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U.S. Basel III Endgame Proposed Rule

September 14, 2023

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Introduction

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Overview of the U.S. Basel III Endgame Proposed Rule

- The Board of Governors of the Federal Reserve System (**Federal Reserve**), Office of the Comptroller of the Currency (**OCC**) and Federal Deposit Insurance Corporation (**FDIC**) (together, the **Agencies**) have issued a proposed rule (the **Proposed Rule**) to implement major changes to the current U.S. Basel III capital rules (**U.S. capital rules**).

- The Proposed Rule is broadly intended to bring the U.S. capital rules into conformance with the current version of the Basel Committee on Banking Supervision's (**BCBS**) international capital standards (the **Basel Framework**).

- The BCBS significantly revised the Basel Framework in response to the 2008 financial crisis through a series of reforms developed over several years.

  - Many of these revisions to the Basel Framework have already been finalized and implemented in the United States, in addition to other capital-related reforms specific to the United States.

  - Certain remaining revisions would be implemented by the Proposed Rule, subject to some U.S.-specific differences highlighted throughout this memo.

*In several places throughout this memo, we highlight differences between the **Proposed Rule's calculation of Expanded Total RWAs** and the **Basel Framework** in callout boxes like this one.*

*In several places throughout this memo, we highlight differences between the **Proposed Rule's calculation of Expanded Total RWAs** and the **current U.S. capital rules** in callout boxes like this one.*

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Overview of the U.S. Basel III Endgame Proposed Rule

Overview of Major Post-Crisis U.S. Capital and Capital-Related Reforms and Scope of the Proposed Rule

Major Reforms Already Implemented in the U.S.

Capital
— 2012 so-called "Basel 2.5" revised market risk capital rule
— 2013 U.S. Basel III Capital Rule (increased quality and quantity of capital)
— GSIB surcharge
— Capital planning and stress testing requirements
— Enhanced Supplementary Leverage Ratio (**eSLR**)
— Stress capital buffer (**SCB**)
— Standardized approach for counterparty credit risk (**SA-CCR**)

Capital-Related
— Capital planning and stress testing requirements
— Total Loss-Absorbing Capacity (**TLAC**) and Long-Term Debt (**LTD**) requirements
— Resolution planning capital metrics
  ▪ Resolution Capital Adequacy and Positioning (**RCAP**)
  ▪ Resolution Capital Execution Need (**RCEN**)
— Volcker Rule Tier 1 capital deductions for investments in covered funds

Additional Reforms Addressed in the Proposed Rule*

— **Structural changes** to the calculation of capital requirements and risk weighted assets (**RWAs**) (including the replacement of the Advanced Approaches with a new standardized **Expanded Risk-based Approach** and the application of a new **Output Floor**)

— Extension of the countercyclical capital buffer (**CCyB**) (if deployed) and the Supplementary Leverage Ratio (**SLR**) to Category IV banking organizations

— Changes to the recognition of capital and capital adjustments and deductions (**numerator changes**) for Category III and IV banking organizations

— ERB: new standardized approach for **credit risk**

— ERB: new standardized approach for **operational risk**

— Revised approaches for **market risk** capital requirements (implementing the BCBS fundamental review of the trading book (**FRTB**) standard)

— Revised approach for credit valuation adjustment (**CVA**) risk capital requirements

*In a separate proposed rule, the Federal Reserve is proposing changes to the methodology and calculation of the GSIB surcharge and related reporting requirements.

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Overview of the U.S. Basel III Endgame Proposed Rule
Applicability, Impact and Key Dates

— The Proposed Rule would implement the most wide-ranging and significant changes to the U.S. capital rules since 2013, with Category I – IV banking organizations seeing the most significant changes.

- **Category I – IV banking organizations** include bank holding companies (**BHCs**), covered savings and loan holding companies (**SLHCs**), and the U.S. intermediate holding companies (**IHCs**) of foreign banking organizations (**FBOs**) that satisfy the criteria of a Category I – IV banking organization under the Federal Reserve's 2019 tailoring rules and their depository institution (**DI**) subsidiaries.

Category I	Category II	Category III	Category IV
U.S. global systemically important banks (**U.S. GSIBs**) (and their DI subsidiaries)	Banking organizations with ≥ $700 billion in total assets or ≥ $75 billion in cross-jurisdiction activity (and their DI subsidiaries)	Banking organizations with ≥ $250 billion in total assets or ≥ $75 billion in nonbank assets, weighted short-term wholesale funding, or off-balance-sheet exposure (and their DI subsidiaries)	Other banking organizations with $100 billion to $250 billion in total assets (and their DI subsidiaries)

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Overview of the U.S. Basel III Endgame Proposed Rule
Applicability, Impact and Key Dates

- **Applicability:**
  - Most of the changes under the Proposed Rule would apply to **Category I – IV banking organizations.**
  - The market risk component of the Proposed Rule would apply to:
    - all Category I – IV banking organizations; and
    - any other banking organization that: (1) has **average aggregate trading assets and trading liabilities of ≥ $5 billion, or representing ≥ 10% of total assets**; or (2) is required by its primary federal supervisor to calculate RWAs for market risk because of the level of its market risk.
- **Impact:** The Proposed Rule would **significantly increase capital requirements** for Category I – IV banking organizations, with the largest increase occurring for the U.S. GSIBs.
  - The Agencies estimate that their Proposed Rule would increase common equity tier 1 (CET 1) capital requirements by an aggregate of 16%* for all Category I – IV holding companies, broken down as follows:
    - 19% for Category I and II holding companies;
    - 6% for Category III and IV domestic holding companies; and
    - 14% for Category III and IV IHCs of FBOs.
  - For all DI subsidiaries of Category I – IV banking organizations, the Agencies estimate that both CET 1 capital requirements and RWAs would increase by an aggregate of 9%.
  - The Agencies also estimate that the Proposed Rule would increase total RWAs by an aggregate of 20% for all Category I – IV holding companies compared to the current standardized approach for calculating RWAs, broken down as follows:
    - 25% for Category I and II holding companies;
    - 6% for Category III and IV domestic holding companies; and
    - 25% for Category III and IV IHCs of FBOs.

* Although not clear from the Agencies' description in the preamble the Proposed Rule or accompanying documents, we assume that these percentages represent an average for the relevant categories of banking organizations.

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Overview of the U.S. Basel III Endgame Proposed Rule
Applicability, Impact and Key Dates

— Compared to current approaches measured as of year-end 2021, the Agencies estimate the Proposed Rule will affect the aggregate amount of RWAs as follows:

Risk Category	Aggregate RWAs ($ Billion for Category I and II Holding Companies)			Aggregate RWAs ($ Billion for Category III and IV Holding Companies)	
	Current U.S. Standardized	Current U.S. Advanced	Proposed Rule (Estimated)	Current U.S. Standardized	Proposed Rule (Estimated)
Credit Risk	$6,900	$4,300	**$6,700**	$4,000	**$3,800**
Market Risk	$430	$430	**$760**	$130	**$220**
Operational Risk	N/A	$1,700	**$1,400**	N/A	**$550**
CVA Risk	N/A	$240	**$260**	N/A	**$28**
Total	$7,400	$6,700	**$9,200**	$4,200	**$4,600**

— **Effective Date and Transition:** Although the Proposed Rule does not have a formal effective date, it would gradually phase in two major requirements (accumulated other comprehensive income (**AOCI**) adjustments for Category III and IV banking organizations and the transition to the Expanded Risk-based Approach) over a three-year transition period starting July 1, 2025 and ending June 30, 2028.

— **Comment Period:** Comments on the Proposed Rule are due by November 30, 2023.

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Overview of the U.S. Basel III Endgame Proposed Rule
Division within Federal Reserve and FDIC Boards

— Unlike the 2012 proposed rules to implement the initial set of Basel III revisions in the United States, the boards of the Federal Reserve and the FDIC were divided in voting on the Proposed Rule.

— The Federal Reserve Board voted 4-2 in favor of publishing the Proposed Rule for comment.

  ▪ Governors Bowman and Waller voted against the Proposed Rule, citing among other reasons concerns about:

    — The impact of higher capital requirements on bank customers, and the availability of credit and market liquidity;

    — The overlap and redundancies between the new market risk and standardized operational risk requirements and SCB resulting from supervisory stress tests; and

    — The effective end of tailoring among Category II – IV banking organizations for capital requirements, in tension with a 2018 statute.*

  ▪ Federal Reserve Chair Powell, although voting in favor of publishing the Proposed Rule for comment, outlined three areas in which potential modifications to the Proposed Rule could be considered:

    — Calibration of proposed capital increases, both overall and specifically for market and operational risk, in light of the potential costs of the increased requirements;

    — The extent to which the Proposed Rule exceeds the requirements of the Basel Framework; and

    — Tailoring of requirements for banking organizations, especially for those with total consolidated assets between $100 billion and $250 billion.

— The FDIC Board voted 3-2 in favor of publishing the Proposed Rule for comment:

  ▪ Vice Chair Hill and Director McKernan voted against the Proposed Rule, citing among other reasons concerns about:

    — The extent to which the Proposed Rule exceeds the requirements of the Basel Framework;

    — The impact of higher capital requirements on bank customers and the availability of banking products and services; and

    — The effective end of tailoring among Category II – IV banking organizations for capital requirements, in tension with a 2018 statute* (Hill) and rationales for some of the changes to the Basel Framework (McKernan).

* The Economic Growth, Regulatory Relief and Consumer Protection Act of 2018.

Overview of the U.S. Basel III Endgame Proposed Rule
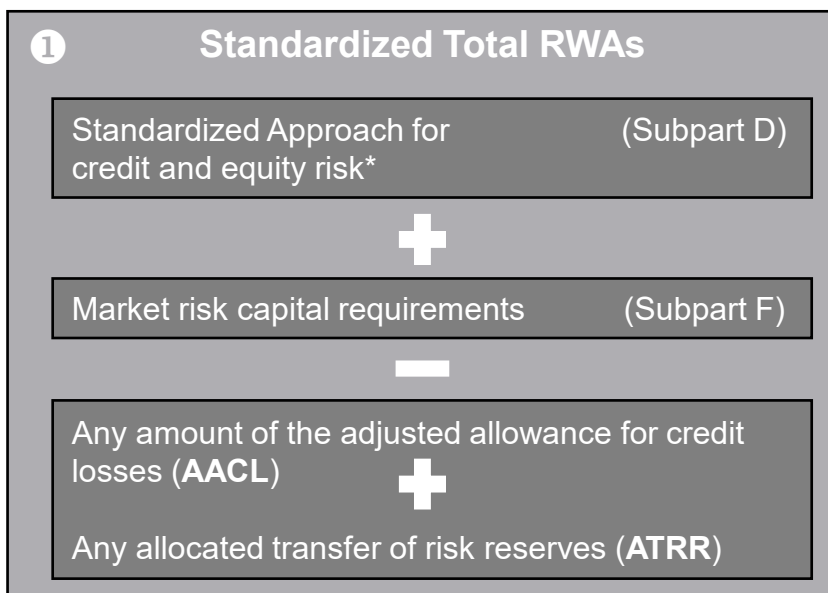## Overall Summary of Proposed Changes

- In this memo, we organize the changes that would be made by the Proposed Rule into the following three general categories:

  - **Structural changes**, including the replacement of the Advanced Approaches with the new, standardized Expanded Risk-based (**ERB**) Approach, the replacement of the market risk rule with a new market risk rule and a new CVA risk rule, the multiplicity of RWA calculations, the introduction of a new Output Floor for the ERB Approach and changes in the scope of applicability of certain capital requirements.

  - **Numerator changes** (i.e., changes that would affect the recognition and calculation of regulatory capital in the numerator of the capital ratios), including narrowing the scope of banking organizations eligible to opt out of the recognition of certain elements of AOCI in regulatory capital (the **AOCI opt-out**) as well as other changes that would generally alter how Category III and IV banking organizations determine regulatory capital and conform them to how Category I and II banking organizations recognize and calculate regulatory capital.

  - **Denominator changes** (i.e., changes that would affect the calculation of RWAs, the denominator of the risk-based capital ratios), which would change the way Category I – IV banking organizations calculate RWAs and capital requirements for credit risk, equity risk, operational risk, market risk and CVA risk.

- The changes in each of these categories are significant and are collectively intended to reflect the following interconnected stated goals of the Agencies: (1) improving the risk sensitivity of capital requirements, (2) reducing reliance on banking organizations' internal models, at least for credit risk and operational risk, (3) enhancing comparability of capital requirements and (4) conservatism.

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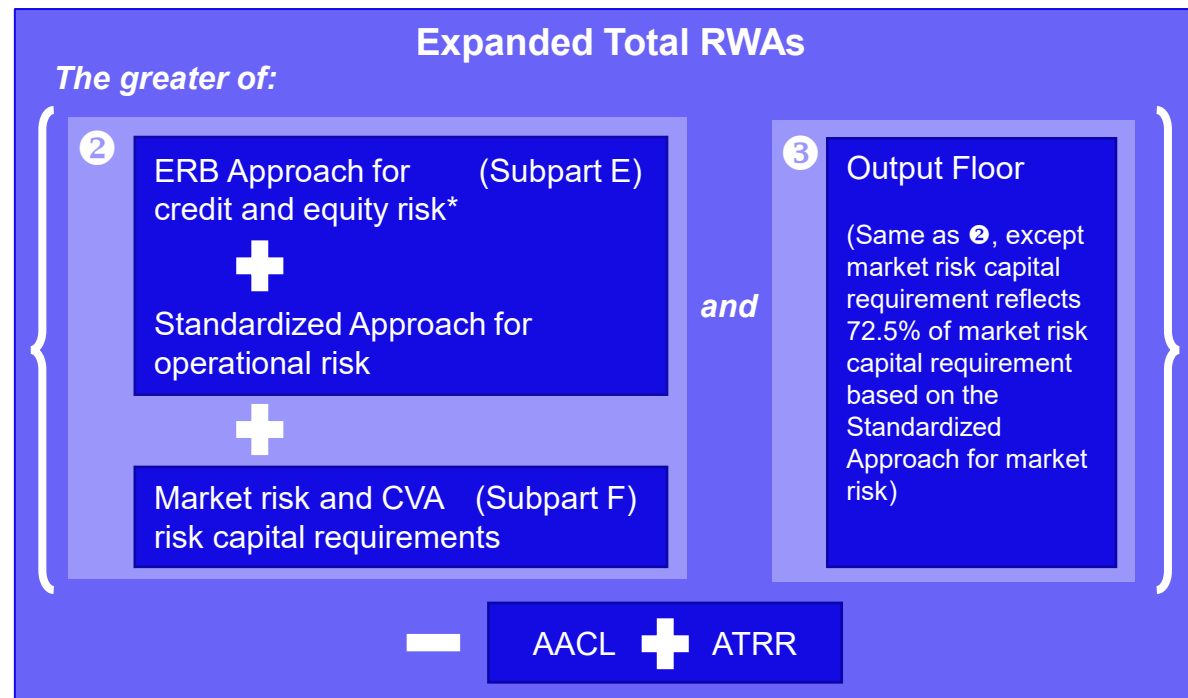# Overview of the U.S. Basel III Endgame Proposed Rule
Summary of Structural Changes

Calculation of RWAs

- The Proposed Rule would eliminate the Advanced Approaches for determining capital requirements for credit risk (including CVA risk) and operational risk (current Subpart E), which rely on banking organizations' internal models, and replace the Advanced Approaches with a new, standardized ERB Approach based on the new standardized approach under the revised Basel Framework.

- The Proposed Rule would also replace the current U.S. market risk capital rule (Subpart F) with a new Subpart F that addresses both market risk and CVA risk.

  - For market risk capital requirements, a banking organization would be able to choose between the Standardized Measure for market risk (primarily based on parameters prescribed by the Agencies) and, with the approval of its federal banking supervisor, the Models-based Measure for market risk (which permits the use of internal models as applied at the level of a banking organization's trading desks).

- A Category I – IV banking organization would be required to calculate two main measures of total RWAs:

❶ Standardized Total RWAs

Standardized Approach for credit and equity risk* (Subpart D)

+

Market risk capital requirements (Subpart F)

−

Any amount of the adjusted allowance for credit losses (**AACL**)

+

Any allocated transfer of risk reserves (**ATRR**)

* Including counterparty credit risk and banking book equity and securitization exposures.

Expanded Total RWAs

The greater of:

❷ ERB Approach for credit and equity risk* (Subpart E)

+

Standardized Approach for operational risk

+

Market risk and CVA risk capital requirements (Subpart F)

and

❸ Output Floor

(Same as ❷, except market risk capital requirement reflects 72.5% of market risk capital requirement based on the Standardized Approach for market risk)

− AACL **+** ATRR

Unlike the Basel Framework, which applies a 72.5% Output Floor to limit the benefits of applying the Internal Ratings-Based Approach (equivalent to the current U.S. Advanced Approaches) compared to the Standardized Approach, the Proposed Rule would apply it more narrowly solely to the calculation of Expanded Total RWAs.

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Overview of the U.S. Basel III Endgame Proposed Rule
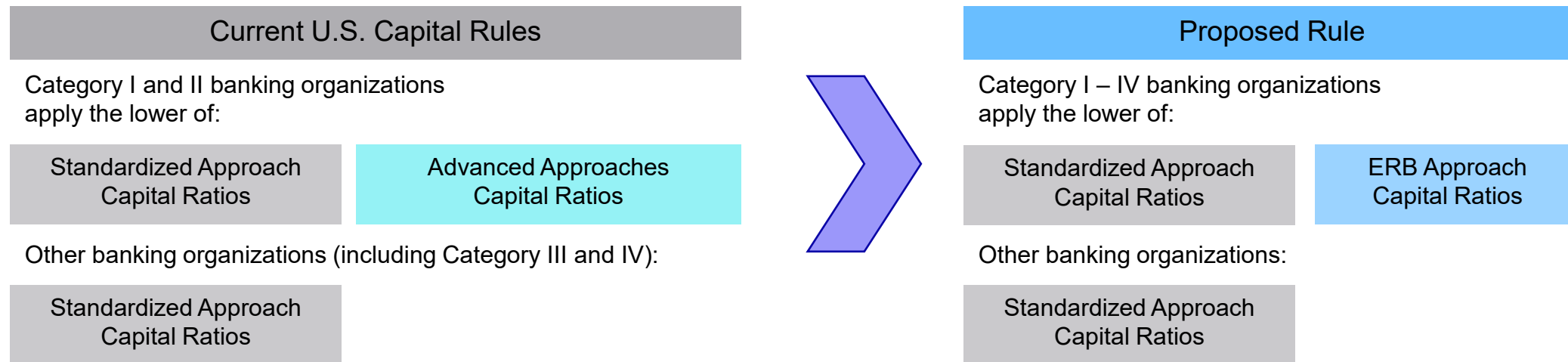## Summary of Structural Changes

Calculation of RWAs

— In short, a Category I – IV banking organization that uses the Models-based Measure for market risk must calculate two different measures of market risk capital requirements for purposes of applying the Output Floor and calculating Expanded Total RWAs.

— Unlike the revised Basel Framework, which applies a 72.5% Output Floor to limit the benefits of applying the Internal Ratings-based Approach (equivalent to the current U.S. Advanced Approaches) compared to the Standardized Approach, the Proposed Rule would apply it more narrowly solely to the calculation of Expanded Total RWAs.

Expanded Risk-based Capital Ratios

— Each of the applicable risk-based capital ratios for a Category I – IV banking organization (CET 1, Tier 1 and Total risk-based capital ratios) would be calculated based on the greater of:

   1. Standardized Total RWAs; and

   2. Expanded Total RWAs.

      — The ERB Approach is itself a standardized approach and the use of the Output Floor in the calculation of Expanded Total RWAs limits the benefits of using the Models-based Measure for market risk. Because the Standardized Approach does not include any calculation of RWAs for operational risk, it is difficult to see how Expanded Total RWAs could be lower than Standardized Total RWAs for any Category I – IV banking organization.

Overview of the U.S. Basel III Endgame Proposed Rule
Summary of Structural Changes

Current U.S. Capital Rules

Category I and II banking organizations
apply the lower of:

Standardized Approach Capital Ratios	Advanced Approaches Capital Ratios

Other banking organizations (including Category III and IV):

Standardized Approach Capital Ratios

Proposed Rule

Category I – IV banking organizations
apply the lower of:

Standardized Approach Capital Ratios	ERB Approach Capital Ratios

Other banking organizations:

Standardized Approach Capital Ratios

— The Proposed Rule would apply the SCB to a Category I – IV banking organization's binding capital ratios, calculated in each case under the higher of Standardized Total RWAs and Expanded Total RWAs.

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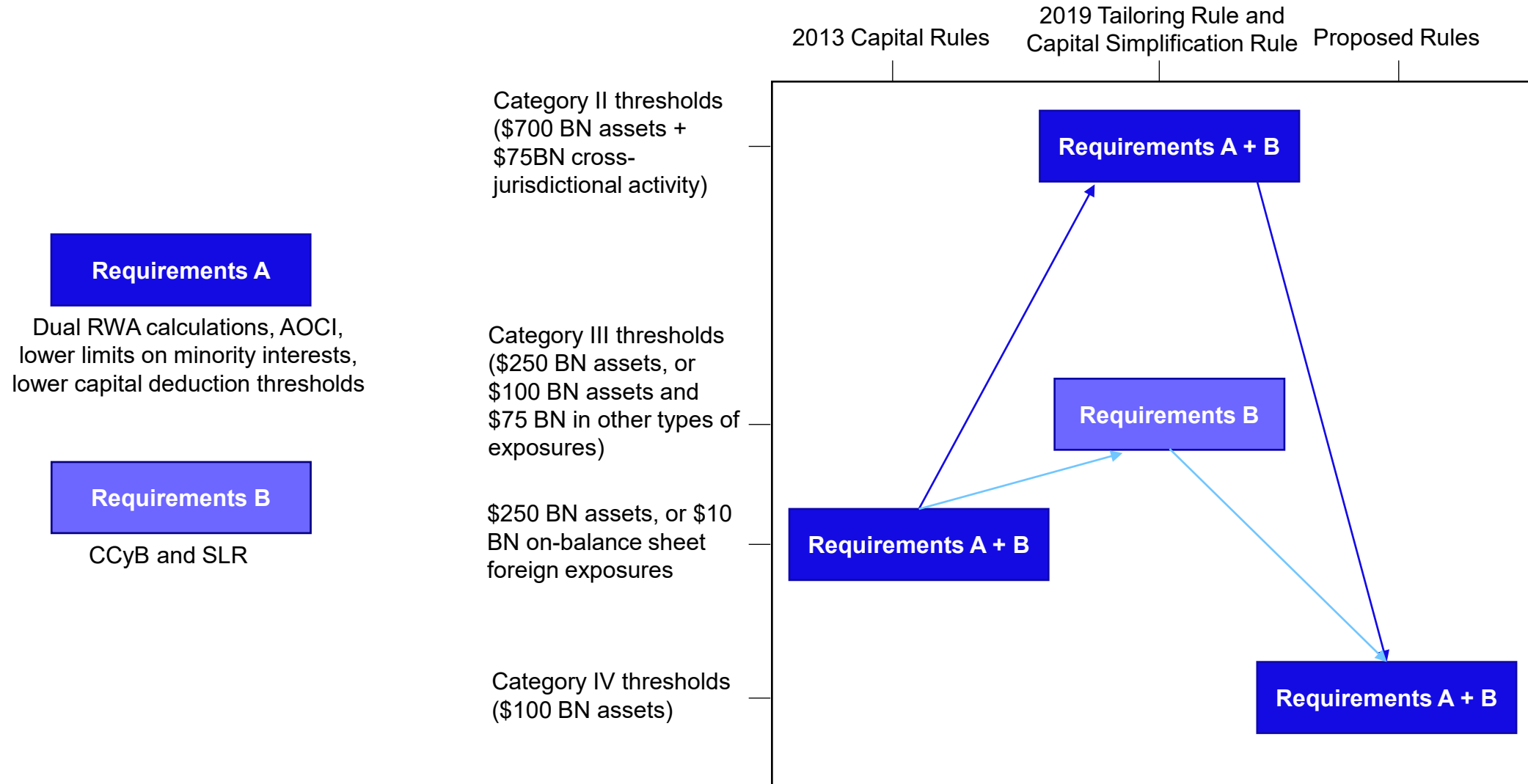# Overview of the U.S. Basel III Endgame Proposed Rule
Summary of Structural Changes

Reduced Thresholds for Certain Capital Requirements

– In effect, the Proposed Rule would lower the threshold for the applicability of the following requirements to ≥ $100 billion in total consolidated assets: (1) the dual RWA calculation requirement, (2) the applicable capital buffer and SLR requirements and (3) the recognition of AOCI in CET 1 capital, the lower limits on recognition of minority interests and lower capital deduction thresholds.

  ▪ When the U.S. Basel III capital rules were finalized in 2013, the Advanced Approaches organization threshold was ≥ $250 billion in total consolidated assets or ≥ $10 billion in total on-balance sheet foreign exposures.

  ▪ When the Agencies' tailoring rules for capital requirements were finalized in 2019, the Advanced Approaches organization threshold was effectively split in two:

    – The dual RWA calculation requirement (Standardized Approach and Advanced Approaches) and recognition of AOCI in CET 1 capital, lower limits on recognition of minority interests and lower capital deduction thresholds were limited to Category I and II banking organizations (i.e., GSIBs and banking organizations with (i) ≥ $700 billion in total consolidated assets or (ii) ≥ $100 billion in total consolidated assets and ≥ $75 billion in cross-jurisdictional activity).

    – The CCyB (if deployed) and SLR were applicable to Category I – III banking organizations (i.e., with ≥ $250 billion in total consolidated assets or ≥ $75 billion in nonbank assets, weighted short-term wholesale funding or off-balance sheet exposures).

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Overview of the U.S. Basel III Endgame Proposed Rule
Summary of Structural Changes for Advanced Approaches

Requirements A

Dual RWA calculations, AOCI, lower limits on minority interests, lower capital deduction thresholds

Requirements B

CCyB and SLR

2013 Capital Rules

2019 Tailoring Rule and Capital Simplification Rule

Proposed Rules

Category II thresholds ($700 BN assets + $75BN cross-jurisdictional activity)

Category III thresholds ($250 BN assets, or $100 BN assets and $75 BN in other types of exposures)

$250 BN assets, or $10 BN on-balance sheet foreign exposures

Category IV thresholds ($100 BN assets)

Requirements A + B

Requirements B

Requirements A + B

Requirements A + B

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Overview of the U.S. Basel III Endgame Proposed Rule
Summary of Numerator and Denominator Changes

– **Numerator changes:** The Proposed Rule would require Category III and IV banking organizations to align their capital calculations with those of Category I and II banking organizations, effectively reversing the changes the Agencies made to capital requirements in their 2019 tailoring rule. These requirements include:

- The recognition of AOCI in CET 1 capital;

- The lower limits on the recognition of minority interests; and

- The lower thresholds for deductions from CET 1 capital for (1) mortgage servicing assets (**MSAs**), (2) certain deferred tax assets (**DTAs**) and (3) significant investments in the capital of unconsolidated financial institutions.

– **Denominator changes:** The calculation of Expanded Total RWAs generally reflects the implementation of the BCBS's revisions to the Basel Framework for the calculation of credit risk, operational risk, market risk and CVA risk, but with a number of differences. We have organized the differences between the existing Standardized Approach and the calculation of Expanded Total RWAs under the Proposed Rule into the following categories, which generally correspond to the main risk types under the capital rules:

- **Credit risk changes**, which includes changes to the **general risk weights** applicable to various types of credit and equity exposures that are not treated as market risk covered positions (i.e., banking book exposures), as well as technical changes to certain methodologies for recognizing the risk-mitigating effects of **collateral** on banking book exposures;

- **Operational risk changes**, which includes the introduction of a new **standardized approach for operational risk** (**SA-OR**);

- **Market risk changes**, which includes both a new **Standardized Measure for market risk** and a new **Models-based Measure for market risk**, both of which are based on (or calibrated to be consistent with) an expected shortfall (ES) methodology rather than the existing methodologies based on value-at-risk (VaR); and

- **CVA risk changes**, which includes the introduction of a new **standardized approach for CVA risk** (**SA-CVA**) and **basic approach for CVA risk** (**BA-CVA**).

