing member banking organization to recognize client collateral posted to a CCP as financial collateral.

Client collateral posted to a CCP remains available to mitigate the risk of a credit loss on a derivative contract in the event of a client default. Specifically, when a client defaults the CCP will use the client collateral to offset its exposure to the client, and the clearing member banking organization would be required to cover only the amount of any deficiency between the liquidation value of the collateral and the CCP's exposure to the client. However, were the clearing member banking organization to enter into the derivative contract directly with the client, the clearing member would establish and maintain a perfected first-priority security interest in the collateral, and the exposure of the clearing member to the client would similarly be mitigated only to the extent the collateral is sufficient to cover the exposure amount of the transaction at the time of default. Therefore, the

final rule revises the definition of financial collateral to allow clearing member banking organizations to recognize as financial collateral noncash client collateral posted to a CCP. In this situation, the clearing member banking organization is not required to establish and retain a first-priority security interest in the collateral for it to qualify as financial collateral under § \_\_.2 of the capital rule.

### **C. Clearing Member Exposure When CCP Performance is Not Guaranteed**

The final rule revises § \_\_.35(c)(3) of the capital rule to align the capital requirements under the standardized approach for client-cleared transactions with the treatment under § \_\_.133(c)(3) of the advanced approaches. Specifically, the final rule allows a clearing member banking organization that does not guarantee the performance of the CCP to the clearing member's client to apply a zero percent risk weight to the CCP-facing portion of the transaction. The agencies previously implemented this treatment for purposes of the advanced approaches.<sup>140</sup>

### **D. Bankruptcy Remoteness of Collateral**

The final rule removes the requirement in § \_\_.35(b)(4)(i) of the standardized approach and § \_\_.133(b)(4)(i) of the advanced approaches that collateral posted by a clearing member client banking organization to a clearing member banking organization must be bankruptcy remote from a custodian in

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<sup>140</sup> See 80 FR 41411 (July 15, 2015).

order for the client banking organization to avoid the application of risk-based capital requirements related to the collateral, and clarifies that a custodian must be acting in its capacity as a custodian for this treatment to apply.<sup>141</sup> The agencies believe this revision is appropriate because the collateral would generally be considered to be bankruptcy remote if the custodian is acting in its capacity as a custodian with respect to the collateral. Therefore, this revision applies only in cases where the collateral is deposited with a third-party custodian, not in cases where a clearing member banking organization offers “self-custody” arrangements with its clients. In addition, this revision makes the collateral requirement for a clearing member client banking organization consistent with the treatment of collateral posted by a clearing member banking organization, which does not require that the posted collateral be bankruptcy remote from the custodian, but requires in each case that the custodian be acting in its capacity as a custodian.

#### **E. Adjusted Collateral Haircuts for Derivative Contracts**

For a cleared transaction, the clearing member banking organization must determine the exposure amount for the client-facing derivative transaction of the derivative contract using the collateralized transactions framework under § \_\_.37(c)(3) of the capital rule or the counterparty credit risk framework under § \_\_.132(b)(2)(ii) of the capital rule. The clearing member banking organization may recognize the credit risk-mitigation benefits of the collateral posted by the

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<sup>141</sup> See 12 CFR 3.35(b)(4) and 3.133(b)(4) (OCC); 12 CFR 217.35(b)(4) and 217.133(b)(4) (Board); and 12 CFR 324.35(b)(4) and 324.133(b)(4) (FDIC).

client; however, under §§ \_\_.37(c) and \_\_.132(b) of the capital rule, the value of the collateral must be discounted by the application of a standard supervisory haircut to reflect any market price volatility in the value of the collateral over a ten-business-day holding period. For a repo-style transaction, the capital rule applies a scaling factor of the square root of  $\frac{1}{2}$  (which equals 0.707107) to the standard supervisory haircuts to reflect the limited risk to collateral in those transactions and effectively reduce the holding period to five business days. The proposal would have provided a similar reduction in the haircuts for client-facing derivative transactions, as they typically have a holding period of less than ten business days. Some commenters requested clarification whether a five-business-day holding period would apply for the purpose of calculating collateral haircuts for client-facing derivatives under § \_\_.132(b)(2)(ii)(A)(3) of the proposal. The final rule revises § \_\_.37(c)(3)(iii) and \_\_.132(b)(2)(ii)(A)(3) of the capital rule to adjust the holding period for client-facing derivative transactions by applying a scaling factor of 0.71, which represents a five-business-day holding period. The final rule also requires a banking organization to use a larger scaling factor for collateral haircuts for client-facing derivatives when it determines a holding period longer than five days is appropriate.

#### **F. OCC Revisions to Lending Limits**

The OCC proposed to revise its lending limit rule at 12 CFR part 32. The current lending limits rule references sections of CEM in the OCC's advanced approaches capital rule as one available methodology for calculating exposures to



derivatives transactions. However, these sections were proposed to be amended or replaced with SA-CCR in the advanced approaches. Therefore, the OCC proposed to replace the references to CEM in the advanced approaches with references to CEM in the standardized approach. The OCC also proposed to adopt SA-CCR as an option for calculation of exposures under lending limits.

The agencies received two comments supporting the OCC's proposal to use SA-CCR to measure counterparty credit risk under both the capital rules and other agency rules, including lending limits, as creating less burden on institutions. The OCC agrees that it would be less burdensome for institutions to use similar methodologies to measure counterparty credit risk across OCC regulations, and therefore are finalizing these revisions to the lending limits rule as proposed.

#### **G. Other Clarifications and Technical Amendments from the Proposal to the Final Rule**

Some commenters suggested that the agencies make a revision to the approaches for calculating capital requirements regarding CVAs under § \_\_.132(e). Under the final rule, the agencies are clarifying that for purposes of calculating the CVA capital requirements under § \_\_.132(e)(5)(i)(C), § \_\_.132(e)(6)(i)(B) and § \_\_.132(e)(6)(viii), an advanced approaches banking organization must use SA-CCR instead of CEM where CEM was provided as an option. In addition, the final rule revises the definition of CEM in § \_\_.2 to refer to § \_\_.34(b) instead of § \_\_.34(a).

## **VII. Impact of the Final Rule**

For the proposal, the agencies reviewed data provided by advanced approaches banking organizations that represent a significant majority of the derivatives market. In particular, the agencies analyzed the change in exposure amount between CEM and SA-CCR, as well as the change in risk-weighted assets as determined under the standardized approach.<sup>142</sup> The data cover diverse portfolios of derivative contracts, both in terms of asset type and counterparty. In addition, the data include firms that serve as clearing members, allowing the agencies to consider the effect of the proposal under the cleared transactions framework for both a direct exposure to a CCP and a clearing member's exposure to its client with respect to client-facing derivative transactions. As a result, the analysis provides a reasonable proxy for the potential changes for all advanced approaches banking organizations.

The agencies estimated that, under the proposal, the exposure amount for derivative contracts held by advanced approaches banking organizations would have decreased by approximately 7 percent. The agencies also estimated that the proposal would have resulted in an approximately 5 percent increase in advanced

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<sup>142</sup> The agencies estimated that, on aggregate, exposure amounts under SA-CCR would equal approximately 170 percent of the exposure amounts for identical derivative contracts under IMM. Thus, firms that use IMM currently would likely continue to use IMM to determine the exposure amount of their derivative contracts to determine advanced approaches total risk-weighted assets. However, the standardized approach serves as a floor on advanced approaches banking organizations' total risk-weighted assets. Thus, a firm would only receive the benefit of IMM if the firm is not bound by standardized total risk-weighted assets.

approaches banking organizations' standardized risk-weighted assets associated with derivative contract exposures.<sup>143</sup> In addition, the proposal would have resulted in an increase (approximately 30 basis points) in advanced approaches banking organizations' supplementary leverage ratios, on average.

The agencies made several changes to the SA-CCR methodology for the final rule that could have a material effect on the impact of the final rule. First, the final rule changes certain of the supervisory factors for commodity derivative contracts to coincide with the supervisory factors in the Basel Committee standard.<sup>144</sup> Second, the final rule removes the alpha factor for exposures to commercial end-users. Third, the final rule allows a banking organization to treat settled-to-market derivative contracts as subject to a variation margin agreement, allowing such contracts to net with collateralized-to-market derivative contracts of the same netting set. Lastly, the final rule allows clearing member banking organizations to recognize client collateral under the supplementary leverage ratio,

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<sup>143</sup> Total risk-weighted assets are a function of the exposure amount of the netting set and the applicable risk-weight of the counterparty. Total risk-weighted assets increase under the analysis while exposure amounts decrease because higher applicable risk-weights amplify increases in the exposure amount of certain derivative contracts, which outweighs decreases in the exposure amount of other derivative contracts.

<sup>144</sup> The change in the supervisory factors for commodity derivative contracts will not result in a change in the agencies initial estimate of the impact of the final rule. This is because the data received from the advanced approach banking organizations already reflected the supervisory factors for commodity derivative contracts included in the Basel Standard, and the agencies did not adjust the data to account for the proposed 40 percent supervisory factor for all energy commodity derivative contracts.

to the same extent a banking organization may recognize collateral for risk-based capital purposes.

Using the same data set as used for the proposal, the agencies found that the exposure amount for derivative contracts held by advanced approaches banking organizations will decrease by approximately 9 percent under the final rule.

Generally speaking, exposure amounts for interest rate, credit and foreign exchange derivatives would be expected to decrease, and exposure amounts for equities and commodities would be expected to increase. The agencies estimate that the final rule will result in an approximately 4 percent decrease in advanced approaches banking organizations' standardized risk-weighted assets associated with derivative contract exposures and that the final rule will result in an increase (approximately 37 basis points) in advanced approaches banking organizations' reported supplementary leverage ratios, on average. While too much precision should not be attached to estimates regarding individual banking organizations owing to variations in data quality, estimated changes in individual banking organizations' supplementary leverage ratios range from -5 basis points to 85 basis points.

In the proposal, the agencies found that the effects of the proposed rule likely would be limited for non-advanced approaches banking organizations. First, these banking organizations hold relatively small derivative portfolios. Non-advanced approaches banking organizations account for less than 9 percent of derivative contracts of all banking organizations, even though they account for

roughly 36 percent of total assets of all banking organizations.<sup>145</sup> Second, nearly all non-advanced approaches banking organizations are not subject to supplementary leverage ratio requirements, and thus would not be affected by any changes to the calculation of total leverage exposure. These banking organizations retain the option of using CEM, including for the supplementary leverage ratio, if applicable, and the agencies anticipate that only those banking organizations that receive a material net benefit from using SA-CCR would elect to use it. Therefore, the agencies continue to find that the impact on non-advanced approaches banking organizations under the final rule would be limited.

## **VIII. Regulatory Analyses**

### **A. Paperwork Reduction Act**

The agencies' regulatory capital rule contains "collections of information" within the meaning of the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501-3521). In accordance with the requirements of the PRA, the agencies may not conduct or sponsor, and the 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 OMB control number for the OCC is 1557-0318, Board is 7100-0313, and FDIC is 3064-0153. The information collections that are part of the agencies' regulatory capital rule will not be affected

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<sup>145</sup> According to data from the Consolidated Reports of Condition and Income for a Bank with Domestic and Foreign Offices (FFIEC report forms 031, 041, and 051), as of March 31, 2018.

by this final rule and therefore no final submissions will be made by the FDIC or OCC to OMB under section 3507(d) of the PRA (44 U.S.C. 3507(d)) or section 1320.11 of the OMB's implementing regulations (5 CFR 1320) in connection with this rulemaking.<sup>146</sup>

As a result of this final rule, the agencies have proposed to clarify the reporting instructions for the Consolidated Reports of Condition and Income (Call Reports) (FFIEC 031, FFIEC 041, and FFIEC 051) and Regulatory Capital Reporting for Institutions Subject to the Advanced Capital Adequacy Framework (FFIEC 101).<sup>147</sup> The OCC and FDIC expect to clarify the reporting instructions for DFAST 14A, and the Board expects to clarify the reporting instructions for the Consolidated Financial Statements for Holding Companies (FR Y-9C), Capital

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<sup>146</sup> The OCC and FDIC submitted their information collections to OMB at the proposed rule stage. However, these submissions were done solely in an effort to apply a conforming methodology for calculating the burden estimates and not due to the proposed rule. OMB filed comments requesting that the agencies examine public comment in response to the proposed rule and describe in the supporting statement of its next collection any public comments received regarding the collection as well as why (or why it did not) incorporate the commenters' recommendation. In addition, OMB requested that the OCC and the FDIC note the convergence of the agencies on the single methodology. The agencies received no comments on the information collection requirements. Since the proposed rule stage, the agencies have conformed their respective methodologies in a separate final rulemaking titled, Regulatory Capital Rule: Implementation and Transition of the Current Expected Credit Losses Methodology for Allowances and Related Adjustments to the Regulatory Capital Rule and Conforming Amendments to Other Regulations, 84 FR 4222 (February 14, 2019), and have had their submissions approved through OMB. As a result, the agencies information collections related to the regulatory capital rules are currently aligned and therefore no submission will be made to OMB.

<sup>147</sup> See 84 FR 53227 (October 4, 2019).

Assessments and Stress Testing (FR Y-14A and FR Y-14Q), and Banking Organization Systemic Risk Report (FR Y-15) as appropriate to reflect the changes to the regulatory capital rule related to this final rule.

## **B. Regulatory Flexibility Act**

*OCC*: The Regulatory Flexibility Act, 5 U.S.C. 601 et seq., (RFA), requires an agency, in connection with a final rule, to prepare a Final 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 \$600 million or less and trust companies with total revenue of \$41.5 million or less) or to certify that the final rule would not have a significant economic impact on a substantial number of small entities. As of December 31, 2018, the OCC supervised 782 small entities. The rule would impose requirements on all OCC supervised entities that are subject to the advanced approaches risk-based capital rules, which typically have assets in excess of \$250 billion, and therefore would not be small entities. While small entities would have the option to adopt SA-CCR, the OCC does not expect any small entities to elect that option. Therefore, the OCC estimates the final rule would not generate any costs for small entities. Therefore, the OCC certifies that the final rule would not have a significant economic impact on a substantial number of OCC-supervised small entities.

*FDIC*: The RFA generally requires that, in connection with a final rulemaking, an agency prepare and make available for public comment a final

regulatory flexibility analysis describing the impact of the rule on small entities.<sup>148</sup> However, a regulatory flexibility analysis is not required if the agency certifies that the final rule will not have a significant economic impact on a substantial number of small entities. The SBA has defined “small entities” to include banking organizations with total assets of less than or equal to \$600 million that are independently owned and operated or owned by a holding company with less than or equal to \$600 million in total assets.<sup>149</sup> Generally, the FDIC considers a significant effect to be a quantified effect in excess of 5 percent of total annual salaries and benefits per institution, or 2.5 percent of total non-interest expenses. The FDIC believes that effects in excess of these thresholds typically represent significant effects for FDIC-supervised institutions.

For the reasons described below, the FDIC believes that the final rule will not have a significant economic impact on a substantial number of small entities. Nevertheless, the FDIC has conducted and is providing a final regulatory flexibility analysis.

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<sup>148</sup> 5 U.S.C. 601 et seq.

<sup>149</sup> The SBA defines a small banking organization as having \$600 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* 13 CFR 121.201 (as amended by 84 FR 34261, effective August 19, 2019). 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.



1. *The need for, and objectives of, the rule*

The policy objective of the final rule is to provide a new and more risk-sensitive methodology for calculating the exposure amount for derivative contracts. SA-CCR will replace the existing CEM methodology for advanced approaches institutions. Non-advanced approaches banking organizations will have the option of using SA-CCR in place of CEM.

2. *The significant issues raised by the public comments in response to the initial regulatory flexibility analysis*

No significant issues were raised by the public comments in response to the initial regulatory flexibility analysis.

3. *Response of the agency to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule,*

No comments were filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule.

4. *A description of and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;*

As of June 30, 2019, the FDIC supervised 3,424 institutions, of which 2,665 are considered small entities for the purposes of RFA. These small IDIs hold

\$514 billion in assets, accounting for 16.6 percent of total assets held by FDIC-supervised institutions.<sup>150</sup>

The final rule will require advanced approaches institutions to use either SA-CCR or IMM to calculate the exposure amount of its noncleared and cleared derivative contracts under the advanced approaches. For purposes of determining the exposure amount of its noncleared and cleared derivative contracts under the standardized approach, an advanced approaches institution must use SA-CCR. An advanced approaches institution must use SA-CCR to determine the risk-weighted asset amount of its default fund contributions under both the approaches. There are no FDIC-supervised advanced approaches institutions that are considered small entities for the purposes of RFA.<sup>151</sup>

The final rule will allow, but not require, non-advanced approaches institutions to replace CEM with SA-CCR as the approach for calculating EAD. While this allowance applies to all 2,665 small entities, only 401 (15 percent) report holding any volume of derivatives and would therefore be affected by differences between CEM and SA-CCR. These 401 banks' holdings of derivatives account for only 7.6 percent of their assets, so the effects of calculating the exposure amount of derivatives using SA-CCR on their capital requirements

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<sup>150</sup> Consolidated Reports of Condition and Income for the quarter ending June 30, 2019.

<sup>151</sup> *Id.*

would likely be insignificant.<sup>152</sup> Since adoption of SA-CCR is optional, these banks would weigh the benefits of SA-CCR adoption against its costs. Given that SA-CCR adoption necessitates internal systems enhancements and other operational modifications that could be particularly burdensome for smaller, less complex banking organizations, the FDIC expects that no small institutions will likely adopt SA-CCR.

5. *A description of the projected reporting, recordkeeping and other compliance requirements of the rule*

No small entity will be compelled to use SA-CCR, so the rule does not impose any reporting, recordkeeping and other compliance requirements onto small entities.

The FDIC does not expect any small entity to adopt SA-CCR, given the internal systems enhancements and operational modifications needed for SA-CCR adoption. A small institution will elect to use SA-CCR only if the net benefits of doing so are positive. Thus, the FDIC expects the proposed rule will not impose any net economic costs on these entities.

6. *A description of the steps the agency has taken to minimize the significant economic impact on small entities.*

As described above, the FDIC does not believe this rule will have a significant economic impact on a substantial number of small entities. Further,

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<sup>152</sup> *Id.*

since adopting SA-CCR is voluntary, only entities that expect to benefit from SA-CCR will adopt it.

*Board:* An initial regulatory flexibility analysis (IRFA) was included in the proposal in accordance with section 603(a) of the Regulatory Flexibility Act (RFA), 5 U.S.C. 601 *et seq.* (RFA). In the IRFA, the Board requested comment on the effect of the proposed rule on small entities and on any significant alternatives that would reduce the regulatory burden on small entities. The Board did not receive any comments on the IRFA. The RFA requires an agency to prepare a final regulatory flexibility analysis unless the agency certifies that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. Based on its analysis, and for the reasons stated below, the Board certifies that the rule will not have a significant economic impact on a substantial number of small entities.<sup>153</sup>

Under regulations issued by the Small Business Administration, a small entity includes a bank, bank holding company, or savings and loan holding company with assets of \$600 million or less and trust companies with total assets of \$41.5 million or less (small banking organization).<sup>154</sup> As of June 30, 2019, there

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<sup>153</sup> 5 U.S.C. 605(b).

<sup>154</sup> *See* 13 CFR 121.201. Effective August 19, 2019, the SBA revised the size standards for banking organizations to \$600 million in assets from \$550 million in assets. 84 FR 34261 (July 18, 2019).

were approximately 2,976 small bank holding companies, 133 small savings and loan holding companies, and 537 small SMBs.

As discussed in the Supplementary Information section, the final rule revises the capital rule to provide a new and more risk-sensitive methodology for calculating the exposure amount for derivative contracts. For purposes of calculating advanced approaches total risk-weighted assets, an advanced approaches Board-regulated institution may use either SA-CCR or the internal models methodology. For purposes of calculating standardized total risk-weighted assets, an advanced approaches Board-regulated institution must use SA-CCR and a non-advanced approaches Board-regulated institution may elect either SA-CCR or CEM.<sup>155</sup> In addition, for purposes of the denominator of the supplementary leverage ratio, the final rule integrates SA-CCR into the calculation of the denominator, replacing CEM.<sup>156</sup>

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<sup>155</sup> Advanced approaches banking organizations include depository institutions, bank holding companies, savings and loan holding companies, or intermediate holding companies with at least \$250 billion in total consolidated assets or has consolidated on-balance sheet foreign exposures of at least \$10 billion, or a subsidiary of a depository institution, bank holding company, savings and loan holding company, or intermediate holding company that is an advanced approaches banking organization. The agencies recently issued a final rule that changed the thresholds to be an advanced approaches banking organization. *See supra* n. 23.

<sup>156</sup> In general, the Board's capital rule only applies to bank holding companies and savings and loan holding companies that are not subject to the Board's Small Bank Holding Company and Savings and Loan Holding Company Policy Statement, which applies to bank holding companies and savings and loan holding companies with less than \$3 billion in total assets that also meet certain additional criteria. Very few bank holding companies and savings and loan holding companies that

The Board does not expect that the final rule will result in a material change in the level of capital maintained by small banking organizations or in the compliance burden on small banking organizations because the framework is optional for non-advanced approaches banking organizations. To the extent that small banking organizations elect to adopt SA-CCR because it provides advantageous regulatory capital treatment of derivatives, any implementation costs or increased compliance costs associated with SA-CCR should be outweighed by the capital impact of SA-CCR. In any event, small banking organizations generally do not have substantial portfolios of derivative contracts and therefore any impact of SA-CCR on capital requirements is expected to be minimal. For these reasons, the Board does not expect the rule to have a significant economic impact on a substantial number of small entities.

### **C. Plain Language**

Section 722 of the Gramm-Leach-Bliley Act<sup>157</sup> requires the Federal banking agencies to use plain language in all proposed and final rules published after January 1, 2000. The agencies have sought to present the final rule in a simple and straightforward manner, and did not receive comment on the use of plain language.

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are small entities would be impacted by the final rule because very few such entities are subject to the Board's capital rule.

<sup>157</sup> See Pub. L. 106-102, section 722, 113 Stat. 1338, 1471 (1999).

#### **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),<sup>158</sup> 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 principles 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.<sup>159</sup>

In accordance with these provisions of RCDRIA, the agencies considered any administrative burdens, as well as benefits, that the final rule would place on depository institutions and their customers in determining the effective date and

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<sup>158</sup> 12 U.S.C. 4802(a).

<sup>159</sup> 12 U.S.C. 4802.

administrative compliance requirements of the final rule. In conjunction with the requirements of RCDRIA, the final rule is effective on April 1, 2020.

#### **E. OCC Unfunded Mandates Reform Act of 1995 Determination**

The OCC analyzed the proposed rule under the factors set forth in the Unfunded Mandates Reform Act of 1995 (UMRA) (2 U.S.C. 1532). Under this analysis, the OCC considered whether the final 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 for inflation). The OCC has determined that this final rule would not result in expenditures by State, local, and Tribal governments, or the private sector, of \$100 million or more in any one year. Accordingly, the OCC has not prepared a written statement to accompany this proposal.