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Overview of the U.S. Basel III Endgame Proposed Rule
Summary of Numerator and Denominator Changes

– The overall effect of the Proposed Rule's changes is to effectively restructure the tiers of applicable capital requirements as follows:

- For Category I – IV banking organizations, the Proposed Rule would apply to:

  – The recognition and calculation of regulatory capital, in particular relating to the recognition of AOCI in CET 1 capital, the recognition of minority interests and deductions from CET 1 capital.

  – The calculation of RWAs under both the Standardized Approach (Subpart D, which has no operational risk requirement) and the ERB Approach (Subpart E, which includes a standardized measurement for operational risk), as well as under Subpart F for market risk and CVA risk).

- For banking organizations that are not Category I – IV banking organizations and are not qualifying community banks (i.e., generally with total assets ≥ $10 billion and < $100 billion):

  – The recognition and calculation of regulatory capital includes the AOCI opt-out election and the simplified approach to the recognition of minority interests and deductions from CET 1 capital (currently applicable to non-Advanced Approaches banking organizations).

  – The calculation of RWAs under the Standardized Approach (Subpart D, which has no operational risk requirement) only and, if the banking organization meets the trading assets and trading liabilities thresholds for the market risk rule, under Subpart F for market risk.

- For qualifying community banking organizations (i.e., generally with total assets < $10 billion, off-balance sheet exposures ≤ 25% total consolidated assets, and trading assets and liabilities ≤ 5% of total consolidated assets):

  – Capital requirements are governed solely by the community bank leverage ratio framework.

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Organization of This Memo

— This memo is organized into eight sections, which map onto the three general categories of proposed changes, as follows:

General Category	Section	Start Page	Topics Covered	
	1. Introduction	3	— Overview of the Proposed Rule	
Structural Changes	2. Structural Changes	18	— Overview of ERB Approach — Output Floor — Transition Period — Changes to Capital Buffer Requirements	— Changes to SLR — Impacts on TLAC and SCCL Requirements and FBOs
Numerator Changes	3. Numerator Changes	34	— AOCI Opt-Out — Other Deductions and Adjustments — Minority Interests	
Denominator Changes (deeper dive into the components of Expanded Total RWAs)	4. Credit and Equity Risk RWAs	50	— General credit risk — Off balance-sheet exposures — OTC derivatives — Cleared transactions — Unsettled transactions	— Eligible guarantees and eligible credit derivatives — Collateralized transactions — Securitization exposures — Equity exposures
	5. Operational Risk RWAs	134	— SA-OR	
	6. Market Risk RWAs	144	— Standardized Measure for Market Risk — Models-based Measure for Market Risk — Risk management requirements for market risk	
	7. CVA Risk RWAs	215	— BA-CVA — SA-CVA — Risk management requirements for CVA risk	
	8. Disclosure and Reporting Requirements	231	— General disclosure and reporting requirements — Market risk disclosure and reporting requirements	

Structural Changes

2

Overview of Structural Changes
Comparison to Current Approach

– **Current Approach to RWA Calculations:** Under the current U.S. capital rules, there are two approaches to calculating RWAs: the Standardized Approach and the Advanced Approaches.

- **Standardized Approach:** Applies to all banking organizations (other than qualifying community banks using the community bank leverage ratio framework) and encompasses:

  – Credit risk RWAs, using the standardized approach (Subpart D); and

  – Market risk RWAs based on the Standardized Measure for market risk, using an internal models approach (Subpart F).

  – The Standardized Approach does not include any calculation of RWAs for operational risk or CVA risk.

- **Advanced Approaches:** Applies only to Category I and II banking organizations, which must (1) calculate RWAs under both the Advanced Approaches and the Standardized Approach and (2) report each risk-based capital ratio (i.e., CET 1, Tier 1 and Total) based on whichever calculation produces the lower ratio. The Advanced Approaches encompass:

  – Credit risk RWAs under an internal ratings-based approach and other advanced methodologies (Subpart E);

  – CVA risk RWAs, using either a simple CVA approach or advanced CVA approach (Subpart E);

  – Operational risk RWAs, using an internal models approach (Subpart E); and

  – Market risk RWAs based on the advanced measure for market risk, using an internal models approach (Subpart F).

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Overview of Structural Changes
Comparison to Current Approach

— **Proposed Approach to RWA Calculations:**

- The Proposed Rule would remove the Advanced Approaches (Subpart E) and replace them with a new, standardized ERB Approach for credit risk and operational risk (Subpart E) that is based on the new Standardized Approach under the revised Basel Framework.

- The Proposed Rule would also replace the current U.S. market risk capital rule (Subpart F) with a new Subpart F that addresses both market risk and CVA risk.

  — For market risk capital requirements, a banking organization would be able to choose between:

    - The Standardized Measure for market risk (primarily based on parameters prescribed by the Agencies); and

    - With the prior approval of its primary federal banking supervisor, the Models-based Measure for market risk (which permits the use of internal models for model-eligible trading desks).

  — For CVA risk capital requirements, a banking organization would be able to choose between:

    - The Basic CVA Approach (**BA-CVA**, which captures the credit spread component); and

    - With the prior approval of its primary federal banking supervisor, the Standardized CVA Approach (**SA-CVA**, which captures both credit spread and exposure components, and recognizes hedges for the exposure component).

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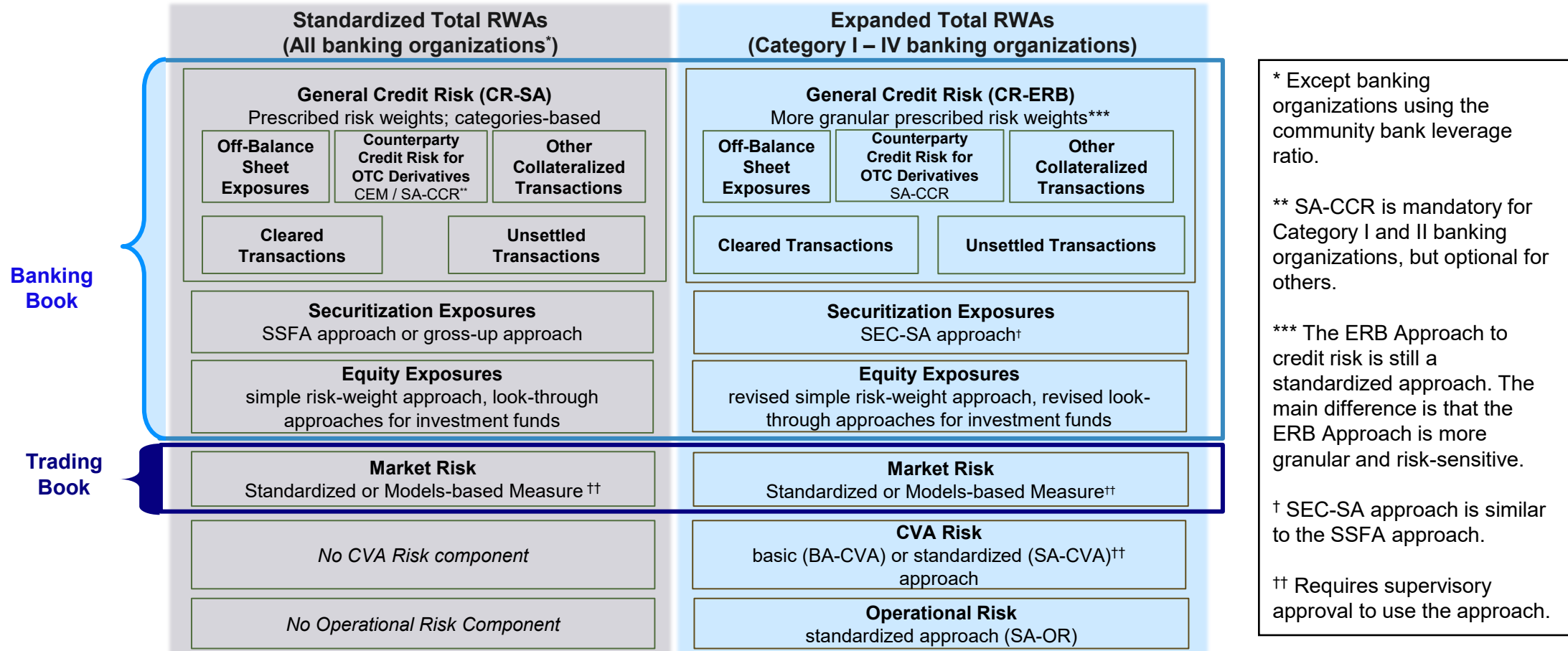# Overview of Structural Changes
Comparison to Current Approach

- A Category I – IV banking organization would be required to (1) calculate two main measures of total RWAs, and (2) report each risk-based capital ratio (i.e., CET 1, Tier 1 and Total*) based on whichever calculation produces the lower ratio:

  - Standardized Total RWAs: credit risk RWAs (Subpart D) + Standardized Measure for market risk RWAs (Subpart F) – (any AACL not included in Tier 2 capital + any ATRR)

  - Expanded Total RWAs: credit risk and operational risk RWAs (Subpart E) + Standardized Measure or Models-based Measure for market risk RWAs (Subpart F) + CVA risk RWAs (Subpart F) – (any AACL not included in Tier 2 capital + any ATRR).

    - Expanded Total RWAs are subject to the Output Floor: 72.5% of Expanded Total RWAs calculated using Standardized Measure for market risk RWAs.

- The Agencies state that the dual calculation requirement is to "ensure that large banking organizations would not have lower capital requirements than smaller, less complex organizations."

  - This appears to be a reference to Section 171(b)(2) of the Dodd-Frank Act, known as the Collins Amendment, which requires the "generally applicable risk-based requirements [i.e., the current Standardized Approach] to serve as a floor for any capital requirements that the [Agencies] may require."

  - Because Standardized Total RWAs do not include RWAs for operational risk or CVA risk, it is difficult to see how Expanded Total RWAs (which are themselves subject to the Output Floor) could ever be lower than Standardized Total RWAs for a Category I – IV banking organization.

* The amount of Total capital can differ between the Standardized Approach and the ERB Approach depending on the amount of AACL included in Tier 2 capital.

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Overview of Expanded Total RWAs
Side-by-side Comparison to Standardized Total RWAs

Standardized Total RWAs (All banking organizations*)	Expanded Total RWAs (Category I – IV banking organizations)
General Credit Risk (CR-SA) Prescribed risk weights; categories-based	**General Credit Risk (CR-ERB)** More granular prescribed risk weights***

Banking Book

Standardized Total RWAs	Expanded Total RWAs
Off-Balance Sheet Exposures / **Counterparty Credit Risk for OTC Derivatives** CEM / SA-CCR** / **Other Collateralized Transactions**	**Off-Balance Sheet Exposures** / **Counterparty Credit Risk for OTC Derivatives** SA-CCR / **Other Collateralized Transactions**
Cleared Transactions / **Unsettled Transactions**	**Cleared Transactions** / **Unsettled Transactions**
Securitization Exposures SSFA approach or gross-up approach	**Securitization Exposures** SEC-SA approach†
Equity Exposures simple risk-weight approach, look-through approaches for investment funds	**Equity Exposures** revised simple risk-weight approach, revised look-through approaches for investment funds

Trading Book

Standardized Total RWAs	Expanded Total RWAs
Market Risk Standardized or Models-based Measure ††	**Market Risk** Standardized or Models-based Measure††
No CVA Risk component	**CVA Risk** basic (BA-CVA) or standardized (SA-CVA)†† approach
No Operational Risk Component	**Operational Risk** standardized approach (SA-OR)

* Except banking organizations using the community bank leverage ratio.

** SA-CCR is mandatory for Category I and II banking organizations, but optional for others.

*** The ERB Approach to credit risk is still a standardized approach. The main difference is that the ERB Approach is more granular and risk-sensitive.

† SEC-SA approach is similar to the SSFA approach.

†† Requires supervisory approval to use the approach.

Calculation of RWAs: Under the Proposed Rule, Category I – IV banking organizations would be required to calculate RWAs under both the standardized approach and ERB Approach (adding together the component parts of each approach, as reflected above).

Capital Floor: To determine the risk-based capital ratios under the Proposed Rule, Category I – IV banking organizations would:

– Calculate each risk-based capital ratio under **both** the Standardized Approach and ERB Approach; and

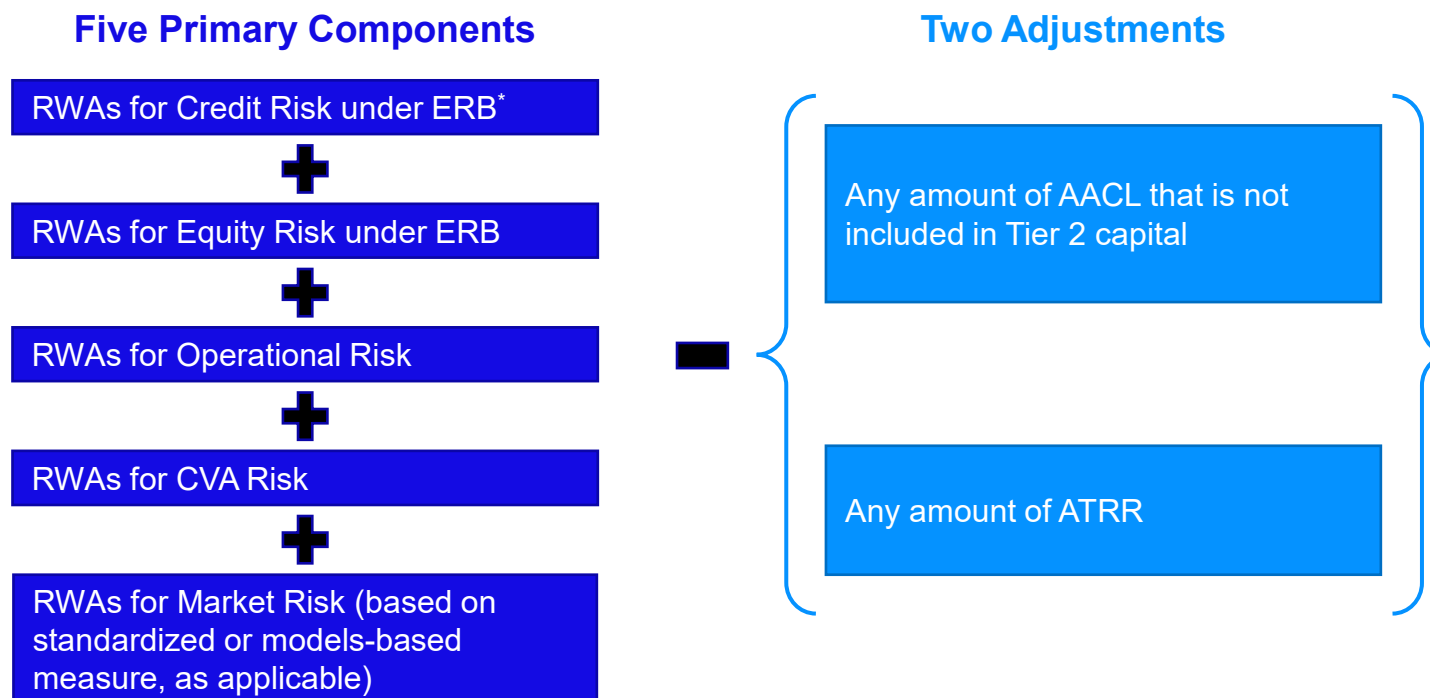– Use the **lower** of each risk-based capital ratio calculated under the two approaches.

Output Floor: For banking organizations using the Models-based Measure for market risk, Expanded Total RWAs would be floored at 72.5% of Expanded Total RWAs using the Standardized Measure for market risk.

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Overview of Expanded Risk-Based Approach
Calculation of Total RWAs (before Output Floor)

— A banking organization's **Expanded Total RWAs**, before the application of the Output Floor (see next page), consist of the sum of five primary components, minus two adjustments related to any adjusted AACL and any allocated transfer risk reserves (**ATRR**), as shown below.

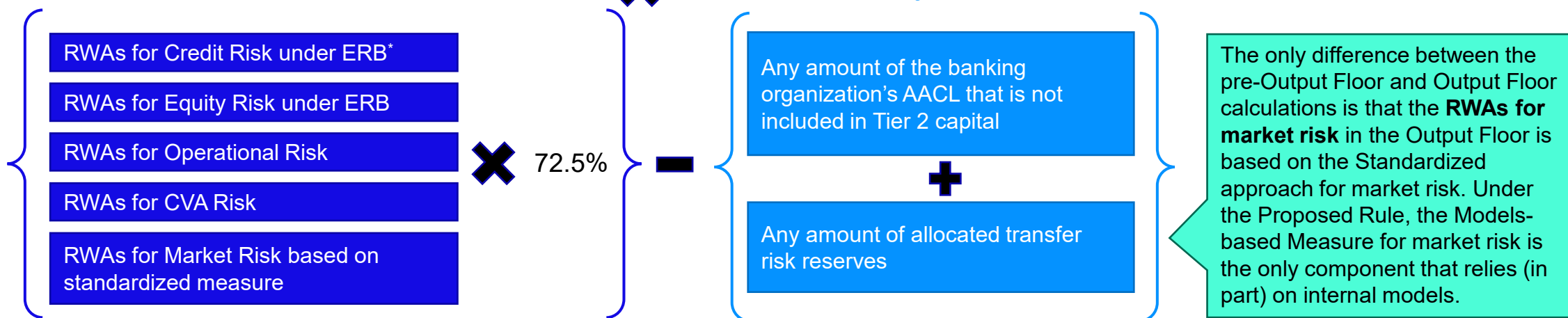**Expanded Total RWAs (pre-Output Floor) = Sum of Five Primary Components – Sum of Two Adjustments**

Five Primary Components

- RWAs for Credit Risk under ERB*
- RWAs for Equity Risk under ERB
- RWAs for Operational Risk
- RWAs for CVA Risk
- RWAs for Market Risk (based on standardized or models-based measure, as applicable)

Two Adjustments

- Any amount of AACL that is not included in Tier 2 capital
- Any amount of ATRR

* All credit risk and counterparty credit risk exposures, including banking book securitization exposures.

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Output Floor for Expanded Total RWAs

— The Proposed Rule would impose an **Output Floor** on Expanded Total RWAs, which would limit the extent to which a banking organization's internal model may reduce its Expanded Total RWAs.

— The Output Floor would be calculated as 72.5% of the five RWA components, which are identical to the RWA components in the pre-Output Floor calculation except that market risk RWAs would be calculated using the Standardized Measure for market risk (rather than the Models-based Measure) minus the same two adjustments, AACL and ATRR.

Output Floor = (Sum of Five Primary Components ✖ 72.5%) ▬ Two Adjustments

| RWAs for Credit Risk under ERB* |
| RWAs for Equity Risk under ERB |
| RWAs for Operational Risk |
| RWAs for CVA Risk |
| RWAs for Market Risk based on standardized measure |

✖ 72.5% ▬

Any amount of the banking organization's AACL that is not included in Tier 2 capital

+

Any amount of allocated transfer risk reserves

The only difference between the pre-Output Floor and Output Floor calculations is that the **RWAs for market risk** in the Output Floor is based on the Standardized approach for market risk. Under the Proposed Rule, the Models-based Measure for market risk is the only component that relies (in part) on internal models.

Expanded Total RWAs = *greater of:*

- **Expanded Total RWAs (pre-Output Floor) and**

- **Output Floor**

— In effect, the dual calculation of Expanded Total RWAs would apply only to Category I – IV banking organizations that use the Models-based Measure for market risk.

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Transition Period for Expanded Total RWAs

— The Proposed Rule would phase in the transition to Expanded Total RWAs over a three-year period from July 1, 2025 until June 30, 2028.

— This transition obviously reflects an assumed effective date of July 1, 2025 for a final version of the Proposed Rule.

— During the transition period, a banking organization would multiply its Expanded Total RWAs by the percentages shown in the table below and recognize that adjusted amount of Expanded Total RWAs when calculating its risk-based capital ratios.

Transition Period	Percentage of Expanded Total RWAs
July 1, 2025 to June 30, 2026	80
July 1, 2026 to June 30, 2027	85
July 1, 2027 to June 30, 2028	90
July 1, 2028 and thereafter	100

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Changes to Capital Buffer Requirements

- Under both the current U.S. capital rules and the Proposed Rule, the risk-based capital ratio requirements consist of two layers:

  - **Minimum Requirements:** Minimum ratios of a banking organization's capital to its RWAs to be adequately capitalized (i.e., CET 1, Tier 1, and Total risk-based capital ratios).

  - **Buffer Requirements:** Additional requirements on top of the minimum ratios that are measured as a percent of RWAs and can be satisfied solely through CET 1 capital.

    - The capital buffers include:

      - SCB for banking organizations subject to capital planning and supervisory stress testing requirements **(Supervisory DFAST)**, measured based on:

        - CET 1 ratio as of final quarter of previous capital plan cycle – lowest projected CET 1 ratio in any quarter of the planning horizon under the Supervisory DFAST (i.e., "peak-to-trough" losses); plus

        - Capitalization of four quarters of planned common stock dividends.

        - The SCB is floored at 2.5%, equal to the Capital Conservation Buffer (**CCB**) for banking organizations not subject to capital planning or Supervisory DFAST.

        - The SCB is currently calculated based solely on the Standardized Approach, with the 2.5% CCB applying to Category I and II banking organizations solely for purposes of the Advanced Approaches.

      - CCyB, which is designed to increase capital buffers in periods of excessive credit growth:

        - If deployed, the CCyB would range between 0% and 2.5%.

        - To date, the CCyB has never been deployed in the United States.

      - GSIB surcharge, which applies only to U.S. GSIBs and currently ranges between 1.0% and 4.0%.

    - Capital buffers are not part of the minimum requirements, but failure to hold the full amount of required capital buffers subjects a banking organization to progressively restrictive limitations on the amount of capital distributions (including dividends and share repurchases) and discretionary bonus payments to executive officers, ranging from a 60% maximum payout ratio to 0%.

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Changes to Capital Buffer Requirements

- Current Approach to Capital Buffer Requirements

  - **Category I and II** banking organizations are subject to **two differentiated approaches** to their buffer requirements:

    - For purposes of the Standardized Approach Capital Ratios, instead of the CCB, the banking organization must hold additional CET 1 capital equal to:
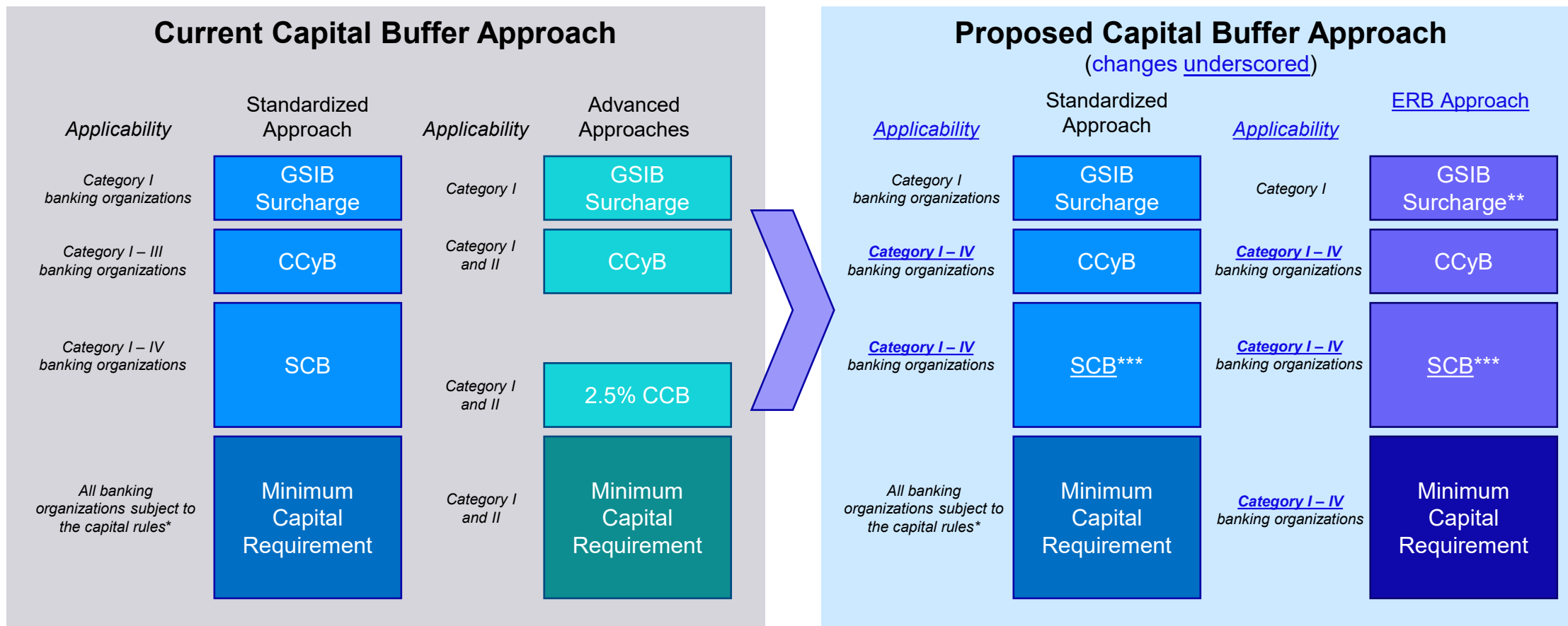
SCB
+
Applicable GSIB surcharge (Category I only)
+
CCyB (if deployed)
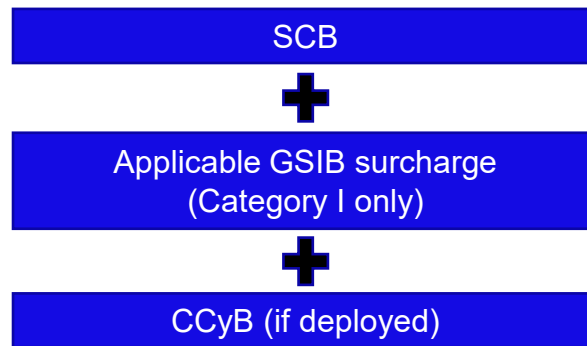
    - For purposes of the Advanced Approaches capital ratios, the banking organization substitutes a 2.5% CCB for its SCB.

  - **Category III** banking organizations are subject to the SCB and CCyB, if deployed.

  - **Category IV** banking organizations are subject only to the SCB.

- Current Approach to SCB Calculation and Related Requirements of the Capital Planning and Stress Testing Rules

  - **SCB calculation:** For Category I – IV banking organizations, the SCB is calculated based on the Supervisory DFAST peak-to-trough losses (meaning the difference between starting CET 1 and lowest CET 1 in the planning horizon) and divided add-on components calculated using only the Standardized Approach CET 1 ratio.

  - **Capital planning and stress testing:** The capital planning, Supervisory DFAST, and company-run stress testing (**Company DFAST**) requirements require all Category I – IV banking organizations to project capital ratios using only the Standardized Approach

    - This means that Category I and II banking organizations are not required to project capital ratios using the Advanced Approaches.