#### **F. The Congressional Review Act**

For purposes of Congressional Review Act, the OMB makes a determination as to whether a final rule constitutes a “major” rule.<sup>160</sup> If a rule is deemed a “major rule” by the OMB, the Congressional Review Act generally provides that the rule may not take effect until at least 60 days following its publication.<sup>161</sup>

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<sup>160</sup> 5 U.S.C. 801 *et seq.*

<sup>161</sup> 5 U.S.C. 801(a)(3).



The Congressional Review Act defines a “major rule” as any rule that the Administrator of the Office of Information and Regulatory Affairs of the OMB finds has resulted in or is likely to result in – (A) an annual effect on the economy of \$100,000,000 or more; (B) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies or geographic regions, or (C) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic and export markets.<sup>162</sup> As required by the Congressional Review Act, the agencies will submit the final rule and other appropriate reports to Congress and the Government Accountability Office for review.

Pursuant to the Congressional Review Act, the Office of Management and Budget’s Office of Information and Regulatory Affairs designated this rule as [a “major rule” or not a “major rule”], as defined at 5 U.S.C. 804(2).

### **List of Subjects**

#### **12 CFR Part 3**

Administrative practice and procedure, Capital, National banks, Risk.

#### **12 CFR Part 32**

National banks, Reporting and recordkeeping requirements.

#### **12 CFR Part 217**

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<sup>162</sup> 5 U.S.C. § 804(2).

Administrative practice and procedure, Banks, Banking, Capital, Federal Reserve System, Holding companies.

## **12 CFR Part 324**

Administrative practice and procedure, Banks, Banking, Capital adequacy, Savings associations, State non-member banks.

### **Office of the Comptroller of the Currency**

For the reasons set out in the joint preamble, the OCC proposes to amend 12 CFR parts 3 and 32 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, and 5412(b)(2)(B).

2. Section 3.2 is amended by:

- a. Adding the definitions of “Basis derivative contract,” “client-facing derivative transaction,” and “Commercial end-user” in alphabetical order;

- b. Revising the definitions of “Current exposure” and “Current exposure methodology;”

- c. Revising paragraph (2) of the definition of “Financial collateral;”

- d. Adding the definitions of “Independent collateral,” “Minimum transfer amount,” and “Net independent collateral amount” in alphabetical order;

- e. Revising the definition of “Netting set;” and
- f. Adding the definitions of “Speculative grade,” “Sub-speculative grade,” “Variation margin,” “Variation margin agreement,” “Variation margin amount,” “Variation margin threshold,” and “Volatility derivative contract” in alphabetical order.

The additions and revisions read as follows:

**§ 3.2 Definitions.**

\* \* \* \* \*

*Basis derivative contract* means a non-foreign-exchange derivative contract (i.e., the contract is denominated in a single currency) in which the cash flows of the derivative contract depend on the difference between two risk factors that are attributable solely to one of the following derivative asset classes: interest rate, credit, equity, or commodity.

\* \* \* \* \*

*Client-facing derivative transaction* means a derivative contract that is not a cleared transaction where the national bank or Federal savings association is either acting as a financial intermediary and enters into an offsetting transaction with a QCCP or where the national bank or Federal savings association provides a guarantee on the performance of a client on a transaction between the client and a QCCP.

\* \* \* \* \*

*Commercial end-user* means an entity that:

(1) (i) Is using derivative contracts to hedge or mitigate commercial risk;  
and

(ii) (A) Is not an entity described in section 2(h)(7)(C)(i)(I) through (VIII) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(C)(i)(I) through (VIII)); or

(B) Is not a “financial entity” for purposes of section 2(h)(7) of the Commodity Exchange Act (7 U.S.C. 2(h)) by virtue of section 2(h)(7)(C)(iii) of the Act (7 U.S.C. 2(h)(7)(C)(iii)); or

(2) (i) Is using derivative contracts to hedge or mitigate commercial risk;  
and

(ii) Is not an entity described in section 3C(g)(3)(A)(i) through (viii) of the Securities Exchange Act of 1934 (15 U.S.C. 78c-3(g)(3)(A)(i) through (viii)); or

(3) Qualifies for the exemption in section 2(h)(7)(A) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(A)) by virtue of section 2(h)(7)(D) of the Act (7 U.S.C. 2(h)(7)(D)); or

(4) Qualifies for an exemption in section 3C(g)(1) of the Securities Exchange Act of 1934 (15 U.S.C. 78c-3(g)(1)) by virtue of section 3C(g)(4) of the Act (15 U.S.C. 78c-3(g)(4)).

\* \* \* \* \*

*Current exposure* means, with respect to a netting set, the larger of zero or the fair value of a transaction or portfolio of transactions within the netting set that would be lost upon default of the counterparty, assuming no recovery on the value of the transactions.

*Current exposure methodology* means the method of calculating the exposure amount for over-the-counter derivative contracts in § 3.34(b).

\* \* \* \* \*

*Financial collateral* \* \* \*

(2) In which the national bank and 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).

\* \* \* \* \*

*Independent collateral* means financial collateral, other than variation margin, that is subject to a collateral agreement, or in which a national bank and 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; notwithstanding the prior security interest of any custodial agent or any prior security interest granted to a CCP in connection with collateral posted to that CCP), and the amount of which does not change directly in response to the value of the derivative contract or contracts that the financial collateral secures.

\* \* \* \* \*

*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.

\* \* \* \* \*

*Net independent collateral amount* means the fair value amount of the independent collateral, as adjusted by the standard supervisory haircuts under § 3.132(b)(2)(ii), 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 standard supervisory haircuts under § 3.132(b)(2)(ii), 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 a group of transactions with a single counterparty that are subject to a qualifying master netting agreement. For derivative contracts, netting set also includes a single derivative contract between a national bank or Federal savings association and a single counterparty. For purposes of the internal model methodology under § 3.132(d), netting set also includes a group of transactions with a single counterparty that are subject to a qualifying cross-product master netting agreement and does not include a transaction: (1) That is not subject to such a master netting agreement; or (2) Where the national bank or Federal savings association has identified specific wrong-way risk..

\* \* \* \* \*

*Speculative grade* means the reference entity 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 reference entity would present an elevated default risk.

\* \* \* \* \*

*Sub-speculative grade* means the reference entity depends on favorable economic conditions to meet its financial commitments, such that should such economic conditions deteriorate the reference entity likely would default on its financial commitments.

\* \* \* \* \*

*Variation margin* means financial collateral that is subject to a collateral agreement provided by one party to its counterparty to meet the performance of the first party's obligations under one or more transactions between the parties as a result of a change in value of such obligations since the last time such financial collateral was provided.

*Variation margin agreement* means an agreement to collect or post variation margin.

*Variation margin amount* means the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 3.132(b)(2)(ii), 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 § 3.132(b)(2)(ii), as applicable, posted by the national bank or Federal savings association to the counterparty.

*Variation margin threshold* means the amount of credit exposure of a national bank or Federal savings association to its counterparty that, if exceeded, would require the counterparty to post variation margin to the national bank or Federal savings association pursuant to the variation margin agreement.

*Volatility derivative contract* means a derivative contract in which the payoff of the derivative contract explicitly depends on a measure of the volatility of an underlying risk factor to the derivative contract.

\* \* \* \* \*

3. Section 3.10 is amended by revising paragraphs (c)(4)(ii)(A) through (C) to read as follows:

**§ 3.10 Minimum capital requirements.**

\* \* \* \* \*

(c) \* \* \*

(4) \* \* \*

(ii) \* \* \*

(A) The balance sheet carrying value of all of the national bank or Federal savings association's on-balance sheet assets, *plus* the value of securities sold under a repurchase transaction or a securities lending transaction that qualifies for sales treatment under U.S. GAAP, *less* amounts deducted from tier 1 capital under §3.22(a), (c), and (d), and *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, for a national bank or Federal savings association that uses the standardized approach for counterparty credit risk under §3.132(c) for its standardized risk-weighted assets, *less* the fair value of any derivative contracts;

(B) (I) For a national bank or Federal savings association that uses the current exposure methodology under §3.34(b) for its standardized risk-weighted assets, the PFE for each derivative contract or each single-product netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(4)(ii)(I) 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 U.S. GAAP), to which the national bank or Federal savings association is a counterparty as determined under §3.34, but without regard to §3.34(b), provided that:

(i) 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 §3.34, but without regard to §3.34(b), provided that it does not adjust the net-to-gross ratio (NGR); and

(ii) A national bank or Federal savings association that chooses to exclude the PFE of credit derivatives or other similar instruments through which it

provides credit protection pursuant to paragraph (c)(4)(ii)(B)(I) of this section must do so consistently over time for the calculation of the PFE for all such instruments;

(2) (i) For a national bank or Federal savings association that uses the standardized approach for counterparty credit risk under section §3.132(c) for its standardized risk-weighted assets, the 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)(4)(ii)(I) 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 U.S. GAAP), as determined under §3.132(c)(7)(i), in which the term C in §3.132(c)(7)(i) equals zero except as provided in paragraph (c)(4)(ii)(B)(2)(ii) of this section, and, for any counterparty that is not a commercial end-user, multiplied by 1.4;

(ii) For purposes of paragraph (c)(4)(ii)(B)(2)(i) of this section, a national bank or Federal savings association may set the value of the term C in §3.132(c)(7)(i) 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;

(C) (I) (i) For a national bank or Federal savings association that uses the current exposure methodology under §3.34(b) for its standardized risk-weighted

assets, the amount of cash collateral that is received from a counterparty to a derivative contract and that has offset the mark-to-fair value of the derivative asset, or cash collateral that is posted to a counterparty to a derivative contract and that has reduced the national bank or Federal savings association's on-balance sheet assets, unless such cash collateral is all or part of variation margin that satisfies the conditions in paragraphs (c)(4)(ii)(C)(3) through (7) of this section; and:

(ii) The variation margin is used to reduce the current credit exposure of the derivative contract, calculated as described in §3.34(b), and not the PFE; and

(iii) For the purpose of the calculation of the NGR described in §3.34(b)(2)(ii)(B), variation margin described in paragraph (c)(4)(ii)(C)(1)(ii) of this section may not reduce the net current credit exposure or the gross current credit exposure;

(2) (i) For a national bank or Federal savings association that uses the standardized approach for counterparty credit risk under §3.132(c) for its standardized risk-weighted assets, 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:

$$\textit{Replacement Cost} = \max\{V - CVM_r + CVM_p; 0\}$$

Where:

$V$  equals the fair value for each derivative contract or each single-product netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(4)(ii)(I) 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 U.S. 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)(4)(ii)(C)(3) through (7) 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)(4)(ii)(C)(3) through (7) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral posted to the clearing member client.

(ii) Notwithstanding paragraph (c)(4)(ii)(C)(2)(i) 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 §3.132(c)(10)(i), in which the term  $C_{MA}$  may only include cash collateral that satisfies the conditions in paragraphs (c)(4)(ii)(C)(3) through (7) of this section;

(iii) For purposes of paragraph (c)(4)(ii)(C)(2)(i), 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 §3.132(c)(5)(vi).

(3) 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);

(4) Variation margin is calculated and transferred on a daily basis based on the mark-to-fair value of the derivative contract;

(5) The variation margin transferred under the derivative contract or the governing rules 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;

(6) 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)(4)(ii)(C)(6), 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;

(7) 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;

\* \* \* \* \*

4. Section 3.32 is amended by revising paragraph (f) to read as follows:

**§ 3.32 General risk weights.**

\* \* \* \* \*

(f) *Corporate exposures.* (1) A national bank or Federal savings association must assign a 100 percent risk weight to all its corporate exposures, except as provided in paragraph (f)(2) of this section.

(2) A national bank or Federal savings association must assign a 2 percent risk weight to an exposure to a QCCP arising from the national bank or Federal savings association posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 3.35(b)(3)(i)(A) and a 4 percent risk weight to an exposure to a QCCP arising from the national bank or

Federal savings association posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 3.35(b)(3)(i)(B).

(3) A national bank or Federal savings association must assign a 2 percent risk weight to an exposure to a QCCP arising from the national bank or Federal savings association posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 3.35(c)(3)(i).

\* \* \* \* \*

5. Section 3.34 is revised to read as follows:

**§ 3.34 Derivative contracts.**

(a) *Exposure amount for derivative contracts--(1) National bank or Federal savings association that is not an advanced approaches national bank or Federal savings association.* (i) A national bank or Federal savings association that is not an advanced approaches national bank or Federal savings association 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 an advanced approaches national bank or Federal savings association may elect to calculate the exposure amount for all its OTC derivative contracts under the standardized approach for counterparty credit risk (SA-CCR) in § 3.132(c) 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 § 3.133 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 an advanced approaches national bank or Federal savings association 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) Advanced approaches national bank or Federal savings association.*

An advanced approaches national bank or Federal savings association must calculate the exposure amount for all its derivative contracts using SA-CCR in § 3.132(c) for purposes of standardized total risk-weighted assets. An advanced approaches national bank or Federal savings association must apply the treatment of cleared transactions under § 3.133 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.

*(b) Current exposure methodology exposure amount—(1) Single OTC derivative contract.* Except as modified by paragraph (c) of this section, the



exposure amount for a single OTC derivative contract that is not subject to a qualifying master netting agreement is equal to the sum of the national bank's or Federal savings association's current credit exposure and potential future credit exposure (PFE) on the OTC derivative contract.

(i) *Current credit exposure.* The current credit exposure for a single OTC derivative contract is the greater of the fair value of the OTC derivative contract or zero.

(ii) *PFE.* (A) The PFE for a single OTC derivative contract, including an OTC derivative contract with a negative fair value, is calculated by multiplying the notional principal amount of the OTC derivative contract by the appropriate conversion factor in Table 1 to this section.

(B) For purposes of calculating either the PFE under this paragraph (b) or the gross PFE under paragraph (b)(2) of this section for exchange rate contracts and other similar contracts in which the notional principal amount is equivalent to the cash flows, notional principal amount is the net receipts to each party falling due on each value date in each currency.

(C) For an OTC derivative contract that does not fall within one of the specified categories in Table 1 to this section, the PFE must be calculated using the appropriate "other" conversion factor.

(D) A national bank or Federal savings association must use an OTC derivative contract's effective notional principal amount (that is, the apparent or stated notional principal amount multiplied by any multiplier in the OTC

derivative contract) rather than the apparent or stated notional principal amount in calculating PFE.

(E) The PFE of the protection provider of a credit derivative is capped at the net present value of the amount of unpaid premiums.

**Table 1 to § 3.34—Conversion Factor Matrix for Derivative Contracts<sup>1</sup>**

Remaining maturity <sup>2</sup>	Interest rate	Foreign exchange rate and gold	Credit (investment grade reference asset) <sup>3</sup>	Credit (non-investment-grade reference asset)	Equity	Precious metals (except gold)	Other
One year or less	0.00	0.01	0.05	0.10	0.06	0.07	0.10
Greater than one year and less than or equal to five years	0.005	0.05	0.05	0.10	0.08	0.07	0.12
Greater than five years	0.015	0.075	0.05	0.10	0.10	0.08	0.15

<sup>1</sup> For a derivative contract with multiple exchanges of principal, the conversion factor is multiplied by the number of remaining payments in the derivative contract.

<sup>2</sup> For an OTC derivative contract that is structured such that on specified dates any outstanding exposure is settled and the terms are reset so that the fair value of the contract is zero, the remaining maturity equals the time until the next reset date. For an interest rate derivative contract with a remaining maturity of greater than one year that meets these criteria, the minimum conversion factor is 0.005.

<sup>3</sup> A national bank or Federal savings association must use the column labeled “Credit (investment-grade reference asset)” for a credit derivative whose reference asset is an outstanding unsecured long-term debt security without credit enhancement that is investment grade. A national bank or Federal savings association must use the column labeled “Credit (non-investment-grade reference asset)” for all other credit derivatives.

(2) *Multiple OTC derivative contracts subject to a qualifying master netting agreement.* Except as modified by paragraph (c) of this section, the exposure amount for multiple OTC derivative contracts subject to a qualifying master netting agreement is equal to the sum of the net current credit exposure and the adjusted sum of the PFE amounts for all OTC derivative contracts subject to the qualifying master netting agreement.

(i) *Net current credit exposure.* The net current credit exposure is the greater of the net sum of all positive and negative fair values of the individual OTC derivative contracts subject to the qualifying master netting agreement or zero.

(ii) *Adjusted sum of the PFE amounts.* The adjusted sum of the PFE amounts, Anet, is calculated as  $Anet = (0.4 \times Agross) + (0.6 \times NGR \times Agross)$ , where:

(A) Agross = the gross PFE (that is, the sum of the PFE amounts as determined under paragraph (b)(1)(ii) of this section for each individual derivative contract subject to the qualifying master netting agreement); and

(B) Net-to-gross Ratio (NGR) = the ratio of the net current credit exposure to the gross current credit exposure. In calculating the NGR, the gross current credit exposure equals the sum of the positive current credit exposures (as determined under paragraph (b)(1)(i) of this section) of all individual derivative contracts subject to the qualifying master netting agreement.

(c) *Recognition of credit risk mitigation of collateralized OTC derivative contracts.* (1) A national bank or Federal savings association using CEM under paragraph (b) of this section may recognize the credit risk mitigation benefits of financial collateral that secures an OTC derivative contract or multiple OTC derivative contracts subject to a qualifying master netting agreement (netting set) by using the simple approach in § 3.37(b).

(2) As an alternative to the simple approach, a national bank or Federal

savings association using CEM under paragraph (b) of this section may recognize the credit risk mitigation benefits of financial collateral that secures such a contract or netting set if the financial collateral is marked-to-fair value on a daily basis and subject to a daily margin maintenance requirement by applying a risk weight to the uncollateralized portion of the exposure, after adjusting the exposure amount calculated under paragraph (b)(1) or (2) of this section using the collateral haircut approach in § 3.37(c). The national bank or Federal savings association must substitute the exposure amount calculated under paragraph (b)(1) or (2) of this section for  $\Sigma E$  in the equation in §3.37(c)(2).

(d) *Counterparty credit risk for credit derivatives--(1) Protection purchasers.* A national bank or Federal savings association that purchases a credit derivative that is recognized under § 3.36 as a credit risk mitigant for an exposure that is not a covered position under subpart F of this part is not required to compute a separate counterparty credit risk capital requirement under this subpart D provided that the national bank or Federal savings association does so consistently for all such credit derivatives. The national bank or Federal savings association must either include all or exclude all such credit derivatives that are subject to a qualifying master netting agreement from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes.

(2) *Protection providers.* (i) A national bank or Federal savings association that is the protection provider under a credit derivative must treat the credit

derivative as an exposure to the underlying reference asset. The national bank or Federal savings association is not required to compute a counterparty credit risk capital requirement for the credit derivative under this subpart D, provided that this treatment is applied consistently for all such credit derivatives. The national bank or Federal savings association must either include all or exclude all such credit derivatives that are subject to a qualifying master netting agreement from any measure used to determine counterparty credit risk exposure.

(ii) The provisions of this paragraph (d)(2) apply to all relevant counterparties for risk-based capital purposes unless the national bank or Federal savings association is treating the credit derivative as a covered position under subpart F of this part, in which case the national bank or Federal savings association must compute a supplemental counterparty credit risk capital requirement under this section.

(e) *Counterparty credit risk for equity derivatives.* (1) A national bank or Federal savings association must treat an equity derivative contract as an equity exposure and compute a risk-weighted asset amount for the equity derivative contract under §§ 3.51 through 3.53 (unless the national bank or Federal savings association is treating the contract as a covered position under subpart F of this part).

(2) In addition, the national bank or Federal savings association must also calculate a risk-based capital requirement for the counterparty credit risk of an equity derivative contract under this section if the national bank or Federal savings

association is treating the contract as a covered position under subpart F of this part.

(3) If the national bank or Federal savings association risk weights the contract under the Simple Risk-Weight Approach (SRWA) in § 3.52, the national bank or Federal savings association 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 the equity derivative contracts are subject to a qualified master netting agreement, a national bank or Federal savings association using the SRWA must either include all or exclude all of the contracts from any measure used to determine counterparty credit risk exposure.

(f) *Clearing member national bank's or Federal savings association's exposure amount.* The exposure amount of a clearing member national bank or Federal savings association using CEM under paragraph (b) of this section for a client-facing derivative transaction or netting set of client-facing derivative transactions equals the exposure amount calculated according to paragraph (b)(1) or (2) of this section multiplied by the scaling factor of the square root of  $\frac{1}{2}$  (which equals 0.707107). If the national bank or Federal savings association determines that a longer period is appropriate, the national bank or Federal savings association must use a larger scaling factor to adjust for a longer holding period as follows:

$$\text{Scaling factor} = \sqrt{\frac{H}{10}}$$

Where H = the holding period greater than or equal to five days.

Additionally, the OCC may require the national bank or Federal savings association to set a longer holding period if the OCC 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.

6. Section 3.35 is amended by adding paragraph (a)(3), revising paragraph (b)(4)(i), and adding paragraph (c)(3)(iii) to read as follows:

**§ 3.35 Cleared transactions.**

(a) \* \* \*

(3) *Alternate requirements.* Notwithstanding any other provision of this section, an advanced approaches national bank or Federal savings association or a national bank or Federal savings association that is not an advanced approaches national bank or Federal savings association and that has elected to use SA-CCR under § 3.34(a)(1) must apply § 3.133 to its derivative contracts that are cleared transactions rather than this section.

(b) \* \* \*

(4) \* \* \*

(i) Notwithstanding any other requirements in this section, collateral posted by a clearing member client national bank or Federal savings association that is

held by a custodian (in its capacity as 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.

\* \* \* \* \*

(c) \* \* \*

(3) \* \* \*

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member national bank or Federal savings association may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a CCP where the clearing member national bank or Federal savings association 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 § 3.3(a), and the clearing member national bank or Federal savings association is not obligated to reimburse the clearing member client in the event of the CCP default.

\* \* \* \* \*

7. Section 3.37 is amended by revising paragraphs (c)(3)(iii), (c)(3)(iv)(A), (c)(3)(iv)(C), and (c)(4)(i)(B)(1) to read as follows:

**§ 3.37 Collateralized transactions.**

\* \* \* \* \*



(c) \* \* \*

(3) \* \* \*

(iii) For repo-style transactions and client-facing derivative transactions, a national bank or Federal savings association may multiply the standard supervisory haircuts provided in paragraphs (c)(3)(i) and (ii) of this section by the square root of  $\frac{1}{2}$  (which equals 0.707107). For client-facing derivative transactions, if a larger scaling factor is applied under § 3.34(f), the same factor must be used to adjust the supervisory haircuts.

(iv) \* \* \*

(A)  $T_M$  equals a holding period of longer than 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or longer than 5 business days for repo-style transactions and client-facing derivative transactions;

(B) \* \* \*

(C)  $T_S$  equals 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or 5 business days for repo-style transactions and client-facing derivative transactions.

\* \* \* \* \*

(4) \* \* \*

(i) \* \* \*

(B) The minimum holding period for a repo-style transaction and client-facing derivative transaction is five business days and for an eligible margin loan and a derivative contract other than a client-facing derivative transaction is ten business days except for transactions or netting sets for which paragraph (c)(4)(i)(C) of this section applies. When a national bank or Federal savings association calculates an own-estimates haircut on a  $T_N$ -day holding period, which is different from the minimum holding period for the transaction type, the applicable haircut ( $H_M$ ) is calculated using the following square root of time formula:

(I)  $T_M$  equals 5 for repo-style transactions and client-facing derivative transactions and 10 for eligible margin loans and derivative contracts other than client-facing derivative transactions;\* \* \* \* \*

**§§ 3.134, 3.202, and 3.210 [Amended]**

8. For each section listed in the following table, the footnote number listed in the “Old footnote number” column is redesignated as the footnote number listed in the “New footnote number” column as follows:

Section	Old footnote number	New footnote number
3.134(d)(3)	30	31

3.202, paragraph (1) introductory text of the definition of “Covered position”	31	32
3.202, paragraph (1)(i) of the definition of “Covered position”	32	33
3.210(e)(1)	33	34

9. Section 3.132 is amended by:
- a. Revising paragraphs (b)(2)(ii)(A)(3) through (5);
  - b. Adding paragraphs (b)(2)(ii)(A)(6) and (7);
  - c. Revising paragraphs (c) heading and (c)(1) and (2) and (5) through (8);
  - d. Adding paragraphs (c)(9) through (11);
  - e. Revising paragraph (d)(10)(i) and paragraph (e)(6)(viii);
  - f. Revising paragraphs (e)(5)(i)(C) and (e)(6)(i)(B) by replacing “current exposure methodology” with “standardized approach for counterparty credit risk methodology” wherever it appears;
  - g. Removing “Table 3 to §3.132” and adding in its place “Table 4 to this section” in paragraphs (e)(5)(i)(A) and (H); and
  - h. Redesignating Table 3 to §3.132 as Table 4 to §3.132.

The revisions and additions read as follows:

**§ 3.132 Counterparty credit risk of repo-style transactions, eligible margin loans, and OTC derivative contracts.**

\* \* \* \* \*

(b) \* \* \*

(2) \* \* \*

(ii) \* \* \*

(A) \* \* \*

(3) For repo-style transactions and client-facing derivative transactions, a national bank or Federal savings association may multiply the supervisory haircuts provided in paragraphs (b)(2)(ii)(A)(1) and (2) of this section by the square root of  $\frac{1}{2}$  (which equals 0.707107). If the national bank or Federal savings association determines that a longer holding period is appropriate for client-facing derivative transactions, then it must use a larger scaling factor to adjust for the longer holding period pursuant to paragraph (b)(2)(ii)(A)(6) of this section.

(4) A national bank or Federal savings association must adjust the supervisory haircuts upward on the basis of a holding period longer than ten business days (for eligible margin loans) or five business days (for repo-style transactions), using the formula provided in paragraph (b)(2)(ii)(A)(6) of this section where the following conditions apply. If the number of trades in a netting

set exceeds 5,000 at any time during a quarter, a national bank or Federal savings association must adjust the supervisory haircuts upward on the basis of a minimum holding period of twenty business days for the following quarter (except when a national bank or Federal savings association is calculating EAD for a cleared transaction under § 3.133). If a netting set contains one or more trades involving illiquid collateral, a national bank or Federal savings association must adjust the supervisory haircuts upward on the basis of a minimum 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 national bank or Federal savings association must adjust the supervisory haircuts upward for that netting set on the basis of a minimum holding period that is at least two times the minimum holding period for that netting set.

(5)(i) A national bank or Federal savings association must adjust the supervisory haircuts upward on the basis of a holding period longer than ten business days for collateral associated with derivative contracts (five business days for client-facing derivative contracts) using the formula provided in paragraph (b)(2)(ii)(A)(6) of this section where the following conditions apply. For collateral associated with a derivative contract that is within a netting set that is composed of more than 5,000 derivative contracts that are not cleared transactions, a national bank or Federal savings association must use a minimum holding period of twenty business days. If a netting set contains one or more trades involving illiquid collateral or a derivative contract that cannot be easily replaced, a national bank or

Federal savings association must use a minimum holding period of twenty business days.

(ii) Notwithstanding paragraph (b)(2)(ii)(A)(1) or (3) or (b)(2)(ii)(A)(5)(i) of this section, for collateral associated with a derivative contract in a netting set under which more than two margin disputes that lasted longer than the holding period occurred during the previous two quarters, the minimum holding period is twice the amount provided under paragraph (b)(2)(ii)(A)(1) or (3) or (b)(2)(ii)(A)(5)(i) of this section.

(6) A national bank or Federal savings association must adjust the standard supervisory haircuts upward, pursuant to the adjustments provided in paragraphs (b)(2)(ii)(A)(3) through (5) of this section, using the following formula:

$$H_A = H_S \sqrt{\frac{T_M}{T_S}}$$

Where:

$T_M$  equals a holding period of longer than 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or longer than 5 business days for repo-style transactions and client-facing derivative transactions;

$H_S$  equals the standard supervisory haircut; and

$T_S$  equals 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or 5 business days for repo-style transactions and client-facing derivative transactions.

(7) If the instrument a national bank or Federal savings association has lent, sold subject to repurchase, or posted as collateral does not meet the definition of financial collateral, the national bank or Federal savings association must use a 25.0 percent haircut for market price volatility (Hs).

\* \* \* \* \*

(c) *EAD for derivative contracts*—(1) *Options for determining EAD*. A national bank or Federal savings association must determine the EAD for a derivative contract using the standardized approach for counterparty credit risk (SA-CCR) under paragraph (c)(5) of this section or using the internal models methodology described in paragraph (d) of this section. If a national bank or Federal savings association elects to use SA-CCR for one or more derivative contracts, the exposure amount determined under SA-CCR is the EAD for the derivative contract or derivative contracts. A national bank or Federal savings association must use the same methodology to calculate the exposure amount for all its derivative contracts and may change its election only with prior approval of the OCC.

(2) *Definitions*. For purposes of this paragraph (c) of this section, the following definitions apply:

(i) *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 paragraph (c) of this section.

(ii) *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 paragraph (c) of this section.

(iii) *Hedging set* means:

(A) With respect to interest rate derivative contracts, all such contracts within a netting set that reference the same reference currency;

(B) With respect to exchange rate derivative contracts, all such contracts within a netting set that reference the same currency pair;

(C) With respect to credit derivative contract, all such contracts within a netting set;

(D) With respect to equity derivative contracts, all such contracts within a netting set;

(E) 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;

(F) 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

(G) 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



(c)(2)(iii)(A) through (E) of this section.

(H) 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 OCC may require a national bank or Federal savings association to include the derivative contract in each appropriate hedging set under paragraphs (c)(2)(iii)(A) through (E) of this section.

\* \* \* \* \*

(5) *Exposure amount.* (i) The exposure amount of a netting set, as calculated under paragraph (c) of this section, is equal to 1.4 multiplied by the sum of the replacement cost of the netting set, as calculated under paragraph (c)(6) of this section, and the potential future exposure of the netting set, as calculated under paragraph (c)(7) of this section.

(ii) Notwithstanding the requirements of paragraph (c)(5)(i) 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 (c)(5)(i) of this section and the exposure amount of the netting set calculated as if the netting set were not subject to a variation margin agreement.

(iii) Notwithstanding the requirements of paragraph (c)(5)(i) 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.

(iv) Notwithstanding the requirements of paragraph (c)(5)(i) 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 (c)(6) of this section, and the potential future exposure of the netting set, as calculated under paragraph (c)(7) of this section.

(v) For purposes of the exposure amount calculated under paragraph (c)(5)(i) of this section and all calculations that are part of that exposure amount, a national bank or Federal savings association may elect, at the netting set level, 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 national bank or Federal savings association makes an election under this paragraph 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 as derivative contracts that are subject to a variation margin agreement.

(vi) For purposes of the exposure amount calculated under this paragraph (c)(5)(i) of this section and all calculations that are part of that exposure amount, a national bank or Federal savings association 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.

(6) *Replacement cost of a netting set--(i) 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:

(A) 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;

(B) 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

(C) Zero.

(ii) *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 national bank or Federal savings association is the greater of:

(A) 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

(B) Zero.

(iii) *Multiple netting sets subject to a single variation margin agreement.*

Notwithstanding paragraphs (c)(6)(i) and (ii) of this section, the replacement cost for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (c)(10)(i) of this section.

(iv) *Netting set subject to multiple variation margin agreements or a hybrid netting set.* Notwithstanding paragraphs (c)(6)(i) and (ii) 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 (c)(11)(i) of this section.

(7) *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.

(i) *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.

(ii) *Aggregated amount.* The aggregated amount is the sum of all hedging set amounts, as calculated under paragraph (c)(8) of this section, within a netting set.

(iii) *Multiple netting sets subject to a single variation margin agreement.*

Notwithstanding paragraphs (c)(7)(i) and (ii) of this section and when calculating the potential future exposure for purposes of total leverage exposure under § 3.10(c)(4)(ii)(B), the potential future exposure for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (c)(10)(ii) of this section.

(iv) *Netting set subject to multiple variation margin agreements or a hybrid netting set.* Notwithstanding paragraphs (c)(7)(i) and (ii) of this section and when calculating the potential future exposure for purposes of total leverage exposure under § 3.10(c)(4)(ii)(B), 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 (c)(11)(ii) of this section.

(8) *Hedging set amount--(i) Interest rate derivative contracts.* To calculate the hedging set amount of an interest rate derivative contract hedging set, a national bank or Federal savings association may use either of the formulas provided in paragraphs (c)(8)(i)(A) and (B) of this section:

(A) *Formula 1.*

$$\begin{aligned} & \text{Hedging set amount} = \\ & [(AddOn_{TB1}^{IR})^2 + (AddOn_{TB2}^{IR})^2 + (AddOn_{TB3}^{IR})^2 + 1.4 * AddOn_{TB1}^{IR} * \\ & AddOn_{TB2}^{IR} + 1.4 * AddOn_{TB2}^{IR} * AddOn_{TB3}^{IR} + 0.6 * AddOn_{TB1}^{IR} * AddOn_{TB3}^{IR}]^{\frac{1}{2}}; \end{aligned}$$

or

(B) *Formula 2.*

$$\text{Hedging set amount} = |AddOn_{TB1}^{IR}| + |AddOn_{TB2}^{IR}| + |AddOn_{TB3}^{IR}|.$$

Where in paragraphs (c)(8)(i)(A) and (B) of this section:

$AddOn_{TB1}^{IR}$  is the sum of the adjusted derivative contract amounts, as calculated under paragraph (c)(9) 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 (c)(9) 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 (c)(9) of this section, within the hedging set with an end date of more than five years from the present date.

(ii) *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 (c)(9) of this section, within the hedging set.

(iii) *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:

$$\text{Hedging set amount} = [(\sum_{k=1}^K \rho_k * \text{AddOn}(\text{Ref}_k))^2 + \sum_{k=1}^K (1 - (\rho_k)^2) * (\text{AddOn}(\text{Ref}_k))^2]^{\frac{1}{2}}$$

Where:

$k$  is each reference entity within the hedging set.

$K$  is the number of reference entities within the hedging set.

$\text{AddOn}(\text{Ref}_k)$  equals the sum of the adjusted derivative contract amounts, as determined under paragraph (c)(9) of this section, for all derivative contracts within the hedging set that reference reference entity  $k$ .

$\rho_k$  equals the applicable supervisory correlation factor, as provided in Table 2 to this section.

(iv) *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*

$$= \left[ \left( \rho * \sum_{k=1}^K \text{AddOn}(\text{Type}_k) \right)^2 + (1 - (\rho)^2) * \sum_{k=1}^K (\text{AddOn}(\text{Type}_k))^2 \right]^{\frac{1}{2}}$$

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 (c)(9) of this section, for all derivative contracts within the hedging set that reference reference commodity type  $k$ .

$\rho$  equals the applicable supervisory correlation factor, as provided in Table 2 to this section.

(v) *Basis derivative contracts and volatility derivative contracts.*

Notwithstanding paragraphs (c)(8)(i) through (iv) of this section, a national bank or Federal savings association must calculate a separate hedging set amount for each basis derivative contract hedging set and each volatility derivative contract hedging set. A national bank or Federal savings association must calculate such hedging set amounts using one of the formulas under paragraphs (c)(8)(i) through (iv) that corresponds to the primary risk factor of the hedging set being calculated.

(9) *Adjusted derivative contract amount--(i) Summary.* To calculate the adjusted derivative contract amount of a derivative contract, a national bank or Federal savings association must determine the adjusted notional amount of derivative contract, pursuant to paragraph (c)(9)(ii) of this section, and multiply the adjusted notional amount by each of the supervisory delta adjustment, pursuant to paragraph (c)(9)(iii) of this section, the maturity factor, pursuant to paragraph (c)(9)(iv) of this section, and the applicable supervisory factor, as provided in Table 2 to this section.



(ii) *Adjusted notional amount.* (A)(I) 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:

$$\text{Supervisory duration} = \max \left\{ \frac{e^{-0.05 * (\frac{S}{250})} - e^{-0.05 * (\frac{E}{250})}}{0.05}, 0.04 \right\}$$

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.

(2) For purposes of paragraph (c)(9)(ii)(A)(I) of this section:

(i) 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

(ii) 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.

(B)(1) 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.

(2) Notwithstanding paragraph (c)(9)(ii)(B)(1) of this section, for an exchange rate derivative contract with multiple exchanges of principal, the national bank or Federal savings association 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.

(C)(1) 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.

(2) Notwithstanding paragraph (c)(9)(ii)(C)(1) 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 national bank or Federal savings association 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.

(iii) *Supervisory delta adjustments.* (A) 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;

(B)(I) For a derivative contract that is an option contract, the supervisory delta adjustment is determined by the following formulas, as applicable:

Table 3 to §3.132--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	$-\Phi\left(\frac{\ln\left(\frac{P + \lambda}{K + \lambda}\right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}}\right)$	$\Phi\left(\frac{\ln\left(\frac{P + \lambda}{K + \lambda}\right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}}\right)$

(2) As used in the formulas in Table 3 to this section:

(i)  $\Phi$  is the standard normal cumulative distribution function;

(ii) P equals the current fair value of the instrument or risk factor, as applicable, underlying the option;

(iii) K equals the strike price of the option;

(iv) T equals the number of business days until the latest contractual

exercise date of the option;

(v)  $\lambda$  equals zero for all derivative contracts except interest rate options for the currencies where interest rates have negative values. The same value of  $\lambda$  must be used for all interest rate options that are denominated in the same currency. To determine the value of  $\lambda$  for a given currency, a national bank or Federal savings association must find the lowest value L of P and K of all interest rate options in a given currency that the national bank or Federal savings association has with all counterparties. Then,  $\lambda$  is set according to this formula:  $\lambda = \max\{-L + 0.1\%, 0\}$ ; and

(vi)  $\sigma$  equals the supervisory option volatility, as provided in Table 2 to of this section.

(C)(I) For a derivative contract that is a collateralized debt obligation tranche, the supervisory delta adjustment is determined by the following formula:

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

(2) As used in the formula in paragraph (c)(9)(iii)(C)(I) of this section:

(i) A is the attachment point, which equals the ratio of the notional amounts of all underlying exposures that are subordinated to the national bank's or Federal savings association's exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one;<sup>30</sup>

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<sup>30</sup> In the case of a first-to-default credit derivative, there are no underlying exposures that are subordinated to the national bank's or Federal savings

(ii) D is the detachment point, which equals one minus the ratio of the notional amounts of all underlying exposures that are senior to the national bank's or Federal savings association's exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one; and

(iii) The resulting amount is designated with a positive sign if the collateralized debt obligation tranche was purchased by the national bank or Federal savings association and is designated with a negative sign if the collateralized debt obligation tranche was sold by the national bank or Federal savings association.

(iv) *Maturity factor.* (A)(I) 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.

(2) Notwithstanding paragraph (c)(9)(iv)(A)(I) of this section:

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association'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 national bank's or Federal savings association's exposure.

(i) 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;

(ii) 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

(iii) 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.

(3) Notwithstanding paragraphs (c)(9)(iv)(A)(I) and (2) of this section, for a netting set subject to two or more outstanding disputes over margin that lasted longer than the MPOR over the previous two quarters, the applicable floor is twice the amount provided in (c)(9)(iv)(A)(I) and (2) of this section.

(B) 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.

(C) For purposes of paragraph (c)(9)(iv) of this section, if a national bank or Federal savings association has elected pursuant to paragraph (c)(5)(v) 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 national bank or Federal savings association must treat the derivative contract as subject to a variation margin agreement with maturity factor as determined according to (c)(9)(iv)(A) of this section, and daily settlement does not change the end date of the period referenced by the derivative contract.

(v) *Derivative contract as multiple effective derivative contracts.* A national bank or Federal savings association must separate a derivative contract into separate derivative contracts, according to the following rules:

(A) 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 (c)(9)(iii)(B) of this section, a binary option with strike  $K$  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 strikes 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 strikes. 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.

(B) 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 national bank or Federal savings association must treat each standard option component as a separate derivative contract.

(C) For a derivative contract that includes multiple-payment options, (such as interest rate caps and floors), a national bank or Federal savings association may represente each payment option as a combination of effective single-payment options (such as interest rate caplets and floorlets).

(D) A national bank or Federal savings association may not decompose linear derivative contracts (such as swaps) into components.

*(10) Multiple netting sets subject to a single variation margin agreement--*

(i) *Calculating replacement cost.* Notwithstanding paragraph (c)(6) of this section, a national bank or Federal savings association shall 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:

$$\text{Replacement Cost} = \max\{\sum_{NS} \max\{V_{NS}; 0\} - \max\{C_{MA}; 0\}; 0\} + \max\{\sum_{NS} \min\{V_{NS}; 0\} - \min\{C_{MA}; 0\}; 0\}$$

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.

$C_{MA}$  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.

(ii) *Calculating potential future exposure.* Notwithstanding paragraph (c)(5) of this section, a national bank or Federal savings association shall 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 (c)(7) of this section as if such nettings sets were not subject to a variation margin agreement.

(11) *Netting set subject to multiple variation margin agreements or a hybrid netting set--(i) 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 (c)(6)(i) 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.

(ii) *Calculating potential future exposure.* (A) 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 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 national bank or Federal savings association must divide the netting set into sub-netting sets (as described in paragraph (c)(11)(ii)(B) 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.

(B) For purposes of paragraph (c)(11)(ii)(A) of this section, the netting set must be divided into sub-netting sets as follows:

(1) 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.

(2) 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 § 3.132—Supervisory Option Volatility, Supervisory Correlation**

**Parameters, and Supervisory Factors for Derivative Contracts**

<b>Asset Class</b>	<b>Category</b>	<b>Type</b>	<b>Supervisory Option Volatility</b>	<b>Supervisory Correlation Factor</b>	<b>Supervisory Factor<sup>1</sup></b>
<b>Interest rate</b>	N/A	N/A	50%	N/A	0.50%
<b>Exchange rate</b>	N/A	N/A	15%	N/A	4.0%
<b>Credit, single name</b>	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%
<b>Credit, index</b>	Investment Grade	N/A	80%	80%	0.38%
	Speculative Grade	N/A	80%	80%	1.06%
<b>Equity, single name</b>	N/A	N/A	120%	50%	32%
<b>Equity, index</b>	N/A	N/A	75%	80%	20%
<b>Commodity</b>	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%

<sup>1</sup> 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.

\* \* \* \* \*

(d) \* \* \*

(10) \* \* \*

(i) With prior written approval of the OCC, a national bank or Federal savings association may set EAD equal to a measure of counterparty credit risk exposure, such as peak EAD, that is more conservative than an alpha of 1.4 times the larger of  $EPE_{unstre\text{ssed}}$  and  $EPE_{stressed}$  for every counterparty whose EAD will be measured under the alternative measure of counterparty exposure. The national bank or Federal savings association must demonstrate the conservatism of the measure of counterparty credit risk exposure used for EAD. With respect to paragraph (d)(10)(i) of this section:

(A) For material portfolios of new OTC derivative products, the national bank or Federal savings association may assume that the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section meets the conservatism requirement of this section for a period not to exceed 180 days.

(B) For immaterial portfolios of OTC derivative contracts, the national bank or Federal savings association generally may assume that the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section meets the conservatism requirement of this section.

\* \* \* \* \*

(e) \* \* \*

(6) \* \* \*

(viii) If a national bank or Federal savings association uses the standardized

approach for counterparty credit risk pursuant to paragraph (c) of this section to calculate the EAD for any immaterial portfolios of OTC derivative contracts, the national bank or Federal savings association must use that EAD as a constant EE in the formula for the calculation of CVA with the maturity equal to the maximum of:

- (A) Half of the longest maturity of a transaction in the netting set, and
- (B) The notional weighted average maturity of all transactions in the

netting set.

\* \* \* \* \*

10. Section 3.133 is amended by revising paragraphs (a), (b) heading, (b)(1) through (3), (b)(4)(i), (c)(1) through (3), (c)(4)(i), and (d) to read as follows:

**§ 3.133 Cleared transactions.**

(a) *General requirements--(1) Clearing member clients.* A national bank or Federal savings association 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 national bank or Federal savings association 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) \* \* \*

(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a national bank or Federal savings association 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 national bank's or Federal savings association'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 EAD for the derivative contract or netting set of derivative contracts calculated using the methodology used to calculate EAD for derivative contracts set forth in § 3.132(c) or (d), plus the fair value of the collateral posted by the clearing member client national bank or Federal savings association and held by the CCP or a clearing member in a manner that is not bankruptcy remote. When the national bank or Federal savings association calculates EAD for the cleared transaction using the methodology in § 3.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the EAD for the repo-style transaction calculated using the methodology set forth in § 3.132(b)(2) or (3) or

(d), plus the fair value of the collateral posted by the clearing member client national bank or Federal savings association and held by the CCP or a clearing member in a manner that is not bankruptcy remote. When the national bank or Federal savings association calculates EAD for the cleared transaction under § 3.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(3) *Cleared transaction risk weights.* (i) For a cleared transaction with a QCCP, a clearing member client national bank or Federal savings association must apply a risk weight of:

(A) 2 percent if the collateral posted by the national bank or Federal savings association to the QCCP or clearing member is subject to an arrangement that prevents any loss to the clearing member client national bank or Federal savings association 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 national bank or Federal savings association 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.