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Changes to Capital Buffer Requirements

- – **Proposed Changes to Capital Buffer Requirements and Capital Planning and Stress Testing Rules:** The Proposed Rule would make the following changes to the current approach to capital buffer requirements, the SCB calculation and the capital planning and stress testing rules:
  - ▪ **Eliminate Differentiated Buffer Requirements:** The Proposed Rule would eliminate the two differentiated approaches to capital buffer requirements that currently apply to Category I and II banking organizations.
    - – Under the Proposed Rule, the same capital buffer requirements (including the SCB) would apply on top of the minimum requirements for purposes of calculating risk-based capital ratios under both the Standardized Approach and the ERB Approach for Category I – IV banking organizations.
  - ▪ **Extend CCyB to Category IV:** Category IV banking organizations would become subject to the CCyB (if deployed).
  - ▪ **Revised SCB Calculation:** The Proposed Rule would revise the calculation of the SCB for Category I – IV banking organizations to take into account the ERB Approach.
    - – Under the Proposed Rule, both the Supervisory DFAST peak-to-trough losses and dividend add-on components of the SCB calculation would be calculated using either the ERB Approach or the Standardized Approach CET 1 ratio, whichever approach is more binding for the banking organization as of the final quarter of the previous capital plan cycle.
  - ▪ **Amended Capital Planning and Stress Testing Requirements:** The Proposed Rule would amend related aspects of the capital planning Supervisory DFAST and Company DFAST rules to take into account capital ratios calculated under the ERB Approach for Category I – IV banking organizations.
    - – Category I – III banking organizations would be required to project their baseline and stressed risk-based capital ratios under their capital plans and DFAST submissions using either the ERB Approach or the Standardized Approach, whichever produced the higher amount of total RWAs as of the last day of the previous cycle.
    - – Category IV banking organizations would be required to project their baseline risk-based capital ratios under their capital plans and FRY-14A submissions using either the ERB Approach or the Standardized Approach, whichever produced the higher amount of total RWAs as of the last day of the previous cycle.
    - – A proposed effective date of July 1 of any year for a final version of the Proposed Rule would mean that:
      - ▪ A capital plan, Supervisory DFAST or Company DFAST submission for any one cycle until the year following the expiration of the transition period would be based on RWA and CET 1 calculations **preceding** the effectiveness of the final rule or **preceding** the change in transition period AOCI and RWA percentages, as applicable; and
      - ▪ The resulting final SCB for that cycle would come into effect **after** the effectiveness of the final rule or **following** the change in transition period AOCI and RWA percentages, as applicable.

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Changes to Capital Buffer Requirements
Visual Summary of Proposed Changes

Current Capital Buffer Approach

Applicability	Standardized Approach	Applicability	Advanced Approaches
Category I banking organizations	GSIB Surcharge	Category I	GSIB Surcharge
Category I – III banking organizations	CCyB	Category I and II	CCyB
Category I – IV banking organizations	SCB	Category I and II	2.5% CCB
All banking organizations subject to the capital rules*	Minimum Capital Requirement	Category I and II	Minimum Capital Requirement

Proposed Capital Buffer Approach
(changes underscored)

Applicability	Standardized Approach	Applicability	ERB Approach
Category I banking organizations	GSIB Surcharge	Category I	GSIB Surcharge**
Category I – IV banking organizations	CCyB	Category I – IV banking organizations	CCyB
Category I – IV banking organizations	SCB***	Category I – IV banking organizations	SCB***
All banking organizations subject to the capital rules*	Minimum Capital Requirement	Category I – IV banking organizations	Minimum Capital Requirement

* Except banking organizations using the community bank leverage ratio.

** At the same time the Agencies issued the Proposed Rule, the Federal Reserve issued a separate proposal (the **GSIB Surcharge Proposal**) which would, among other changes, amend elements of the systemic risk inputs to calculation of the GSIB scores and the resulting Method 2 GSIB surcharges. The GSIB Surcharge Proposal is not within the scope of this memo.

*** For purposes of both Standardized Approach and ERB Approach capital buffer requirements, the SCB calibration would be modified to be calculated using the Supervisory DFAST peak-to-trough losses and dividend add-on components determined under the more binding of the two approaches. Related changes would be made to the capital planning, Supervisory DFAST and Company DFAST rules.

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Changes to the Supplementary Leverage Ratio

— **Current SLR:** Under the current U.S. capital rules, Category I – III banking organizations are subject to a minimum supplementary leverage ratio (**SLR**) requirement of 3 percent.

- The SLR is calculated as Tier 1 capital dividend by Total Leverage Exposure, which includes on-balance sheet assets and certain off-balance sheet exposures.

- The SLR is in addition to a simple leverage requirement applicable to all U.S. banking organizations, known as the U.S. leverage ratio, as an effective backstop to the core risk-based capital requirements.

  — The U.S. leverage ratio is calculated as Tier 1 capital divided by average total on-balance sheet assets (minus certain amounts deducted from Tier 1 capital), with a minimum requirement of 4 percent.

Leverage Requirements

U.S. SLR Requirements

SLR 3% Minimum (applicable to Category I – IV) + 2% eSLR Buffer (applicable to BHCs of U.S. GSIBs)

Tier 1 Capital ÷ **Total Leverage Exposure***

* Denominator is a comprehensive exposure measure, reflecting both on- and off-balance sheet exposures

U.S. Leverage Ratio Requirement

4% Minimum (applicable to all U.S. banking organizations)

Tier 1 Capital ÷ **Avg. Total Assets****

** Denominator is an on-balance sheet measure, adjusted for certain deductions from Tier 1 capital

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Changes to the Supplementary Leverage Ratio

- **Proposed Changes to the SLR:** The Proposed Rule would:
  - Subject Category IV banking organizations to the SLR.
  - Make substantive changes to the calculation of Total Leverage Exposure, in order to align it with the Proposed Rule:
    - A banking organization's AACL would be deducted from the carrying value of on-balance sheet assets.
    - OTC derivative exposures would be calculated using SA-CCR only, instead of the Current Exposure Method (**CEM**) or SA-CCR, depending on which requirement applied to a banking organization.
    - The credit equivalent amount of certain off-balance sheet exposures would be determined using the applicable credit conversion factors (**CCFs**) under the ERB Approach rather than the Standardized Approach.
    - For a banking organization that is a clearing member, a clarification (consistent with the cleared transaction provisions of Subparts D and E) would be made that (i) a guarantee of performance of a clearing member client with respect to a cleared repo-style transaction results in an exposure to the clearing member client as a repo-style transaction, and (ii) a guarantee of performance of a CCP with respect to a repo-style transaction results in an exposure to the CCP as a repo-style transaction.
  - The SLR would also be affected by any applicable changes in the calculation of Tier 1 capital to the extent that a banking organization is affected by changes in the recognition of AOCI in CET 1 capital, lower limits on the recognition of minority interests, and lower deduction thresholds for MSAs, time-difference DTAs, and investments in capital of unconsolidated financial institutions.
- **Note on Enhanced SLR:** The Proposed Rule would not revise the eSLR under the existing U.S. capital rules, which applies to U.S. GSIBs, or change the scope of applicability of the eSLR.
- BHCs of U.S. GSIBs would remain subject to a 2% eSLR buffer requirement on top of the 3% SLR minimum requirement.
- DI subsidiaries of U.S. GSIBs would remain subject to a 6% SLR requirement to be well-capitalized under the Prompt Corrective Action (**PCA**) capital standards.

Impact on TLAC and SCCL Rule Requirements*

– The Proposed Rule would have an automatic knock-on effect on two other rules that use measures of capital or RWAs determined under the capital rules: the TLAC rule and the single counterparty credit limit rule (the **SCCL Rule**).

– **Impact on TLAC Rule:** The changes to RWA calculations under the Proposed Rule would affect the risk-based TLAC and long-term debt (**LTD**) requirements under the TLAC Rule, which applies to U.S. GSIBs.

   ▪ The proposed RWA increases would make the risk-based TLAC requirement (as opposed to the leverage-based TLAC requirement) binding for all U.S. GSIBs, increasing the average TLAC requirement for these banking organizations by 15.2% according to Federal Reserve estimates.

   ▪ Similarly, the proposed RWA increases would make the separate risk-based LTD requirement under the TLAC Rule (as opposed to the leverage-based LTD requirement) binding for some U.S. GSIBs, increasing the average LTD requirement for these banking organizations by 2% according to Federal Reserve estimates.

   ▪ The proposed RWA increases would also increase TLAC and LTD requirements for the U.S. IHCs of some foreign GSIBs.

– **Impact on SCCL Rule:** The Proposed Rule's elimination of the internal models-based method for calculating OTC derivatives exposures (a part of the Advanced Approaches for credit risk under the current U.S. capital rules) for Category I and II banking organizations and the CEM for Category III and IV banking organizations would require all Category I – IV banking organizations to use SA-CCR for purposes of determining the credit exposure amount for OTC derivatives exposures under the SCCL Rule.

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* The proposed rules for LTD and clean holding company requirements can be found [here](). Our memorandum discussing the implications of the proposed rules can be found [here]().

Impact on Foreign Banking Organizations

- **Two RWA Approaches:** The proposal would **rescind the exemption available for certain U.S. intermediate holding companies (IHCs)** from calculating RWAs under two approaches, where applicable.

  - Under the current U.S. capital rules, U.S. IHCs that are Category I or II banking organizations have an exemption from calculating RWAs under Subpart E of the rule (i.e., under the Advanced Approaches).

  - Under the Proposed Rule, all U.S. IHCs that are Category I – IV banking organizations would be required to calculate RWAs under both the Standardized Approach and ERB Approach, consistent with U.S. Category I – IV banking organizations subject to the Proposed Rule.

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Numerator Changes

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Numerator Changes
Calculation of Regulatory Capital

— The Proposed Rule would not introduce any new substantive requirements for the recognition or calculation of, or deductions from, any of the three tiers of regulatory capital – CET 1, Additional Tier 1 (**AT 1**) or Tier 2.

— The Proposed Rule would extend the same treatment currently applied to Category I and II banking organizations to Category III and IV banking organizations for the following items in the recognition and calculation of, or deductions from, regulatory capital:

- Recognition of accumulated other comprehensive income (**AOCI**) in CET 1

- Recognition in CET 1 and thresholds for deduction from CET 1 for the following three categories of assets:

  — Mortgage servicing assets (**MSAs**)

  — Deferred tax assets arising from temporary differences that could not be realized through net operating loss carrybacks (**Unrealizable Time Difference DTAs**)

  — Significant and non-significant investments in the capital of unconsolidated financial institutions (**UFIs**)

- Minority Interests

- Unsecured debt instruments issued by U.S. or foreign GSIBs (**Covered Debt**)

- Disclosure in AT 1 and Tier 2 capital instruments

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Numerator Changes
Calculation of Regulatory Capital

— The Proposed Rule would effectively eliminate the simplified standardized treatment for the above items that the Agencies' 2019 tailoring rule for capital or a capital simplification rule, as applicable, made available to Category III and IV banking organizations.

- Compared to the original 2013 U.S. capital rules, the Proposed Rule would:

  - Lower the threshold that the 2013 U.S. capital rules established for the recognition of AOCI in CET 1 capital, from $250 billion of total consolidated assets or $10 billion of on-balance sheet foreign exposures to $100 billion of total consolidated assets; and

  - Raise the threshold that the 2013 U.S. capital rules established for the more limited inclusion in CET 1 capital, and lower deduction thresholds, for MSAs, Unrealizable Time Difference DTAs, significant and non-significant investments in the capital of UFIs, and the lower limits on the recognition of minority interests, from any banking organization subject to the capital rules to banking organizations with ≥ $100 billion of total consolidated assets.

— In addition, the Proposed Rule would make a technical amendment to the calculation of total capital for purposes of calculating the total risk-based capital ratio to reflect the use of CECL for credit losses and to eliminate an item that flowed from the use of the Advanced Approaches.

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Numerator Changes
Recognition of AOCI in CET 1 Capital

— The Proposed Rule would eliminate the opportunity for Category III and IV banking organizations to opt out of the recognition of AOCI in CET 1 capital, requiring all Category III and IV banking organizations to recognize AOCI – other than accumulated net gains and losses on cash flow hedges related to items that are not recognized at fair value on the balance sheet in CET 1 capital.

- This is the same treatment as currently applicable to the Category I and II banking organizations

— AOCI usually includes unrealized gains and losses on certain assets and liabilities that are not included in net income. These items include:

- Unrealized gains and losses on available-for-sale (**AFS**) securities;

- Other than temporary impairment on securities reported as held to maturity (**HTM**) that are not credit-related;

- Cumulative gains and losses on cash flow hedges; and

- Amounts attributed to defined benefit post-retirement plans resulting form the initial and subsequent application of the relevant GAAP standards pertaining to such plans.

— The AOCI opt-out, available to banking organizations other than Advanced Approaches banking organizations under the 2013 U.S. capital rules and also available to Category III and IV banking organizations under the 2019 tailoring capital rules, effectively backed out of CET 1 capital the impact of most of the above AOCI items.

- The AOCI opt-out permitted a banking organization to exclude AOCI amounts from CET 1 capital by (1) subtracting unrealized or accumulated gains on certain AOCI items from CET 1 and (2) adding back unrealized or accumulated losses on certain AOCI items to CET 1 capital, as shown in the following table:

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Numerator Changes
Recognition of AOCI in CET 1 Capital

Under the current U.S. capital rules, a banking organization that opts out of recognizing AOCI in CET 1 capital must adjust its CET 1 capital as follows:

+ Additions to CET 1:	**- Subtractions from CET 1:**
Any net unrealized losses on AFS securities	Any net unrealized gains on AFS securities
	Any unrealized loss on AFS (1) preferred stock classified as an equity security under GAAP and (2) equity exposures
Any accumulated net loss on cash-flow hedges	Any accumulated net gain on cash-flow hedges
	Any amounts recorded in AOCI attributed to defined benefit post-retirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans
Any net unrealized losses on HTM securities that are included in AOCI	Any net unrealized gains on HTM securities that are included in AOCI

Tier 2 capital: A banking organization that opts out of recognizing AOCI in CET 1 capital may incorporate up to 45% of any net unrealized gains on AFS preferred stock classified as an equity security under U.S. GAAP and equity exposures into its Tier 2 capital.

— The net effect of the AOCI opt-out was to exclude AOCI items from increasing or reducing CET 1 capital, as applicable, except for:

- Unrealized losses on AFS equity securities (shown above as still being subtracted from CET 1 capital),* and

- Any amounts recorded in AOCI attributed to defined benefit post-retirement plans resulting from the initial and subsequent application of the relevant GAAP standards pertaining to such plans (also shown above as still being subtracted from CET 1 capital)

* The Agencies note in the Preamble that the accounting classification of equity securities with readily determinable fair values that are not held for trading as AFS securities has been eliminated. The U.S. capital rules' AOCI opt-out provisions have not yet been amended to reflect this accounting change.

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Numerator Changes
Recognition of AOCI in CET 1 Capital

‒ Under the Proposed Rule, the AOCI opt-out shown in the preceding table would no longer be available to Category III and IV banking organizations.

‒ A Category III or IV banking organization would therefore be required to recognize the impact of AOCI in its CET 1 capital, in the same way as a Category I or II banking organization.

‒ In addition, a Category III or IV banking organization would – in the same way as a Category I or II banking organization – become subject to the following AOCI-related adjustments to CET 1 capital (net of any associated deferred tax effects):

+ Additions to CET 1:	**- Subtractions from CET 1:**
Any accumulated net loss on cash flow hedges included in AOCI that relate to the hedging of items that are not recognized at fair value on the balance sheet	Any accumulated net gain on cash flow hedges included in AOCI that relate to the hedging of items that are not recognized at fair value on the balance sheet

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Numerator Changes
Transition Period for Recognition of AOCI in CET 1 Capital

– The Proposed Rule would phase in the elimination of the AOCI opt-out for Category III and IV banking organizations over a three-year period from July 1, 2025 until June 30, 2028.

– A Category III or IV banking organization would calculate its "**Transition AOCI Adjustment Amount**," multiply that amount by the percentages shown in the table below and adjust CET 1 capital by the resulting amount.

– The Transition AOCI Adjustment Amount reflects the adjustment necessary to give effect to the AOCI opt-out. As the adjustment percentage decreases, more AOCI is recognized in CET 1 capital.

Transition Period	Percentage of Transition AOCI Adjustment Amount recognized in CET 1 capital
July 1, 2025 to June 30, 2026	75
July 1, 2026 to June 30, 2027	50
July 1, 2027 to June 30, 2028	25
July 1, 2028 and thereafter	0

Transition AOCI Adjustment Amount

=

Net unrealized gains or losses on AFS debt securities

+

Accumulated net gains or losses on cash flow hedges

+

Any amounts recorded in AOCI attributed to defined benefit post-retirement plans resulting from the initial and subsequent application of the relevant GAAP standards that pertain to such plans

+

Net unrealized holding gains or losses on HTM securities that are included in AOCI

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Numerator Changes
MSAs, Unrealizable Time Difference DTAs and Investments in UFIs

Treatment under 2013 U.S. Capital Rules

– The 2013 U.S. capital rules provided for limited recognition in CET 1 capital of MSAs, Unrealizable Time Difference DTAs and significant investments in the capital of UFIs in the form of common stock, in each case net of associated deferred tax liabilities (DTLs) (Threshold Deduction Items), in the form of a threshold applied to each individual category of Threshold Deduction Items and an aggregate threshold:

- Individual Threshold: Each Threshold Deduction Item could be included in CET 1 capital up to a limit of 10% of CET 1 capital (after applying certain other adjustments and deductions), with any excess above 10% deducted from CET 1 capital; and

- Aggregate Limit: After applying the individual threshold, the aggregate of all three Threshold Deduction Items could be included in CET 1 capital up to an aggregate limit of 15% of CET 1 capital (after applying certain other adjustments and deductions, plus the individual limit), with any excess above 15% deducted from CET 1 capital.

Numerator Changes
MSAs, Unrealizable Time Difference DTAs and Investments in UFIs

– In addition, the 2013 U.S. capital rules distinguished between significant (generally > 10% of a UFI's common stock) and non-significant (≤ 10% of a UFI's common stock) investments in UFIs, with non-significant investments (net of associated DTLs) subject to an individual deduction threshold of 10% of CET 1 capital (after applying certain other adjustments and deductions), with an excess above 10% deducted from capital using the corresponding deduction approach.

- Under the corresponding deduction approach, the deduction is made from the component of the banking organization's regulatory capital (CET 1, AT 1, or T 2), for which the instrument issued by the UFI would qualify if issued by the banking organization itself.

- The 2013 U.S. capital rules also required a complete deduction of the amount of any significant investment in the capital of a UFI not in the form of common stock, using the corresponding deduction approach.

– The rules and limits for deduction of the Threshold Deduction Items and for non-significant investments in the capital of UFIs applied to all banking organizations subject to the 2013 U.S. capital rules.

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Numerator Changes
MSAs, Unrealizable Time Difference DTAs and Investments in UFIs

Treatment under 2019 Capital Simplification Rule

— The 2019 capital simplification rule introduced a simplified deduction approach for MSAs, Unrealizable Time Difference DTAs, and investments in the capital of UFIs for all banking organizations <u>other</u> than Category I – II banking organizations.

— For MSAs and Unrealizable Time Difference DTAs, the changes were:

  ▪ Increase of the individual threshold to 25% of CET 1 capital (after applying certain other adjustments and deductions); and

  ▪ Elimination of the aggregate threshold.

— For investments in the capital of unconsolidated UFIs, the changes were:

  ▪ Elimination of the distinction between significant investments and non-significant investments, treating all investments in the capital of UFIs (regardless of the form of capital) in the same way;

  ▪ Increase of the individual threshold to 25% of CET 1 capital; and

  ▪ Elimination of the aggregate threshold applicable to significant investments in the form of common stock.

— Deductions made using the corresponding deduction approach.

Treatment under Proposed Rule

— The Proposed Rule would apply the treatment of Threshold Deduction Items and non-significant investments in the capital of UFIs that currently applies to Category I – II banking organizations to Category III – IV banking organizations.

  ▪ This change would effectively restore the treatment under the 2013 capital rules to Category III – IV banking organizations.

  ▪ The following page summarizes the treatment of Threshold Deduction Items and non-significant investments in the capital of UFIs.

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Numerator Changes
MSAs, Unrealizable Time Difference DTAs and Investments in UFIs

10% Threshold Deduction Approach

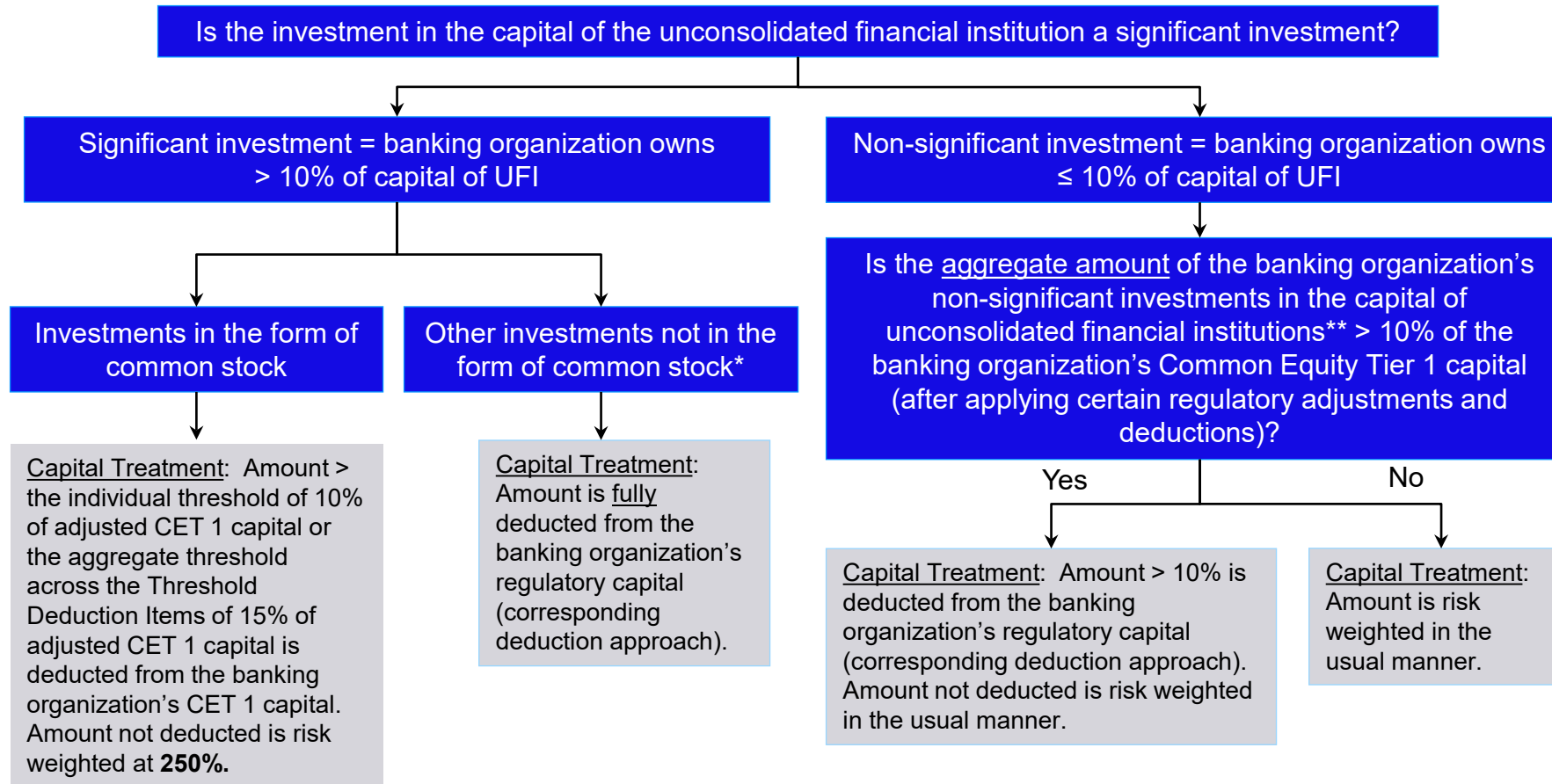Non-significant UFI capital investments* in the form of:

CET 1	AT 1	T2
X%	Y%	Z%

Total non-significant UFI capital investments

Threshold = 10% of CET 1 (after certain adjustments)

Portion not deducted subject to **applicable risk weights**

Deducted using **corresponding deduction approach** (proportionate to X%, Y% and Z%)
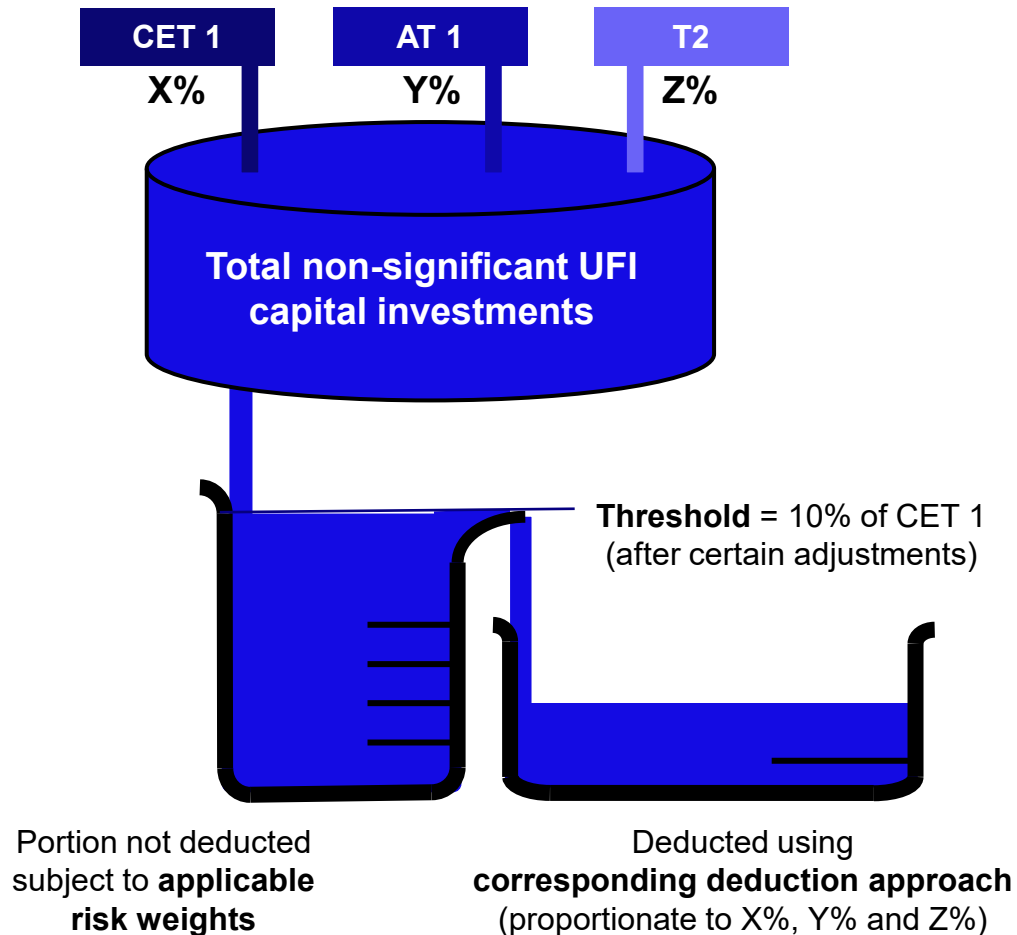
10% / 15% Threshold Deduction Approach

Three Deduction Categories
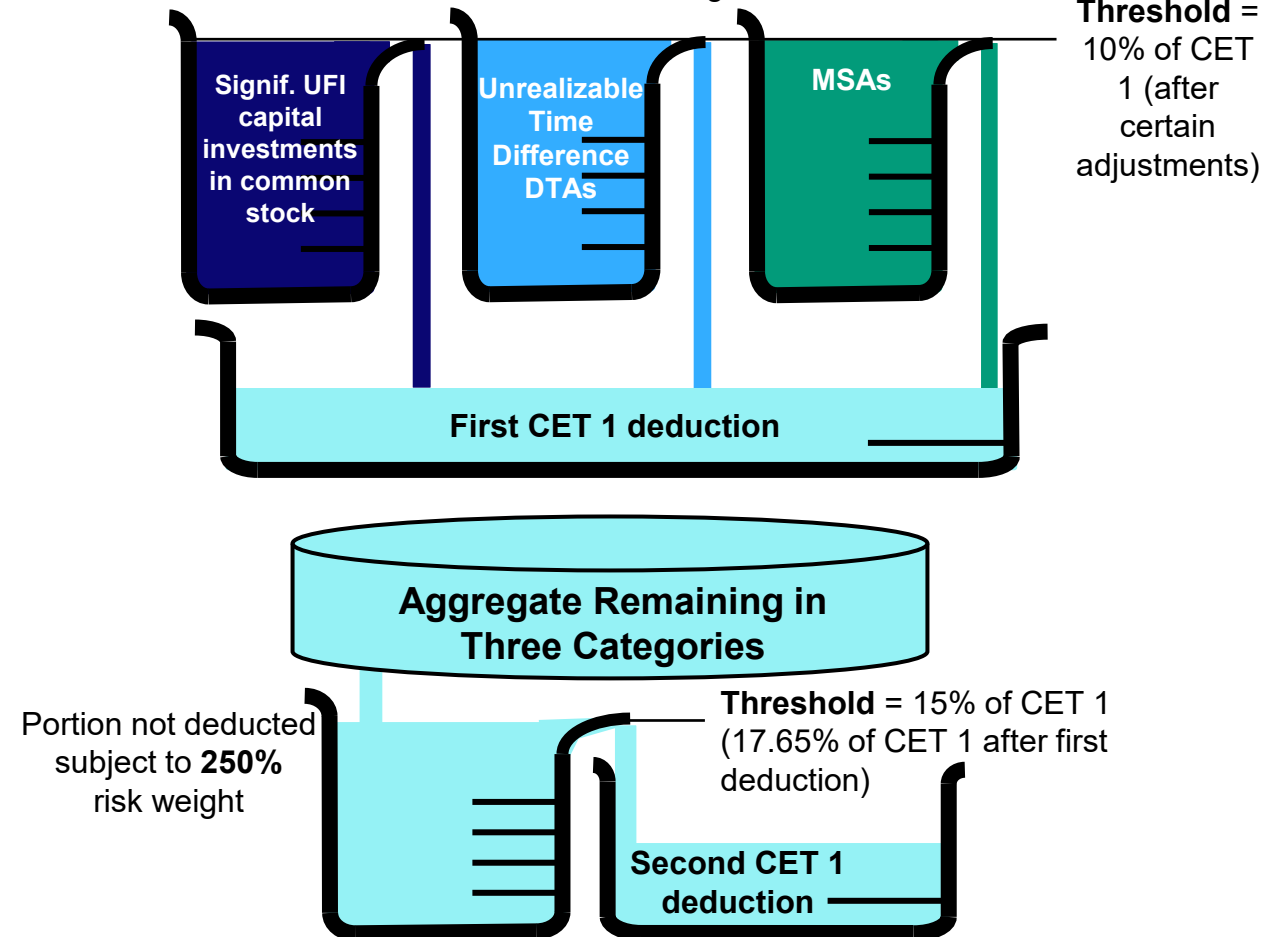
Signif. UFI capital investments in common stock

Unrealizable Time Difference DTAs

MSAs

Threshold = 10% of CET 1 (after certain adjustments)

First CET 1 deduction

Aggregate Remaining in Three Categories

Portion not deducted subject to **250%** risk weight

Threshold = 15% of CET 1 (17.65% of CET 1 after first deduction)

Second CET 1 deduction

* Also includes and applies to investments in Covered Debt Instruments issued by any GSIB in which the Category I – IV banking organization does not have a significant investment in the GSIB's capital, subject to a threshold for exclusion from the calculation.