(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 national bank or Federal savings association must apply the risk weight applicable to the CCP under subpart D of this part.

(4) \* \* \*

(i) Notwithstanding any other requirement of this section, collateral posted by a clearing member client national bank or Federal savings association 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.

\* \* \* \* \*

(c) \* \* \*

(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a clearing member national bank or Federal savings association 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 national bank's or Federal savings association'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 national bank or Federal savings association 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 EAD calculated using the methodology used to calculate EAD for derivative contracts set forth in § 3.132(c) or (d), plus the fair value of the collateral posted by the clearing member national bank or Federal savings association and held by the CCP in a manner that is not bankruptcy remote. When the clearing member national bank or Federal savings association calculates EAD for the cleared transaction using the methodology in § 3.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the EAD calculated under § 3.132(b)(2) or (3) or (d), plus the fair value of the collateral posted by the clearing member national bank or Federal savings association and held by the CCP in a manner that is not bankruptcy remote. When the clearing member national bank or Federal savings association calculates EAD for the cleared transaction under § 3.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(3) *Cleared transaction risk weights.* (i) A clearing member national bank or Federal savings association 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 national bank or Federal savings association must apply the risk weight applicable to the CCP according to subpart D of this part.

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member national bank or Federal savings association may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a QCCP where the clearing member national bank or Federal savings association 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 § 3.3(a), and the clearing member national bank or Federal savings association is not obligated to reimburse the clearing member client in the event of the QCCP default.

(4) \* \* \*

(i) Notwithstanding any other requirement of this section, collateral posted by a clearing member national bank or Federal savings association 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.

\* \* \* \* \*

(d) *Default fund contributions--(1) General requirement.* A clearing member national bank or Federal savings association 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 national bank or Federal savings association or the OCC, there is a material change in the financial condition of the CCP.

(2) *Risk-weighted asset amount for default fund contributions to nonqualifying CCPs.* A clearing member national bank's or Federal savings association'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 OCC, 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 national bank's or Federal savings association's risk-weighted asset amount for default fund contributions to QCCPs equals the sum of its capital requirement,  $K_{CM}$  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 national bank's or Federal savings association's capital requirement for its default fund contribution to a QCCP ( $K_{CM}$ ) is equal to:

$$K_{CM} = \max\left\{K_{CCP} * \left(\frac{DF^{pref}}{DF_{CCP} + DF_{CCPCM}^{pref}}\right); 0.16 \text{ percent} * DF^{pref}\right\}$$

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 national bank or Federal savings association to the QCCP;

$DF_{CCP}$  is the QCCP's own prefunded amount 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

$DF_{CM}^{pref}$  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 national bank or Federal savings association must rely on such disclosed figure instead of calculating  $K_{CCP}$  under this paragraph (d)(5), unless the national bank or Federal savings association 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 national bank or Federal savings association, is equal to:

$$K_{CCP} = \sum_{CM_i} EAD_i * 1.6 \text{ percent}$$

Where:

$CM_i$  is each clearing member of the QCCP; and

$EAD_i$  is the exposure amount of each clearing member of the QCCP to the QCCP, as determined under paragraph (d)(6) of this section.

(6) *EAD of a clearing member national bank or Federal savings association to a QCCP.* (i) The EAD of a clearing member national bank or Federal savings association to a QCCP is equal to the sum of the EAD for derivative contracts determined under paragraph (d)(6)(ii) of this section and the EAD for repo-style transactions determined under paragraph (d)(6)(iii) of this section.

(ii) With respect to any derivative contracts between the national bank or Federal savings association and the CCP that are cleared transactions and any guarantees that the national bank or Federal savings association has provided to the CCP with respect to performance of a clearing member client on a derivative contract, the EAD is equal to the exposure amount for all such derivative contracts and guarantees of derivative contracts calculated under SA-CCR in § 3.132(c) (or, with respect to a CCP 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 § 3.132(c)(9)(iv); less the value of all collateral held by the CCP posted by the clearing member national bank or Federal savings association or a clearing member client of the national bank or Federal savings association in connection with a derivative contract for which the national bank or Federal savings association has provided a guarantee to the CCP and the amount of the prefunded default fund contribution of the national bank or Federal savings association to the CCP.

(iii) With respect to any repo-style transactions between the national bank or Federal savings association and the CCP that are cleared transactions, EAD is equal to:

$$EAD = \max\{EBRM - IM - DF; 0\}$$

Where:

EBRM is the sum of the exposure amounts of each repo-style transaction between the national bank or Federal savings association and the CCP as determined under § 3.132(b)(2) and without recognition of any collateral securing the repo-style transactions;

IM is the initial margin collateral posted by the national bank or Federal savings association to the CCP with respect to the repo-style transactions; and

DF is the prefunded default fund contribution of the national bank or Federal savings association to the CCP that is not already deducted in § 3.133(d)(6)(ii).

(iv) EAD must be calculated separately for each clearing member's sub-client accounts and sub-house account (i.e., for the clearing member's propriety activities). If the clearing member's collateral and its client's collateral are held in the same default fund contribution account, then the EAD of that account is the sum of the EAD for the client-related transactions within the account and the EAD of the house-related transactions within the account. For purposes of determining such EADs, 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 EAD of that account is the sum of the EAD for the derivative contracts within the account and the EAD 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 § 3.132(b) for repo-style transactions and to § 3.132(c)(5) for derivative contracts.

(vi) Notwithstanding any other provision of paragraph 3.133(d, with the prior approval of the OCC, a national bank or Federal savings association may determine the risk-weighted asset amount for a default fund contribution to a QCCP according to § 3.35(d)(3)(ii).

10. Section 3.173 is amended by removing “Replacement cost” and adding in its place “Current exposure” in Table 13 to §3.173.

11. Section 3.300 is amended by adding paragraphs (g) and (h) to read as follows:

### **§3.300 Transitions.**

\* \* \* \* \*

(g) *SA-CCR*. An advanced approaches national bank or Federal savings association may use CEM rather than SA-CCR for purposes of § 3.34(a) and § 3.132(c) until January 1, 2022. An advanced approaches national bank or Federal savings association must provide prior notice to the OCC if it decides to begin using SA-CCR before January 1, 2022. On January 1, 2022, and thereafter, an advanced approaches national bank or Federal savings association must use SA-CCR for purposes of § 3.34(a), § 3.132(c) and § 3.133(d). Once an advanced approaches national bank or Federal savings association has begun to use SA-CCR, the advanced approaches national bank or Federal savings association may not change to use CEM.

(h) *Default fund contributions*. Prior to January 1, 2022, a national bank or Federal savings association that calculates the exposure amounts of its derivative contracts under the standardized approach for counterparty credit risk in § 3.132(c) may calculate the risk-weighted asset amount for a default fund contribution to a QCCP under either method 1 under § 3.35(d)(3)(i) or method 2 under § 3.35(d)(3)(ii), rather than under § 3.133(d).

## **PART 32—LENDING LIMITS**

12. 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.

13. Section 32.9 is amended by revising paragraph (b)(1)(iii) and adding paragraph (b)(1)(iv) to read as follows:

**§ 32.9 Credit exposure arising from derivative and securities financing transactions.**

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

(iii) *Current Exposure Method.* The credit exposure arising from a derivative transaction (other than a credit derivative transaction) under the Current Exposure Method shall be calculated pursuant to 12 CFR 3.34(b)(1) and (2) and (c) or 324.34(b)(1) and (2) and (c), as appropriate.

(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 3.132(c)(5) or 324.132(c)(5), as appropriate.

\* \* \* \* \*

## **Federal Reserve System**

### **12 CFR Chapter II**

#### **Authority and Issuance**

For the reasons set forth in the preamble, chapter II of title 12 of the Code of Federal Regulations is proposed to be amended as set forth below:

#### **PART 217 – CAPITAL ADEQUACY OF BANK HOLDING COMPANIES, SAVINGS AND LOAN HOLDING COMPANIES, AND STATE MEMBER BANKS (REGULATION Q)**

14. The authority citation for part 217 continues to read as follows:

**Authority:** 12 U.S.C. 248(a), 321-338a, 481-486, 1462a, 1467a, 1818, 1828, 1831n, 1831o, 1831p-l, 1831w, 1835, 1844(b), 1851, 3904, 3906-3909, 4808, 5365, 5368, 5371.

15. Section 217.2 is amended by:

- a. Adding the definitions of “Basis derivative contract,” “client-facing derivative transaction,” and “Commercial end-user” in alphabetical order;
- b. Revising the definitions of “Current exposure” and “Current exposure methodology;”
- c. Revising paragraph (2) of the definition of “Financial collateral;”

d. Adding the definitions of “Independent collateral,” “Minimum transfer amount,” and “Net independent collateral amount” in alphabetical order;

e. Revising the definition of “Netting set;”

f. Adding the definitions of “Speculative grade,” “Sub-speculative grade,” “Variation margin,” “Variation margin agreement,” “Variation margin amount,” “Variation margin threshold,” and “Volatility derivative contract” in alphabetical order.

The additions and revisions read as follows:

**§217.2 Definitions.**

\* \* \* \* \*

*Basis derivative contract* means a non-foreign-exchange derivative contract (i.e., the contract is denominated in a single currency) in which the cash flows of the derivative contract depend on the difference between two risk factors that are attributable solely to one of the following derivative asset classes: interest rate, credit, equity, or commodity.

\* \* \* \* \*

*Client-facing derivative transaction* means a derivative contract that is not a cleared transaction where the Board-regulated institution is either acting as a financial intermediary and enters into an offsetting transaction with a QCCP or where the Board-regulated institution provides a guarantee on the performance of a client on a transaction between the client and a QCCP.

\* \* \* \* \*

*Commercial end-user* means an entity that:

(1) (i) Is using derivative contracts to hedge or mitigate commercial risk;

and

(ii) (A) Is not an entity described in section 2(h)(7)(C)(i)(I) through (VIII) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(C)(i)(I) through (VIII)); or

(B) Is not a “financial entity” for purposes of section 2(h)(7) of the Commodity Exchange Act (7 U.S.C. 2(h)) by virtue of section 2(h)(7)(C)(iii) of the Act (7 U.S.C. 2(h)(7)(C)(iii)); or

(2) (i) Is using derivative contracts to hedge or mitigate commercial risk;

and

(ii) Is not an entity described in section 3C(g)(3)(A)(i) through (viii) of the Securities Exchange Act of 1934 (15 U.S.C. 78c–3(g)(3)(A)(i) through (viii)); or

(3) Qualifies for the exemption in section 2(h)(7)(A) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(A)) by virtue of section 2(h)(7)(D) of the Act (7 U.S.C. 2(h)(7)(D)); or

(4) Qualifies for an exemption in section 3C(g)(1) of the Securities Exchange Act of 1934 (15 U.S.C. 78c–3(g)(1)) by virtue of section 3C(g)(4) of the Act (15 U.S.C. 78c–3(g)(4)).

\* \* \* \* \*

*Current exposure* means, with respect to a netting set, the larger of zero or the fair value of a transaction or portfolio of transactions within the netting set that would be lost upon default of the counterparty, assuming no recovery on the value

of the transactions.

*Current exposure methodology* means the method of calculating the exposure amount for over-the-counter derivative contracts in § 217.34(b).

\* \* \* \* \*

*Financial collateral* \* \* \*

(2) In which the Board-regulated institution 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).

\* \* \* \* \*

*Independent collateral* means financial collateral, other than variation margin, that is subject to a collateral agreement, or in which a Board-regulated institution has a perfected, first-priority security interest or, outside of the United States, the legal equivalent thereof (with the exception of cash on deposit; notwithstanding the prior security interest of any custodial agent or any prior security interest granted to a CCP in connection with collateral posted to that CCP), and the amount of which does not change directly in response to the value of the derivative contract or contracts that the financial collateral secures.

\* \* \* \* \*

*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.

\* \* \* \* \*

*Net independent collateral amount* means the fair value amount of the independent collateral, as adjusted by the standard supervisory haircuts under § 217.132(b)(2)(ii), 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 standard supervisory haircuts under § 217.132(b)(2)(ii), 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 a group of transactions with a single counterparty that are subject to a qualifying master netting agreement. For derivative contracts, netting set also includes a single derivative contract between a Board-regulated institution and a single counterparty. For purposes of the internal model methodology under § 217.132(d), netting set also includes a group of transactions with a single counterparty that are subject to a qualifying cross-product master netting agreement and does not include a transaction: (1) That is not subject to such a master netting agreement; or (2) Where the Board-regulated institution has identified specific wrong-way risk.

\* \* \* \* \*

*Speculative grade* means the reference entity 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 reference entity would present an elevated default risk.

\* \* \* \* \*

*Sub-speculative grade* means the reference entity depends on favorable economic conditions to meet its financial commitments, such that should such economic conditions deteriorate the reference entity likely would default on its financial commitments.

\* \* \* \* \*

*Variation margin* means financial collateral that is subject to a collateral agreement provided by one party to its counterparty to meet the performance of the first party's obligations under one or more transactions between the parties as a result of a change in value of such obligations since the last time such financial collateral was provided.

*Variation margin agreement* means an agreement to collect or post variation margin.

*Variation margin amount* means the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 217.132(b)(2)(ii), 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 § 217.132(b)(2)(ii), as applicable, posted by

the Board-regulated institution to the counterparty.

*Variation margin threshold* means the amount of credit exposure of a Board-regulated institution to its counterparty that, if exceeded, would require the counterparty to post variation margin to the Board-regulated institution pursuant to the variation margin agreement.

*Volatility derivative contract* means a derivative contract in which the payoff of the derivative contract explicitly depends on a measure of the volatility of an underlying risk factor to the derivative contract.

\* \* \* \* \*

16. Section 217.10 is amended by revising paragraphs (c)(4)(ii)(A) through (C) to read as follows:

**§217.10 Minimum capital requirements.**

\* \* \* \* \*

(c) \* \* \*

(4) \* \* \*

(ii) \* \* \*

(A) The balance sheet carrying value of all of the Board-regulated institution's on-balance sheet assets, *plus* the value of securities sold under a repurchase transaction or a securities lending transaction that qualifies for sales treatment under U.S. GAAP, *less* amounts deducted from tier 1 capital under §217.22(a), (c), and (d), and *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, for a Board-regulated institution that uses the standardized approach for counterparty credit risk under §217.132(c) for its standardized risk-weighted assets, *less* the fair value of any derivative contracts;

(B) (I) For a Board-regulated institution that uses the current exposure methodology under §217.34(b) for its standardized risk-weighted assets, the PFE for each derivative contract or each single-product netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(4)(ii)(I) 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 U.S. GAAP), to which the Board-regulated institution is a counterparty as determined under §217.34, but without regard to §217.34(b), provided that:

(i) 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 §217.34, but without regard to §217.34(b), provided that it does not adjust the net-to-gross ratio (NGR); and

(ii) A Board-regulated institution that chooses to exclude the PFE of credit derivatives or other similar instruments through which it provides credit protection

pursuant to paragraph (c)(4)(ii)(B)(I) of this section must do so consistently over time for the calculation of the PFE for all such instruments;

(2) (i) For a Board-regulated institution that uses the standardized approach for counterparty credit risk under section §217.132(c) for its standardized risk-weighted assets, the PFE for each netting set to which the Board-regulated institution is a counterparty (including cleared transactions except as provided in paragraph (c)(4)(ii)(I) 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 U.S. GAAP), as determined under §217.132(c)(7), in which the term C in §217.132(c)(7)(i) equals zero except as provided in paragraph (c)(4)(ii)(B)(2)(ii) of this section, and, for any counterparty that is not a commercial end-user, multiplied by 1.4;

(ii) For purposes of paragraph (c)(4)(ii)(B)(2)(i) of this section, a Board-regulated institution may set the value of the term C in §217.132(c)(7)(i) 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;

(C) (1) (i) For a Board-regulated institution that uses the current exposure methodology under §217.34(b) for its standardized risk-weighted assets, the amount of cash collateral that is received from a counterparty to a derivative contract and that has offset the mark-to-fair value of the derivative asset, or cash

collateral that is posted to a counterparty to a derivative contract and that has reduced the Board-regulated institution's on-balance sheet assets, unless such cash collateral is all or part of variation margin that satisfies the conditions in paragraphs (c)(4)(ii)(C)(3) through (7) of this section and:

(ii) The variation margin is used to reduce the current credit exposure of the derivative contract, calculated as described in §217.34(b), and not the PFE; and

(iii) For the purpose of the calculation of the NGR described in §217.34(b)(2)(ii)(B), variation margin described in paragraph (c)(4)(ii)(C)(1)(ii) of this section may not reduce the net current credit exposure or the gross current credit exposure;

(2) (i) For a Board-regulated institution that uses the standardized approach for counterparty credit risk under §217.132(c) for its standardized risk-weighted assets, 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:

$$\textit{Replacement Cost} = \max\{V - CVM_r + CVM_p; 0\}$$

Where:

V equals the fair value for each derivative contract or each single-product netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(4)(ii)(I) 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 U.S. 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)(4)(ii)(C)(3) through (7) 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)(4)(ii)(C)(3) through (7) of this section, or, in the case of a client-facing derivative transaction, the amount of collateral posted to the clearing member client.

(ii) Notwithstanding paragraph (c)(4)(ii)(C)(2)(i) 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 §217.132(c)(10)(i), in which the term  $C_{MA}$  may only include cash collateral that satisfies the conditions in paragraphs (c)(4)(ii)(C)(3) through (7) of this section;

(iii) For purposes of paragraph (c)(4)(ii)(C)(2)(i), 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 §217.132(c)(5)(vi).

(3) 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);

(4) Variation margin is calculated and transferred on a daily basis based on the mark-to-fair value of the derivative contract;

(5) The variation margin transferred under the derivative contract or the governing rules 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;

(6) 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)(4)(ii)(C)(6), 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;

(7) 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;

\* \* \* \* \*

17. Section 217.32 is amended by revising paragraph (f) to read as follows:

**§217.32 General risk weights.**

\* \* \* \* \*

(f) *Corporate exposures.* (1) A Board-regulated institution must assign a 100 percent risk weight to all its corporate exposures, except as provided in paragraph (f)(2) of this section.

(2) A Board-regulated institution must assign a 2 percent risk weight to an exposure to a QCCP arising from the Board-regulated institution posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 217.35(b)(3)(i)(A) and a 4 percent risk weight to an exposure to a QCCP arising from the Board-regulated institution posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 217.35(b)(3)(i)(B).

(3) A Board-regulated institution must assign a 2 percent risk weight to an exposure to a QCCP arising from the Board-regulated institution posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 217.35(c)(3)(i).

\* \* \* \* \*

18. Section 217.34 is revised to read as follows:

**§217.34 Derivative contracts.**

(a) *Exposure amount for derivative contracts--(1) Board-regulated institution that is not an advanced approaches Board-regulated institution.* (i) A Board-regulated institution that is not an advanced approaches Board-regulated institution 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 Board-regulated institution makes the election provided in paragraph (a)(1)(ii) of this section.

(ii) A Board-regulated institution that is not an advanced approaches Board-regulated institution may elect to calculate the exposure amount for all its OTC derivative contracts under the standardized approach for counterparty credit risk (SA-CCR) in §217.132(c) by notifying the Board, rather than calculating the exposure amount for all its derivative contracts using CEM. A Board-regulated 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 §217.133 to its derivative contracts that are cleared transactions and to all default fund contributions associated with such derivative contracts, rather than applying §217.35. A Board-regulated institution that is not an advanced approaches Board-regulated institution must use the same methodology to calculate the exposure amount for all its derivative contracts and,

if a Board-regulated institution has elected to use SA-CCR under this paragraph (a)(1)(ii), the Board-regulated institution may change its election only with prior approval of the Board.

(2) *Advanced approaches Board-regulated institution.* An advanced approaches Board-regulated institution must calculate the exposure amount for all its derivative contracts using SA-CCR in §217.132(c) for purposes of standardized total risk-weighted assets. An advanced approaches Board-regulated institution must apply the treatment of cleared transactions under §217.133 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.

(b) *Current exposure methodology exposure amount—(1) Single OTC derivative contract.* Except as modified by paragraph (c) of this section, the exposure amount for a single OTC derivative contract that is not subject to a qualifying master netting agreement is equal to the sum of the Board-regulated institution's current credit exposure and potential future credit exposure (PFE) on the OTC derivative contract.

(i) *Current credit exposure.* The current credit exposure for a single OTC derivative contract is the greater of the fair value of the OTC derivative contract or zero.

(ii) *PFE.* (A) The PFE for a single OTC derivative contract, including an OTC derivative contract with a negative fair value, is calculated by multiplying



the notional principal amount of the OTC derivative contract by the appropriate conversion factor in Table 1 to this section.

(B) For purposes of calculating either the PFE under this paragraph (b) or the gross PFE under paragraph (b)(2) of this section for exchange rate contracts and other similar contracts in which the notional principal amount is equivalent to the cash flows, notional principal amount is the net receipts to each party falling due on each value date in each currency.

(C) For an OTC derivative contract that does not fall within one of the specified categories in Table 1 to this section, the PFE must be calculated using the appropriate “other” conversion factor.

(D) A Board-regulated institution must use an OTC derivative contract’s effective notional principal amount (that is, the apparent or stated notional principal amount multiplied by any multiplier in the OTC derivative contract) rather than the apparent or stated notional principal amount in calculating PFE.

(E) The PFE of the protection provider of a credit derivative is capped at the net present value of the amount of unpaid premiums.

Table 1 to §217.34—Conversion Factor Matrix for Derivative Contracts<sup>1</sup>

<b>Remaining maturity<sup>2</sup></b>	<b>Interest rate</b>	<b>Foreign exchange rate and gold</b>	<b>Credit (investment grade reference asset)<sup>3</sup></b>	<b>Credit (non-investment-grade reference asset)</b>	<b>Equity</b>	<b>Precious metals (except gold)</b>	<b>Other</b>
One year or less	0.00	0.01	0.05	0.10	0.06	0.07	0.10

Greater than one year and less than or equal to five years	0.005	0.05	0.05	0.10	0.08	0.07	0.12
Greater than five years	0.015	0.075	0.05	0.10	0.10	0.08	0.15

<sup>1</sup> For a derivative contract with multiple exchanges of principal, the conversion factor is multiplied by the number of remaining payments in the derivative contract.

<sup>2</sup> For an OTC derivative contract that is structured such that on specified dates any outstanding exposure is settled and the terms are reset so that the fair value of the contract is zero, the remaining maturity equals the time until the next reset date. For an interest rate derivative contract with a remaining maturity of greater than one year that meets these criteria, the minimum conversion factor is 0.005.

<sup>3</sup> A Board-regulated institution must use the column labeled “Credit (investment-grade reference asset)” for a credit derivative whose reference asset is an outstanding unsecured long-term debt security without credit enhancement that is investment grade. A Board-regulated institution must use the column labeled “Credit (non-investment-grade reference asset)” for all other credit derivatives.

(2) *Multiple OTC derivative contracts subject to a qualifying master netting agreement.* Except as modified by paragraph (c) of this section, the exposure amount for multiple OTC derivative contracts subject to a qualifying master netting agreement is equal to the sum of the net current credit exposure and the adjusted sum of the PFE amounts for all OTC derivative contracts subject to the qualifying master netting agreement.

(i) *Net current credit exposure.* The net current credit exposure is the greater of the net sum of all positive and negative fair values of the individual OTC derivative contracts subject to the qualifying master netting agreement or zero.

(ii) *Adjusted sum of the PFE amounts.* The adjusted sum of the PFE

amounts,  $A_{net}$ , is calculated as  $A_{net} = (0.4 \times A_{gross}) + (0.6 \times NGR \times A_{gross})$ , where:

(A)  $A_{gross}$  = the gross PFE (that is, the sum of the PFE amounts as determined under paragraph (b)(1)(ii) of this section for each individual derivative contract subject to the qualifying master netting agreement); and

(B) Net-to-gross Ratio (NGR) = the ratio of the net current credit exposure to the gross current credit exposure. In calculating the NGR, the gross current credit exposure equals the sum of the positive current credit exposures (as determined under paragraph (b)(1)(i) of this section) of all individual derivative contracts subject to the qualifying master netting agreement.

*(c) Recognition of credit risk mitigation of collateralized OTC derivative contracts.* (1) A Board-regulated institution using CEM under paragraph (b) of this section may recognize the credit risk mitigation benefits of financial collateral that secures an OTC derivative contract or multiple OTC derivative contracts subject to a qualifying master netting agreement (netting set) by using the simple approach in §217.37(b).

(2) As an alternative to the simple approach, a Board-regulated institution using CEM under paragraph (b) of this section may recognize the credit risk mitigation benefits of financial collateral that secures such a contract or netting set if the financial collateral is marked-to-fair value on a daily basis and subject to a daily margin maintenance requirement by applying a risk weight to the uncollateralized portion of the exposure, after adjusting the exposure amount

calculated under paragraph (b)(1) or (2) of this section using the collateral haircut approach in §217.37(c). The Board-regulated institution must substitute the exposure amount calculated under paragraph (b)(1) or (2) of this section for  $\Sigma E$  in the equation in §217.37(c)(2).

(d) *Counterparty credit risk for credit derivatives--(1) Protection purchasers.* A Board-regulated institution that purchases a credit derivative that is recognized under §217.36 as a credit risk mitigant for an exposure that is not a covered position under subpart F of this part is not required to compute a separate counterparty credit risk capital requirement under this subpart D provided that the Board-regulated institution does so consistently for all such credit derivatives. The Board-regulated institution must either include all or exclude all such credit derivatives that are subject to a qualifying master netting agreement from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes.

(2) *Protection providers.* (i) A Board-regulated institution that is the protection provider under a credit derivative must treat the credit derivative as an exposure to the underlying reference asset. The Board-regulated institution is not required to compute a counterparty credit risk capital requirement for the credit derivative under this subpart D, provided that this treatment is applied consistently for all such credit derivatives. The Board-regulated institution must either include all or exclude all such credit derivatives that are subject to a qualifying master netting agreement from any measure used to determine counterparty credit risk

exposure.

(ii) The provisions of this paragraph (d)(2) apply to all relevant counterparties for risk-based capital purposes unless the Board-regulated institution is treating the credit derivative as a covered position under subpart F of this part, in which case the Board-regulated institution must compute a supplemental counterparty credit risk capital requirement under this section.

(e) *Counterparty credit risk for equity derivatives.* (1) A Board-regulated institution must treat an equity derivative contract as an equity exposure and compute a risk-weighted asset amount for the equity derivative contract under §§217.51 through 217.53 (unless the Board-regulated institution is treating the contract as a covered position under subpart F of this part).

(2) In addition, the Board-regulated institution must also calculate a risk-based capital requirement for the counterparty credit risk of an equity derivative contract under this section if the Board-regulated institution is treating the contract as a covered position under subpart F of this part.

(3) If the Board-regulated institution risk weights the contract under the Simple Risk-Weight Approach (SRWA) in §217.52, the Board-regulated institution 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 the equity derivative contracts are subject to a qualified master netting agreement, a Board-regulated institution using the SRWA must either include all or exclude all of the contracts from any measure used to determine

counterparty credit risk exposure.

(f) *Clearing member Board-regulated institution's exposure amount.* The exposure amount of a clearing member Board-regulated institution using CEM under paragraph (b) of this section for a client-facing derivative transaction or netting set of client-facing derivative transactions equals the exposure amount calculated according to paragraph (b)(1) or (2) of this section multiplied by the scaling factor the square root of  $\frac{1}{2}$  (which equals 0.707107). If the Board-regulated institution determines that a longer period is appropriate, the Board-regulated institution must use a larger scaling factor to adjust for a longer holding period as follows:

$$\text{Scaling factor} = \sqrt{\frac{H}{10}}$$

Where H = the holding period greater than or equal to five days.

Additionally, the Board may require the Board-regulated institution to set a longer holding period if the Board 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.

19. Section 217.35 is amended by adding paragraph (a)(3), revising paragraph (b)(4)(i), and adding paragraph (c)(3)(iii) to read as follows:

**§ 217.35 Cleared transactions.**

(a) \* \* \*

(3) *Alternate requirements.* Notwithstanding any other provision of this section, an advanced approaches Board-regulated institution or a Board-regulated institution that is not an advanced approaches Board-regulated institution and that has elected to use SA-CCR under § 217.34(a)(1) must apply § 217.133 to its derivative contracts that are cleared transactions rather than this section.

(b) \* \* \*

(4) \* \* \*

(i) Notwithstanding any other requirements in this section, collateral posted by a clearing member client Board-regulated institution that is held by a custodian (in its capacity as 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.

\* \* \* \* \*

(c) \* \* \*

(3) \* \* \*

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member Board-regulated institution may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a CCP where the clearing member Board-regulated institution 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 § 217.3(a), and the clearing member Board-regulated institution is not obligated to reimburse the clearing member client in the event of the CCP default.

\* \* \* \* \*

20. Section 217.37 is amended by revising paragraphs (c)(3)(iii), (c)(3)(iv)(A), (c)(3)(iv)(C), and (c)(4)(i)(B)(I) to read as follows:

**§ 217.37 Collateralized transactions.**

\* \* \* \* \*

(c) \* \* \*

(3) \* \* \*

(iii) For repo-style transactions and client-facing derivative transactions, a Board-regulated institution may multiply the standard supervisory haircuts provided in paragraphs (c)(3)(i) and (ii) of this section by the square root of  $\frac{1}{2}$  (which equals 0.707107). For client-facing derivative transactions, if a larger scaling factor is applied under § 217.34(f), the same factor must be used to adjust the supervisory haircuts.

(iv) \* \* \*

(A)  $T_M$  equals a holding period of longer than 10 business days for eligible margin loans and derivative contracts other than client-facing derivative



transactions or longer than 5 business days for repo-style transactions and client-facing derivative transactions;

(B) \* \* \*

(C)  $T_S$  equals 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or 5 business days for repo-style transactions and client-facing derivative transactions.

\* \* \* \* \*

(4) \* \* \*

(i) \* \* \*

(B) The minimum holding period for a repo-style transaction and client-facing derivative transaction is five business days and for an eligible margin loan and a derivative contract other than a client-facing derivative transaction is ten business days except for transactions or netting sets for which paragraph (c)(4)(i)(C) of this section applies. When a Board-regulated institution calculates an own-estimates haircut on a  $T_N$ -day holding period, which is different from the minimum holding period for the transaction type, the applicable haircut ( $H_M$ ) is calculated using the following square root of time formula:

(I)  $T_M$  equals 5 for repo-style transactions and client-facing derivative transactions and 10 for eligible margin loans and derivative contracts other than client-facing derivative transactions; §§ 217.134, 217.202, and 217.210 [Amended]

21. For each section listed in the following table, the footnote number listed in the “Old footnote number” column is redesignated as the footnote number listed in the “New footnote number” column as follows:

Section	Old footnote number	New footnote number
217.134(d)(3)	30	31
217.202, paragraph (1) introductory text of the definition of “Covered position”	31	32
217.202, paragraph (1)(i) of the definition of “Covered position”	32	33
217.210(e)(1)	33	34

22. Section 217.132 is amended by:

- a. Revising paragraphs (b)(2)(ii)(A)(3) through (5);
- b. Adding paragraphs (b)(2)(ii)(A)(6) and (7);
- c. Revising paragraphs (c) heading and (c)(1) and (2) and (5) through (8);
- d. Adding paragraphs (c)(9) through (11);
- e. Revising paragraph (d)(10)(i) and paragraph (e)(6)(viii);
- f. Revising paragraphs (e)(5)(i)(C) and (e)(6)(i)(B) by replacing “current exposure methodology” with “standardized approach to counterparty credit risk” wherever it appears;
- g. Removing “Table 3 to §217.132” and adding in its place “Table 4 to this section” in paragraphs (e)(5)(i)(A) and (H); and
- h. Redesignating Table 3 to §217.132 as Table 4 to §217.132.

The revisions and additions read as follows:

**§217.132 Counterparty credit risk of repo-style transactions, eligible margin loans, and OTC derivative contracts.**

\* \* \* \* \*

(b) \* \* \*

(2) \* \* \*

(ii) \* \* \*

(A) \* \* \*

(3) For repo-style transactions and client-facing derivative transactions, a Board-regulated institution may multiply the supervisory haircuts provided in paragraphs (b)(2)(ii)(A)(1) and (2) of this section by the square root of  $\frac{1}{2}$  (which equals 0.707107). If the Board-regulated institution determines that a longer holding period is appropriate for client-facing derivative transactions, then it must use a larger scaling factor to adjust for the longer holding period pursuant to paragraph (b)(2)(ii)(A)(6) of this section.

(4) A Board-regulated institution must adjust the supervisory haircuts upward on the basis of a holding period longer than ten business days (for eligible margin loans) or five business days (for repo-style transactions), using the formula provided in paragraph (b)(2)(ii)(A)(6) of this section where the following conditions apply. If the number of trades in a netting set exceeds 5,000 at any time during a quarter, a Board-regulated institution must adjust the supervisory haircuts upward on the basis of a minimum holding period of twenty business days for the

following quarter (except when a Board-regulated institution is calculating EAD for a cleared transaction under § 217.133). If a netting set contains one or more trades involving illiquid collateral, a Board-regulated institution must adjust the supervisory haircuts upward on the basis of a minimum 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 Board-regulated institution must adjust the supervisory haircuts upward for that netting set on the basis of a minimum holding period that is at least two times the minimum holding period for that netting set.

(5)(i) A Board-regulated institution must adjust the supervisory haircuts upward on the basis of a holding period longer than ten business days for collateral associated with derivative contracts (five business days for client-facing derivative contracts) using the formula provided in paragraph (b)(2)(ii)(A)(6) of this section where the following conditions apply. For collateral associated with a derivative contract that is within a netting set that is composed of more than 5,000 derivative contracts that are not cleared transactions, a Board-regulated institution must use a minimum holding period of twenty business days. If a netting set contains one or more trades involving illiquid collateral or a derivative contract that cannot be easily replaced, a Board-regulated institution must use a minimum holding period of twenty business days.

(ii) Notwithstanding paragraph (b)(2)(ii)(A)(1) or (3) or (b)(2)(ii)(A)(5)(i) of this section, for collateral associated with a derivative contract in a netting set

under which more than two margin disputes that lasted longer than the holding period occurred during the two previous quarters, the minimum holding period is twice the amount provided under paragraph (b)(2)(ii)(A)(1) or (3) or (b)(2)(ii)(A)(5)(i) of this section.

(6) A Board-regulated institution must adjust the standard supervisory haircuts upward, pursuant to the adjustments provided in paragraphs (b)(2)(ii)(A)(3) through (5) of this section, using the following formula:

$$H_A = H_S \sqrt{\frac{T_M}{T_S}}$$

Where:

$T_M$  equals a holding period of longer than 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or longer than 5 business days for repo-style transactions and client-facing derivative transactions;

$H_S$  equals the standard supervisory haircut; and

$T_S$  equals 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or 5 business days for repo-style transactions and client-facing derivative transactions.

(7) If the instrument a Board-regulated institution has lent, sold subject to repurchase, or posted as collateral does not meet the definition of financial collateral, the Board-regulated institution must use a 25.0 percent haircut for market price volatility ( $H_S$ ).

\* \* \* \* \*

(c) *EAD for derivative contracts*—(1) *Options for determining EAD*. A Board-regulated institution must determine the EAD for a derivative contract using the standardized approach for counterparty credit risk (SA-CCR) under paragraph (c)(5) of this section or using the internal models methodology described in paragraph (d) of this section. If a Board-regulated institution elects to use SA-CCR for one or more derivative contracts, the exposure amount determined under SA-CCR is the EAD for the derivative contract or derivatives contracts. A Board-regulation institution must use the same methodology to calculate the exposure amount for all its derivative contracts and may change its election only with prior approval of the Board.

(2) *Definitions*. For purposes of this paragraph (c) of this section, the following definitions apply:

(i) *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 paragraph (c) of this section.

(ii) *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 paragraph (c) of this section.

(iii) *Hedging set* means:

(A) With respect to interest rate derivative contracts, all such contracts within a netting set that reference the same reference currency;

(B) With respect to exchange rate derivative contracts, all such contracts within a netting set that reference the same currency pair;

(C) With respect to credit derivative contract, all such contracts within a netting set;

(D) With respect to equity derivative contracts, all such contracts within a netting set;

(E) 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;

(F) 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

(G) 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 (c)(2)(iii)(A) through (E) of this section.

(H) 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 Board may require a Board-regulated institution to include the derivative contract in each appropriate hedging set under paragraphs (c)(1)(iii)(A) through (E) of this section.

\* \* \* \* \*

(5) *Exposure amount.* (i) The exposure amount of a netting set, as calculated under paragraph (c) of this section, is equal to 1.4 multiplied by the sum of the replacement cost of the netting set, as calculated under paragraph (c)(6) of this section, and the potential future exposure of the netting set, as calculated under paragraph (c)(7) of this section.

(ii) Notwithstanding the requirements of paragraph (c)(5)(i) 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 (c)(5)(i) of this section and the exposure amount of the netting set calculated under paragraph (c)(5)(i) of this section as if the netting set were not subject to a variation margin agreement.

(iii) Notwithstanding the requirements of paragraph (c)(5)(i) 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.

(iv) Notwithstanding the requirements of paragraph (c)(5)(i) 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 (c)(6) of this section, and the potential future exposure of the netting set, as



calculated under paragraph (c)(7) of this section.

(v) For purposes of the exposure amount calculated under paragraph (c)(5)(i) of this section and all calculations that are part of that exposure amount, a Board-regulated institution 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 Board-regulated institution makes an election under this paragraph 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 as derivative contracts that are subject to a variation margin agreement.

(vi) For purposes of the exposure amount calculated under this paragraph (c)(5)(i) of this section and all calculations that are part of that exposure amount, a Board-regulated institution 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.

(6) *Replacement cost of a netting set--(i) 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:

(A) 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;

(B) 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

(C) Zero.

(ii) *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 Board-regulated institution is the greater of:

(A) 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

(B) Zero.

(iii) *Multiple netting sets subject to a single variation margin agreement.*

Notwithstanding paragraphs (c)(6)(i) and (ii) of this section, the replacement cost for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (c)(10)(i) of this section.

(iv) *Netting set subject to multiple variation margin agreements or a hybrid netting set.* Notwithstanding paragraphs (c)(6)(i) and (ii) 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 (c)(11)(i) of this section.

(7) *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.

(i) *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.

(ii) *Aggregated amount.* The aggregated amount is the sum of all hedging set amounts, as calculated under paragraph (c)(8) of this section, within a netting set.

(iii) *Multiple netting sets subject to a single variation margin agreement.* Notwithstanding paragraphs (c)(7)(i) and (ii) of this section and when calculating

the potential future exposure for purposes of total leverage exposure under § 217.10(c)(4)(ii)(B)(2), the potential future exposure for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (c)(10)(ii) of this section.

(iv) *Netting set subject to multiple variation margin agreements or a hybrid netting set.* Notwithstanding paragraphs (c)(7)(i) and (ii) of this section and when calculating the potential future exposure for purposes of total leverage exposure under § 217.10(c)(4)(ii)(B)(2), 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 (c)(11)(ii) of this section.

(8) *Hedging set amount--(i) Interest rate derivative contracts.* To calculate the hedging set amount of an interest rate derivative contract hedging set, a Board-regulated institution may use either of the formulas provided in paragraphs (c)(8)(i)(A) and (B) of this section:

(A) *Formula 1.*

$$\begin{aligned} \text{Hedging set amount} = & \\ & [(AddOn_{TB1}^{IR})^2 + (AddOn_{TB2}^{IR})^2 + (AddOn_{TB3}^{IR})^2 + 1.4 * AddOn_{TB1}^{IR} * \\ & AddOn_{TB2}^{IR} + 1.4 * AddOn_{TB2}^{IR} * AddOn_{TB3}^{IR} + 0.6 * AddOn_{TB1}^{IR} * AddOn_{TB3}^{IR}]^{\frac{1}{2}}; \end{aligned}$$

or

(B) *Formula 2.*

$$\text{Hedging set amount} = |AddOn_{TB1}^{IR}| + |AddOn_{TB2}^{IR}| + |AddOn_{TB3}^{IR}|.$$

Where in paragraphs (c)(8)(i)(A) and (B) of this section:

$AddOn_{TB1}^{IR}$  is the sum of the adjusted derivative contract amounts, as calculated under paragraph (c)(9) 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 (c)(9) 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 (c)(9) of this section, within the hedging set with an end date of more than five years from the present date.

(ii) *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 (c)(9) of this section, within the hedging set.

(iii) *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:

$$\text{Hedging set amount} = [(\sum_{k=1}^K \rho_k * AddOn(Ref_k))^2 + \sum_{k=1}^K (1 - (\rho_k)^2) * (AddOn(Ref_k))^2]^{1/2}$$

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 (c)(9) of this section, for all derivative contracts within the hedging set that reference reference entity  $k$ .

$\rho_k$  equals the applicable supervisory correlation factor, as provided in Table 2 to this section.

(iv) *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 (c)(9) of this section, for all derivative contracts within the hedging set that reference reference commodity type  $k$ .

$\rho$  equals the applicable supervisory correlation factor, as provided in Table

2 to this section.

(v) *Basis derivative contracts and volatility derivative contracts.*

Notwithstanding paragraphs (c)(8)(i) through (iv) of this section, a Board-regulated institution must calculate a separate hedging set amount for each basis derivative contract hedging set and each volatility derivative contract hedging set. A Board-regulated institution must calculate such hedging set amounts using one of the formulas under paragraphs (c)(8)(i) through (iv) that corresponds to the primary risk factor of the hedging set being calculated.

(9) *Adjusted derivative contract amount--(i) Summary.* To calculate the adjusted derivative contract amount of a derivative contract, a Board-regulated institution must determine the adjusted notional amount of derivative contract, pursuant to paragraph (c)(9)(ii) of this section, and multiply the adjusted notional amount by each of the supervisory delta adjustment, pursuant to paragraph (c)(9)(iii) of this section, the maturity factor, pursuant to paragraph (c)(9)(iv) of this section, and the applicable supervisory factor, as provided in Table 2 to this section.

(ii) *Adjusted notional amount.* (A)(1) 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:

$$\text{Supervisory duration} = \max \left\{ \frac{e^{-0.05 * (\frac{S}{250})} - e^{-0.05 * (\frac{E}{250})}}{0.05}, 0.04 \right\}$$

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.

(2) For purposes of paragraph (c)(9)(ii)(A)(I) of this section:

(i) 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

(ii) 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.

(B)(I) 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.

(2) Notwithstanding paragraph (c)(9)(ii)(B)(I) of this section, for an exchange rate derivative contract with multiple exchanges of principal, the Board-regulated institution 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.

(C)(I) 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.

(2) Notwithstanding paragraph (c)(9)(ii)(C)(I) 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 Board-regulated institution 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.

(iii) *Supervisory delta adjustments.* (A) 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;

(B)(1) For a derivative contract that is an option contract, the supervisory delta adjustment is determined by the following formulas, as applicable:

Table 3 to §217.132--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	$-\Phi \left( -\frac{\ln \left( \frac{P + \lambda}{K + \lambda} \right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}} \right)$	$\Phi \left( -\frac{\ln \left( \frac{P + \lambda}{K + \lambda} \right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}} \right)$

(2) As used in the formulas in Table 3 to this section:

(i)  $\Phi$  is the standard normal cumulative distribution function;

(ii) P equals the current fair value of the instrument or risk factor, as applicable, underlying the option;

(iii) K equals the strike price of the option;

(iv) T equals the number of business days until the latest contractual exercise date of the option;

(v)  $\lambda$  equals zero for all derivative contracts except interest rate options for the currencies where interest rates have negative values. The same value of  $\lambda$  must be used for all interest rate options that are denominated in the same currency. To determine the value of  $\lambda$  for a given currency, a Board-regulated institution must find the lowest value L of P and K of all interest rate options in a given currency

that the Board-regulated institution has with all counterparties. Then,  $\lambda$  is set according to this formula:  $\lambda = \max\{-L + 0.1\%, 0\}$ ; and

(vi)  $\sigma$  equals the supervisory option volatility, as provided in Table 2 to this section.

(C)(I) For a derivative contract that is a collateralized debt obligation tranche, the supervisory delta adjustment is determined by the following formula:

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

(2) As used in the formula in paragraph (c)(9)(iii)(C)(I) of this section:

(i) A is the attachment point, which equals the ratio of the notional amounts of all underlying exposures that are subordinated to the Board-regulated institution's exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one;<sup>30</sup>

(ii) D is the detachment point, which equals one minus the ratio of the notional amounts of all underlying exposures that are senior to the Board-regulated institution's exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one; and

(iii) The resulting amount is designated with a positive sign if the collateralized debt obligation tranche was purchased by the Board-regulated

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<sup>30</sup> In the case of a first-to-default credit derivative, there are no underlying exposures that are subordinated to the Board-regulated institution'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 Board-regulated institution's exposure.

institution and is designated with a negative sign if the collateralized debt obligation tranche was sold by the Board-regulated institution.

(iv) *Maturity factor.* (A)(I) 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.

(2) Notwithstanding paragraph (c)(9)(iv)(A)(I) of this section:

(i) 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;

(ii) For a derivative contract that is a client-facing derivative transaction, cannot be less than five business days plus the periodicity of re-margining expressed in business days minus one business day; and

(iii) 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.

(3) Notwithstanding paragraphs (c)(9)(iv)(A)(I) and (2) of this section, for a netting set subject to two or more outstanding disputes over margin that lasted longer than the MPOR over the previous two quarters, the applicable floor is twice the amount provided in (c)(9)(iv)(A)(I) and (2) of this section.