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Numerator Changes
Flowchart: Treatment of Significant and Non-Significant Investments in UFIs

Is the investment in the capital of the unconsolidated financial institution a significant investment?

Significant investment = banking organization owns > 10% of capital of UFI

Non-significant investment = banking organization owns ≤ 10% of capital of UFI

Investments in the form of common stock

Other investments not in the form of common stock*

Is the <u>aggregate amount</u> of the banking organization's non-significant investments in the capital of unconsolidated financial institutions > 10% of the banking organization's Common Equity Tier 1 capital (after applying certain regulatory adjustments and deductions)?**

Yes   No

<u>Capital Treatment</u>: Amount > the individual threshold of 10% of adjusted CET 1 capital or the aggregate threshold across the Threshold Deduction Items of 15% of adjusted CET 1 capital is deducted from the banking organization's CET 1 capital. Amount not deducted is risk weighted at **250%.**

<u>Capital Treatment</u>: Amount is <u>fully</u> deducted from the banking organization's regulatory capital (corresponding deduction approach).

<u>Capital Treatment</u>: Amount > 10% is deducted from the banking organization's regulatory capital (corresponding deduction approach). Amount not deducted is risk weighted in the usual manner.

<u>Capital Treatment</u>: Amount is risk weighted in the usual manner.

* Also includes and applies to investments in Covered Debt Instruments issued by any GSIB in which the Category I – IV banking organization has a significant investment in the GSIB's capital not in the form of common stock. Covered Debt Instruments are treated as Tier 2 capital for purposes of the corresponding deduction approach.
** Also includes and applies to investments in Covered Debt Instruments issued by any GSIB in which the Category I – IV banking organization does not have a significant investment in the GSIB's capital, subject to a threshold for exclusion from the calculation. A Category II – IV banking organization may exclude from the deduction its gross long position up to 5% of its CET 1 capital (after applying certain other adjustments and deductions). A Category I banking organization may exclude from the deduction any qualifying Excluded Covered Debt Instrument (i.e., held in connection with market-making activities for ≤ 30 business days) its gross long position up to 5% of its CET 1 capital (after applying certain other adjustments and deductions). Covered Debt Instruments are treated as Tier 2 capital for purposes of the corresponding deduction approach.

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Numerator Changes
Minority Interests

— Minority interests are capital instruments issued by a consolidated subsidiary of a banking organization to third-party investors.

Treatment under 2013 U.S. Capital Rules

— The 2013 U.S. capital rules applied both a qualitative limit and a quantitative limit on the recognition of minority interests:

— **Qualitative Limit:** The capital instrument issued by the subsidiary must meet all the eligibility criteria for the relevant tier of capital (CET 1, AT 1, or T 2) as if it were issued by the banking organization directly.

— **Quantitative Limit:** The amount of a subsidiary's **surplus** capital (i.e., the amount by which the subsidiary's capital > [the subsidiary's minimum capital requirements + capital buffer requirements]) attributable to third-party investors <u>cannot</u> be recognized as part of the banking organization's capital.

Treatment under 2019 Capital Simplification Rule

— The 2019 capital simplification rule introduced a simplified approach to recognizing minority interests for all banking organizations other than Category I – II banking organizations.

— The changes simplified the quantitative limit, as shown at the right.

— The current U.S. capital rules permit all banking organizations, <u>other</u> than Category I and II banking organizations, to recognize minority interests subject to the following fixed percentage limits:

  ▪ A banking organization may recognize CET 1 minority interests up to 10% of the banking organization's CET 1 capital.

  ▪ A banking organization may recognize Tier 1 minority interests up to 10% of the banking organization's Tier 1 capital.

  ▪ A banking organization may recognize Total Capital minority interests up to 10% of the banking organization's total capital.

Banking Organization's Total Capital

Tier 2 Capital

T2 Minority Interests

Additional Tier 1 Capital

AT 1 Minority Interests

CET 1 Capital

CET 1 Minority Interests

Total Capital

Tier 1 Capital

Minority interest limitations for non-Category I-II firms under current capital rules

Recognize up to 10% of total capital:

| T2 MI | AT 1 MI | CET 1 MI |

Recognize up to 10% of Tier 1 capital:

| AT 1 MI | CET 1 MI |

Recognize up to 10% of CET 1 capital:
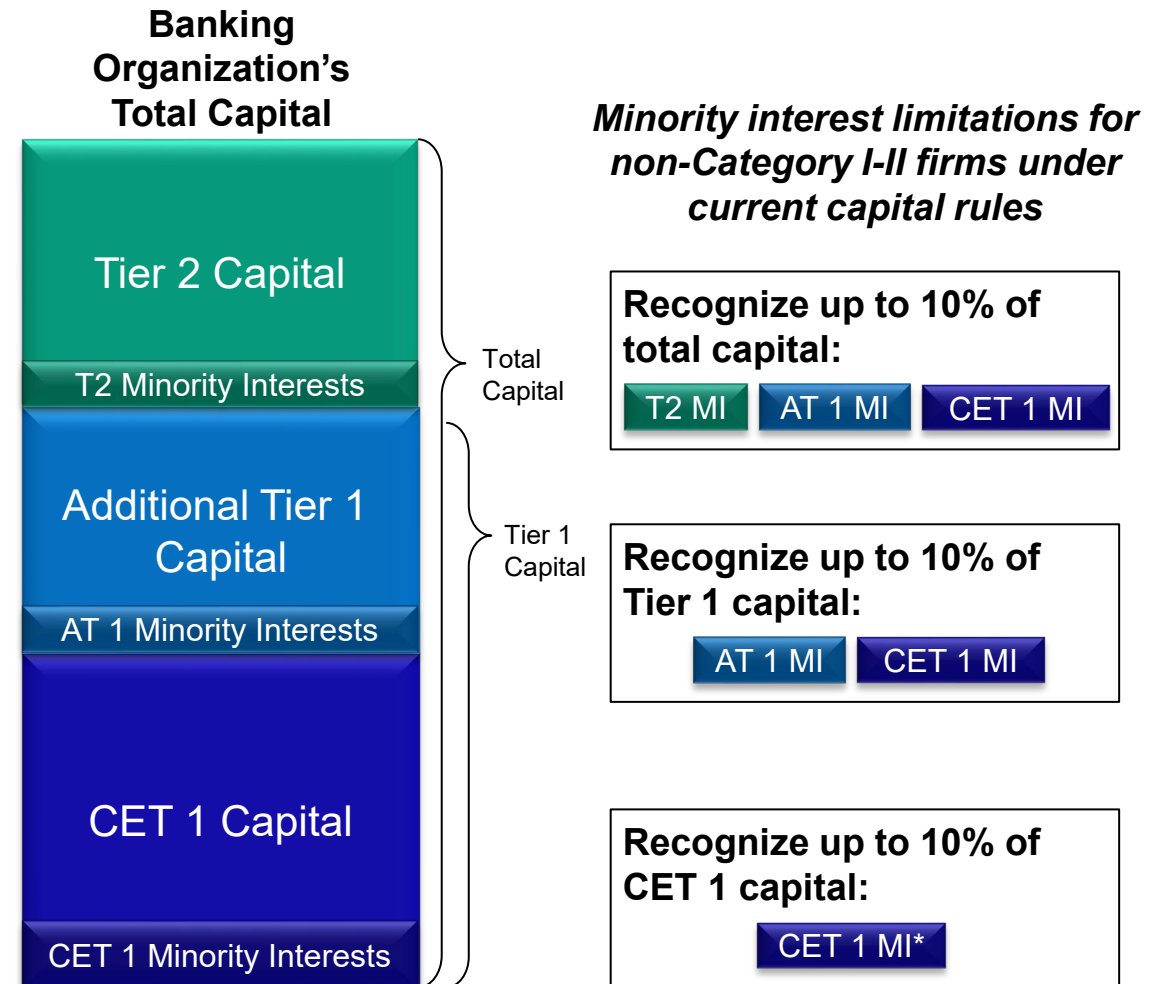
CET 1 MI*

* Only CET 1 minority interests issued by a depository institution or foreign bank subsidiary may be recognized in CET 1 capital. CET 1 minority interests issued by any other subsidiary can only be recognized in Tier 1 capital.

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Numerator Changes
Minority Interests

Treatment under Proposed Rule

– The Proposed Rule would apply the quantitative limit for minority interests that currently applies to Category I and II banking organizations to Category III and IV banking organizations.

  ▪ This change would effectively restore the quantitative limit for minority interests under the 2013 U.S. capital rules to Category III and IV banking organizations.

– **Quantitative Limit:** The amount of a subsidiary's **surplus** capital that is attributable to third-party investors cannot count toward the parent banking organization's consolidated regulatory capital.

  ▪ Surplus = amount by which subsidiary's actual capital exceeds the subsidiary's minimum capital requirements + capital buffer requirements (or equivalent standards established by the subsidiary's home country supervisor).

  ▪ If a subsidiary is not subject to capital adequacy standards "similar" to those of the parent banking organization, the parent banking organization must assume that the capital adequacy standards of the parent banking organization apply to the subsidiary.

Consolidated Subsidiary's Actual Capital

Surplus attributable to third-party investors

Cannot count toward parent banking organization's regulatory capital

Surplus

Minimum capital required + capital buffer(s) attributable to third-party investors

Can count toward parent banking organization's regulatory capital

Minimum capital required + capital buffer requirements

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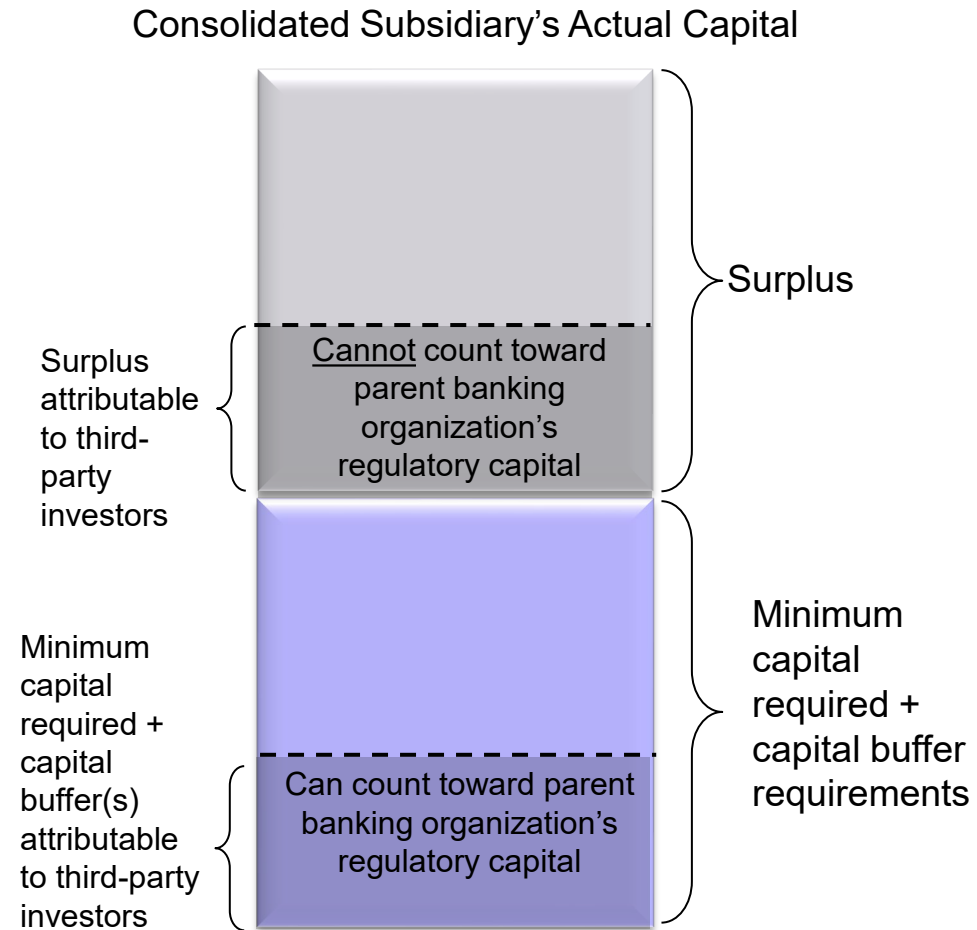
Numerator Changes
Additional Requirements

Covered Debt Instruments

- The current U.S. capital rules require Category I and II banking organizations to include Covered Debt Instruments (which refer to unsecured debt issued by U.S. or foreign GSIBs) in the same way as non-significant investments in the capital of UFIs or significant investments in the capital of UFIs that are not in the form of common stock.

- Covered Debt Instruments issued by a GSIB in which the Category I and II banking organization does not have a significant investment in the capital of the GSIB (**Non-Significant Covered Debt Instruments**):

  - The aggregate amount of Non-Significant Covered Debt Instruments is added to the aggregate amount of non-significant investments in the capital of UFIs for purposes of applying the 10% of CET 1 capital deduction threshold.

  - For purposes of applying the corresponding deduction approach, Non-Significant Covered Debt Instruments are treated as Tier 2 capital.

  - A Category II banking organization may exclude from this deduction its gross long position in Non-Significant Covered Debt Instruments up to 5% of its CET 1 capital (after applying certain other adjustments and deductions).

  - A Category I banking organization may exclude from the deduction any qualifying Excluded Non-Significant Covered Debt Instrument (i.e., held in connection with market-making activities for ≤ 30 business days) its gross long position in qualifying Excluded Non-Significant Instruments up to 5% of its CET 1 capital (after applying certain other adjustments and deductions).

Covered debt instrument means an unsecured debt instrument that is:

(1) Issued by a global systemically important BHC and that is an eligible debt security, or that is *pari passu* or subordinated to any eligible debt security issued by the global systemically important BHC; or

(2) Issued by a Covered IHC, and that is an eligible Covered IHC debt security, or that is *pari passu* or subordinated to any eligible Covered IHC debt security issued by the Covered IHC; or

(3) Issued by a global systemically important banking organization, other than a global systemically important BHC; or issued by a subsidiary of a global systemically important banking organization that is not a global systemically important BHC, other than a Covered IHC; and where,

  (i) The instrument is eligible for use to comply with an applicable law or regulation requiring the issuance of a minimum amount of instruments to absorb losses or recapitalize the issuer or any of its subsidiaries in connection with a resolution, receivership, insolvency, or similar proceeding of the issuer or any of its subsidiaries; or

  (ii) The instrument is *pari passu* or subordinated to any instrument described in paragraph (3)(i) of this definition; and

(4) Provided that, for purposes of this definition, covered debt instrument does not include a debt instrument that qualifies as tier 2 capital or that is otherwise treated as regulatory capital by the primary supervisor of the issuer.

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Numerator Changes
Additional Requirements

— Covered Debt Instruments issued by a GSIB in which the Category I and II banking organization has a significant investment in the capital of the GSIB (**Significant Covered Debt Instruments**):

- The amount of any Significant Covered Debt Instruments issued by the relevant GSIB is added to the amount of any significant investment in the capital of the GSIB that is not in the form of common stock and the aggregate amount is deducted from the banking organization's capital using the corresponding deduction approach; and

- For purposes of applying the corresponding deduction approach, Significant Covered Debt Instruments are treated as Tier 2 capital.

— The Proposed Rule would extend these requirements to all Category III and IV banking organizations.

— **Disclosure in AT 1 and T2 Capital Instruments:** The current U.S. capital rules require that instruments issued by a Category I and II banking organization must disclose, in the governing agreement, offering circular, or prospectus, that holders of the instrument may be fully subordinated to interests held by the U.S. government in the event that the banking organization enters into receivership, insolvency, liquidation or similar proceeding.

- The Proposed Rule would extend this requirement to Category III and IV banking organizations.

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Credit Risk and Equity Risk RWAs

4

Overview of Credit Risk
Summary of Changes

Expanded Total RWA

Subpart E				*Subpart F*
CR-ERB	ER-ERB	OR	MR	CVA

— The Proposed Rule would eliminate the Advanced Approaches (current Subpart E) and the use of internal models to calculate RWAs for credit risk (applicable for Category I and II banking organizations under the current U.S. capital rules) and require all Category I – IV banking organizations to calculate RWAs for credit risk using a more risk-sensitive, standardized approach known as the **ERB Approach** (which would be codified in a new Subpart E, along with the SA-OR).

- The ERB Approach would be more risk-sensitive than the Standardized Approach for credit risk by incorporating more credit risk drivers for certain categories of exposures.

- By replacing the Advanced Approaches, the Agencies state that the ERB Approach would better facilitate comparisons of capital adequacy across banking organizations by reducing firm-by-firm differences in RWAs for similar exposures.

— Category I – IV banking organizations would be required to calculate their RWAs for credit risk using both the ERB Approach under the proposed new Subpart E and the Standardized Approach for credit risk under the existing Subpart D.

- As noted above, a Category I – IV banking organization would aggregate its RWAs for all risk categories (credit risk, market risk, etc.) under both the Standardized Approach and the ERB Approach and report each of its risk-based capital ratios (CET 1, Tier 1, and total) based on the higher of (1) Expanded Total RWAs and (2) Standardized Total RWAs – the higher amount of RWAs produces the lower risk-based capital ratio.

— The Proposed Rule would make only minor, technical changes to the existing Standardized Approach for credit risk.

— This section covers the methodologies and frameworks for calculating RWAs for credit risk under the ERB Approach.

- **RWAs for credit risk** (a.k.a. "banking book" RWAs) apply to positions that are not market risk covered positions.

- Market risk covered positions are subject to RWAs for market risk (a.k.a. "trading book" RWAs) under Subpart F. See Section 6, beginning on page 144 for a discussion of the RWAs for market risk under the Proposed Rule.

- Throughout this section, we describe both the calculation of RWAs for credit risk under the ERB Approach and the main differences between (1) the ERB Approach and the Standardized Approach for credit risk and (2) between the ERB Approach and the Basel Framework.

> The Basel Framework retains the option for banking organizations to use internal models to calculate RWAs for credit risk, for example the Internal Ratings-based Approach for credit risk and the Internal Model Method for counterparty credit risk.

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Overview of Credit Risk

Similarities and Differences between ERB Approach and Standardized Approach
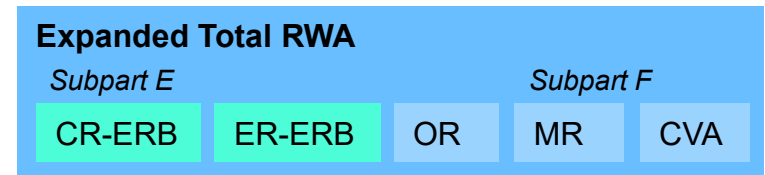
– **Similarities:** The ERB Approach for credit risk is itself a standardized approach based on the revised standardized approach of the revised Basel Framework, but sharing many of the features of the Standardized Approach for credit risk, including the following:

  ▪ Most of the same **exposure categories** and **exposure types**. See below for lists of exposure categories and exposure types.

  ▪ For most exposure categories, the ERB Approach (like the Standardized Approach) would be determined by multiplying the exposure amount for each credit risk exposure by the prescribed **risk weight** for the exposure type.

  ▪ The same **special exposure categories** – i.e., exposure categories for which special rules apply for the determination of exposure amount, risk weight or both (e.g., OTC derivatives, other collateralized transactions, off balance-sheet exposures and securitization exposures).

– **Differences:** The ERB Approach would be more granular and risk-sensitive than the Standardized Approach for credit risk by incorporating more credit risk drivers, such as counterparty and loan characteristics, for certain exposure types (e.g., corporate, bank exposures and real estate exposures) and introducing new exposure types (e.g., retail exposures).

Overview of Credit Risk
Overview of ERB Approach

— In this section, we have divided the proposed requirements of the ERB Approach into **seven exposure categories** (one general category and six special categories) and **two credit risk mitigants**, summarized in the table below along with the applicable calculation approaches, and an overview of the key difference(s) compared to the Standardized Approach for credit risk.

Exposure Categories and Credit Risk Mitigants under ERB Approach

Exposure Category / Credit Risk Mitigant	RWA Calculation Approach(es) under CR-ERB	Differences vs CR-SA	Pages
1. General credit exposures	**General risk-weighting approach:** exposure amount x risk weight	See exposure type table (next page)	54
2. Off-balance sheet exposures	Exposure amount determined by **CCF x notional** methodology	Changes to CCFs for commitments. Proxy-based approach for unlimited commitments.	69
3. OTC Derivatives (for counterparty credit risk)	Exposure amount (net of collateral) determined by **SA-CCR** methodology	Current exposure method (**CEM**) eliminated. SA-CCR required.	70
4. Cleared transactions	For clearing members: Trade exposures (amount x CCP risk weight) + default fund contribution exposure For clearing member clients: Trade exposure amount x CCP risk weight	None	79
5. Unsettled transactions	DvP/PvP approach	None	83
6. Eligible guarantees and eligible credit derivatives	**Substitution approach**	Changes to eligible credit derivatives and the restructuring event adjustment	85
7. Collateralized transactions	**Simple approach** **Collateral haircut approach**	Changes to collateral haircut approach exposure – collateral calculations, new minimum haircut floors for certain transactions	90
8. Securitization exposures	**SA-SEC**	Replaces SSFA	105
9. Equity exposures	Generally exposure amount x risk weight, look-through approaches for investment funds	Changes in risk weights and look-through approaches for investment funds	124

Special exposure categories (1–5)

Credit risk mitigants (6–7)

Special exposure categories (8–9)

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1. General Credit Exposures
Overview and Exposure Types

— **Scope of General Credit Exposures:** The exposure category of **general credit exposures** refers to all on-balance sheet exposures other than:

- Exposures that are market risk covered positions

- Exposures for which one of the six special exposure category applies (i.e., off-balance sheet exposures, OTC derivatives, cleared transactions, unsettled transactions, securitization exposures, and equity exposures).

- Exposures that are deducted from capital or for which a special risk weight applies under the capital deduction frameworks

— **General Risk-Weighting Approach:** The RWA amount for a general credit exposure is the exposure amount multiplied by the risk weight applicable to the exposure.

- **Exposure Amount:** For general credit exposures, the exposure amount generally equals the **carrying value** of the exposure on the balance sheet.

- **Risk Weight:** The risk weight for general credit exposures is determined based on the **exposure type**.* See the table to the right and subsection 1 of this section.

Exposure Types under ERB Approach

Exposure Type	Scope of Differences vs CR-SA	Page Reference
A. Sovereign exposures	None	55
B. Supranational exposures	None	55
C. Government-sponsored entities (**GSEs**)	Subordinated GSE debt	56
D. Bank exposures	Higher and more risk sensitive risk weights (Grades A/B/C)	57
E. Public-sector entities (**PSEs**)	None	59
F. Real estate exposures	New sub-types; more risk-sensitive	60
G. Retail exposures	New exposure type	65
H. Corporate exposures	More risk sensitive; introduction of subordinated debt sub-type	66
I. Defaulted exposures	New definition of defaulted exposures	67
J. Other assets	None	68
K. Insurance assets	None	68

* Exposure types are also used to determine risk weights for certain special exposure categories (including off-balance sheet exposures, OTC derivatives, and equity exposures to investment funds) and by the substitution-based approaches for credit risk mitigation (i.e., simple approach to collateral recognition, eligible guarantees and eligible credit derivatives).

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1. General Risk Weights
Sovereign and Supranational Exposures

— The risk weights for these exposures are the same under the ERB approach and the Standardized Approach.

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
A-1. Sovereign exposures – U.S. government	Direct exposures, unconditionally guaranteed exposures and covered PPP loans: **0%** Conditionally guaranteed exposures: **20%**	
A-2. Sovereign exposures – non-U.S. central governments	By status of the sovereign (primarily by country risk classification (**CRC**)): — CRC 0-1: **0%** — CRC 2: **20%** — CRC 3: **50%** — CRC 4-6: **100%** — CRC 7: **150%** — OECD without CRC: **0%** — Non-OECD without CRC: **100%** — Default in past five years: **150%**	
B. Certain supranational entities and multilateral development banks (MDBs)	**0%** This risk weight applies only to MDBs and the following supranational entities: — Bank for International Settlement — European Central Bank — European Commission — International Monetary Fund — European Stability Mechanism — European Financial Stability Facility	

The Basel Framework does not distinguish between conditional and unconditional sovereign exposures.

By default, the Basel Framework provides for the use of external credit ratings to risk weight sovereign exposures. Section 939A of the Dodd-Frank Act prohibits the Agencies from using external ratings in the assignment of risk weights. As an alternative, the Basel Framework provides for the use of country risk scores assigned by Export Credit Agencies (ECAs), which are required to adhere to the OECD-agreed methodology. The Basel Framework requires banking organizations subject to this alternative to use either individual ECAs recognized by their national supervisor or consensus scores published by the OECD. The ERB Approach would adopt the use of consensus risk scores, which the Agencies and OECD refer to as CRCs. These risk weights would be consistent with the Basel Framework.

The Basel Framework provides for exposures to additional MDBs based on external credit ratings. The Proposed Rule does not expand the existing definition of MDBs in the U.S. capital rules.

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1. General Risk Weights
GSE Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight

C. GSE exposures	— Non-equity exposures: **20%**
	— Preferred stock exposures: **100%**
		— Senior credit exposures: **20%**
		— Subordinated debt: **150%**
		  ▪ Exception: Subordinated debt exposures to the Federal Home Loan Bank (FHLB) or the Federal Agricultural Mortgage Corp. (Farmer Mac): **20%**
		  ▪ The definition of "subordinated debt instrument" includes preferred stock that does not meet the definition of an equity exposure.
		— Other preferred stock exposures: treated as equity exposures

The Basel Framework does not distinguish between GSEs and PSEs.

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1. General Risk Weights
Bank Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight		
D-1. Bank exposures – U.S. banks*	**20%**		**Base**	**Self-liquidating, trade-related contingent items that arise from the movement of goods and have maturities ≤ 3 months (Trade Credit)**
		Grade A	**40%**	**20%**
		Grade B	**75%**	**50%**
		Grade C	**150%**	**150%**

U.S. bank exposures would be divided into three Grades:

— **Grade A:** investment grade exposures to banks that meet or exceed the higher of:
- All applicable minimum capital *and buffer* requirements
- If applicable, the well-capitalized threshold according to the Agencies' prompt correction action (**PCA**) framework.

— **Grade B:** speculative grade or investment grade exposures to banks that meet or exceed the higher of:
- All applicable minimum capital requirements
- If applicable, the adequately-capitalized threshold according to the Agencies' PCA framework.

— **Grade C:** exposures to banks that are not Grade A or B and banks which have not disclosed their capital ratios within the last six months, or against which an external auditor has issued an adverse opinion or expressed substantial doubt in the last year with respect to the ability of the bank to continue as a going concern, or foreign banks subject to capital standards not consistent with the BCBS Capital Accord.

Speculative grade means the entity to which the banking organization is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse economic conditions, such that should economic conditions deteriorate, the entity would present an elevated default risk.

* Includes depository institutions and credit unions.

The Basel Framework generally uses external credit ratings to determine the risk weights for banks. Section 939A of the Dodd-Frank Act prohibits the federal banking agencies from using external ratings agencies in the assignment of risk weights. The Basel Framework permits banking regulators to use the Standardized Risk Assessment Approach (**SCRA**) grades, as an alternative to external credit ratings, which is generally consistent with the approach taken in the ERB Approach.

The Basel Framework includes (i) exposures to banks (whether on-balance sheet or off-balance sheet) with maturities ≤ 3 months and (ii) Trade Credit exposures with maturities ≤ 6 months as exposures that qualify for lower risk weights for short-term exposures.

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1. General Risk Weights
Bank Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
D-2. Bank Exposures – Foreign banks	Risk weights vary depending on the status of the sovereign in which the bank is organized: — CRC 0-1: **20%** — CRC 2: **50%** — CRC 3: **100%** — CRC 4-7: **150%** — OECD without CRC: **20%** — Non-OECD without CRC: **100%** — Default in past five years: **150%**	Foreign bank exposures generally would be divided into three grades based on the same standards applicable to U.S. bank exposures (described above), subject to the sovereign floor. <table><tr><td></td><td>**Base**</td><td>**Trade Credit**</td></tr><tr><td>Grade A</td><td>**40%**</td><td>**20%**</td></tr><tr><td>Grade B</td><td>**75%**</td><td>**50%**</td></tr><tr><td>Grade C</td><td>**150%**</td><td>**150%**</td></tr></table> **Sovereign floor:** If the risk weight applicable to sovereign of the foreign bank's home country is higher than the grade-based risk weight, the banking organization would apply the higher risk weight, unless the exposure is in the local currency of the foreign bank (or branch of the foreign bank, if applicable). — The sovereign floor does not apply to the Trade Credit exposures qualifying for the lower risk weights above.

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1. General Risk Weights
PSE Exposures

— The risk weights for these exposures are the same under the ERB approach and the Standardized Approach.

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
E-1. PSE exposures – U.S. PSEs	General obligation exposures: **20%** Revenue obligation exposures: **50%**	
E-2. PSE Exposures – Foreign PSEs	Risk weights based on the status of the sovereign and type of obligation (general obligation vs revenue obligation):	

Sovereign Status	General Obligation	Revenue Obligation
Sovereign default in previous 5 years	**150%**	**150%**
Non-defaulted sovereigns:		
CRC 0-1	**20%**	**50%**
CRC 2	**50%**	**100%**
CRC 3	**100%**	**100%**
CRC 4-7	**150%**	**150%**
CRC undefined, OECD member	**20%**	**50%**
CRC undefined, non-OECD member	**100%**	**100%**

The Basel Framework does not explicitly distinguish between general obligation exposures and revenue obligation exposures, but permits PSEs to be categorized based on revenue-raising powers.

Section 939A of the Dodd-Frank Act prohibits the federal banking agencies from using external ratings agencies in the assignment of risk weights. The Basel Framework does not provide an alternative to the use of external ratings agencies for PSE exposures.

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1. General Risk Weights
Real Estate Exposures

Expanded Total RWA
Subpart E   *Subpart F*
CR-ERB   ER-ERB   OR   MR   CVA

Exposure Type / Sub-Type*	Standardized Approach Risk Weight	ERB Approach Risk Weight
F-1. Real estate – statutory multifamily mortgages	**50%**	
F-2. Real estate – pre-sold construction loans	**50%**, generally **100%**, if the purchase contract is cancelled	
F-3. Real estate – high-volatility commercial real estate (HVCRE) exposures	**150%**	
F-4. Real estate – acquisition, development or construction (ADC) exposures	Sub-type N/A; **100%** as corporate exposure or other asset	An **ADC exposure** would be defined an exposure that is secured by real estate for the purposes of acquiring, developing or constructing real estate, as well as land or land development loans. **100%** for an ADC exposure that is not an HVCRE exposure.

The Basel Framework does not explicitly identify statutory multifamily mortgages, pre-sold construction loans, or HVCRE exposures as discrete exposure sub-types.

This risk weight diverges from the Basel Framework insofar as the framework provides for a **150%** risk weight for ADC exposures by default, which may be reduced to **100%** for ADC exposures to residential real estate if the exposures (i) satisfy certain underwriting standards and (ii) pre-sale contracts constitute a significant portion of the total contracts or substantial equity at risk.

* Real estate sub-types in row F-1 to F-7 exclude defaulted real estate exposures, which are addressed in row F-8 below.

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1. General Risk Weights
Real Estate Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight					
F-5. Real estate – regulatory residential real estate*	**50%**, if the exposure is a first-lien residential mortgage exposure that is: — secured by a property that is either owner-occupied or rented; — made in accordance with prudent underwriting standards; — not 90 days or more past due or in non-accrual status; and — not restructured or modified. **100%**, otherwise	Not dependent on cash flows: **40% – 90%**, based on loan-to-value (LTV) ratio** Dependent on cash flows: **50% – 125%**, based on LTV ratio					

Risk Weights by LTV Ratio	LTV ratio ≤ 50%	50% < LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	80% < LTV ratio ≤ 90%	90% < LTV ratio ≤ 100%	LTV ratio ≥ 100%
Not dependent on cash flows	40%	45%	50%	60%	70%	90%
Dependent on cash flows	50%	55%	65%	80%	95%	125%

Currency mismatch: A residential mortgage exposure where there is a mismatch between the banking organization's lending currency and the borrower's source of repayment would generally be subject to a risk weight multiplier of 1.5x, up to a maximum risk weight of 150%, unless the borrower has an annual source of repayment in the currency of the loan equal to at least 90% of the loan. Hedged mismatches are not generally subject to a risk weight multiplier.

The Agencies have indicated a particular interest in whether the ERB Approach would create unintended impacts on the housing market, particularly for low- and moderate-income home buyers or historically underserved markets, and are considering whether to incorporate the same treatment for residential mortgages as in Subpart D.

> These risk weights for residential real estate reflect a **20 percentage point increase** compared to the Basel Framework.

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* Under the Proposed Rule, a **regulatory residential real estate exposure** would be defined as a first-lien residential mortgage exposure that is not a defaulted real estate exposure, ADC exposure, pre-sold construction loan, statutory multifamily mortgage, or HVCRE exposure and that meets prudent underwriting criteria, including: (1) the property must be owner-occupied or rented; (2) the lender must apply LTV criteria based on the property's market value; (3) the lender must consider the borrower's ability to repay.

** The Proposed Rule would standardize the calculation of the LTV ratio, including the valuation of property.

1. General Risk Weights
Real Estate Exposures

– **Extension of credit** in the calculation of the LTV ratio is the total outstanding amount of loan and any undrawn commitment. In the preamble to the Proposed Rule, the Agencies state that the loan amount would be calculated without making adjustments for credit loss provisions or private mortgage insurance (consistent with the definition of "eligible guarantor").

  ▪ Under the Proposed Rule, the value of property is measured at the time of origination, subject to certain adjustments for exceptional circumstances.

– The Proposed Rule retains the requirement in the current credit risk rules that if a banking organization holds the first-lien and junior-lien(s) residential mortgage exposures, and no other party holds an intervening lien, the banking organization must combine the exposures and treat them as a single first-lien residential mortgage exposure.

  ▪ Under the Proposed Rule, if a banking organization were to combine a first-lien and junior-lien residential mortgage exposure and treat them as a single first-lien residential mortgage exposure, the banking organization could be subject to higher capital requirements than if it treated the exposures as separate. This is due to the fact that the combined exposure could fall into a higher LTV ratio category than the individual exposures, resulting in a higher risk weight.

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1. General Risk Weights
Real Estate Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight		
F-6. Real estate – regulatory commercial real estate*	Sub-type N/A; **100%** as corporate exposure or other asset	Not dependent on cash flows: — If the LTV ratio is ≤ 60%, the risk weight applicable to the regulatory commercial real estate exposure is the lesser of **60% or the risk weight applicable to the borrower** (e.g., if the borrower is a Grade A foreign bank, the risk weight would be 40%) — If the LTV ratio is > 60%, the **risk weight applicable to the borrower.** Dependent on cash flows: **70% – 110%**, based on the LTV ratio		

Risk Weights by LTV Ratio	LTV ratio ≤ 60%	60% < LTV ratio ≤ 80%	LTV ratio > 80%
Dependent on cash flows	70%	90%	110%

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
F-7. Real estate – other real estate	Sub-type N/A; **100%** as corporate exposure or other asset	Not dependent on cash flows: **100%** Dependent on cash flows: **150%**

* Under the Proposed Rule, **regulatory commercial real estate** would be defined as a real estate exposure that is not a regulatory residential real estate exposure, defaulted real estate exposure, ADC exposure, pre-sold construction loan, statutory multifamily mortgage or HVCRE exposure and that meets certain prudent underwriting criteria, including: (1) the exposure must be primarily secured by fully completed real estate; (2) the banking organization must hold a first-priority security interest in the property that is legally enforceable in all relevant jurisdictions; (3) the lender must apply LTV criteria based on the property's market value; and (4) the lender must consider the borrower's ability to repay.

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1. General Risk Weights
Real Estate Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight

F-8. Real estate – defaulted real estate exposures	**100%**
	
	Applies to a first-lien residential mortgage exposure that is:
	
	— ≥ 90 days past due or in nonaccrual status;
	
	— restructured or modified;
	
	— secured by property that is rented or otherwise not owner-occupied; or
	
	— not made in accordance with prudent underwriting standards
		Defaulted residential mortgage exposure not dependent on cash flows: **100%**
		
		Defaulted residential mortgage exposure guaranteed by the FHA or VA: **20%**
		
		Other defaulted real estate exposure: **150%**
		
		A **defaulted real estate exposure** is defined as:
		
		— A residential mortgage exposure (whether or not it qualifies as a regulatory residential mortgage exposure):
		  ▪ that is 90 days or more past due or in nonaccrual status;
		  ▪ where the banking organization has taken a partial charge-off, write-down of principal or negative fair value adjustment on the exposure for credit-related reasons, unless the banking organization has reasonable assurance of payment and performance; or
		  ▪ where the banking organization agreed to a distressed restructuring for credit-related reasons, except for a restructuring pursuant to the U.S. Treasury's Home Affordable Mortgage Program.
		
		— A commercial or other real estate exposure:
		  ▪ that is 90 days or more past due or in nonaccrual status;
		  ▪ where the banking organization has determined, based on ongoing credit monitoring, that the obligor is unlikely to pay its credit obligations in full without recourse, including in (but not limited to) the following scenarios:
		    — The obligor has *any* credit obligation with *any creditor* that is 90 days or more past due or in non-accrual status;
		    — *Any* credit obligation of the obligor has been sold at a credit-related loss;
		    — A distressed restructuring of *any* credit obligation was agreed to by *any creditor*;
		    — The obligor is subject to a pending or active bankruptcy proceeding; or
		    — Any creditor has taken a charge-off, write-down, or negative valuation adjustment against the obligor for credit-related reasons.

1. General Risk Weights
Retail Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
G. Retail exposures	Sub-type N/A; generally **100%** as other asset	A **retail exposure** would be defined as any exposure to a natural person or an exposure to a small or medium-sized entity (**SME**)* that meets the definition of a regulatory retail exposure (see below). **Transactor exposures: 55%.** — A transactor exposure would be defined as regulatory retail exposure (see below) that is (i) a credit facility where the balance has been repaid in full at each scheduled repayment date for the previous 12 months or (ii) an overdraft facility where there has been no drawdown over the previous 12 months, other than a defaulted exposure. **Regulatory retail exposure: 85%.** — A regulatory retail exposure would be defined as a revolving credit or line of credit (such as a credit card, charge card or overdraft) or a term loan or term lease (such as an auto or student loan), other than a defaulted exposure and subject to the following limitations: ▪ **Aggregate limit:** An exposure is excluded from the definition of regulatory retail exposure if the exposure amount (together with all other retail exposures to the obligor and its affiliates) exceeds of $1 million. ▪ **Granularity limit:** A retail exposure is excluded from the definition of regulatory retail exposure if the exposure exceeds 0.2% of the banking organization's total regulatory retail exposures before applying this granularity limit. **Other retail exposure: 110%** **Currency mismatch:** A retail exposure where there is a mismatch between the banking organization's lending currency and the borrower's source of repayment would generally be subject to a risk weight multiplier of 1.5x, up to a maximum risk weight of **150%**, unless the borrower has an annual source of repayment in the currency of the loan equal to at least 90% of the loan. Hedged mismatches are not generally subject to a risk weight multiplier.

Each proposed risk weight for retail exposures reflects a **10 percentage point increase** compared to the Basel Framework.

* Under the Proposed Rule, an **SME** would be defined as an entity in which the reported annual revenues or sales for the consolidated group of which the entity is a part are ≤ $50 million for the most recent fiscal year.

1. General Risk Weights
Corporate Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
H-1. Corporates – general	**100%**	Investment grade and has (or is controlled by a company that has) publicly traded security outstanding: **65%** Corporate exposures for the purpose of acquiring or financing equipment or physical commodities where repayment of the exposure is dependent on the physical assets being financed or acquired: **100%** Subordinated debt instrument (see below) or Covered Debt Instrument* (i.e., TLAC-eligible long-term debt): **150%** Other, non-subordinated**: **100%**
H-2. Corporates – project finance	Sub-type N/A; **100%** as corporate exposure or other asset	**Project finance exposures** would be defined as corporate exposures for which the banking organization relies on the revenues of a single project both as the source of repayment and security for the loan. It also requires the obligor to (i) have sought the loan specifically for this project and (ii) have immaterial assets or activities outside of the project. Operational phase: **100%** Pre-operational phase: **130%**
H-3. Corporates - subordinated debt	Sub-type N/A; **100%** as corporate exposure or other asset	A **subordinated debt instrument** would be defined as a debt security that is a corporate exposure, bank exposure or exposure to a GSE that is subordinated to any creditor of the obligor, or preferred stock that is not an equity exposure. **150%**

The Basel Framework includes a separate corporate exposure sub-type for Corporate SMEs with a risk weight of **85%**.

The Basel Framework provides a preferential risk weight of **80%** to operational phase project finance exposures deemed to be "high quality."

* As noted above, the Covered Debt Instruments would be subject to threshold deduction provisions for non-significant and significant investments in the capital of UFIs (see Section 3 – Numerator Changes, page 48). The **150%** risk weight noted here for Covered Debt Instruments would apply to the extent that covered debt instruments held by the banking organization (a.k.a. TLAC holdings) are not deducted from capital.

** Exposures to QCCPs are given preferential risk weights not shown here. See 4. Cleared Transactions, at page 79.

— In their requests for comments, the Agencies raise the possibility of creating a separate sub-type for corporate SMEs and for "highly regulated" companies such as mutual insurance companies and certain regulated funds.

1. General Risk Weights
Defaulted Exposures

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight

I. Defaulted exposures	**150%**
	
	Applies to any exposure – other than a sovereign exposure, residential mortgage exposure or insurance policy loan – that is 90 days or more past due or in nonaccrual status.
	
	Under the Basel Framework, defaulted exposures are risk weighted at **100%** (rather than **150%**) if the banking organization has taken one or more borrower-specific provisions that are less than 20% of the outstanding amount of the loan.
	
	The Basel Framework incorporates similar wholesale credit monitoring standards, subject in each case to a materiality qualifier (e.g., any *material* credit obligation is past due for 90 days or more).
		150%
		
		Defaulted exposure would be defined as a credit obligation (defined to exclude derivatives, cleared transactions, default fund contributions, repo-style transactions, eligible margin loans equity exposures and securitization exposures) that is not a sovereign exposure to a sovereign entity, real estate exposure or insurance policy loan and that has a reduced expectation of repayment, as evidenced by:
		
		— For **retail exposures:**
		  ▪ The exposure is 90 days past due or in non-accrual status;
		  ▪ The banking organization has taken a charge-off, write-down, or negative valuation adjustment (unless cured by reasonable assurance of repayment) for credit-related reasons; or
		  ▪ The banking organization has agreed to a distressed restructuring of the exposure (unless cured by a sustained period (≥6 months) of repayment performance)
		    — Distressed restructuring includes forgiveness or postponement of principal, interest or fees; term extension; or rate reduction; in each case made for credit-related reasons
		
		— For **exposures that are not retail (i.e., wholesale exposures):**
		  ▪ The exposure is 90 days past due or in non-accrual status; or
		  ▪ The banking organization has determined, based on ongoing credit monitoring, that the obligor is unlikely to pay its credit obligations in full without recourse, including in (but not limited to) the following scenarios:
		    — The obligor has *any* credit obligation with *any creditor* that is 90 days or more past due or in non-accrual status
		    — *Any* credit obligation of the obligor has been sold at a credit-related loss
		    — A distressed restructuring of *any* credit obligation was agreed to by *any creditor*
		    — The obligor is subject to a pending or active bankruptcy proceeding
		    — Any creditor has taken a charge-off, write-down, or negative valuation adjustment against the obligor for credit-related reasons.

1. General Risk Weights
Other Exposures and Insurance Assets

— The risk weights for these exposures are the same under the ERB approach and the Standardized Approach.

Exposure Type / Sub-Type	Standardized Approach Risk Weight	ERB Approach Risk Weight
J. Other assets	Vault cash, vault gold subject to gold bullion liabilities, and cash in-transit: **0%** Cash items in process of collection: **20%** DTAs arising from temporary differences that could be realized through net operating loss carrybacks: **100%** MSAs and Unrealizable Time Difference DTAs: **250%** (to the extent not deducted) All other assets: **100%**	
K. Insurance assets	Assets held in a non-guaranteed separate account: **0%** Assets held in a guaranteed separate account: **risk weight as if the assets were held directly** by the banking organization Insurance policy loans: **20%**	

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2. Off-Balance Sheet Exposures

Proposed Changes under ERB Approach:

— Compared to the current Standardized Approach for credit risk, the ERB Approach would apply different CCFs for certain types of off-balance sheet exposures, as shown in the table below:

Type of Off-Balance Sheet Exposure	CCF under the Standardized Approach	CCF under the ERB Approach
Unconditionally cancellable commitments	0%	10%
Commitments (not unconditionally cancellable)	With original maturity of: ≤1 year 20% > 1 year 50%	40%*
Self-liquidating, trade-related contingent items that arise from the movement of goods with a maturity of ≤ 1 year (trade credit)	20%	20%
Transaction-related contingent items, including performance bonds, bid bonds, warranties and performance standby letters of credit	50%	50%
Note issuance facilities and revolving underwriting facilities	N/A (allocated to any other applicable category)	50%
Guarantees, off-balance sheet repurchase agreements and securities lending and borrowing transactions, credit-enhancing representations and warranties that are not securitization exposures, financial standby letters of credit and forward agreements	100%	100%

The Basel Framework does not explicitly include the ERB Approach's use of a proxy notional amount based on averaging methodology for commitments without contractual maximum amounts.

— In addition, the ERB Approach would provide that for a commitment that does not have an express contractual maximum amount that can be drawn (e.g., a charge card), the undrawn amount of the commitment (used as the notional amount that is multiplied by the CCF) would be given by a **proxy notional amount** calculated as follows:

> **Proxy Notional Amount = (Lesser of (i) average total drawn amount since creation of the commitment, and (ii) average total drawn amount over the prior eight quarters) x 10 – current drawn amount**

*   Regardless of maturity, and unless exposure qualifies for lower or higher CCF.

3. Derivative Contracts
Proposed Changes to Applicability of SA-CCR

— The Proposed Rule would require all Category I – IV banking organizations to use the **standardized approach for counterparty credit risk (SA-CCR)** to calculate their credit exposure amount for OTC derivatives, for purposes of both the Standardized Approach and ERB Approach.

— SA-CCR would become the only methodology used for determining the credit risk of OTC derivatives for Category I – IV banking organizations.

  ▪ For Category I and II banking organizations, the option to use the **internal models methodology (IMM)** would be eliminated, consistent with the elimination of the Advanced Approaches.

  ▪ For Category III and IV banking organizations, the option to use the **current exposure method (CEM)** for purposes of Standardized Approach RWAs would be eliminated.

— SA-CCR would be new for Category III and IV banking organizations that currently elect to use CEM.

Current U.S. Capital Rules

	Standardized Approach	Advanced Approaches
Advanced Approaches Banking Organizations (Category I and II)	SA-CCR	Choice of IMM or SA-CCR
Non-Advanced Approaches Banking Organizations	Choice of CEM or SA-CCR	N/A

Proposed Rule

	Standardized Approach	ERB Approach
All Category I – IV Banking Organizations	SA-CCR	
Other Banking Organizations Subject to Risk-based Capital Rules	Choice of CEM or SA-CCR	N/A

— The Proposed Rule would also make a number of **technical revisions** to SA-CCR, discussed below.

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3. Derivative Contracts
Summary Comparison of SA-CCR and CEM

	CEM	SA-CCR
Adoption	Adopted by Basel Committee in 1988 Adopted Agencies in 1989, most recently amended in 1995	Adopted by Basel Committee in 2014 Adopted by Agencies in 2020

Basic Formula	Exposure amount =
	    Replacement Cost + Potential Future Exposure
		Exposure amount =
		    α * (Replacement Cost + Potential Future Exposure)

Replacement Cost	Replacement cost (called "current exposure" under CEM) is simply the sum of in-the-money exposures to derivatives counterparties.	Replacement cost is the sum of fair values of derivatives within the netting set, and also takes into account whether a netting set is subject to a variation margin agreement and the posting of net independent collateral amounts and variation margin.
Potential Future Exposure	Simple product of the effective notional amount of a derivative and a prescribed factor representing the type of underlier and time to maturity; limited recognition of netting benefits; no recognition of the benefit of collateral on potential future exposure.*	Complex formula that takes into account or recognizes (1) netting within defined "hedging sets" based on similar underlying risk factors; (2) the size of out-of-the-money positions; and (3) the risk-mitigating benefit of collateral on potential future exposure.
Conservatism Factor	None	Includes an α factor that increases the calculated exposure by 40% for all netting sets <u>other than</u> those with commercial end users hedging or commercial risk mitigants.

* Under the Standardized Approach for credit risk, collateral received for derivatives contracts may be recognized as a credit risk mitigant using either the collateral haircut approach (more common) or simple approach (less common). In other words, the recognition of collateral for derivatives contracts under the Standardized Approach for credit risk occurs *after* of the initial calculation of the exposure amount under CEM, not as part of the CEM calculation. Under SA-CCR, collateral is recognized as part of the initial calculation of exposure amount.

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3. Derivative Contracts
SA-CCR Exposure Amount Formula

Calculating Exposure Amount Under SA-CCR

– A banking organization calculates the exposure amount for a derivative contract or netting set of derivative contracts under SA-CCR using the following formula:

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

Exposure amount is multiplied by the risk weight of the counterparty to calculate the RWA amount for the derivative contract or netting set.

The exposure amount calculation is performed at the netting set level.

α is a factor meant to make the exposure amount for derivatives with certain counterparties more conservative.

α equals:

– 1.4 in general (i.e., a 40% scaling increase)
– 1.0 for certain derivatives with commercial end users (i.e., no increase)

Replacement cost (RC) reflects the amount that it would cost a banking organization to replace the derivative contract or netting set if the counterparty were to immediately default. It is based on the value of the derivative and the value of collateral and other risk-mitigating collateral terms.

Potential future exposure (PFE) is a measure of potential changes to the exposure the banking organization has on the derivative contract or netting set in the future.

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3. Derivative Contracts
Netting Sets under SA-CCR

Exposure Amount = α * (Replacement Cost + Potential Future Exposure)

– Under SA-CCR, the exposure amount is calculated at a netting set level.

- A **netting set** is a single derivative contract or a set of derivative contracts between a banking entity and a single counterparty that are subject to a **qualifying master netting agreement** (**QMNA**).

- In order to qualify as a QMNA, a netting agreement must meet certain definitional requirements and operational requirements.

> With the elimination of the Advanced Approaches under the Proposed Rule, the concept of a qualifying cross-product master netting agreement would be eliminated, so netting set would therefore apply only to a single product type: (i) derivative contracts (covered by SA-CCR, (ii) repo-style transactions (covered by the collateral haircut approach) and (iii) eligible margin loans (covered by the collateral haircut approach).