(B) 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.

(C) For purposes of paragraph (c)(9)(iv) of this section, if a Board-regulated institution has elected pursuant to paragraph (c)(5)(v) 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 Board-regulated institution must treat the derivative contract as subject to a variation margin agreement with maturity factor as determined according to (c)(9)(iv)(A) of this section, and daily settlement does not change the end date of the period referenced by the derivative contract.

(v) *Derivative contract as multiple effective derivative contracts.* A Board-

regulated institution must separate a derivative contract into separate derivative contracts, according to the following rules:

(A) 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 (c)(9)(iii)(B) of this section, a binary option with strike  $K$  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 strikes 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 strikes. 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.

(B) 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 Board-regulated institution must treat each standard option component as a separate derivative contract.

(C) For a derivative contract that includes multiple-payment options, (such as interest rate caps and floors), a Board-regulated institution may represent each payment option as a combination of effective single-payment options (such as interest rate caplets and floorlets).

(D) A Board-regulated institution may not decompose linear derivative contracts (such as swaps) into components.

(10) *Multiple netting sets subject to a single variation margin agreement--*

(i) *Calculating replacement cost.* Notwithstanding paragraph (c)(6) of this section, a Board-regulated institution shall 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:

$$\text{Replacement Cost} = \max\{\sum_{NS} \max\{V_{NS}; 0\} - \max\{C_{MA}; 0\}; 0\} + \max\{\sum_{NS} \min\{V_{NS}; 0\} - \min\{C_{MA}; 0\}; 0\}$$

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.

(ii) *Calculating potential future exposure.* Notwithstanding paragraph (c)(5) of this section, a Board-regulated institution shall 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 (c)(7) of this section as if such nettings sets were not subject to a variation margin agreement.

(11) *Netting set subject to multiple variation margin agreements or a hybrid netting set--*(i) *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 (c)(6)(i) 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.

(ii) *Calculating potential future exposure.* (A) 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 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 Board-regulated institution must divide the netting set into sub-netting sets (as described in paragraph (c)(11)(ii)(B) 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.

(B) For purposes of paragraph (c)(11)(ii)(A) of this section, the netting set must be divided into sub-netting sets as follows:

(1) 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.

(2) 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 § 217.132—Supervisory Option Volatility, Supervisory Correlation Parameters, and Supervisory Factors for Derivative Contracts**

<b>Asset Class</b>	<b>Category</b>	<b>Type</b>	<b>Supervisory Option Volatility</b>	<b>Supervisory Correlation Factor</b>	<b>Supervisory Factor<sup>1</sup></b>
<b>Interest rate</b>	N/A	N/A	50%	N/A	0.50%
<b>Exchange rate</b>	N/A	N/A	15%	N/A	4.0%

Asset Class	Category	Type	Supervisory Option Volatility	Supervisory Correlation Factor	Supervisory Factor <sup>1</sup>
<b>Credit, single name</b>	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%
<b>Credit, index</b>	Investment Grade	N/A	80%	80%	0.38%
	Speculative Grade	N/A	80%	80%	1.06%
<b>Equity, single name</b>	N/A	N/A	120%	50%	32%
<b>Equity, index</b>	N/A	N/A	75%	80%	20%
<b>Commodity</b>	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%

<sup>1</sup> 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.

\* \* \* \* \*

(d) \* \* \*

(10) \* \* \*

(i) With prior written approval of the Board, a Board-regulated institution may set EAD equal to a measure of counterparty credit risk exposure, such as peak EAD, that is more conservative than an alpha of 1.4 times the larger of  $EPE_{unstressed}$  and  $EPE_{stressed}$  for

every counterparty whose EAD will be measured under the alternative measure of counterparty exposure. The Board-regulated institution must demonstrate the conservatism of the measure of counterparty credit risk exposure used for EAD. With respect to paragraph (d)(10)(i) of this section:

(A) For material portfolios of new OTC derivative products, the Board-regulated institution may assume that the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section meets the conservatism requirement of this section for a period not to exceed 180 days.

(B) For immaterial portfolios of OTC derivative contracts, the Board-regulated institution generally may assume that the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section meets the conservatism requirement of this section.

\* \* \* \* \*

(e) \* \* \*

(6) \* \* \*

(viii) If a Board-regulated institution uses the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section to calculate the EAD for any immaterial portfolios of OTC derivative contracts, the Board-regulated institution must use that EAD as a constant EE in the formula for the calculation of CVA with the maturity equal to the maximum of:

(A) Half of the longest maturity of a transaction in the netting set, and

(B) The notional weighted average maturity of all transactions in the netting set.

\* \* \* \* \*

23. Section 217.133 is amended by revising paragraphs (a), (b)(1) through (3), (b)(4)(i), (c)(1) through (3), (c)(4)(i), and (d) to read as follows:

**§217.133 Cleared transactions.**

(a) *General requirements--(1) Clearing member clients.* A Board-regulated institution 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 Board-regulated institution 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) \* \* \*

(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a Board-regulated institution 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 Board-regulated institution'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 EAD for the derivative contract or netting set of derivative contracts calculated using the methodology used to calculate EAD for derivative contracts set forth in §217.132(c) or (d), plus the fair value of the collateral posted by the clearing member client Board-regulated institution and held by the CCP or a clearing member in a manner that is not bankruptcy remote. When the Board-regulated institution calculates EAD for the cleared transaction using the methodology in §217.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the EAD for the repo-style transaction calculated using the methodology set forth in §217.132(b)(2) or (3) or (d), plus the fair value of the collateral posted by the clearing member client Board-regulated institution and held by the CCP or a clearing member in a manner that is not bankruptcy remote. When the Board-regulated institution calculates EAD for the cleared transaction under §217.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(3) *Cleared transaction risk weights.* (i) For a cleared transaction with a QCCP, a clearing member client Board-regulated institution must apply a risk weight of:

(A) 2 percent if the collateral posted by the Board-regulated institution to the QCCP or clearing member is subject to an arrangement that prevents any loss to the clearing member client Board-regulated institution 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 Board-regulated institution 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.

(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 Board-regulated institution must apply the risk weight applicable to the CCP under subpart D of this part.

(4) \* \* \*

(i) Notwithstanding any other requirement of this section, collateral posted by a clearing member client Board-regulated institution 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.

\* \* \* \* \*

(c) \* \* \*

(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a clearing member Board-regulated institution 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 Board-regulated institution'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 Board-regulated institution 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 EAD calculated using the methodology used to calculate EAD for derivative contracts set forth in §217.132(c) or (d), plus the fair value of the collateral posted by the clearing member Board-regulated institution and held by the CCP in a manner that is not bankruptcy remote. When the clearing member Board-regulated institution

calculates EAD for the cleared transaction using the methodology in §217.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the EAD calculated under §217.132(b)(2) or (3) or (d), plus the fair value of the collateral posted by the clearing member Board-regulated institution and held by the CCP in a manner that is not bankruptcy remote. When the clearing member Board-regulated institution calculates EAD for the cleared transaction under §217.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(3) *Cleared transaction risk weights.* (i) A clearing member Board-regulated institution 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 Board-regulated institution must apply the risk weight applicable to the CCP according to subpart D of this part.

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member Board-regulated institution may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a QCCP where the clearing member Board-regulated institution 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 §217.3(a), and the clearing member Board-



regulated institution is not obligated to reimburse the clearing member client in the event of the QCCP default.

(4) \* \* \*

(i) Notwithstanding any other requirement of this section, collateral posted by a clearing member Board-regulated institution 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.

\* \* \* \* \*

(d) *Default fund contributions--(1) General requirement.* A clearing member Board-regulated institution 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 Board-regulated institution or the Board, there is a material change in the financial condition of the CCP.

(2) *Risk-weighted asset amount for default fund contributions to nonqualifying CCPs.* A clearing member Board-regulated institution'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 Board, 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 Board-regulated institution's risk-weighted asset amount for default fund contributions to QCCPs equals the sum of its capital requirement,  $K_{CM}$  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 Board-regulated institution's capital requirement for its default fund contribution to a QCCP ( $K_{CM}$ ) is equal to:

$$K_{CM} = \max\left\{K_{CCP} * \left(\frac{DF^{pref}}{DF_{CCP} + DF_{CCPCM}^{pref}}\right); 0.16 \text{ percent} * DF^{pref}\right\}$$

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 Board-regulated institution to the QCCP;

$DF_{CCP}$  is the QCCP's own prefunded amount 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

$DF_{CM}^{pref}$  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 Board-regulated institution must rely on such disclosed figure

instead of calculating  $K_{CCP}$  under this paragraph (d)(5), unless the Board-regulated institution 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 Board-regulated institution, is equal to:

$$K_{CCP} = \sum_{CM_i} EAD_i * 1.6 \text{ percent}$$

Where:

$CM_i$  is each clearing member of the QCCP; and

$EAD_i$  is the exposure amount of each clearing member of the QCCP to the QCCP, as determined under paragraph (d)(6) of this section.

(6) *EAD of a clearing member Board-regulated institution to a QCCP.* (i)

The EAD of a clearing member Board-regulated institution to a QCCP is equal to the sum of the EAD for derivative contracts determined under paragraph (d)(6)(ii) of this section and the EAD for repo-style transactions determined under paragraph (d)(6)(iii) of this section.

(ii) With respect to any derivative contracts between the Board-regulated institution and the CCP that are cleared transactions and any guarantees that the Board-regulated institution has provided to the CCP with respect to performance of a clearing member client on a derivative contract, the EAD is equal to the exposure amount for all such derivative contracts and guarantees of derivative contracts calculated under SA-CCR in § 217.132(c) (or, with respect to a CCP 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 § 217.132(c)(9)(iv); less the value of all collateral held by the CCP posted by the clearing member Board-regulated institution or a clearing member client of the Board-regulated institution in connection with a derivative contract for which the Board-regulated institution has provided a guarantee to the CCP and the amount of the prefunded default fund contribution of the Board-regulated institution to the CCP.

(iii) With respect to any repo-style transactions between the Board-regulated institution and the CCP that are cleared transactions, EAD is equal to:

$$EAD = \max\{EBRM - IM - DF; 0\}$$

Where:

EBRM is the sum of the exposure amounts of each repo-style transaction between the Board-regulated institution and the CCP as determined under § 217.132(b)(2) and without recognition of any collateral securing the repo-style transactions;

IM is the initial margin collateral posted by the Board-regulated institution to the CCP with respect to the repo-style transactions; and

DF is the prefunded default fund contribution of the Board-regulated institution to the CCP that is not already deducted in § 217.133(d)(6)(ii).

(iv) EAD must be calculated separately for each clearing member's sub-client accounts and sub-house account (i.e., for the clearing member's propriety activities). If the clearing member's collateral and its client's collateral are held in

the same default fund contribution account, then the EAD of that account is the sum of the EAD for the client-related transactions within the account and the EAD of the house-related transactions within the account. For purposes of determining such EADs, 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 EAD of that account is the sum of the EAD for the derivative contracts within the account and the EAD 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 § 217.132(b) for repo-style transactions and to § 217.132(c)(5) for derivative contracts.

(vi) Notwithstanding any other provision of paragraph 217.133(d), with the prior approval of the Board, a Board-regulated institution may determine the risk-weighted asset amount for a default fund contribution to a QCCP according to § 217.35(d)(3)(ii).

24. Section 217.173 is amended by removing “Replacement cost” and adding in its place “Current exposure” in Table 13 to §217.173.

24. Section 217.300 is amended by adding paragraph (h) to read as follows:

**§217.300 Transitions.**

\* \* \* \* \*

(h) *SA-CCR*. An advanced approaches Board-regulated institution may use CEM rather than SA-CCR for purposes of § 217.34(a) and § 217.132(c) until January 1, 2022. A Board-regulated institution must provide prior notice to the Board if it decides to begin using SA-CCR before January 1, 2022. On January 1, 2022, and thereafter, an advanced approaches Board-regulated institution must use SA-CCR for purposes of § 217.34(a), § 217.132(c) and § 217.135(d). Once an advanced approaches Board-regulated institution has begun to use SA-CCR, the advanced approaches Board-regulated institution may not change to use CEM.

(i) *Default fund contributions*. Prior to January 1, 2022, a Board-regulated institution that calculates the exposure amounts of its derivative contracts under the standardized approach for counterparty credit risk in § 217.132(c) may calculate the risk-weighted asset amount for a default fund contribution to a QCCP under either method 1 under § 217.35(d)(3)(i) or method 2 under § 217.35(d)(3)(ii), rather than under § 217.133(d).

## **12 CFR Parts 324, 327**

### **Federal Deposit Insurance Corporation**

For the reasons forth out in the preamble, 12 CFR parts 324 and 327 are proposed to be amended as set forth below.

### **PART 324 – CAPITAL ADEQUACY OF FDIC-SUPERVISED INSTITUTIONS**

25. 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).

26. Section 324.2 is amended by:

- a. Adding the definitions of “Basis derivative contract,” “client-facing derivative transaction,” and “Commercial end-user” in alphabetical order;
- b. Revising the definition of “Current exposure“ and “Current exposure methodology;”
- c. Revising paragraph (2) of the definition of “Financial collateral;”
- d. Adding the definitions of “Independent collateral,” “Minimum transfer

amount,” and “Net independent collateral amount” in alphabetical order.

- e. Revising the definition of “Netting set;”
- f. Adding the definitions of “Speculative grade,” “Sub-speculative grade,” “Variation margin,” “Variation margin agreement,” “Variation margin amount,” “Variation margin threshold,” and “Volatility derivative contract” in alphabetical order.

The additions and revisions read as follows:

**§324.2 Definitions.**

\* \* \* \* \*

*Basis derivative contract* means a non-foreign-exchange derivative contract (i.e., the contract is denominated in a single currency) in which the cash flows of the derivative contract depend on the difference between two risk factors that are attributable solely to one of the following derivative asset classes: interest rate, credit, equity, or commodity.

\* \* \* \* \*

*Client-facing derivative transaction* means a derivative contract that is not a cleared transaction where the FDIC-supervised institution is either acting as a financial intermediary and enters into an offsetting transaction with a QCCP or where the FDIC-supervised institution provides a guarantee to the QCCP on the performance of a client on a transaction between the client and a QCCP.

*Commercial end-user* means an entity that:

- (1) (i) Is using derivative contracts to hedge or mitigate commercial risk;



and

(ii) (A) Is not an entity described in section 2(h)(7)(C)(i)(I) through (VIII) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(C)(i)(I) through (VIII)); or

(B) Is not a “financial entity” for purposes of section 2(h)(7) of the Commodity Exchange Act (7 U.S.C. 2(h)) by virtue of section 2(h)(7)(C)(iii) of the Act (7 U.S.C. 2(h)(7)(C)(iii)); or

(2) (i) Is using derivative contracts to hedge or mitigate commercial risk;

and

(ii) Is not an entity described in section 3C(g)(3)(A)(i) through (viii) of the Securities Exchange Act of 1934 (15 U.S.C. 78c-3(g)(3)(A)(i) through (viii)); or

(3) Qualifies for the exemption in section 2(h)(7)(A) of the Commodity Exchange Act (7 U.S.C. 2(h)(7)(A)) by virtue of section 2(h)(7)(D) of the Act (7 U.S.C. 2(h)(7)(D)); or

(4) Qualifies for an exemption in section 3C(g)(1) of the Securities Exchange Act of 1934 (15 U.S.C. 78c-3(g)(1)) by virtue of section 3C(g)(4) of the Act (15 U.S.C. 78c-3(g)(4)).

\* \* \* \* \*

*Current exposure* means, with respect to a netting set, the larger of zero or the fair value of a transaction or portfolio of transactions within the netting set that would be lost upon default of the counterparty, assuming no recovery on the value of the transactions.

*Current exposure methodology* means the method of calculating the exposure amount for over-the-counter derivative contracts in § 324.34(b).

\* \* \* \* \*

*Financial collateral* \* \* \*

(2) In which the FDIC-supervised institution 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).

\* \* \* \* \*

*Independent collateral* means financial collateral, other than variation margin that is subject to a collateral agreement, or in which a FDIC-supervised institution has a perfected, first-priority security interest or, outside of the United States, the legal equivalent thereof (with the exception of cash on deposit; notwithstanding the prior security interest of any custodial agent or any prior security interest granted to a CCP in connection with collateral posted to that CCP), and the amount of which does not change directly in response to the value of the derivative contract or contracts that the financial collateral secures.

\* \* \* \* \*

*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.

\* \* \* \* \*

*Net independent collateral amount* means the fair value amount of the

independent collateral, as adjusted by the standard supervisory haircuts under § 324.132(b)(2)(ii), as applicable, that a counterparty to a netting set has posted to a FDIC-supervised institution less the fair value amount of the independent collateral, as adjusted by the standard supervisory haircuts under § 324.132(b)(2)(ii), 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 a group of transactions with a single counterparty that are subject to a qualifying master netting agreement or a qualifying cross-product master netting agreement. For derivative contracts, netting set also includes a single derivative contract between a FDIC-supervised institution and a single counterparty. For purposes of the internal model methodology under § 324.132(d), netting set also includes a group of transactions with a single counterparty that are subject to a qualifying cross-product master netting agreement and does not include a transaction: (1) That is not subject to such a master netting agreement; or (2) Where the FDIC-supervised institution has identified specific wrong-way risk.

\* \* \* \* \*

*Speculative grade* means the reference entity 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 reference entity

would present an elevated default risk.

\* \* \* \* \*

*Sub-speculative grade* means the reference entity depends on favorable economic conditions to meet its financial commitments, such that should such economic conditions deteriorate the reference entity likely would default on its financial commitments.

\* \* \* \* \*

*Variation margin* means financial collateral that is subject to a collateral agreement provided by one party to its counterparty to meet the performance of the first party's obligations under one or more transactions between the parties as a result of a change in value of such obligations since the last time such financial collateral was provided.

*Variation margin agreement* means an agreement to collect or post variation margin.

*Variation margin amount* means the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 324.132(b)(2)(ii), as applicable, that a counterparty to a netting set has posted to a FDIC-supervised institution less the fair value amount of the variation margin, as adjusted by the standard supervisory haircuts under § 324.132(b)(2)(ii), as applicable, posted by the FDIC-supervised institution to the counterparty.

*Variation margin threshold* means the amount of credit exposure of a FDIC-supervised institution to its counterparty that, if exceeded, would require the

counterparty to post variation margin to the FDIC-supervised institution pursuant to the variation margin agreement.

*Volatility derivative contract* means a derivative contract in which the payoff of the derivative contract explicitly depends on a measure of the volatility of an underlying risk factor to the derivative contract.

\* \* \* \* \*

27. Section 324.10 is amended by revising paragraphs (c)(4)(ii)(A) through (C) to read as follows:

**§324.10 Minimum capital requirements.**

\* \* \* \* \*

(c) \* \* \*

(4) \* \* \*

(ii) \* \* \*

(A) The balance sheet carrying value of all of the FDIC-supervised institution's on-balance sheet assets, *plus* the value of securities sold under a repurchase transaction or a securities lending transaction that qualifies for sales treatment under U.S. GAAP, *less* amounts deducted from tier 1 capital under §324.22(a), (c), and (d), and *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, for a FDIC-

supervised institution that uses the standardized approach for counterparty credit risk under §324.132(c) for its standardized risk-weighted assets, *less* the fair value of any derivative contracts;

(B) (1) For a FDIC-supervised institution that uses the current exposure methodology under §324.34(b) for its standardized risk-weighted assets, the PFE for each derivative contract or each single-product netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(4)(ii)(I) 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 U.S. GAAP), to which the FDIC-supervised institution is a counterparty as determined under §324.34, but without regard to §324.34(b), provided that:

(i) A 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 §324.34, but without regard to §324.34(b), provided that it does not adjust the net-to-gross ratio (NGR); and

(ii) A FDIC-supervised institution that chooses to exclude the PFE of credit derivatives or other similar instruments through which it provides credit protection pursuant to paragraph (c)(4)(ii)(B)(1) of this section must do so consistently over time for the calculation of the PFE for all such instruments;

(2) (i) For a FDIC-supervised institution that uses the standardized

approach for counterparty credit risk under section §324.132(c) for its standardized risk-weighted assets, the PFE for each netting set to which the FDIC-supervised institution is a counterparty (including cleared transactions except as provided in paragraph (c)(4)(ii)(I) 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 U.S. GAAP), as determined under §324.132(c)(7), in which the term C in §324.132(c)(7)(i) equals zero except as provided in paragraph (c)(4)(ii)(B)(2)(ii) of this section, and, for any counterparty that is not a commercial end-user, multiplied by 1.4;

*(ii)* For purposes of paragraph (c)(4)(ii)(B)(2)(i) of this section, a FDIC-supervised institution may set the value of the term C in §324.132(c)(7)(i) 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;

*(C) (1) (i)* For a FDIC-supervised institution that uses the current exposure methodology under §324.34(b) for its standardized risk-weighted assets, the amount of cash collateral that is received from a counterparty to a derivative contract and that has offset the mark-to-fair value of the derivative asset, or cash collateral that is posted to a counterparty to a derivative contract and that has reduced the FDIC-supervised institution's on-balance sheet assets, unless such cash collateral is all or part of variation margin that satisfies the conditions in

paragraphs (c)(4)(ii)(C)(3) through (7) of this section and:

(ii) The variation margin is used to reduce the current credit exposure of the derivative contract, calculated as described in §324.34(b), and not the PFE; and

(iii) For the purpose of the calculation of the NGR described in §324.34(b)(2)(ii)(B), variation margin described in paragraph (c)(4)(ii)(C)(1)(ii) of this section may not reduce the net current credit exposure or the gross current credit exposure;

(2) (i) For a FDIC-supervised institution that uses the standardized approach for counterparty credit risk under §324.132(c) for its standardized risk-weighted assets, 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 single-product netting set of derivative contracts (including a cleared transaction except as provided in paragraph (c)(4)(ii)(I) 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 U.S. 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)(4)(ii)(C)(3) through (7) of this section, or, in the case of a cleared transaction on behalf of a clearing member client, 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)(4)(ii)(C)(3) through (7) of this section, or, in the case of a cleared transaction on behalf of a clearing member client, the amount of collateral posted to the clearing member client.

(ii) Notwithstanding paragraph (c)(4)(ii)(C)(2)(i) 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 §324.132(c)(10)(i), in which the term  $C_{MA}$  may only include cash collateral that satisfies the conditions in paragraphs (c)(4)(ii)(C)(3) through (7) of this section;

(iii) For purposes of paragraph (c)(4)(ii)(C)(2)(i), 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 §324.132(c)(5)(vi).