Definitional Requirements

Qualifying master netting agreement means a written, legally enforceable agreement provided that:

(1) The agreement creates a single legal obligation for all individual transactions covered by the agreement upon an event of default following any stay permitted by paragraph (2) of this definition, including upon an event of receivership, conservatorship, insolvency, liquidation, or similar proceeding, of the counterparty;

(2) The agreement provides the FDIC-supervised institution the right to accelerate, terminate, and close-out on a net basis all transactions under the agreement and to liquidate or set-off collateral promptly upon an event of default, including upon an event of receivership, conservatorship, insolvency, liquidation, or similar proceeding, of the counterparty, provided that, in any such case,

    (i) Any exercise of rights under the agreement will not be stayed or avoided under applicable law in the relevant jurisdictions, other than

        (A) In receivership, conservatorship, or resolution under the Federal Deposit Insurance Act, Title II of the Dodd-Frank Act, or under any similar insolvency law applicable to GSEs, or laws of foreign jurisdictions that are substantially similar to the U.S. laws referenced in this paragraph (2)(i)(A) in order to facilitate the orderly resolution of the defaulting counterparty; or

        (B) Where the agreement is subject by its terms to, or incorporates, any of the laws referenced in paragraph (2)(i)(A) of this definition; and

    (ii) The agreement may limit the right to accelerate, terminate, and close-out on a net basis all transactions under the agreement and to liquidate or set-off collateral promptly upon an event of default of the counterparty to the extent necessary for the counterparty to comply with the requirements of part 382 of this title, subpart I of part 252 of this title or part 47 of this title, as applicable;

(3) The agreement does not contain a walkaway clause (that is, a provision that permits a non-defaulting counterparty to make a lower payment than it otherwise would make under the agreement, or no payment at all, to a defaulter or the estate of a defaulter, even if the defaulter or the estate of the defaulter is a net creditor under the agreement**)**; and

(4) In order to recognize an agreement as a qualifying master netting agreement for purposes of this subpart, an FDIC-supervised institution must comply with the requirements of § 324.3(d) with respect to that agreement.

ISDA Master Agreements are generally QMNAs.

3. Derivative Contracts
Netting Sets under SA-CCR

Operational Requirements for QMNAs

In order to recognize an agreement as a QMNA, in addition to the definitional requirements, a banking organization must:

— Conduct sufficient legal review to conclude with a well-founded basis (and maintain sufficient written documentation of that legal review) that:

- The agreement meets the no-stay requirement of the definition of qualifying master netting agreement; and

- In the event of a legal challenge (including one resulting from default or from receivership, insolvency, liquidation or similar proceeding) the relevant court and administrative authorities would find the agreement to be legal, valid, binding and enforceable under the law of the relevant jurisdictions; and

— Establish and maintain written procedures to monitor possible changes in relevant law and to ensure that the agreement continues to satisfy the requirements of the definition of qualifying master netting agreement.

ISDA Master Agreements generally satisfy these requirements using periodically maintained legal opinions obtained by ISDA on behalf of its members (so-called "industry opinions").

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3. Derivative Contracts
Alpha Factor under SA-CCR

> *Exposure Amount = α * (Replacement Cost + Potential Future Exposure)*

— The α factor is meant to "instill an appropriate level of conservatism" in SA-CCR.

— The α factor is:

- 1.4 for netting sets generally, which represents a 40% increase in the calculated exposure; *but* 1.0 for "commercial end user" netting sets.

- The special treatment is for commercial end user netting sets of non-financial entities that are "hedging or mitigating commercial risk," which is not defined in the SA-CCR rule.

- The SA-CCR rule borrows these concepts from the commercial end user exception from clearing requirements for swaps and security-based swaps.

> The Basel Framework applies an α factor of 1.4 to exposures with commercial end users.

Counterparties Eligible as Commercial End Users

In general, entities that are underlined financial end users as defined in the Commodity Exchange Act and Securities Exchange Act of 1934 are not eligible to be treated as commercial end users. That definition of financial end user includes a number of securities- and commodities-related registered entities such as swap dealers, certain private funds and "a person predominantly engaged in activities that are in the business of banking, or in activities that are financial in nature" as defined in Section 4(k) of the Bank Holding Company Act of 1956.

Certain captive finance companies and financial entity affiliates of non-financial entities are also eligible as commercial end users.

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3. Derivative Contracts
Replacement Cost under SA-CCR

$$\text{Exposure Amount} = \alpha * (\text{\textbf{Replacement Cost}} + \text{Potential Future Exposure})$$

— The replacement cost (**RC**) of a derivative contract reflects the amount that it would cost a banking organization to replace a derivative contract if the counterparty were to default.

▪ The RC is based on the current fair value of a derivative contract, minus any applicable collateral for margined transactions.

▪ For unmargined netting sets, the RC is:

$$RC = \max (V - C; 0)$$

▪ For margined netting sets, the RC is:

$$RC = \max (V - C; TH + MTA - NICA; 0)$$

where:

- ▪ V = Sum of the fair values of the derivative contracts in the netting set (excluding any valuation adjustments)
- ▪ C = Net positive (or negative) amount of any collateral received from (or posted to) the counterparty
- ▪ TH = The margin posting threshold under the variation margin agreement
- ▪ MTA = The minimum transfer amount under the QMNA
- ▪ NICA = The net independent collateral amount, which is the amount of independent margin received minus the amount of independent margin posted

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3. Derivative Contracts
Potential Future Exposure under SA-CCR

$$Exposure\ Amount = α * (Replacement\ Cost + \textbf{\textit{Potential Future Exposure}})$$

— Potential future exposure (PFE) is meant to reflect the possibility of changes in the value of a derivative contract over a specified period.

- PFE for a QMNA is calculated as:

$$PFE = PFE\ Multiplier\ x\ \ Aggregated\ Amount$$

where:

- The Aggregated Amount is a measure of potential future exposure that is comprised of the sum of each individual "Hedging Set," allowing full or partial offsets across derivatives in the same QMNA with the same underlying risk factors:

  - Interest rate

  - Exchange rate

  - Credit

  - Equity

  - Commodity

  > The Basel Framework applies different supervisory factors to credit, single name assets than the Proposed Rule when calculating PFE because it relies on external credit ratings, which the Agencies are prohibited from relying on. The Basel Framework also applies a higher supervisory factor to oil and gas assets than the Proposed Rule because the Proposed Rule groups oil and gas in the same category as electricity, which has a higher supervisory factor.

- The PFE Multiplier is a factor between 5% and 100% that takes into account any excess collateral held by the banking organization and the amount by which the derivative is out-of-the-money to the banking organization (i.e., the amount that the counterparty faces credit risk to the banking organization rather than the banking organization).

- The Hedging Set amount includes the Adjusted Derivative Contract Amount (**ADCA**) amount within the netting set, which is dependent on (i) adjusted notional amount, (ii) applicable supervisory delta factor, (iii) applicability maturity factor and (iv) applicable supervisory factor. These are based on (i) types of derivatives such as option volatility and correlation, expressed as percentages, and (ii) supervisory prescribed factors.

3. Derivative Contracts
Technical Amendments to SA-CCR

— In addition to mandating the use of SA-CCR by additional banking entities, the Proposed Rule would make a number of technical amendments to SA-CCR, including:

- Aligning the treatment of collateral for purposes of the exposure amount for contributions to a central counterparty (**CCP**) default fund to the treatment of collateral in SA-CCR more generally;

- Fixing a previous error related to the recognition of collateral posted by a banking organization to a CCP that is held in a bankruptcy-remote manner by a custodian;

- Refining the supervisory delta adjustments – part of the calculation of PFE – for options and collateralized debt obligations; and

- Explicitly prohibiting the decomposition of non-linear credit, equity and commodity indices in determining the exposure amount based on the underlying instrument.

4. Cleared Transactions
Overview of Current U.S. Capital Rules

- **Scope of Cleared Transactions Framework:** The capital framework for cleared transactions applies to derivative contracts and repo-style transactions that have been submitted and accepted for clearing at a CCP.

- **Trade Exposures and Default Fund Contributions:** The framework for cleared transactions under the current U.S. capital rules distinguishes between and requires separate RWA amounts for:

  - **Trade Exposure Amounts to CCPs: A cleared transaction is a transaction** giving rise to an exposure to a CCP* associated with an outstanding derivative contract or repo-style transaction cleared at the CCP.

    - For example, the following transactions are typically cleared transactions:**

      - A transaction between a clearing member banking organization and a CCP that the banking organization enters into for its own account (a so-called "house transaction");

      - A transaction between a banking organization acting as a client of a clearing member and a CCP, where a third-party financial institution acts as clearing member and guarantees the performance of the banking organization to the CCP.

    - A banking organization's exposure to a CCP associated with a cleared transaction is referred to as a **trade exposure**.

  - **Default Fund Contributions to CCPs:** A **default fund contribution** means the funds contributed or commitments made by a clearing member to a CCP's mutualized loss-sharing arrangement.

    - CCPs typically have mutualized loss-sharing arrangements whereby clearing members commit to fund losses incurred by a CCP upon the event of a default or insolvency of another clearing member.

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* A cleared transaction does not include exposures to counterparties that are not CCPs, even for transactions accepted for clearing. For example, when a clearing member banking organization submits a client's derivative transaction to a CCP for clearing and the CCP accepts it, the clearing member typically guarantees the performance of the client to the CCP. The clearing member banking organization retains the counterparty credit exposure to its client. This exposure is not a cleared transaction exposure under the U.S. capital rules. It is classified as a derivative contract giving rise to counterparty credit risk (to the client) and the RWAs for counterparty credit risk are calculated under SA-CCR or CEM, as applicable.

** This list is not exhaustive.

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4. Cleared Transactions
Overview of Current U.S. Capital Rules

— Under the current U.S. capital rules, the calculation of RWAs for cleared transactions is the same under both the Standardized Approach and the Advanced Approaches.

— **RWAs for Trade Exposures:** The RWAs for trade exposures are calculated by multiplying the **trade exposure amount** by a preferential risk weight of **2%** or **4%**, provided the CCP is a qualifying CCP (**QCCP**).

  ▪ If the CCP is not a QCCP, the applicable risk weight under the current U.S. capital rules is typically **100%** (for a general corporate exposure).

  ▪ **Calculation of Trade Exposure Amount:**

    — **For Derivatives:** The trade exposure amount for a cleared derivative is calculated based on the generally applicable approach for measuring the exposure amount for the counterparty credit risk associated with OTC derivatives contracts (i.e., SA-CCR or CEM, as applicable for the banking organization).

      ▪ Under the Proposed Rule, for a Category I – IV banking organization, the applicable methodology for the exposure amount is SA-CCR.

    — **For Repo-style Transactions:** The trade exposure amount for a cleared repo-style transaction is calculated based on the generally applicable approach for measuring the exposure amount for repo-style transactions (typically, the collateral haircut approach).

    — **For Non-bankruptcy Remote Collateral:** In each case, the banking organization would add to the applicable exposure amount above the fair value of any collateral posted by the banking organization and held by the CCP, the relevant clearing member, or a custodian in a manner that is not bankruptcy remote.

  ▪ **Risk Weight for Trade Exposures:**

    — Banking organization is a clearing member client:

      ▪ A risk weight of **2%** applies to the trade exposure amount to a QCCP if the collateral posted by the banking organization is subject to an arrangement that prevents any losses due to a joint default event of a clearing member and another client of that clearing member, provided that the banking organization must conduct a legal review sufficient to conclude that such collateral arrangement would be enforceable.

      ▪ Otherwise, a risk weight of **4%** applies to the trade exposure amount to a QCCP.

    — Banking organization is a clearing member:

      ▪ A risk weight of **2%** applies to the trade exposure amount to a QCCP.

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4. Cleared Transactions
Overview of Current U.S. Capital Rules

— **RWAs for Default Fund Contributions:**

▪ **QCCPs:** The RWAs for default fund contributions to QCCPs are the sum of the banking organization's capital requirements for each QCCP, based on one of the two prescribed methodologies:

— Method 1: Consisting of the following steps: (1) hypothetical capital requirement of a QCCP, either as calculated by the banking organization or provided by the QCCP itself, (2) a comparison of the hypothetical capital requirement to the funded portion of a QCCP's default fund and calculation of the total of all clearing members' capital requirements, and (3) calculation of an allocated capital requirement for each clearing member, which is multiplied by 12.5 to determine the RWA amount for the banking organization's default fund contribution to the QCCP, or

— Method 2: A simplified calculation under which a banking organization's default fund contribution RWAs to a QCCP are equal to the lesser of: (1) the funded portion of the banking organization's default fund contribution X 1,250%, and (2) its trade exposure amount to the QCCP X 18%

▪ **CCPs That Are Not QCCPs:** The RWA amount is the sum of the default fund contributions multiplied by 1,250%.

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4. Cleared Transactions
ERB Approach

— The Proposed Rule would maintain the **same treatment** for cleared transactions under the ERB Approach as under the current Standardized Approach.

— The Proposed Rule would clarify, through a technical correction to the calculation of Total Leverage Exposure in the SLR, the treatment of a guarantee by a clearing member banking organization of the performance of a clearing member client on a repo-style transaction that the clearing member client has with a CCP.

  ▪ The clearing member banking organization is required to treat the guarantee of client performance to a CCP on a repo-style transaction as a repo-style transaction, just as it must treat such a guarantee of client performance to a CCP on a derivative contract as a derivative exposure to the client.

5. Unsettled Transactions
Scope and Summary

— **Scope of Unsettled Transactions Framework:** The framework for unsettled transactions under the current U.S. capital rules is the same under the Standardized Approach and the Advanced Approaches, and applies to certain transactions involving securities, foreign exchange instruments, and commodities that have a risk of delayed settlement or delivery.

— **Definition of Unsettled Transactions:** An unsettled transaction is defined as a transaction involving securities, foreign exchange instruments, and commodities that have a risk of delayed settlement or delivery, other than:

  ▪ A cleared transaction that is marked-to-market daily and subject to daily receipt and payment of variation margin;

  ▪ A repo-style transaction;

  ▪ One-way cash payments on OTC derivatives contracts; or

  ▪ A transaction with a contractual settlement period that is longer than the normal settlement period (defined as the lesser of (i) market standard and (ii) five business days). A transaction with a longer than normal contractual settlement period is treated as an OTC derivative.

— **Categories of Unsettled Transactions:** The current U.S. capital rules distinguish between three categories of unsettled transactions:

  ▪ **Delivery-versus-Payment (DvP):** a securities or commodities transaction in which the buyer is obligated to make payment only if the seller has made delivery of the securities or commodities and the seller is obligated to deliver the securities or commodities only if the buyer has made payment.

  ▪ **Payment-versus-Payment (PvP) Transaction:** a foreign exchange transaction in which each counterparty is obligated to make a final transfer of one or more currencies only if the other counterparty has made a final transfer of one or more currencies.

  ▪ **Non-DvP/Non-PvP Transactions:** any unsettled transaction that does not qualify as a DvP or PvP transaction (i.e., a transaction in which each counterparty's obligation to settle is not conditioned on the other party's settlement).

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5. Unsettled Transactions
Overview of Current U.S. Capital Rules and Comparison to ERB Approach
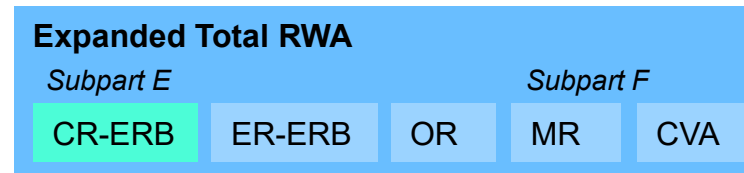
– The Proposed Rule would maintain the **same treatment** for unsettled transactions under the ERB Approach as under the current Standardized Approach.

– **RWAs for unsettled transactions** equals the sum of the RWA amounts for all DvP, PvP, and non-DvP/non-PvP transactions.

– **RWAs for DvP and PvP Transactions:**

  ▪ **≤ 5 business days past the settlement date:** No applicable RWA amount for unsettled transactions.

  ▪ **> 5 business days past settlement date:** RWA = positive current exposure x risk weight provided by the table below

> **Positive current exposure:** the difference between the transaction value at the agreed settlement price and the current market price of the transaction, if the difference results in credit exposure to the counterparty.

Business days after settlement	Risk Weight
From 5 to 15	**100%**
From 16 to 30	**625%**
From 31 to 45	**937.5%**
46 or more	**1,250%**

> The risk weights for DvP and PvP transactions past the settlement date are significantly higher than in the Basel Framework (where the corresponding risk weights are **8%**, **50%**, **75%** and **100%**). The risk weights for non-DvP/non-PvP transactions are consistent with the Basel Framework.

– **RWAs for non-DvP/non-PvP Transactions:** For any non-DvP/non-PvP transaction with a normal settlement period,* if the banking organization has delivered cash, securities, commodities, or currencies to its counterparty but has not received its corresponding deliverables by the end of the same business day, the RWA amount is calculated as follows:

  ▪ **≤ 5 business days past the settlement date:** RWA = current fair value of deliverables owed x risk weight applicable to counterparty

  ▪ **> 5 business days past the settlement date:** RWA = current fair value of deliverables owed x **1,250%** risk weight

– **Exception for System-wide Failures:** In the case of a system-wide failure of a settlement or clearing system, or a CCP, the risk-based capital requirement can be waived by the Agencies for unsettled and failed transactions until the situation is rectified.
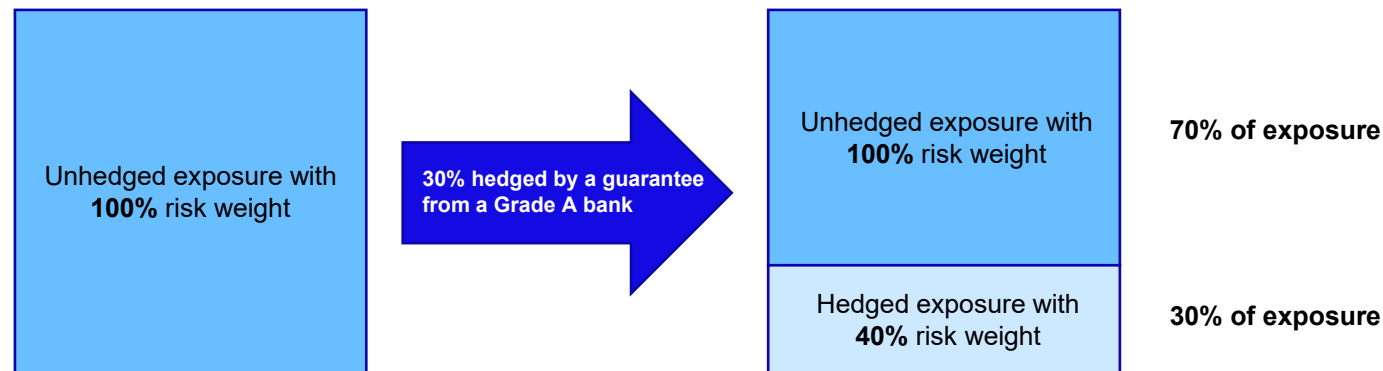
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*   A transaction has a **normal settlement period** if the contractual settlement period for the transaction is ≤ to the lesser of (i) the market standard for the underlying instrument and (ii) five business days.

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6. Credit Risk Mitigants – Guarantees and Credit Derivatives

Scope and Summary

– **General Scope of Applicability:** The use of guarantees and credit derivatives as credit risk mitigants under the current U.S. capital rules generally apply where:

- A banking organization has a credit exposure to an obligor that is covered by an **eligible guarantee**; or

- A banking organization has a credit exposure to an obligor and has purchased credit protection in the form of an **eligible credit derivative** for which the obligor is the reference entity.

- In these scenarios, the eligible guarantee or eligible credit derivative may be recognized as a **credit risk mitigant** under the current U.S. capital rules, potentially reducing the RWAs recognized for the covered credit exposure (the **reference exposure** (for a guarantee) or **hedged exposure** (for a credit derivative)).

– **Substitution Approach:** Under the Standardized Approach, to the extent that an exposure is covered by an eligible guarantee or hedged by an eligible credit derivative, a banking organization may substitute the risk weight applicable to the guarantor or protection provider.

- The banking organization may apply the substitution amount only up to the **protection amount** (denoted P), with the remaining exposure treated as an unprotected exposure (i.e., risk weighted without substitution). See below for the formulas applicable to calculating the protection amount.

- Example: 30% of a corporate exposure (risk weight 100%) is hedged by guarantee from a Grade A bank (risk weight **40%**).

Unhedged exposure with **100%** risk weight

30% hedged by a guarantee from a Grade A bank

Unhedged exposure with **100%** risk weight — **70% of exposure**

Hedged exposure with **40%** risk weight — **30% of exposure**

– Credit derivative and guarantees are defined below.

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6. Credit Risk Mitigants – Guarantees and Credit Derivatives
Recognition and Eligibility Criteria

— **Rules of Recognition:**

- A banking organization may only recognize the credit risk mitigation benefits of an eligible guarantee or eligible credit derivative.

- In addition, for an eligible credit derivative, if the hedged exposure is different from the reference exposure of the eligible credit derivative, the reference exposure must:

  — Be *pari passu* with or subordinated to the hedged exposure; and

  — Provide exposure to the same legal entity as the hedged exposure, with cross-default or cross-acceleration clauses to ensure payments under the credit derivative are triggered when the obligated party of the hedged exposure fails to pay under the terms of the hedged exposure.

Common Eligibility Criteria: To qualify as an eligible guarantee or eligible credit derivative, the guarantee or credit derivative must meet the following requirements:

1. Is written and either (i) unconditional or (ii) a contingent obligation of the U.S. government or its agencies the enforceability of which is dependent on some affirmative action (such as servicing requirements) on the part of the banking organization (as beneficiary of the guarantee) or a third party.

2. Covers all or a pro rata portion of all contractual payments of the obligor under the reference exposure.**

3. Gives the banking organization a direct claim against the protection provider.

4. Is not unilaterally cancellable by the protection provider for reasons other than the breach of contract by the beneficiary.

5. Is legally enforceable against the protection provider in a jurisdiction where the protection provider has sufficient assets against which a judgment may be attached and enforced (this criterion is not applicable to guarantees provided by a sovereign).

6. Requires the protection provider to make payment to the beneficiary on the occurrence of a default (as defined in the guarantee) of the obligated party on the reference exposure in a timely manner without the beneficiary first having to take legal actions to pursue the obligor for payment.

7. Does not increase the beneficiary's cost of credit protection in response to deterioration in the quality of the reference exposure.

8. Is not provided by an affiliate of the banking organization, subject to certain exceptions for prudently regulated affiliates that do not control the banking organization.

9. Is provided by an eligible guarantor (see sidebar).

Eligible Guarantor Definition:

— A sovereign, specified supranational, MDB, DI, BHC, SLHC, credit union, foreign bank or QCCP; or

— Any entity (other than an SPE):

- That has issued and outstanding an investment grade unsecured debt security (without credit enhancement);

- Whose creditworthiness is not positively correlated with the exposures it guarantees; and

- That is not an insurance company predominantly engaged in the business of providing credit protection. This exclusion diverges from the Basel Framework, which would not exclude such companies from the definition of eligible guarantor.

* If a guarantee or credit derivative creates first-loss and second-loss (etc.) tranches of exposures, it would typically be treated as a securitization exposure.

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6. Credit Risk Mitigants – Guarantees and Credit Derivatives
Definition of Eligible Credit Derivative

Eligible credit derivative means a credit derivative in the form of a credit default swap, nth-to-default swap, total return swap, or any other form of credit derivative approved by the Board, provided that:

1. The contract meets the requirements of an eligible guarantee and has been confirmed by the protection purchaser and the protection provider;

2. Any assignment of the contract has been confirmed by all relevant parties;

3. If the credit derivative is a credit default swap or nth-to-default swap, the contract includes the following credit events: (i) Failure to pay any amount due under the terms of the reference exposure, subject to any applicable minimal payment threshold that is consistent with standard market practice and with a grace period that is closely in line with the grace period of the reference exposure; and (ii) Receivership, insolvency, liquidation, conservatorship or inability of the reference exposure issuer to pay its debts, or its failure or admission in writing of its inability generally to pay its debts as they become due, and similar events;

4. The terms and conditions dictating the manner in which the contract is to be settled are incorporated into the contract;

5. If the contract allows for cash settlement, the contract incorporates a robust valuation process to estimate loss reliably and specifies a reasonable period for obtaining post-credit event valuations of the reference exposure;

6. If the contract requires the protection purchaser to transfer an exposure to the protection provider at settlement, the terms of at least one of the exposures that is permitted to be transferred under the contract provide that any required consent to transfer may not be unreasonably withheld;

7. If the credit derivative is a credit default swap or nth-to-default swap, the contract clearly identifies the parties responsible for determining whether a credit event has occurred, specifies that this determination is not the sole responsibility of the protection provider, and gives the protection purchaser the right to notify the protection provider of the occurrence of a credit event; and

8. If the credit derivative is a total return swap and the Board-regulated institution records net payments received on the swap as net income, the Board-regulated institution records offsetting deterioration in the value of the hedged exposure (either through reductions in fair value or by an addition to reserves).

Nth-to-default swaps are not eligible credit derivatives under the ERB Approach.

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6. Credit Risk Mitigants – Guarantees and Credit Derivatives

Protection Amount and Related Adjustments

– **Calculation of Protection Amount:** The protection amount (P) is equal to the effective notional amount of the credit risk mitigant (generally, the amount of the guarantee or notional amount of the credit derivative), subject to three potential downward adjustments under the formulas below: (1) a **maturity mismatch adjustment**, (2) for eligible credit derivatives without a restructuring event, a **restructuring event adjustment**, and (3) a **currency mismatch adjustment**.

1. Maturity mismatch adjustment: A banking organization must apply the maturity mismatch adjustment where the maturity of the credit risk mitigant is less than that of the hedged exposure.

$$P_m = E \text{ x} \frac{(t - 0.25)}{(T - 0.25)}$$

2. Restructuring event adjustment: If a banking organization recognizes an eligible credit derivative that does not include as a credit event a restructuring of the hedged exposure involving forgiveness or postponement of principal, interest, or fees that results in a credit loss event, the banking organization must apply the restructuring event adjustment to reduce the protection amount of the credit derivative.

$$P_r = P_m \text{ x } .6$$

> The Proposed Rule would narrow the scope of the restructuring event adjustment. See below.

3. Currency mismatch adjustment: If a banking organization recognizes an eligible credit risk mitigant that is denominated in a different currency from the hedged exposure, the banking organization must apply the currency mismatch adjustment to reduce the protection amount of the credit risk mitigant.

$$P_c = P_r \text{ x } (1 - 8\% \text{ x} \sqrt{\frac{T_M}{10}})$$

> Under the current U.S. capital rules, a banking organization may qualify for the use of its own internal estimates of foreign exchange volatility, replacing the last term in this formula (denoted H_{FX}) with its own internal estimate. Under the ERB Approach, the formula as shown would apply regardless of such internal estimates. See below.

E is the effective notional amount of the credit risk mitigant.

t is the lesser of T or the residual maturity of the credit risk mitigant, expressed in years.

T is the lesser of five or the residual maturity of the hedged exposure, expressed in years.

P_m is the protection amount adjusted for the credit risk mitigant, adjusted for maturity mismatch (if applicable)

P_r is the protection amount of the credit risk mitigant, adjusted for lack of restructuring event and maturity mismatch (as applicable)

P_c is the protection amount of the credit risk mitigant, adjusted for currency mismatch, maturity mismatch and lack of restructuring event (as applicable)

T_M is the greater of ten or the number of days between revaluations (applicable only if the banking organization revalues the credit risk mitigant less frequently than once every 10 business days).

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6. Credit Risk Mitigants – Guarantees and Credit Derivatives
Changes under the Proposed Rule

Changes Reflected in the ERB Approach

– The Proposed Rule would generally maintain the **same treatment** for eligible guarantees and eligible credit derivatives as under the current Standardized Approach, subject to the following changes under the ERB Approach:

- Consistent with the elimination of the Advanced Approaches, the Proposed Rule would require that an eligible guarantee be issued by an eligible guarantor for purposes of the ERB Approach (consistent with the existing requirement under the Standardized Approach).

- The Proposed Ruel would eliminate an nth-to-default credit derivative from the type of eligible credit derivative that can be recognized as a credit risk mitigant under the ERB Approach.

- The **restructuring event adjustment** would not apply if:

  – The terms of the hedged and reference exposures allow for maturity, principal, coupon, currency, or seniority status to be amended outside of receivership, insolvency, liquidation, or similar proceeding only by unanimous consent of all parties; and

  – The banking organization has conducted sufficient legal review to conclude with a well-founded basis that the hedged exposure is subject to the U.S. Bankruptcy Code or an insolvency regime with similar features.

- The currency mismatch adjustment to the protection amount would not permit the use of internal estimates of foreign exchange volatility in the H_{fx} parameter.

Changes Affecting Related Rules

– The Proposed Rule's amendment to the definition of eligible guarantee to require an eligible guarantor in all cases would have collateral consequences to the treatment of eligible credit derivatives under the OCC's lending limit rule.

- To avoid this unintended result, the Proposed Rule would amend the OCC's lending limit rule to preserve the current treatment of eligible credit derivatives.

7. Collateralized Transactions
Overview of ERB Approach

— Like the Standardized Approach, the ERB Approach would provide for both a **simple approach** and a **collateral haircut approach** to calculating exposure for collateralized transactions, recognizing the risk-mitigating benefits of collateral that meets the definition of "financial collateral."

- The simple approach shifts the exposure amount that must be risk-weighted from the counterparty to the collateral up to the amount of collateral, subject to various conditions and limitations, including a risk weight floor of **20%** for most collateral.

- The collateral haircut approach allows the exposure amount to be reduced by the amount of collateral, subject to various conditions and limitations, including the application of standard supervisory price volatility haircuts calibrated to a specified holding period.

— Compared to the Standardized Approach, the Proposed Rule would make the following changes to the treatment of collateralized transactions under the ERB Approach:

- A corporate debt security that meets the definition of financial collateral may only be recognized as a credit risk mitigant if the issuer has a publicly traded security outstanding or is controlled by a company that has a publicly traded security outstanding.

- Consistent with the requirement that the ERB Approach for a Category I – IV banking organization to apply SA-CCR to OTC derivatives, the collateral haircut approach may be used under the ERB Approach only for repo-style transactions and eligible margin loans.

- For a netting set of transactions, the E (Exposure) – C (Collateral) formula used to calculate the net exposure amount in the collateral haircut approach would be modified to take into account:

  — A systematic risk component (based on the net exposure of a netting set) – designed to recognize netting and correlations in the movement of market prices for instruments lent and received.

  — An idiosyncratic risk component (based on the gross exposure and the number of unique instruments lent and received by CUSIP or foreign equivalent) – designed to recognize the impact of portfolio diversification.

- The standard supervisory price volatility haircuts would be modified.

> Any collateral securing a repo-style transaction included in a banking organization's measure for market risk may be included in the collateral haircut approach.

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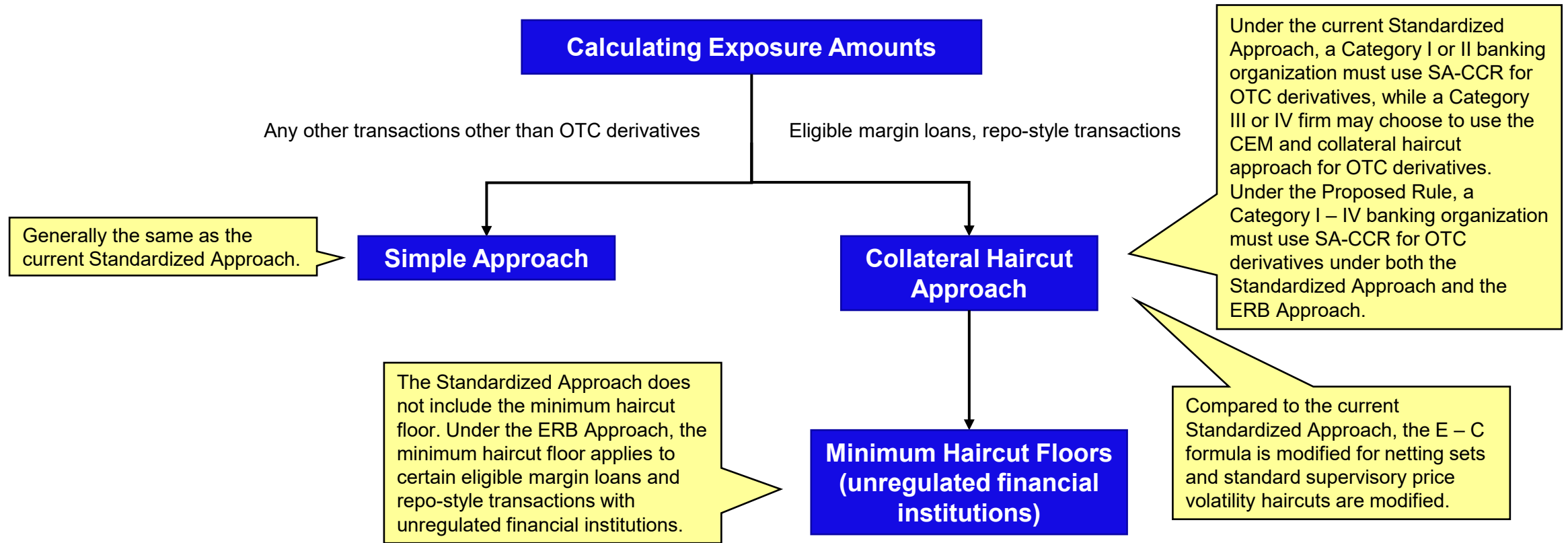
7. Collateralized Transactions
Overview of ERB Approach

‒ In addition, the Proposed Rule would introduce, for purposes of the ERB Approach, a new requirement for minimum haircut floors applicable to certain repo-style transactions and certain eligible margin loans with unregulated financial institutions.

▪ For these transactions, failure to satisfy the minimum haircut floors would prevent a Category I – IV banking organization from recognizing <u>any</u> collateral securing the transactions.

▪ In effect, failure to satisfy the minimum haircut floors would result in the transaction being treated as <u>unsecured</u> for purposes of calculating the exposure amount.

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7. Collateralized Transactions
Collateralized Transactions – ERB Approach

Calculating Exposure Amounts

Any other transactions other than OTC derivatives

Eligible margin loans, repo-style transactions

Generally the same as the current Standardized Approach.

Simple Approach

Collateral Haircut Approach

The Standardized Approach does not include the minimum haircut floor. Under the ERB Approach, the minimum haircut floor applies to certain eligible margin loans and repo-style transactions with unregulated financial institutions.

Minimum Haircut Floors (unregulated financial institutions)

Under the current Standardized Approach, a Category I or II banking organization must use SA-CCR for OTC derivatives, while a Category III or IV firm may choose to use the CEM and collateral haircut approach for OTC derivatives. Under the Proposed Rule, a Category I – IV banking organization must use SA-CCR for OTC derivatives under both the Standardized Approach and the ERB Approach.

Compared to the current Standardized Approach, the E – C formula is modified for netting sets and standard supervisory price volatility haircuts are modified.

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7. Collateralized Transactions
ERB Approach – Collateral Haircut Approach

Single Transactions

— The Proposed Rule would effectively leave unchanged, for purposes of applying the collateral haircut approach to a single repo-style transaction or eligible margin loan, the E (Exposure) – C (Collateral) formula applicable to both single transactions and netting sets of transactions under the Standardized Approach

— Under the ERB Approach, the formula for a single repo-style transaction or eligible margin loan would be as follows:

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

Where:

E^* is the exposure amount after adjusting for the risk-mitigating benefits of posted collateral.

E is the current fair value of the specific instrument, cash, or gold that has been lent, sold subject to repurchase, or posted as collateral to the counterparty.

H_e is the standard supervisory price volatility haircut (**Supervisory Haircut**) applicable to E.

C is the current fair value of the specific instrument, cash, or gold that has been borrowed, purchased subject to resale, or taken as collateral from the counterparty.

H_c is the Supervisory Haircut applicable to C.

H_{fx} is the prescribed Supervisory Haircut appropriate for currency mismatch between E and C.

— The effect of this formula is to reduce a Category I – IV banking organization's exposure amount by the amount of financial collateral, in each case as adjusted by the applicable Supervisory Haircuts and further adjusted by any FX haircut.

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7. Collateralized Transactions
ERB Approach – Collateral Haircut Approach

Netting Sets

— The Proposed Rule would modify the E – C formula for a netting set of repo-style transactions or eligible margin loans under the collateral haircut approach for purposes of the ERB Approach

— Under the ERB Approach, the formula for a netting set of repo-style transactions or eligible margin loans would be as follows:

$$E^* = max\left\{0, \left(\sum_i E_i - \sum_i C_i\right) + \overbrace{.4 \times net_{exposure}}^{\textbf{Systematic Risk Component}} + \overbrace{\frac{.6}{\sqrt{N}} \times gross_{exposure}}^{\textbf{Idiosyncratic Risk Component}} + \sum_{fx} E_{fx} \times H_{fx}\right\}$$

E^* is the exposure amount after adjusting for the risk-mitigating benefits of posted collateral.

i is an index that runs over all of the instruments included in the netting set.

E_i is the current fair value of the specific instrument, cash, or gold that has been lent, sold subject to repurchase, or posted as collateral to the counterparty.

Systematic Risk Component: Recognizes the benefits of netting in the netting set and correlations in the movement of market prices for instruments lent and received in the netting set.

Idiosyncratic Risk Component: Reflects the benefit of portfolio diversification (contribution from gross exposure amount to the exposure amount decreases proportionately with an increase in the number of unique instruments).

C_i is the current fair value of the specific instrument, cash, or gold that has been borrowed, purchased subject to resale, or taken as collateral from the counterparty.

E_{fx} is the absolute value of the net position in each currency different from the settlement currency.

H_{fx} is the prescribed haircut appropriate for currency mismatch between E and C.

$net_{exposure} = |\sum_s E_s H_s|$

$gross_{exposure} = \sum_s E_s |H_s|$

E_s is the absolute value of the sum of the fair values of a particular instrument lent, sold subject to repurchase, or posted as collateral minus the sum of the fair values of the instrument borrowed, purchased subject to resale or taken as collateral.

H_s is the Supervisory Haircut applicable to E, and has a positive sign if the instrument is lent, sold subject to repurchase or posted as collateral, and a negative sign if the instrument is borrowed, purchased subject to resale, or taken as collateral.

N is the number of instruments in the netting set with a unique CUSIP designation or foreign equivalent.

— The effect of this formula is to reduce a Category I – IV banking organization's exposure amount for a netting set by the amount of financial collateral, as adjusted in a more risk-sensitive way by the applicable Supervisory Haircuts, the impact of netting, correlation and diversification, and further adjusted by any FX haircut.

7. Collateralized Transactions
Proposed Modifications to Collateral Haircut Approach

Explanation of the Components of the Formula for Netting Sets

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

Current Exposure Component: This component reflects the fair value of the exposure minus the fair value of the collateral received. If the banking organization is overcollateralized, this component is negative.

Net Exposure Component: This component reflects the systematic risk, which is impacted by broad market variables like economy, region and sector, of the netting set. The formula for the net exposure component would recognize netting at the level of the netting set and correlations in the movement of market prices for instruments lent and received.

Gross Exposure Component: This component reflects the idiosyncratic risk, which is impacted by the specific asset, borrower or counterparty, of the netting set. Diversification benefits would be recognized in the sqrt(N) term in the denominator, decreasing the value of this component as the number of unique instrument (by CUSIP or foreign equivalent) increases.

Currency Mismatch: This component reflects any adjustment for currency mismatch, if applicable.

7. Collateralized Transactions
ERB Approach – Supervisory Haircuts

More granular tenor bands compared to the Standardized Approach.

Haircuts range from 1% to 16%, depending on risk weight and tenor, under the Standardized Approach.

		Sovereigns/Supranationals/MDBs			Other investment grade securities	
		0% RW	20-50% RW	100% RW	Non-securitization*	Securitization Exposures**
Debt securities with residual maturity (T):	T ≤ 1 year	0.5%	1%	15%	2%	4%
	1 year < T ≤ 3 years	2%	3%	15%	4%	12%
	3 years < T ≤ 5 years				6%	
	5 year < T ≤ 10 years	4%	6%	15%	12%	24%
	T > 10 years				20%	
Main index equities and gold					20%	
Cash on deposit					0.0%	
Mutual Funds		Highest haircut applicable to any security in which the fund can invest, unless the banking organization can apply the full look-through approach for equity investments in funds				
Other publicly traded equities and convertible bonds					30.0%	
Other exposure types					30.0%	

15% under the Standardized Approach.

25% under the Standardized Approach.

25% under the Standardized Approach.

* Compared to the Standardized Approach, the haircuts are not based on risk weights applicable to the issuer.
** Applicable to senior securitization exposures assigned a less than 100% risk weight.

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7. Collateralized Transactions
Collateral Haircut Approach – Examples

In the following examples, Bank A and Customer B are counterparties to a number of repo-style transactions that are subject to a netting set consistent with the netting recognition requirements under the current U.S. capital rules and the Proposed Rule.

The net exposure for each instrument across all transactions included in the netting set appears in the table, along with the Supervisory Haircut applicable to each instrument type under the current U.S. capital rules ("Current Haircut") and the Proposed Rule ("Proposed Haircut"). All examples assume no currency mismatch or holding period adjustment (other than the 5-day holding period adjustment for repo-style transactions) applies.

Example 1 Description: In this example, Bank A enters into a reverse repo with Customer B, purchasing $1,000 of AAPL common shares and $100 of US Treasury securities (UST) for $1,000 in cash, subject to an agreement to resell them for a specified amount (reflective of financing charges).

Example 1 Table

#	Instrument	Current Haircut*	Proposed Haircut*	Net Collateral Posted or Instruments Lent by	
				Bank A to Customer B ("E" parameter)	Customer B to Bank A ("C" parameter)
1	Cash	0.0%	0.0%	$1,000	-
2	UST, 4 year residual maturity	1.4%	1.4%	-	$100
3	AAPL common shares	10.6%	14.1%	-	$1,000

* Supervisory Haircuts (from Table 1 of the applicable rule), multiplied by sqrt(0.5) in order to shorten holding period for repo-style transactions from 10 business days to 5 business days, as permitted by the applicable rule.

Comparison of Bank A's Exposure Amounts under Current and Proposed Collateral Haircut Approaches (CHA):

	Current CHA	Proposed Modified CHA	% Increase
Exposure Amount	7.48	17.73	137%
UST collateral needed to reach zero exposure	*107.59*	*117.95*	*10%*

Compared to the current collateral haircut approach, the collateral haircut approach under the ERB Approach has more risk-sensitive standard haircuts, including larger haircuts for main index equity shares, resulting in a greater exposure amount in this Example 1.

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7. Collateralized Transactions
Collateral Haircut Approach – Examples

Example 2 Table

#	Instrument	Current Haircut*	Proposed Haircut*	Net Collateral Posted or Instruments Lent by	
				Bank A to Customer B ("E" parameter)	Customer B to Bank A ("C" parameter)
1	Cash	0.0%	0.0%	$1,000	—
2	UST, 4 year residual maturity	1.4%	1.4%	—	$90
3	AAPL common shares	10.6%	14.1%	—	$250
4	BA common shares	10.6%	14.1%	—	$250
5	MSFT common shares	10.6%	14.1%	—	$250
6	GM common shares	10.6%	14.1%	—	$250

* Supervisory Haircuts (from Table 1 of the applicable rule), multiplied by sqrt(0.5) in order to shorten holding period for repo-style transactions from 10 business days to 5 business days, as permitted by the applicable rule.

Example 2 Description: Example 2 is similar to Example 1, except that it reflects a more diverse portfolio of equity securities in the netting set and slightly less excess collateral ($90 in Example 2 vs $100 in Example 1). This example illustrates the diversification benefits that would be captured (via the sqrt(1/N) adjustment) in the gross exposure component of the collateral haircut approach under the Proposed Rule.

Compared to the current collateral haircut approach, the collateral haircut approach under the ERB Approach includes both net and gross exposure components. Under the ERB Approach, the gross exposure component would decrease as the number of unique instruments (by CUSIP or foreign equivalent) increases, capturing the impact of portfolio diversification on the exposure amount.

Comparison of Bank A's Exposure Amounts under Current and Proposed Collateral Haircut Approaches (CHA):

	Current CHA	Proposed Modified CHA	% Increase (Decrease)
Exposure Amount	17.34	5.37	(69%)
UST collateral needed to reach zero exposure	107.59	95.42	(11%)

7. Collateralized Transactions
Minimum Haircut Floors

– The Proposed Rule would introduce, for purposes of the ERB Approach, a new requirement for mandatory minimum haircut floors applicable to certain repo-style transactions and certain eligible margin loans (or netting sets of such transactions) with unregulated financial institutions.

  ▪ Failure to satisfy minimum haircut floors would prevent a Category I – IV banking organization from recognizing <u>any</u> collateral securing the relevant transaction or netting set.

– **Definition of Unregulated Financial Institution:** A financial institution is defined to be a financial institution that is not a regulated financial institution, including any financial institution that would meet the definition of "financial institution" under the current U.S. capital rules but for the ownership interest thresholds in part of that definition.

  ▪ The definition of unregulated financial institution would capture non-bank financial entities that engage in lending insurance, securities or other financial instruments and asset management activities, but that are not subject to prudential regulation.

  ▪ It is not clear from the proposed definition of "unregulated financial institution" whether an entity exempt from the definition of "financial institution" would be similarly exempt from the definition of "unregulated financial institution."

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7. Collateralized Transactions
Minimum Haircut Floors

- **Scope of Transactions Subject to Haircut Floors:** Transactions subject to the minimum haircut floors would include the following transactions, provided they are not cleared transactions:
  - Eligible margin loans or repo-style transactions in which a banking organization lends cash to an unregulated financial institution in exchange for securities, <u>unless</u> all of the securities are non-defaulted sovereign exposures.
  - Repo-style transactions with an unregulated financial institution that are collateral upgrade transactions.
    - A "collateral upgrade transaction" is a transaction in which the banking organization lends one or more securities that, on average,* are subject to a lower haircut floor than the securities received in exchange.
  - Certain security-for-security repo-style transactions that are collateral upgrade transactions with an unregulated financial institution
    - "Collateral upgrade transactions" include transactions in which the banking organization lends one or more securities that, in aggregate, are subject to a lower haircut floor than the securities received from the banking organization's counterparty.

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* The text of the Proposed Rule uses "on average". In the preamble to the Proposed Rule, the Agencies use "in aggregate."

7. Collateralized Transactions
Exemptions from Haircut Floors

— **Exemptions from Haircut Floors:** The following transactions would be exempt from the minimum haircut floors:

- (i) A transaction in which an unregulated financial institution lends, sells subject to repurchase or posts as collateral securities in exchange for cash and the unregulated financial institution uses the cash to fund one or more transactions with the same or at a shorter maturity than the transaction with the banking organization;

  – A banking organization could rely on representations made by the unregulated financial institution as to whether the unregulated financial institution reinvests the cash at the same or shorter maturity than the transaction with the banking organization.

- (ii) A collateral upgrade transaction in which the unregulated financial institution is unable to rehypothecate, or contractually agrees not to rehypothecate, the securities it receives as collateral from the securities lent against; and

- (iii) A transaction in which a banking organization borrows securities for the purpose of meeting current or anticipated demand, including for delivery obligations, customer demand or segregation requirements, and not to provide financing to the unregulated financial institution.

  – A banking organization must maintain sufficient written documentation to show that such transactions are for the purpose of meeting current or anticipated demand.

- According to the Agencies, if a netting set contains both transactions that are subject to the minimum haircut floors (in-scope transactions) and transactions that are exempt transactions (out-of-scope transactions), a banking organization must apply a portfolio-based floor for the entire netting set.
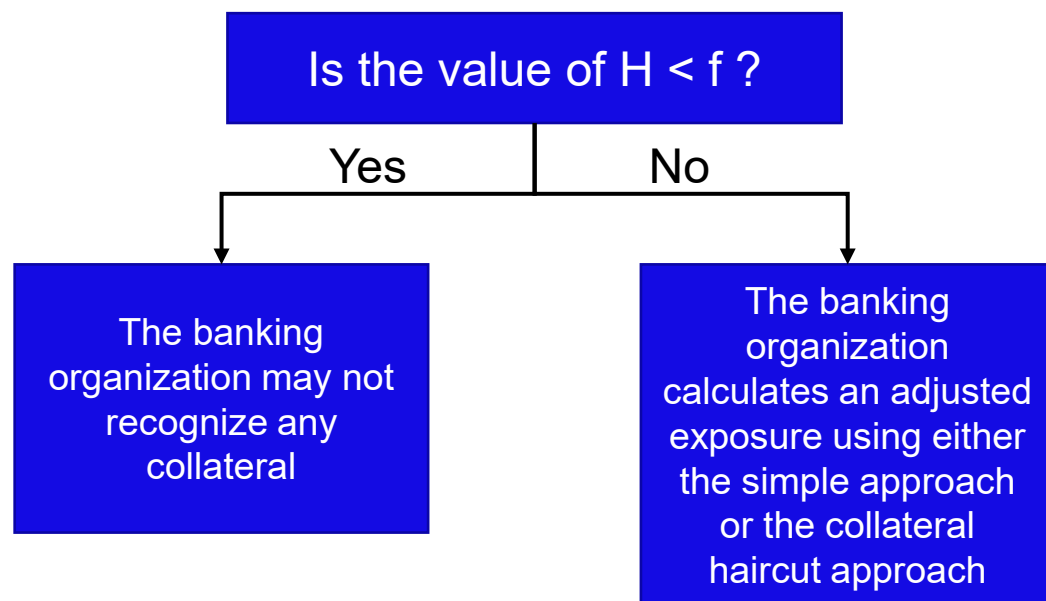
7. Collateralized Transactions
Minimum Haircut Floors

Application of Minimum Haircut Floor to a Single Transaction*

— A banking organization <u>may not</u> recognize <u>any</u> risk mitigation benefit from collateral for a transaction in which the single transaction collateral haircut (**H**) is < an applicable minimum single transaction haircut floor (**f**).

$$H = \frac{\text{Fair value of collateral received}}{\text{Fair value of cash lent}} - 1$$

Is the value of H < f ?

Yes   No

The banking organization may not recognize any collateral

The banking organization calculates an adjusted exposure using either the simple approach or the collateral haircut approach

Minimum Haircut Floors (f)

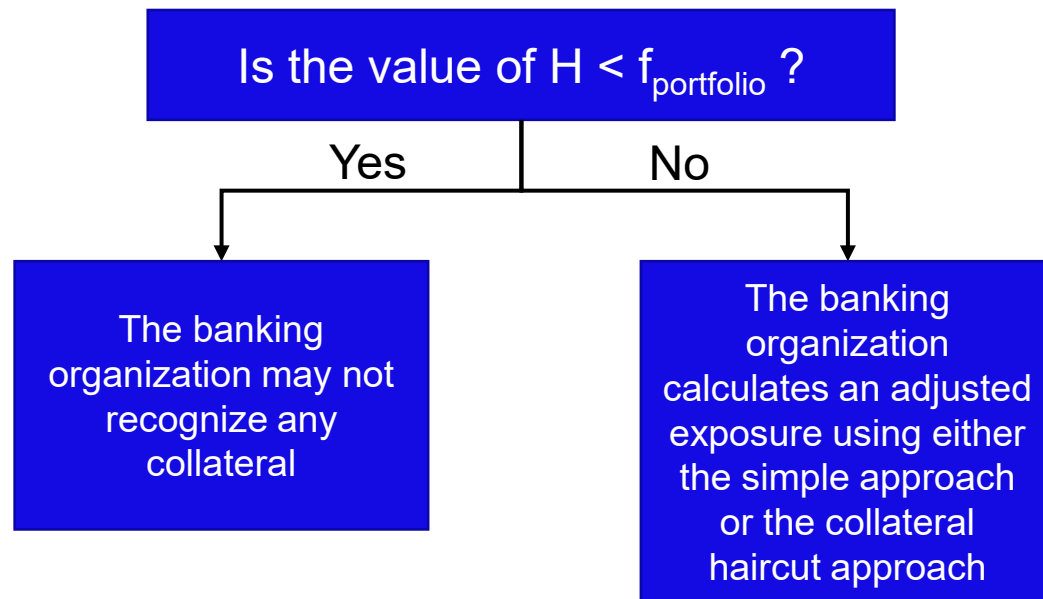|		Corporate and Other Issuers	Securitization Exposures
Debt securities and floating rate notes with less than 1 year residual maturity		0.5%	1.0%
Debt securities with residual maturity:	Between 1 and 5 years	1.5%	4.0%
	Between 5 and 10 years	3.0%	6.0%
	More than 10 years	4.0%	7.0%
Main index equities		6.0%	
Cash on deposit		0.0%	
Sovereign exposures that receive a 0% risk weight		0.0%	
Other exposure types		10.0%	

* In a security-for-security transaction, an aggregate haircut floor is calculated as a composite of the floor applicable to the securities lent and posted as collateral.

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7. Collateralized Transactions
Minimum Haircut Floors

Application of Minimum Haircut Floor to a Netting Set

— A banking organization <u>may not</u> recognize <u>any</u> risk mitigation benefit from collateral for a netting set of transactions in which the portfolio haircut (**H**) is < an applicable minimum portfolio haircut floor (**f**).

Is the value of H < $f_{portfolio}$?

Yes — The banking organization may not recognize any collateral

No — The banking organization calculates an adjusted exposure using either the simple approach or the collateral haircut approach

$$f_{portfolio} = \left(\frac{\Sigma_L\left(\frac{C_L}{1+f_L}\right)}{\Sigma_L\, C_L} \right) \Bigg/ \left(\frac{\Sigma_B\left(\frac{C_B}{1+f_B}\right)}{\Sigma_B\, C_B} \right) - 1$$

$$H = \frac{\Sigma_B\, C_B}{\Sigma_L\, C_L} - 1$$

C_L is the fair value of the net position in each security or in cash that is lent, sold subject to repurchase, or posted as collateral to the counterparty.

C_B is the fair value of the net position that is borrowed, purchased subject to resale, or taken as collateral from the counterparty.

f_L and f_B are the haircut floors for the securities or cash, as applicable, that are net lent and net borrowed, respectively.

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7. Collateralized Transactions
Minimum Haircut Floors – Example

Example 3 Table

#	Instrument	Current Haircut*	Proposed Haircut*	Net Collateral Posted or Instruments Lent by	
				Bank A to Customer B ("E" parameter)	Customer B to Bank A ("C" parameter)
1	Cash	0.0%	0.0%	$1,000	-
2	UST, 4 year residual maturity	1.4%	1.4%	-	$10
3	AAPL common shares	10.6%	14.1%	-	$1,000

* Supervisory Haircuts (from Table 1 of the applicable rule), multiplied by sqrt(0.5) in order to shorten holding period for repo-style transactions from 10 business days to five business days, as permitted by the applicable rule.

Due to the effect of the minimum haircut floor, Bank A will receive much less favorable capital treatment under the ERB Approach CHA than under the Standardized Approach CHA.

Example 3 Description: Example 3 is similar to Example 1 above, except that the transactions in this netting set are undercollateralized and Customer B is an unregulated financial institution. Customer B does not use the cash received under this netting set to fund one or more transactions with the same or shorter maturity than the repo-style transactions in this netting set, and the transaction is not otherwise exempt from the minimum haircut floors.

The minimum haircut floors apply to this netting set because Customer B is an unregulated financial institution and the transactions do not qualify for an exemption. Applying the applicable formula, H = 1% and

$f_{portfolio}$ = 5.9%.

Because $H < f_{portfolio}$, Bank A will not be permitted to recognize the risk-mitigating effect of any of the collateral it has received. As a result, it will recognize a $1,000 exposure amount, as though the transaction were unsecured.