(3) 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);

(4) Variation margin is calculated and transferred on a daily basis based on the mark-to-fair value of the derivative contract;

(5) The variation margin transferred under the derivative contract or the governing rules 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;

(6) 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)(4)(ii)(C)(6), 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;

(7) 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;

\* \* \* \* \*

28. Section 324.32 is amended by revising paragraph (f) to read as follows:

**§324.32 General risk weights.**

\* \* \* \* \*

(f) *Corporate exposures.* (1) A FDIC-supervised institution must assign a 100 percent risk weight to all its corporate exposures, except as provided in paragraph (f)(2) of this section.

(2) A FDIC-supervised institution must assign a 2 percent risk weight to an exposure to a QCCP arising from the FDIC-supervised institution posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 324.35(b)(3)(i)(A) and a 4 percent risk weight to an exposure to a QCCP arising from the FDIC-supervised institution posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 324.35(b)(3)(i)(B).

(3) A FDIC-supervised institution must assign a 2 percent risk weight to an exposure to a QCCP arising from the FDIC-supervised institution posting cash collateral to the QCCP in connection with a cleared transaction that meets the requirements of § 324.35(c)(3)(i).

\* \* \* \* \*

29. Section 324.34 is revised to read as follows:

### **§324.34 Derivative contracts.**

(a) *Exposure amount for derivative contracts--(1) FDIC-supervised institution that is not an advanced approaches FDIC-supervised institution.* (i) A FDIC-supervised institution that is not an advanced approaches FDIC-supervised institution 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) A FDIC-supervised institution that is not an advanced approaches FDIC-supervised institution may elect to calculate the exposure amount for all its OTC derivative contracts under the standardized approach for counterparty credit risk (SA-CCR) in §324.132(c) by notifying the FDIC, rather than calculating the exposure amount for all its derivative contracts using CEM. A 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 §324.133 to its derivative contracts that are cleared transactions and to all default fund contributions associated with such derivative contracts, rather than applying §324.35. A FDIC-supervised institution that is not an advanced approaches FDIC-supervised institution must use the same methodology to calculate the exposure amount for all its derivative contracts and, if a 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) *Advanced approaches FDIC-supervised institution.* An advanced approaches FDIC-supervised institution must calculate the exposure amount for all its derivative contracts using SA-CCR in §324.132(c) for purposes of standardized total risk-weighted assets. An advanced approaches FDIC-supervised institution must apply the treatment of cleared transactions under §324.133 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.

(b) *Current exposure methodology exposure amount—(1) Single OTC derivative contract.* Except as modified by paragraph (c) of this section, the exposure amount for a single OTC derivative contract that is not subject to a qualifying master netting agreement is equal to the sum of the FDIC-supervised institution's current credit exposure and potential future credit exposure (PFE) on the OTC derivative contract.

(i) *Current credit exposure.* The current credit exposure for a single OTC derivative contract is the greater of the fair value of the OTC derivative contract or zero.

(ii) *PFE.* (A) The PFE for a single OTC derivative contract, including an OTC derivative contract with a negative fair value, is calculated by multiplying the notional principal amount of the OTC derivative contract by the appropriate conversion factor in Table 1 to this section.

(B) For purposes of calculating either the PFE under this paragraph (b) or the gross PFE under paragraph (b)(2) of this section for exchange rate contracts and other similar contracts in which the notional principal amount is equivalent to the cash flows, notional principal amount is the net receipts to each party falling due on each value date in each currency.

(C) For an OTC derivative contract that does not fall within one of the specified categories in Table 1 to this section, the PFE must be calculated using the appropriate “other” conversion factor.

(D) A FDIC-supervised institution must use an OTC derivative contract’s effective notional principal amount (that is, the apparent or stated notional principal amount multiplied by any multiplier in the OTC derivative contract) rather than the apparent or stated notional principal amount in calculating PFE.

(E) The PFE of the protection provider of a credit derivative is capped at the net present value of the amount of unpaid premiums.

Table 1 to §324.34—Conversion Factor Matrix for Derivative Contracts<sup>1</sup>

<b>Remaining maturity<sup>2</sup></b>	<b>Interest rate</b>	<b>Foreign exchange rate and gold</b>	<b>Credit (investment grade reference asset)<sup>3</sup></b>	<b>Credit (non-investment-grade reference asset)</b>	<b>Equity</b>	<b>Precious metals (except gold)</b>	<b>Other</b>
---------------------------------------	----------------------	---------------------------------------	--	--	---------------	--------------------------------------	--------------

One year or less	0.00	0.01	0.05	0.10	0.06	0.07	0.10
Greater than one year and less than or equal to five years	0.005	0.05	0.05	0.10	0.08	0.07	0.12
Greater than five years	0.015	0.075	0.05	0.10	0.10	0.08	0.15

<sup>1</sup> For a derivative contract with multiple exchanges of principal, the conversion factor is multiplied by the number of remaining payments in the derivative contract.

<sup>2</sup> For an OTC derivative contract that is structured such that on specified dates any outstanding exposure is settled and the terms are reset so that the fair value of the contract is zero, the remaining maturity equals the time until the next reset date. For an interest rate derivative contract with a remaining maturity of greater than one year that meets these criteria, the minimum conversion factor is 0.005.

<sup>3</sup> A FDIC-supervised institution must use the column labeled “Credit (investment-grade reference asset)” for a credit derivative whose reference asset is an outstanding unsecured long-term debt security without credit enhancement that is investment grade. A FDIC-supervised institution must use the column labeled “Credit (non-investment-grade reference asset)” for all other credit derivatives.

(2) *Multiple OTC derivative contracts subject to a qualifying master netting agreement.* Except as modified by paragraph (c) of this section, the exposure amount for multiple OTC derivative contracts subject to a qualifying master netting agreement is equal to the sum of the net current credit exposure and the

adjusted sum of the PFE amounts for all OTC derivative contracts subject to the qualifying master netting agreement.

(i) *Net current credit exposure.* The net current credit exposure is the greater of the net sum of all positive and negative fair values of the individual OTC derivative contracts subject to the qualifying master netting agreement or zero.

(ii) *Adjusted sum of the PFE amounts.* The adjusted sum of the PFE amounts,  $A_{net}$ , is calculated as  $A_{net} = (0.4 \times A_{gross}) + (0.6 \times NGR \times A_{gross})$ , where:

(A)  $A_{gross}$  = the gross PFE (that is, the sum of the PFE amounts as determined under paragraph (b)(1)(ii) of this section for each individual derivative contract subject to the qualifying master netting agreement); and

(B) Net-to-gross Ratio (NGR) = the ratio of the net current credit exposure to the gross current credit exposure. In calculating the NGR, the gross current credit exposure equals the sum of the positive current credit exposures (as determined under paragraph (b)(1)(i) of this section) of all individual derivative contracts subject to the qualifying master netting agreement.

(c) *Recognition of credit risk mitigation of collateralized OTC derivative contracts.* (1) A FDIC-supervised institution using CEM under paragraph (b) of this section may recognize the credit risk mitigation benefits of financial collateral that secures an OTC derivative contract or multiple OTC derivative contracts subject to a qualifying master netting agreement (netting set) by using the simple



approach in §324.37(b).

(2) As an alternative to the simple approach, a FDIC-supervised institution using CEM under paragraph (b) of this section may recognize the credit risk mitigation benefits of financial collateral that secures such a contract or netting set if the financial collateral is marked-to-fair value on a daily basis and subject to a daily margin maintenance requirement by applying a risk weight to the uncollateralized portion of the exposure, after adjusting the exposure amount calculated under paragraph (b)(1) or (2) of this section using the collateral haircut approach in §324.37(c). The FDIC-supervised institution must substitute the exposure amount calculated under paragraph (b)(1) or (2) of this section for  $\Sigma E$  in the equation in §324.37(c)(2).

(d) *Counterparty credit risk for credit derivatives--(1) Protection purchasers.* A FDIC-supervised institution that purchases a credit derivative that is recognized under §324.36 as a credit risk mitigant for an exposure that is not a covered position under subpart F of this part is not required to compute a separate counterparty credit risk capital requirement under this subpart D provided that the FDIC-supervised institution does so consistently for all such credit derivatives. The FDIC-supervised institution must either include all or exclude all such credit derivatives that are subject to a qualifying master netting agreement from any measure used to determine counterparty credit risk exposure to all relevant counterparties for risk-based capital purposes.

(2) *Protection providers.* (i) A FDIC-supervised institution that is the

protection provider under a credit derivative must treat the credit derivative as an exposure to the underlying reference asset. The FDIC-supervised institution is not required to compute a counterparty credit risk capital requirement for the credit derivative under this subpart D, provided that this treatment is applied consistently for all such credit derivatives. The FDIC-supervised institution must either include all or exclude all such credit derivatives that are subject to a qualifying master netting agreement from any measure used to determine counterparty credit risk exposure.

(ii) The provisions of this paragraph (d)(2) apply to all relevant counterparties for risk-based capital purposes unless the FDIC-supervised institution is treating the credit derivative as a covered position under subpart F of this part, in which case the FDIC-supervised institution must compute a supplemental counterparty credit risk capital requirement under this section.

(e) *Counterparty credit risk for equity derivatives.* (1) A FDIC-supervised institution must treat an equity derivative contract as an equity exposure and compute a risk-weighted asset amount for the equity derivative contract under §§324.51 through 324.53 (unless the FDIC-supervised institution is treating the contract as a covered position under subpart F of this part).

(2) In addition, the FDIC-supervised institution must also calculate a risk-based capital requirement for the counterparty credit risk of an equity derivative contract under this section if the FDIC-supervised institution is treating the contract as a covered position under subpart F of this part.

(3) If the FDIC-supervised institution risk weights the contract under the Simple Risk-Weight Approach (SRWA) in §324.52, the FDIC-supervised institution 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 the equity derivative contracts are subject to a qualified master netting agreement, a FDIC-supervised institution using the SRWA must either include all or exclude all of the contracts from any measure used to determine counterparty credit risk exposure.

(f) *Clearing member FDIC-supervised institution's exposure amount.* The exposure amount of a clearing member FDIC-supervised institution using CEM under paragraph (b) of this section for a client-facing derivative transaction or netting set of client-facing derivative transactions equals the exposure amount calculated according to paragraph (b)(1) or (2) of this section multiplied by the scaling factor the square root of  $\frac{1}{2}$  (which equals 0.707107). If the FDIC-supervised institution determines that a longer period is appropriate, the FDIC-supervised institution must use a larger scaling factor to adjust for a longer holding period as follows:

$$\text{Scaling factor} = \sqrt{\frac{H}{10}}$$

Where H = the holding period greater than or equal to five days.

Additionally, the FDIC may require the FDIC-supervised institution to set a longer holding period if the FDIC 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.

30. Section 324.35 is amended by adding paragraph (a)(3), revising paragraph (b)(4)(i), and adding paragraph (c)(3)(iii) to read as follows:

**§ 324.35 Cleared transactions.**

(a) \* \* \*

(3) *Alternate requirements.* Notwithstanding any other provision of this section, an advanced approaches FDIC-supervised institution or a FDIC-supervised institution that is not an advanced approaches FDIC-supervised institution and that has elected to use SA-CCR under § 324.34(a)(1) must apply § 324.133 to its derivative contracts that are cleared transactions rather than this section § 324.35.

(b) \* \* \*

(4) \* \* \*

(i) Notwithstanding any other requirements in this section, collateral posted by a clearing member client FDIC-supervised institution that is held by a custodian (in its capacity as 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.

\* \* \* \* \*

(c) \* \* \*

(3) \* \* \*

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member FDIC-supervised institution may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a CCP where the clearing member FDIC-supervised institution 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 § 324.3(a), and the clearing member FDIC-supervised institution is not obligated to reimburse the clearing member client in the event of the CCP default.

\* \* \* \* \*

31. Section 324.37 is amended by revising paragraphs (c)(3)(iii), (c)(3)(iv)(A), (c)(3)(iv)(C), and (c)(4)(i)(B)(I) to read as follows:

**§ 324.37 Collateralized transactions.**

\* \* \* \* \*

(c) \* \* \*

(3) \* \* \*

(iii) For repo-style transactions and client-facing derivative contracts, a FDIC-supervised institution may multiply the standard supervisory haircuts provided in paragraphs (c)(3)(i) and (ii) of this section by the square root of  $\frac{1}{2}$  (which equals 0.707107). For client-facing derivative transactions, if a scaling factor is applied under § 324.34(f), the same factor must be used to adjust the

supervisory haircuts.

(iv)

(A)  $T_M$  equals a holding period of longer than 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or longer than 5 business days for repo-style transactions and client-facing derivative transactions;

(B) \* \* \*

(C)  $T_S$  equals 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or 5 business days for repo-style transactions and client-facing derivative transactions.

\* \* \* \* \*

(4) \* \* \*

(i) \* \* \*

(B) The minimum holding period for a repo-style transaction and client-facing derivative transaction is five business days and for an eligible margin loan and a derivative contract other than a client-facing derivative transaction is ten business days except for transactions or netting sets for which paragraph (c)(4)(i)(C) of this section applies. When a FDIC-supervised institution calculates an own-estimates haircut on a  $T_N$ -day holding period, which is different from the

minimum holding period for the transaction type, the applicable haircut ( $H_M$ ) is calculated using the following square root of time formula:

(1)  $T_M$  equals 5 for repo-style transactions and client-facing derivative transactions and 10 for eligible margin loans and derivative contracts other than client-facing derivative transactions; \* \* \* \* \*

**§§ 324.134, 324.202, and 324.210 [Amended]**

32. For each section listed in the following table, the footnote number listed in the “Old footnote number” column is redesignated as the footnote number listed in the “New footnote number” column as follows:

Section	Old footnote number	New footnote number
324.134(d)(3)	30	31
324.202, paragraph (1) introductory text of the definition of “Covered position”	31	32
324.202, paragraph (1)(i) of the definition of “Covered position”	32	33
324.210(e)(1)	33	34

33. Section 324.132 is amended by:

a. Revising paragraphs (b)(2)(ii)(A)(3) through (5);

b. Adding paragraphs (b)(2)(ii)(A)(6) and (7);

c. Revising paragraphs (c) heading and (c)(1) and (2) and (5) through (8);

d. Adding paragraphs (c)(9) through (12);

e. Revising paragraph (d)(10)(i) and paragraph (e)(6)(viii);

f. Revising paragraphs (e)(5)(i)(C) and (e)(6)(i)(B) by replacing “current exposure methodology” with “standardized approach to counterparty credit risk” wherever it appears;

g. Removing “Table 3 to §324.132” and adding in its place “Table 4 to this section” in paragraphs (e)(5)(i)(A) and (H); and

h. Redesignating Table 3 to §324.132 as Table 4 to §324.132.

The revisions and additions read as follows:

**§324.132 Counterparty credit risk of repo-style transactions, eligible margin loans, and OTC derivative contracts.**

\* \* \* \* \*

(b) \* \* \*

(2) \* \* \*

(ii) \* \* \*

(A) \* \* \*

(3) For repo-style transactions and client-facing derivative transactions, a FDIC-supervised institution may multiply the supervisory haircuts provided in



paragraphs (b)(2)(ii)(A)(1) and (2) of this section by the square root of  $\frac{1}{2}$  (which equals 0.707107). If the FDIC-supervised institution determines that a longer holding period is appropriate for client-facing derivative transactions, then it must use a larger scaling factor to adjust for the longer holding period pursuant to paragraph (b)(2)(ii)(A)(6) of this section.

(4) A FDIC-supervised institution must adjust the supervisory haircuts upward on the basis of a holding period longer than ten business days (for eligible margin loans) or five business days (for repo-style transactions), using the formula provided in paragraph (b)(2)(ii)(A)(6) of this section where the following conditions apply. If the number of trades in a netting set exceeds 5,000 at any time during a quarter, a FDIC-supervised institution must adjust the supervisory haircuts upward on the basis of a holding period of twenty business days for the following quarter (except when a FDIC-supervised institution is calculating EAD for a cleared transaction under § 324.133). If a netting set contains one or more trades involving illiquid collateral, a FDIC-supervised institution must adjust the supervisory haircuts 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 FDIC-supervised institution must adjust the supervisory haircuts 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.

(5)(i) A FDIC-supervised institution must adjust the supervisory haircuts upward on the basis of a holding period longer than ten business days for collateral associated with derivative contracts (five business days for client-facing derivative contracts) using the formula provided in paragraph (b)(2)(ii)(A)(6) of this section where the following conditions apply. For collateral associated with a derivative contract that is within a netting set that is composed of more than 5,000 derivative contracts that are not cleared transactions, a FDIC-supervised institution must use a holding period of twenty business days. If a netting set contains one or more trades involving illiquid collateral or a derivative contract that cannot be easily replaced, a FDIC-supervised institution must use a holding period of twenty business days.

(ii) Notwithstanding paragraph (b)(2)(ii)(A)(1) or (3) or (b)(2)(ii)(A)(5)(i) of this section, for collateral associated with a derivative contract in a netting set under which more than two margin disputes that lasted longer than the holding period occurred during the two previous quarters, the holding period is twice the amount provide under paragraph (b)(2)(ii)(A)(1) or (3) or (b)(2)(ii)(A)(5)(i) of this section.

(6) A FDIC-supervised institution must adjust the standard supervisory haircuts upward, pursuant to the adjustments provided in paragraphs (b)(2)(ii)(A)(3) through (5) of this section, using the following formula:

$$H_A = H_S \sqrt{\frac{T_M}{T_S}}$$

Where:

$T_M$  equals a holding period of longer than 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or longer than 5 business days for repo-style transactions and client-facing derivative transactions;

$H_s$  equals the standard supervisory haircut; and

$T_s$  equals 10 business days for eligible margin loans and derivative contracts other than client-facing derivative transactions or 5 business days for repo-style transactions and client-facing derivative transactions.

(7) If the instrument a FDIC-supervised institution has lent, sold subject to repurchase, or posted as collateral does not meet the definition of financial collateral, the FDIC-supervised institution must use a 25.0 percent haircut for market price volatility ( $H_s$ ).

\* \* \* \* \*

(c) *EAD for derivative contracts*—(1) *Options for determining EAD*. A FDIC-supervised institution must determine the EAD for a derivative contract using the standardized approach for counterparty credit risk (SA-CCR) under paragraph (c)(5) of this section or using the internal models methodology described in paragraph (d) of this section. If a FDIC-supervised institution elects to use SA-CCR for one or more derivative contracts, the exposure amount determined under SA-CCR is the EAD for the derivative contract or derivatives contracts. A FDIC-supervised institution must use the same methodology to

calculate the exposure amount for all its derivative contracts and may change its election only with prior approval of the FDIC.

(2) *Definitions.* For purposes of this paragraph (c) of this section, the following definitions apply:

(i) *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 paragraph (c) of this section.

(ii) *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 paragraph (c) of this section.

(iii) *Hedging set* means:

(A) With respect to interest rate derivative contracts, all such contracts within a netting set that reference the same reference currency;

(B) With respect to exchange rate derivative contracts, all such contracts within a netting set that reference the same currency pair;

(C) With respect to credit derivative contract, all such contracts within a netting set;

(D) With respect to equity derivative contracts, all such contracts within a netting set;

(E) 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;

(F) 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

(G) 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 (c)(2)(iii)(A) through (E) of this section.

(H) 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 FDIC may require a FDIC-supervised institution to include the derivative contract in each appropriate hedging set under paragraphs (c)(2)(iii)(A) through (E) of this section.

\* \* \* \* \*

(5) *Exposure amount.* (i) The exposure amount of a netting set, as calculated under paragraph (c) of this section, is equal to 1.4 multiplied by the sum of the replacement cost of the netting set, as calculated under paragraph (c)(6) of this section, and the potential future exposure of the netting set, as calculated under paragraph (c)(7) of this section.

(ii) Notwithstanding the requirements of paragraph (c)(5)(i) 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 (c)(5)(i) of this section and the exposure amount of the netting set calculated under paragraph (c)(5)(i) of this section as if the netting set were not subject to a variation margin agreement.

(iii) Notwithstanding the requirements of paragraph (c)(5)(i) 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.

(iv) Notwithstanding the requirements of paragraph (c)(5)(i) 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 (c)(6) of this section, and the potential future exposure of the netting set, as calculated under paragraph (c)(7) of this section.

(v) For purposes of the exposure amount calculated under paragraph (c)(5)(i) of this section and all calculations that are part of that exposure amount, a FDIC-supervised institution 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 FDIC-supervised institution makes an election under this paragraph 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 as derivative contracts that are subject to a variation margin agreement.

(vi) For purposes of the exposure amount calculated under this paragraph (c)(5)(i) of this section and all calculations that are part of that exposure amount, a FDIC-supervised institution 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.

*(6) Replacement cost of a netting set--(i) 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:

(A) 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;

(B) 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

(C) Zero.

(ii) *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 FDIC-supervised institution is the greater of:

(A) 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

(B) Zero.

(iii) *Multiple netting sets subject to a single variation margin agreement.* Notwithstanding paragraphs (c)(6)(i) and (ii) of this section, the replacement cost for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (c)(10)(i) of this section.

(iv) *Netting set subject to multiple variation margin agreements or a hybrid netting set.* Notwithstanding paragraphs (c)(6)(i) and (ii) 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 (c)(11)(i) of this section.

(7) *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.



(i) *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.

(ii) *Aggregated amount*. The aggregated amount is the sum of all hedging set amounts, as calculated under paragraph (c)(8) of this section, within a netting set.

(iii) *Multiple netting sets subject to a single variation margin agreement*.

Notwithstanding paragraphs (c)(7)(i) and (ii) of this section and when calculating the potential future exposure for purposes of total leverage exposure under § 324.10(c)(4)(ii)(B), the potential future exposure for multiple netting sets subject to a single variation margin agreement must be calculated according to paragraph (c)(10)(ii) of this section.

(iv) *Netting set subject to multiple variation margin agreements or a hybrid netting set*. Notwithstanding paragraphs (c)(7)(i) and (ii) of this section and when calculating the potential future exposure for purposes of total leverage exposure

under section 324.10(c)(4)(ii)(B), 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 (c)(11)(ii) of this section.

(8) *Hedging set amount--(i) Interest rate derivative contracts.* To calculate the hedging set amount of an interest rate derivative contract hedging set, a FDIC-supervised institution may use either of the formulas provided in paragraphs (c)(8)(i)(A) and (B) of this section:

(A) *Formula 1.*

$$\begin{aligned} & \text{Hedging set amount} = \\ & [(AddOn_{TB1}^{IR})^2 + (AddOn_{TB2}^{IR})^2 + (AddOn_{TB3}^{IR})^2 + 1.4 * AddOn_{TB1}^{IR} * \\ & AddOn_{TB2}^{IR} + 1.4 * AddOn_{TB2}^{IR} * AddOn_{TB3}^{IR} + 0.6 * AddOn_{TB1}^{IR} * AddOn_{TB3}^{IR}]^{\frac{1}{2}}; \end{aligned}$$

or

(B) *Formula 2.*

$$\text{Hedging set amount} = |AddOn_{TB1}^{IR}| + |AddOn_{TB2}^{IR}| + |AddOn_{TB3}^{IR}|.$$

Where in paragraphs (c)(8)(i)(A) and (B) of this section:

$AddOn_{TB1}^{IR}$  is the sum of the adjusted derivative contract amounts, as calculated under paragraph (c)(9) 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 (c)(9) 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 (c)(9) of this section, within the hedging set with an end date of more than five years from the present date.

(ii) *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 (c)(9) of this section, within the hedging set.

(iii) *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:

$$\text{Hedging set amount} = [(\sum_{k=1}^K \rho_k * AddOn(Ref_k))^2 + \sum_{k=1}^K (1 - (\rho_k)^2) * (AddOn(Ref_k))^2]^{1/2}$$

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 (c)(9) of this section, for all derivative contracts within the hedging set that reference reference entity  $k$ ; and

$\rho_k$  equals the applicable supervisory correlation factor, as provided in Table 2 to this section.

(iv) *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:

$$\text{Hedging set amount} = [(\rho * \sum_{k=1}^K \text{AddOn}(\text{Type}_k))^2 + (1 - (\rho)^2) * \sum_{k=1}^K (\text{AddOn}(\text{Type}_k))^2 ]^{\frac{1}{2}}$$

Where:

$k$  is each commodity type within the hedging set.

$K$  is the number of commodity types within the hedging set.

$\text{AddOn}(\text{Type}_k)$  equals the sum of the adjusted derivative contract amounts, as determined under paragraph (c)(9) of this section, for all derivative contracts within the hedging set that reference commodity type  $k$ .

$\rho$  equals the applicable supervisory correlation factor, as provided in Table 2 to this section.

(v) *Basis derivative contracts and volatility derivative contracts.*

Notwithstanding paragraphs (c)(8)(i) through (iv) of this section, a FDIC-supervised institution must calculate a separate hedging set amount for each basis derivative contract hedging set and each volatility derivative contract hedging set. A FDIC-supervised institution must calculate such hedging set amounts using one of the formulas under paragraphs (c)(8)(i) through (iv) that corresponds to the primary risk factor of the hedging set being calculated.

(9) *Adjusted derivative contract amount--(i) Summary.* To calculate the

adjusted derivative contract amount of a derivative contract, a FDIC-supervised institution must determine the adjusted notional amount of derivative contract, pursuant to paragraph (c)(9)(ii) of this section, and multiply the adjusted notional amount by each of the supervisory delta adjustment, pursuant to paragraph (c)(9)(iii) of this section, the maturity factor, pursuant to paragraph (c)(9)(iv) of this section, and the applicable supervisory factor, as provided in Table 2 to this section.

(ii) *Adjusted notional amount.* (A)(1) 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.

(2) For purposes of paragraph (c)(9)(ii)(A)(1) of this section:

(i) 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

(ii) 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.

(B)(I) 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.

(2) Notwithstanding paragraph (c)(9)(i)(B)(I) of this section, for an exchange rate derivative contract with multiple exchanges of principal, the FDIC-supervised institution 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.

(C)(I) 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.

(2) Notwithstanding paragraph (c)(9)(i)(C)(I) 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 FDIC-supervised institution 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.

(iii) *Supervisory delta adjustments.* (A) 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;

(B)(I) For a derivative contract that is an option contract, the supervisory delta adjustment is determined by the following formulas, as applicable:

Table 3 to §324.132--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	$-\Phi \left( \frac{\ln \left( \frac{P + \lambda}{K + \lambda} \right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}} \right)$	$\Phi \left( \frac{\ln \left( \frac{P + \lambda}{K + \lambda} \right) + 0.5 * \sigma^2 * T / 250}{\sigma * \sqrt{T / 250}} \right)$

(2) As used in the formulas in Table 3 to this section:

- (i)  $\Phi$  is the standard normal cumulative distribution function;
- (ii) P equals the current fair value of the instrument or risk factor, as applicable, underlying the option;
- (iii) K equals the strike price of the option;
- (iv) T equals the number of business days until the latest contractual exercise date of the option;
- (v)  $\lambda$  equals zero for all derivative contracts except interest rate options for the currencies where interest rates have negative values. The same value of  $\lambda$  must be used for all interest rate options that are denominated in the same currency. To determine the value of  $\lambda$  for a given currency, a FDIC-supervised institution must find the lowest value L of P and K of all interest rate options in a given currency that the FDIC-supervised institution has with all counterparties. Then,  $\lambda$  is set according to this formula:  $\lambda = \max\{-L + 0.1\%, 0\}$ ; and
- (vi)  $\sigma$  equals the supervisory option volatility, as provided in Table 2 to this section;

(C)(I) For a derivative contract that is a collateralized debt obligation tranche, the supervisory delta adjustment is determined by the following formula:

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

(2) As used in the formula in paragraph (c)(9)(iii)(C)(I) of this section:

- (i) A is the attachment point, which equals the ratio of the notional amounts of all underlying exposures that are subordinated to the FDIC-supervised



institution's exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one;<sup>30</sup>

(ii) D is the detachment point, which equals one minus the ratio of the notional amounts of all underlying exposures that are senior to the FDIC-supervised institution's exposure to the total notional amount of all underlying exposures, expressed as a decimal value between zero and one; and

(iii) The resulting amount is designated with a positive sign if the collateralized debt obligation tranche was purchased by the FDIC-supervised institution and is designated with a negative sign if the collateralized debt obligation tranche was sold by the FDIC-supervised institution.

(iv) *Maturity factor.* (A)(I) 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:

$$\text{Maturity factor} = \frac{3}{2} \sqrt{\frac{\text{MPOR}}{250}}$$

Where MPOR refers to the period from the most recent exchange of collateral covering a netting set of derivative contracts with a defaulting

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<sup>30</sup> In the case of a first-to-default credit derivative, there are no underlying exposures that are subordinated to the FDIC-supervised institution'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 FDIC-supervised institution's exposure.

counterparty until the derivative contracts are closed out and the resulting market risk is re-hedged.

(2) Notwithstanding paragraph (c)(9)(iv)(A)(I) of this section:

(i) 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;

(ii) 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

(iii) 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.

(3) Notwithstanding paragraphs (c)(9)(iv)(A)(I) and (2) of this section, for a netting set subject to two or more an outstanding dispute over margin that lasted longer than the MPOR over the previous two quarters, the applicable floor is twice the amount provided in (c)(9)(iv)(A)(I) and (2) of this section.

(B) 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.

(C) For purposes of paragraph (c)(9)(iv) of this section, if a FDIC-supervised institution has elected pursuant to paragraph (c)(5)(v) 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 Board-regulated institution must treat the derivative contract as subject to a variation margin agreement with maturity factor as determined according to (c)(9)(iv)(A) of this section, and daily settlement does not change the end date of the period referenced by the derivative contract.

(v) *Derivative contract as multiple effective derivative contracts.* A FDIC-supervised institution must separate a derivative contract into separate derivative contracts, according to the following rules:

(A) 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 (c)(9)(iii)(B) of this section, a binary option with strike 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 strikes 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 strikes. 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.

(B) 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 FDIC-supervised institution must treat each standard option component must be treated as a separate derivative contract.

(C) For a derivative contract that includes multiple-payment options, (such as interest rate caps and floors), a FDIC-supervised institution may represent each payment option as a combination of effective single-payment options (such as interest rate caplets and floorlets).

(D) A FDIC-supervised institution may not decompose linear derivative contracts (such as swaps) into components.

(10) *Multiple netting sets subject to a single variation margin agreement--*

(i) *Calculating replacement cost.* Notwithstanding paragraph (c)(6) of this section, a FDIC-supervised institution shall 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:

$$\text{Replacement Cost} = \max\{\sum_{NS} \max\{V_{NS}; 0\} - \max\{C_{MA}; 0\}; 0\} + \max\{\sum_{NS} \min\{V_{NS}; 0\} - \min\{C_{MA}; 0\}; 0\}$$

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.

(ii) *Calculating potential future exposure.* Notwithstanding paragraph (c)(5) of this section, a FDIC-supervised institution shall 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 (c)(7) of this section as if such nettings sets were not subject to a variation margin agreement.

(11) *Netting set subject to multiple variation margin agreements or a hybrid netting set--(i) 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 (c)(6)(i) 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.

(ii) *Calculating potential future exposure.* (A) 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 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 FDIC-supervised institution must divide the netting set into sub-netting sets (as described in paragraph (c)(11)(ii)(B) 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.

(B) For purposes of paragraph (c)(11)(ii)(A) of this section, the netting set must be divided into sub-netting sets as follows:

(I) 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.

(2) 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 §324.132—Supervisory Option Volatility, Supervisory Correlation Parameters, and Supervisory Factors for Derivative Contracts

Asset Class	Subclass	Supervisory Option Volatility	Supervisory Correlation Factor	Supervisory Factor <sup>1</sup>
Interest rate	N/A	50%	N/A	0.50%
Exchange rate	N/A	15%	N/A	4.0%
Credit, single name	Investment grade	100%	50%	0.46%
	Speculative grade	100%	50%	1.3%
	Sub-speculative	100%	50%	6.0%

	grade			
Credit, index	Investment Grade	80%	80%	0.38%
	Speculative Grade	80%	80%	1.06%
Equity, single name	N/A	120%	50%	32%
Equity, index	N/A	75%	80%	20%
Commodity	Electricity	150%	40%	40%
	Oil/gas	70%	40%	18%
	Metals	70%	40%	18%
	Agricultural	70%	40%	18%
	Other	70%	40%	18%

<sup>1</sup> 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.

\* \* \* \* \*

\* \* \* \* \*

(d) \* \* \*

(10) \* \* \*



(i) With prior written approval of the FDIC, a FDIC-supervised institution may set EAD equal to a measure of counterparty credit risk exposure, such as peak EAD, that is more conservative than an alpha of 1.4 times the larger of  $EPE_{unstressed}$  and  $EPE_{stressed}$  for every counterparty whose EAD will be measured under the alternative measure of counterparty exposure. The FDIC-supervised institution must demonstrate the conservatism of the measure of counterparty credit risk exposure used for EAD. With respect to paragraph (d)(10)(i) of this section:

(A) For material portfolios of new OTC derivative products, the FDIC-supervised institution may assume that the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section meets the conservatism requirement of this section for a period not to exceed 180 days.

(B) For immaterial portfolios of OTC derivative contracts, the FDIC-supervised institution generally may assume that the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section meets the conservatism requirement of this section.

\* \* \* \* \*

(e) \* \* \*

(6) \* \* \*

(viii) If a FDIC-supervised institution uses the standardized approach for counterparty credit risk pursuant to paragraph (c) of this section to calculate the EAD for any immaterial portfolios of OTC derivative contracts, the FDIC-supervised institution must use that EAD as a constant EE in the formula for the calculation of CVA with the maturity equal to the maximum of:

- (A) Half of the longest maturity of a transaction in the netting set, and
- (B) The notional weighted average maturity of all transactions in the netting set.

\* \* \* \* \*

34. Section 324.133 amended by revising paragraphs (a), (b)(1) through (3), (b)(4)(i), (c)(1) through (3), (c)(4)(i), and (d) to read as follows:

**§324.133 Cleared transactions.**

(a) *General requirements--(1) Clearing member clients.* A FDIC-supervised institution 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 FDIC-supervised institution 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) \* \* \*

(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a FDIC-supervised institution 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 FDIC-supervised institution'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 EAD for the derivative contract or netting set of derivative contracts calculated using the methodology used to calculate EAD for derivative contracts set forth in §324.132(c) or (d), plus the fair value of the collateral posted by the clearing member client FDIC-supervised institution and held by the CCP or a clearing member in a manner that is not bankruptcy remote. When the FDIC-supervised institution calculates EAD for the cleared transaction using the methodology in §324.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the EAD for the repo-style transaction calculated using the methodology set forth in §324.132(b)(2) or (3) or (d), plus the fair value of the collateral posted by the clearing member client FDIC-supervised institution and held by the CCP or a clearing member in a manner that is not bankruptcy remote. When the FDIC-supervised institution calculates EAD for the cleared transaction under §324.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(3) *Cleared transaction risk weights.* (i) For a cleared transaction with a QCCP, a clearing member client FDIC-supervised institution must apply a risk weight of:

(A) 2 percent if the collateral posted by the FDIC-supervised institution to the QCCP or clearing member is subject to an arrangement that prevents any loss to the clearing member client FDIC-supervised institution 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 FDIC-supervised institution 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.

(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 FDIC-supervised institution must apply the risk weight applicable to the CCP under subpart D of this part.

(4) \* \* \*

(i) Notwithstanding any other requirement of this section, collateral posted

by a clearing member client FDIC-supervised institution 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.

\* \* \* \* \*

(c) \* \* \*

(1) *Risk-weighted assets for cleared transactions.* (i) To determine the risk-weighted asset amount for a cleared transaction, a clearing member FDIC-supervised institution 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 FDIC-supervised institution'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 FDIC-supervised institution 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 EAD calculated using the methodology used to calculate EAD for derivative contracts set forth in §324.132(c) or (d), plus the fair value of the collateral posted by the clearing

member FDIC-supervised institution and held by the CCP in a manner that is not bankruptcy remote. When the clearing member FDIC-supervised institution calculates EAD for the cleared transaction using the methodology in §324.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(ii) For a cleared transaction that is a repo-style transaction or netting set of repo-style transactions, trade exposure amount equals the EAD calculated under §324.132(b)(2) or (3) or (d), plus the fair value of the collateral posted by the clearing member FDIC-supervised institution and held by the CCP in a manner that is not bankruptcy remote. When the clearing member FDIC-supervised institution calculates EAD for the cleared transaction under §324.132(d), EAD equals  $EAD_{\text{unstressed}}$ .

(3) *Cleared transaction risk weights.* (i) A clearing member FDIC-supervised institution 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 FDIC-supervised institution must apply the risk weight applicable to the CCP according to subpart D of this part.

(iii) Notwithstanding paragraphs (c)(3)(i) and (ii) of this section, a clearing member FDIC-supervised institution may apply a risk weight of zero percent to the trade exposure amount for a cleared transaction with a QCCP where the clearing member FDIC-supervised institution 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 §324.3(a), and the clearing member FDIC-supervised institution is not obligated to reimburse the clearing member client in the event of the QCCP default.

(4) \* \* \*

(i) Notwithstanding any other requirement of this section, collateral posted by a clearing member FDIC-supervised institution 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.

\* \* \* \* \*

(d) *Default fund contributions--(1) General requirement.* A clearing member FDIC-supervised institution 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 FDIC-supervised institution or the FDIC, there is a material change in the financial condition of the CCP.

(2) *Risk-weighted asset amount for default fund contributions to nonqualifying CCPs.* A clearing member FDIC-supervised institution'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 FDIC, 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 FDIC-supervised institution's risk-weighted asset amount for default fund contributions to QCCPs equals the sum of its capital requirement,  $K_{CM}$  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 FDIC-supervised institution's capital requirement for its default fund contribution to a QCCP ( $K_{CM}$ ) is equal to:

$$K_{CM} = \max\left\{K_{CCP} * \left(\frac{DF^{pref}}{DF_{CCP} + DF_{CCPCM}^{pref}}\right); 0.16 \text{ percent} * DF^{pref}\right\}$$

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 FDIC-supervised institution to the QCCP;

$DF_{CCP}$  is the QCCP's own prefunded amount 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

$DF_{CM}^{pref}$  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 FDIC-supervised institution must rely on such disclosed



figure instead of calculating  $K_{CCP}$  under this paragraph (d)(5), unless the FDIC-supervised institution 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 FDIC-supervised institution, is equal to:

$$K_{CCP} = \sum_{CM_i} EAD_i * 1.6 \text{ percent}$$

Where:

$CM_i$  is each clearing member of the QCCP; and

$EAD_i$  is the exposure amount of each clearing member of the QCCP to the QCCP, as determined under paragraph (d)(6) of this section.

(6) *EAD of a clearing member FDIC-supervised institution to a QCCP.* (i)

The EAD of a clearing member FDIC-supervised institution to a QCCP is equal to the sum of the EAD for derivative contracts determined under paragraph (d)(6)(ii) of this section and the EAD for repo-style transactions determined under paragraph (d)(6)(iii) of this section.

(ii) With respect to any derivative contracts between the FDIC-supervised institution and the CCP that are cleared transactions and any guarantees that the FDIC-supervised institution has provided to the CCP with respect to performance of a clearing member client on a derivative contract, the EAD is equal to the exposure amount for all such derivative contracts and guarantees of derivative contracts calculated under SA-CCR in § 324.132(c) (or, with respect to a CCP 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 § 324.132(c)(9)(iv); less the value of all collateral held by the CCP posted by the clearing member FDIC-supervised institution or a clearing member client of the FDIC-supervised institution in connection with a derivative contract for which the FDIC-supervised institution has provided a guarantee to the CCP and the amount of the prefunded default fund contribution of the FDIC-supervised institution to the CCP.

(iii) With respect to any repo-style transactions between the FDIC-supervised institution and the CCP that are cleared transactions, EAD is equal to:

$$EAD = \max\{EBRM - IM - DF; 0\}$$

Where:

EBRM is the sum of the exposure amounts of each repo-style transaction between the FDIC-supervised institution and the CCP as determined under § 324.132(b)(2) and without recognition of any collateral securing the repo-style transactions;

IM is the initial margin collateral posted by the FDIC-supervised institution to the CCP with respect to the repo-style transactions; and

DF is the prefunded default fund contribution of the FDIC-supervised institution to the CCP that is not already deducted in § 324.133(d)(6)(ii).

(iv) EAD 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 EAD of that account is the sum of the EAD for the client-related transactions within the account and the EAD of the house-related transactions within the account. For purposes of determining such EADs, 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 EAD of that account is the sum of the EAD for the derivative contracts within the account and the EAD 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 § 324.132(b) for repo-style transactions and to § 324.132(c)(5) for derivative contracts.

(vi) Notwithstanding any other provision of paragraph 324.133(d), with the prior approval of the FDIC, a FDIC-supervised institution may determine the risk-weighted asset amount for a default fund contribution to a QCCP according to § 324.35(d)(3)(ii).

34. Section 324.173 is amended by removing “Replacement cost” and adding in its place “Current exposure” in Table 13 to §324.173.

35. Section 324.300 is amended by adding paragraphs (g) and (h) to read as follows:

**§324.300 Transitions.**

\* \* \* \* \*

(g) *SA-CCR*. An advanced approaches FDIC-supervised institution may use CEM rather than SA-CCR to determine the exposure amount for purposes of § 324.34 and the EAD for purposes of § 324.132 for its derivative contracts until January 1, 2022. A FDIC-supervised institution must provide prior notice to the FDIC if it decides to begin using SA-CCR before January 1, 2022. On January 1, 2022, and thereafter, an advanced approaches FDIC-supervised institution must use SA-CCR for purposes of § 324.34 and must use either SA-CCR or IMM for purposes of § 324.132. Once an advanced approaches FDIC-supervised institution has begun to use SA-CCR, the advanced approaches FDIC-supervised institution may not change to use CEM.

(h) *Default fund contributions*. Prior to January 1, 2022, a FDIC-supervised institution that calculates the exposure amounts of its derivative contracts under the standardized approach for counterparty credit risk in § 324.132(c) may calculate the risk-weighted asset amount for a default fund contribution to a QCCP under either method 1 under § 324.35(d)(3)(i) or method 2 under § 324.35(d)(3)(ii), rather than under § 324.133(d).

## **PART 327 – ASSESSMENTS**

36. Appendix A to Subpart A of Part 327, in VI. Description of Scorecard Measures, is amended by revising the description of “(2) Top 20 Counterparty Exposure/Tier 1 Capital and Reserves” to read as follows:

Sum of the 20 largest total exposure amounts to counterparties divided by Tier 1 capital and reserves. The total exposure amount is equal to the sum of the institution's exposure amounts to one counterparty (or borrower) for derivatives, securities financing transactions (SFTs), and cleared transactions, and its gross lending exposure (including all unfunded commitments) to that counterparty (or borrower). A counterparty includes an entity's own affiliates. Exposures to entities that are affiliates of each other are treated as exposures to one counterparty (or borrower). Counterparty exposure excludes all counterparty exposure to the U.S. government and departments or agencies of the U.S. government that is unconditionally guaranteed by the full faith and credit of the United States. The exposure amount for derivatives, including OTC derivatives, cleared transactions that are derivative contracts, and netting sets of derivative contracts, must be

calculated using the methodology set forth in 12 CFR 324.34(b), but without any reduction for collateral other than cash collateral that is all or part of variation margin and that satisfies the requirements of 12 CFR 324.10(c)(4)(ii)(C)(1)(ii) and (iii) and 324.10(c)(4)(ii)(C)(3)-(7). The exposure amount associated with SFTs, including cleared transactions that are SFTs, must be calculated using the standardized approach set forth in 12 CFR 324.37(b) or (c). For both derivatives and SFT exposures, the exposure amount to central counterparties must also include the default fund contribution.<sup>2</sup>

37. Appendix A to Subpart A of Part 327, VI. Description of Scorecard Measures, is amended by revising the description of “(3) Largest Counterparty Exposure/Tier 1 Capital and Reserves” to read as follows:

The largest total exposure amount to one counterparty divided by Tier 1 capital and reserves. The total exposure amount is equal to the sum of the institution's exposure amounts to one counterparty (or borrower) for derivatives, SFTs, and cleared transactions, and its gross lending exposure (including all unfunded commitments) to that counterparty (or borrower). A counterparty includes an entity's own affiliates. Exposures to entities that are affiliates of each other are treated as exposures to one counterparty (or borrower). Counterparty exposure excludes all counterparty exposure to the U.S. government and departments or

agencies of the U.S. government that is unconditionally guaranteed by the full faith and credit of the United States. The exposure amount for derivatives, including OTC derivatives, cleared transactions that are derivative contracts, and netting sets of derivative contracts, must be calculated using the methodology set forth in 12 CFR 324.34(b), but without any reduction for collateral other than cash collateral that is all or part of variation margin and that satisfies the requirements of 12 CFR 324.10(c)(4)(ii)(C)(1)(ii) and (iii) and 324.10(c)(4)(ii)(C)(3)-(7). The exposure amount associated with SFTs, including cleared transactions that are SFTs, must be calculated using the standardized approach set forth in 12 CFR 324.37(b) or (c). For both derivatives and SFT exposures, the exposure amount to central counterparties must also include the default fund contribution.<sup>2</sup>

Dated: November 18, 2019.

/ signed /

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**Morris Morgan,**  
*First Deputy Comptroller, Comptroller of the Currency.*

By order of the Board of Governors of the Federal Reserve System, November  
[ ], 2019.

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**Ann E. Misback,**  
*Secretary of the Board.*

Dated at Washington, DC, on November [ ],  
2019.

By order of the Board of Directors.  
Federal Deposit Insurance Corporation.

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**Robert E. Feldman,**  
*Executive Secretary.*