Comparison of Bank A's Exposure Amounts under Current and Proposed Collateral Haircut Approaches (CHA):

	Current CHA	Proposed Modified CHA	% Increase (Decrease)
Exposure Amount	$96.14	$1,000	940%

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8. Securitization Exposures
Overview of the Proposed Rule

— **Scope of Securitization Framework:** The framework for securitization-related exposures (the **securitization framework**) under the current U.S. capital rules is designed to apply to exposures that involve the tranching of credit risk of one or more underlying financial exposures.

- The securitization framework addresses the definition of a securitization exposure, the calculation of RWAs for securitization exposures, and special rules (including operational requirements) applicable in particular scenarios (e.g., the use of securitization by a banking organization to mitigate on-balance or off-balance sheet credit exposures and the hedging of securitization exposures).

Impact of the Proposed Rule on the Securitization Framework

— **General:** The definition of a securitization exposure and the general structure of the securitization framework would not change under the Proposed Rule.

— **Replacement of Simplified Supervisory Formula Approach (SSFA):** For purposes of the ERB Approach, the Proposed Rule would replace the existing SSFA for calculating the risk weights applicable to a securitization exposure with a similar but new approach known as the **securitization standardized approach** (**SEC-SA**).

- SEC-SA would retain the same functional structure as the SSFA, subject to several material differences discussed below, including:
  - (1) a higher p-factor, from 0.5 to 1.0 (other than for resecuritizations);
  - (2) lower risk-weight floor, from **20%** to **15%**, for securitization exposures that are not resecuritizations;
  - (3) higher risk-weight floor for resecuritization exposures; and
  - (4) modified definitions of certain parameters.

> In addition to using SEC-SA, the Basel Framework also includes alternative approaches to calculate the risk weights applicable to securitization exposures, including an Internal Ratings-based Approach and an External Ratings-based Approach. Certain Basel Framework approaches for securitizations (including SEC-SA) apply preferential risk weights to "simple, transparent and comparable" (**STC**) securitizations, a category not included in the Proposed Rule.

> The Basel Framework permits a banking organization to cap its securitization exposure capital requirements at the amount of capital the banking organization would have been required to hold against the underlying exposures if it had not securitized them.

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8. Securitization Exposures
Overview of the Proposed Rule

— **Elimination of the Supervisory Formula Approach (SFA):** As a result of the elimination of the Advanced Approaches, the Proposed Rule would eliminate the SFA (which is based in part on internally modeled expected credit losses of the underlying exposure) as a method of calculating RWAs for securitization exposures.

— **Other Changes:** In addition, the securitization framework under the ERB Approach would reflect the following differences compared to the Standardized Approach:

- Additional operational requirements for synthetic securitizations;

- Modified treatment of resecuritizations that meet the operational requirements;

- Prohibition on the use of formula approaches (such as SEC-SA) for nth-to-default credit derivatives;

- New treatment for derivative contracts that do not provide credit enhancement;

- Modified treatment of overlapping exposures;

- New maximum capital requirements and eligibility criteria for certain senior securitization exposures (the **Look-Through Approach**);

- Modification of the treatment of credit-enhancing interest only strips (**CEIOs**); and

- New framework for non-performing loan (**NPL**) securitizations.

8. Securitization Exposures
Definitions Relevant to a Securitization Exposure

— **Definition of Securitization Exposure:** A securitization exposure is an on- or off-balance sheet credit exposure (including an equity exposure, counterparty credit risk exposure or credit-enhancing representation or warranty) arising from a traditional securitization or synthetic securitization (whether or not the banking organization is the transferor of the underlying financial exposures), or an exposure that directly or indirectly references such an exposure.

— **Common Elements of Traditional and Synthetic Securitizations:** Traditional and synthetic securitizations share the following **common elements**:

- **Transfer of Risk:** All or a portion of the credit risk of one or more underlying exposures is transferred by one party (whether or not the banking organization) to one or more third parties.

- **Tranching of Risk:** The credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority.

  — A tranching of credit risk can occur when, for example, a banking organization extends a non-recourse loan to a special purpose entity (**SPE**) and a third party owns the equity in the SPE, and there is a payments waterfall that provides for the loan to be repaid before distributions can be made to the equity holder.

- **Dependence:** The performance of the securitization exposures depends on the performance of the underlying exposures.

- **Financial Exposures:** All or substantially all of the underlying exposures are financial exposures (e.g., loans, commitments, credit derivatives, guarantees, or debt or equity securities, including asset-backed securities).

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8. Securitization Exposures
Definitions Relevant to a Securitization Exposure

— A securitization exposure may related to either (1) a traditional securitization or (2) a synthetic securitization.

Traditional Securitization

— A traditional securitization is a transaction in which all or a portion of the credit risk of one or more underlying exposures is transferred to one or more third parties (other than through the use of credit derivatives or guarantees), where the credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority. It also includes certain other conditions, such as requiring all or substantially all of the underlying exposures to be financial exposures.

— **Exclusions Applicable to Traditional Securitizations:** A traditional securitization <u>excludes</u> any transaction:

- Where the underlying exposures are owned by an operating company, small business investment company,* or firm an investment in which qualifies as a community development investment,** unless in any such case the primary federal supervisor determines that the transaction is a traditional securitization based on the transaction's leverage, risk profile or economic substance;

- That is an investment fund (as defined in the capital rules), collective investment fund,† qualifying benefit plan,†† registered with the SEC under the Investment Company Act of 1940 or foreign equivalent, a synthetic exposure to the capital of a financial institution to the extent deducted from capital under the capital rules; or

- Where the primary federal supervisor has determined that the underlying exposures are owned by an investment firm that exercises substantially unfettered control over the size and composition of its assets, liabilities and off-balance sheet exposures, based on the transaction's leverage, risk profile or economic substance.

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*   As defined in Section 302 of the Small Business Investment Act.
** As defined in Section 24(Eleventh) of the National Bank Act.

†   As defined in 12 C.F.R. 208.34.
†† In general, a qualifying benefit plan is an employee benefit plan or government plan that qualifies for deferred tax treatment under applicable law.

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8. Securitization Exposures
Definitions Relevant to a Securitization Exposure

Synthetic Securitization

— A synthetic securitization is a transaction in which

- All or a portion of the credit risk of one or more of the underlying exposures is transferred to one or more third parties through the use of one or more **credit derivatives or guarantees** (other than a guarantee that transfers only the credit risk of an individual retail exposure);

- The credit risk associated with the underlying exposures has been separated into at least two tranches reflecting different levels of seniority;

- Performance of the securitization exposures depends on the underlying exposures; and

- All or substantially all of the underlying exposures are financial exposures.

Credit derivative means a financial contract executed under standard industry credit derivative documentation that allows one party (the protection purchaser) to transfer the credit risk of one or more exposures (reference exposure(s)) to another party (the protection provider) for a certain period of time.

Guarantee means a financial guarantee, letter of credit, insurance, or other similar financial instrument (other than a credit derivative) that allows one party (beneficiary) to transfer the credit risk of one or more specific exposures (reference exposure) to another party (protection provider).

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8. Securitization Exposures
General Structure of Securitization Framework

— **Roles in a Securitization:** In a traditional or synthetic securitization, a banking organization may be the (1) **transferor** of the underlying credit risk or purchaser of credit protection, or (2) the **investor** of a securitization of the underlying credit risk or provider of credit protection.
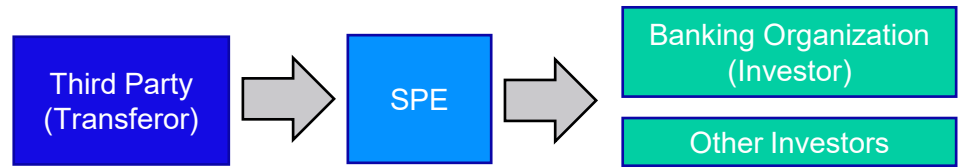

Transferor Example: A banking organization uses a traditional securitization to transfer the underlying credit risks on a pool of loans owned by the banking organization to third-party investors. The banking organization transfers the loans to an unconsolidated SPE. The SPE issues notes and equity to the investors.

Banking Organization (Transferor) → SPE → Investors

Investor Example: A third-party financial institution uses a traditional securitization to transfer the underlying credit risks on a pool of loans via an SPE to a group of investors, with the banking organization acting as an investor.

Third Party (Transferor) → SPE → Banking Organization (Investor) / Other Investors

— **Capital Treatment Where the Banking Organization is the Transferor:** If a banking organization uses a traditional or synthetic securitization to transfer underlying credit risks:

  ▪ If the banking organization satisfies the applicable **operational criteria** (see below) the banking organization would recognize for capital purposes the risk-mitigating benefits of transferring all or a portion of the credit risk to third parties (e.g., the investors in an SPE) as follows:

    — The banking organization would **not recognize the RWAs for the underlying exposures**;* and

    — To the extent the banking organization retains any credit exposure to the underlying exposures (e.g., because it retained the senior notes issued by an SPE), it would **recognize the RWAs for any retained securitization exposure(s)** using one of the approaches outlined below.

  ▪ If the banking organization does not satisfy the applicable operational criteria, the banking organization must **recognize the full RWAs for the underlying exposures** as if they remain on the banking organization's balance sheet in their entirety.

— **Capital Treatment Where the Banking Organization is an Investor or Credit Protection Provider:** If a banking organization acquires a securitization exposure, whether through a traditional or synthetic securitization, it must **recognize the RWAs for the acquired securitization exposure** using one of the approaches outlined below.

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*   This derecognition is consistent with off-balance sheet accounting treatment, which is a requirement to recognizing the risk-mitigating benefits of the transfer under the U.S. capital rules.

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8. Securitization Exposures
Risk Weights under SSFA and SEC-SA

— **General RWA formula:** As with RWAs for credit risk for other exposure categories, a banking organization generally must calculate its RWAs for credit risk for a securitization exposure by multiplying the **exposure amount** by the **risk weight** applicable to the exposure, unless the exposure is required to be **deducted** from capital.

— **Exposure Amount:** The exposure amount for a securitization exposure depends on its accounting treatment and the category of the exposure, as shown in the tables on the subsequent pages.

— **Risk Weight:** The risk weight for a securitization exposure is generally calculated using the applicable standardized, formula-based approach (SSFA under the Standardized Approach* and SEC-SA under the ERB Approach), provided certain conditions are satisfied and provided an alternative risk weight does not apply given the type of securitization exposure.

— If the conditions to apply SSFA or SEC-SA are not satisfied or if the banking organization does not satisfy the due diligence requirements** for the securitization exposure, the banking organization must apply a risk weight of **1,250%** to the securitization exposure.

— The formulas for SSFA and SEC-SA are based on the credit risk of the underlying exposures, the attachment and detachment points of the tranche of the securitization exposure, and other parameters described below, and each approach is subject to a risk weight floor (which varies depending on the exposure type).

Calculation Approach	Minimum Risk Weight		Maximum Risk Weight
SSFA	— General securitization exposure: — Resecuritization exposure: — Non-credit-enhancing interest-only mortgage-backed security:	20% 20% 100%	1,250%
SEC-SA	— General securitization exposure: — Resecuritization exposure: — NPL exposure: — Non-credit-enhancing interest-only mortgage-backed security:	15% 100% 100% 100%	1,250%

*   The Standardized Approach also permits the use of an alternative, simplified approach known as the gross-up approach for a banking organization that is not subject to the market risk capital rule (Subpart F).

**   Under the **due diligence requirements**, a banking organization must demonstrate to its primary federal supervisor that it has a compressive understanding of the features of a securitization exposure that would materially affect the exposure's performance.

8. Securitization Exposures
Exposure Amounts under Standardized Approach and ERB Approach

— The **exposure amount** for a securitization exposure depends on its accounting treatment and the category of exposure, as shown in the table below.

Exposure Category	Exposure Amount under CR-SA	Exposure Amount under CR-ERB
On-balance sheet securitization exposures:		
In general (other than those below)	Carrying value	Carrying value
Repo-style transactions and eligible margin loans	Apply collateral haircut approach	Apply modified collateral haircut approach
Derivatives*	Apply SA-CCR or CEM (and collateral haircut approach, if applicable)	Apply SA-CCR
Cleared transactions*	Apply cleared transactions framework	Apply cleared transactions framework
Full or pro rata written credit derivatives**	Treat as if the banking organization holds the covered exposures (or pro rata portion) directly; do not apply SA-CCR or CEM	Treat as if the banking organization holds the covered exposures directly; do not apply SA-CCR
Purchased credit derivatives**	— If recognized as a credit risk mitigant: No exposure amount required for counterparty credit risk to the securitization — Otherwise: Apply SA-CCR or CEM	— If recognized as a credit risk mitigant: No exposure amount required for counterparty credit risk to the securitization — Otherwise: Apply SA-CCR
Written nth-to-default credit derivatives	Largest notional amount of all underlying exposures	Nominal amount of protection provided
Purchased nth-to-default credit derivatives	May be recognized as a credit risk mitigant if requirements are met[†] — If recognized as a credit risk mitigant: No exposure amount required for counterparty credit risk to the securitization — Otherwise: Apply SA-CCR or CEM	Not permitted to be recognized as a credit risk mitigant. Apply SA-CCR to calculate exposure amount for counterparty credit risk .

*   Other than credit derivatives.
**   Other than nth-to-default credit derivatives.

[†]   For first-to-default protection (n=1): Purchased protection may be recognized as a credit risk mitigant. To recognize the mitigant, treat the exposure as if the banking organization synthetically securitized only the underlying exposure with the smallest RWA amount

For subsequent-to-default protection (n>1): Purchased protection may be recognized as a credit risk mitigant only if (a) the banking organization has also purchased and recognized protection for each previous-to-default underlying exposure or (b) n-1 underlying exposures have already defaulted (i.e., an "n-1 rule").

8. Securitization Exposures

Exposure Amounts under Standardized Approach and ERB Approach

— The **exposure amount** for a securitization exposure depends on its accounting treatment and the category of exposure, as shown in the table below.

Exposure Category	Exposure Amount under CR-SA	Exposure Amount under CR-ERB
Off-balance sheet securitization exposures:		
In general (other than those below)	Notional amount	Notional amount
Full or pro rata written guarantees	Treat as if the banking organization holds the covered exposures (or pro rata portion) directly	Treat as if the banking organization holds the covered exposures (or pro rata portion) directly
Qualifying sales of small business obligations with recourse	Contractual exposure to the small business obligations	Contractual exposure to the small business obligations
Asset-backed commercial paper (ABCP) program exposure	Notional amount (up to maximum potential funding amount given ABCP program's current underlying assets) x CCF of: — For eligible ABCP liquidity facility for which SSFA does not apply: 50% — For eligible ABCP liquidity facility for which SSFA does apply and other exposures to ABCP programs: 100%	Notional amount, up to maximum potential funding amount given ABCP program's current underlying assets (In effect, the CCFs for all ABCP programs would be 100% under the ERB Approach.)
Undrawn portion of servicer cash advance facility	— Eligible facility: No exposure amount required — Ineligible facility: Contractual amount over next 12 months	— Eligible facility: No exposure amount required — Ineligible facility: Contractual amount over next 12 months

8. Securitization Exposures
Risk Weights under Standardized Approach and ERB Approach

— The **risk weight** for a securitization exposure depends on its accounting treatment and the category of exposure.

- Compared to the Standardized Approach, the ERB Approach would change both the generally applicable formula-based approach to calculating risk weights, as well as the treatment of several exposure categories for which the formula-based approach does not apply, as follows:

Exposure Category	Risk Weight under CR-SA	Risk Weight under CR-ERB
In general (other than exceptions on the next page)		
Criteria* to apply formula approach satisfied	Apply SSFA (unless gross-up approach elected)	Apply SEC-SA
Formula approach criteria not satisfied (or by election)	**1,250%**	**1,250%**

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*   To apply the SSFA or SEC-SA (as applicable), a banking organization must have data that enables it to accurately assign the parameters of the formula approach (see below for a list of parameters). Data used to assign the parameters must be the most currently available data. If the contracts governing the underlying exposures require payments on a monthly or quarterly basis, the data used must be no more than 91 days old.

8. Securitization Exposures
Risk Weights under Standardized Approach and ERB Approach

Exposure Category	Risk Weight under CR-SA	Risk Weight under CR-ERB
Exceptions:		
After-tax gain-on-sale resulting from a securitization	Risk weight N/A; subject to complete deduction	
Portion of a credit-enhancing interest-only strip (CEIO) that does not constitute an after-tax gain-on-sale	**1,250%**	Risk weight N/A; subject to complete deduction
Eligible ABCP liquidity facilities	Highest risk weight applicable to any of the individual underlying exposures	Category N/A; see look-through approach for securitizations below.
Second loss position or better to an ABCP program	Greater of **100%** or highest risk weight applicable to any of the individual underlying exposures	Category N/A; see look-through approach for securitizations below.
Derivative contract other than credit derivative	May elect to apply **100%**	Category N/A; apply SEC-SA or **1,250%** as applicable
Purchased credit derivative not recognized as a credit risk mitigant	May elect to apply **100%**	• If counterparty is a securitization SPE, apply SEC-SA • Otherwise, apply risk weight applicable to the counterparty
Full or pro rata written credit derivative* or guarantee	Treat as if the banking organization holds the covered exposure (or pro rata portion) directly; apply risk weight applicable to the covered exposure (e.g., if covered exposure is a securitization exposure eligible for formula approach, apply the formula approach)	
Written nth-to-default derivatives	Apply SSFA, subject to special requirements for assigning attachment and detachment point parameters	Sum of risk weights applicable to the assets covered by the derivative (capped at **1,250%**). For subsequent-to-default derivatives (n>1), the banking organization may exclude the n-1 assets with the lowest RWA amounts.
Qualifying sales of small business obligations with recourse	Apply risk weight applicable to the small business obligations	
NPL securitizations	Category N/A; apply SSFA or **1,250%** as applicable	**100%** if the securitization is a traditional securitization and the nonrefundable purchase price discount is ≥ 50% of the outstanding balance of the pool of exposures.

*   Other than nth-to-default credit derivatives.

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8. Securitization Exposures
Calculation of Risk Weights under SEC-SA

Expanded Total RWA

Subpart E   *Subpart F*

| CR-ERB | ER-ERB | OR | MR | CVA |

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— A Category I – IV banking organization would use the following formula to calculate the risk weights for securitization exposures under SEC-SA:

$$RW_{SEC-SA}$$
$$= \begin{cases} max(RW_{FLOOR}, 1{,}250\% \cdot K_{SEC-SA}), & K_A \leq A \\ max\left(RW_{FLOOR}, \left(\dfrac{K_A - A}{D - A}\right) \cdot 1{,}250\% + \left(\dfrac{D - K_A}{D - A}\right) \cdot 1{,}250\% \cdot K_{SEC-SA}\right), & A < K_A < D \\ 1{,}250\%, & D \leq K_A \end{cases}$$

> The SEC-SA formula uses the same functional form (using the same named parameters) as the SSFA formula, although some of the parameters are defined or calibrated differently under the SEC-SA. See below for a comparison of these parameters.

— Where:

- K_A reflects the delinquency-adjusted weighted-average capital requirement of the underlying exposures, and would be a function of K_G and W.
    - K_G equals the weighted average total capital requirement of the underlying exposures, based on the risk weights applied to the underlying exposures in subpart E, multiplied by 0.08.
    - W equals the ratio of underlying exposures that are not performing or are delinquent to all underlying exposures.
- A** (attachment point) is the greater of zero <u>and</u> ratio of (1) all underlying assets – tranches that rank senior or *pari passu* to (2) all underlying assets.
- D** (detachment point) is the greater of zero <u>and</u> ratio of (1) all underlying assets – tranches that rank senior to (2) all underlying assets.
- K_{SEC-SA} is a function of (1) a constant *p*, which is set at 1.5 for a resecuritization exposure and 1 for all other securitization exposures and makes risk weights more conservative, (2) other variables listed here *(K_A, A and D),* and (3) the natural log.
- RW_{FLOOR} equals **100%** for resecuritization exposures and NPL securitization exposures and **15%** for all other securitization exposures.*

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*   Non-credit-enhancing interest-only mortgage-backed securities are also subject to a risk weight floor of **100%**. As a technical matter, this floor does not appear in the SEC-SA formula and is provided elsewhere in the Proposed Rule.

**   A banking organization must include in the calculation of *A* and *D* the funded portion of any reserve account funded by the accumulated cash flows from the underlying exposures that is subordinated to the banking organization's securitization exposure.

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8. Securitization Exposures
Comparison of SEC-SA and SSFA Parameters

Parameter	Summary Explanation	SSFA	SEC-SA
p	A supervisory constant that effectively applies more conservative risk weights for securitization exposures compared to non-securitization exposures.	Parameter *p* equals: — 0.5 for securitization exposures — 1.5 for resecuritization exposures	Parameter *p* equals: — **1.0** for securitization exposures — 1.5 for resecuritization exposures. This change would produce more conservative risk weights.
Risk weight floor	The lowest risk weight that may be applied to the securitization exposure.	Risk weight floors of: — **100%** for non-credit-enhancing interest-only mortgage-backed securities — **20%** for other securitization exposures (including resecuritization exposures)	Risk weight floors of: — **100%** for resecuritization exposures, NPL exposures and non-credit-enhancing interest-only mortgage-backed securities — **15%** for other securitization exposures
A and *D*	The attachment point (threshold at which credit losses are first allocated to exposure) (A) and detachment point (threshold at which credit losses would result in total loss of principal) (D) of the securitization exposure.	— May not recognize noncash assets in a reserve account when calculating *A*. — *A* and *D* reference current dollar value of underlying exposures.	— May recognize cash and noncash assets in a reserve account when calculating *A*. — *A* and *D* reference outstanding balance of underlying exposures.

The Basel Framework defines certain traditional securitizations as **simple, transparent and comparable (STC)** securitizations. For purposes of SEC-SA, the Basel Framework applies to STC securitizations a ***p* value of .5** and, to senior tranche STC securitizations, a **10% risk weight floor**.

8. Securitization Exposures
Comparison of SEC-SA and SSFA Parameters

Parameter	Summary Explanation	SSFA	SEC-SA
W	The proportion of underlying exposures that are in default, delinquent or similar status (**delinquent underlying exposures**). Such underlying exposures are treated as if a **625%** risk weight (50%/8%) applied to them.	Underlying exposures that are securitization exposures (as is the case for resecuritizations) are not treated as delinquent underlying exposures and are <u>included</u> in numerator and denominator of W.	Underlying exposures that are securitization exposures are not treated as delinquent underlying exposures, but are <u>excluded</u> from the numerator and denominator of the calculation of the W.
*K*_{*G*}	The weighted average capital requirement (i.e., risk weight / 8%) applicable to the underlying exposures.	— Include in the denominator of the weighted average calculation the capital requirements of the underlying exposures for all exposures. — Do not include in the numerator of the weighted average calculation the capital requirements of collateral for synthetic securitizations.	— For interest rate derivative contracts and exchange rate derivative contracts: Include the capital requirements applicable to these exposures in the numerator of the weighted average, but not the denominator, because these derivatives do not provide any credit enhancement. — For synthetic securitizations that transfer credit risk to a securitization SPE that issues funded obligations: Include total capital requirements of any collateral in the numerator, but not the denominator, to account for the credit risk associated with collateral.

Under the Basel Framework, if the delinquency status is unknown for up to 5% of underlying exposures, a banking organization may still apply SEC-SA to calculate the risk weight with an adjustment to K_A. If the delinquency status is unknown for more than 5% of underlying exposures, must apply a **1,250%** risk weight to those securitization exposure.

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8. Securitization Exposures
Operational Criteria for Recognizing Transfers of Risk

— As noted above, if a banking organization uses a traditional or synthetic securitization to transfer underlying credit risks (e.g., if it securitized assets that it had originated and previously held on its balance sheet), the banking organization must satisfy certain **operational criteria** in order to recognize for capital purposes the risk-mitigating benefits of transferring all or a portion of the credit risk to third parties.

— The Proposed rule would not change the operational criteria for a traditional securitization, but would add three new operational criteria for a synthetic securitization.

— The operational criteria for **traditional** and **synthetic** securitizations are shown below:

| In addition to the criteria listed here, the Basel Framework includes the following criteria for traditional securitizations: (1) transferee must be an SPE; (2) transferor does not maintain effective or indirect control over the transferred exposures; (3) no termination triggers other than eligible clean-up calls; and (4) no clauses that require increases to the securitization's credit quality or yields payable to investors and third parties. | **Operational Criteria for Risk Transfers Involving Traditional Securitizations (Standardized Approach and ERB Approach)**

— Exposures are not reported on consolidated balance sheet under GAAP
— Transferred credit risk to one or more third parties
— Any clean-up calls relating to the securitization are eligible clean-up calls
— Securitization does not permit the borrower to draw varying amounts from the underlying exposures within an agreed limit or contain an early amortization provision | **Operational Criteria for Risk Transfers Involving Synthetic Securitizations**

— The credit risk mitigant is (i) financial collateral; (ii) an eligible guarantee; or (iii) an eligible credit derivative (excluding an nth-to-default credit derivative).
— Credit risk associated with underlying exposures is transferred to third parties and the terms of that transfer do not impair or increase the cost of the banking organization's credit protection.
— The banking organization obtains a legal opinion that confirms enforceability of credit risk mitigant.
— Any clean-up calls relating to the securitization are eligible clean-up calls

— Does not include a synthetic excess spread, which is a provision designed to absorb losses prior to any tranche
— Any minimum payment threshold is consistent with market practice
— Securitization does not permit the borrower to draw varying amounts from the underlying exposures within an agreed limit or contain an early amortization provision |

Standardized Approach <u>and</u> ERB Approach

ERB Approach <u>only</u>

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8. Securitization Exposures
Operational Criteria for Recognizing Transfers of Risk

Failure to Satisfy Operational Criteria

— If a banking organization does <u>not</u> satisfy the operational criteria listed on the previous page, it must:

- Hold capital against the underlying exposures as if they were not securitized (i.e., no recognition of the credit risk mitigating effect of the securitization transaction under the SEC-SA or SSFA, as applicable), and

- For traditional securitizations, deduct any after-tax gain-on-sale from the transaction from CET 1 capital and deduct any portion of a CEIO that does not constitute an after-tax gain on sale.

Satisfaction of Operational Criteria

— If a banking organization satisfies the operational criteria:

- It <u>may</u> exclude the exposures for which it has transferred credit risk from the calculation of its RWAs, but it must hold the risk-based capital against any retained credit risk.

- Under the ERB Approach, for a resecuritization exposure, it <u>must</u> exclude the exposures for which it has transferred risk from the calculation of RWAs, and <u>must</u> hold risk-based capital against any retained credit risk.

8. Securitization Exposures
RWAs – Overlapping Exposures
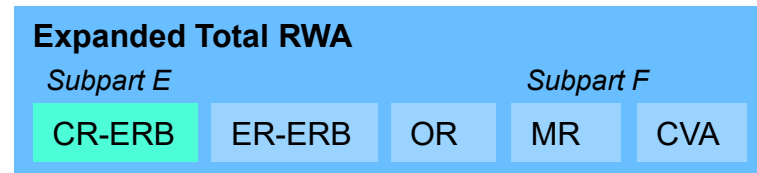
— The Proposed Rule would modify the RWA treatment of overlapping exposures in the SEC-SA of the ERB Approach compared to the Standardized Approach, introducing provisions partially overlapping and non-overlapping exposures.

- If a securitization exposure partially overlaps with another exposure, the banking organization would be allowed to assign the overlapping portion of the overlapping exposure the risk-based capital treatment that results in the highest capital requirement under Subpart E.

- A banking organization would be allowed to treat two non-overlapping exposures as overlapping if it assumes that the obligations for one of the exposures are larger than those established contractually.

  — The banking organization would calculate its RWAs as if the exposures were overlapping provided that the banking organization also assumes for capital purposes that the obligations of the relevant exposure are larger than those established contractually.

- If a securitization exposure under subpart E partially overlaps with a market risk covered position under subpart F, the banking organization would be allowed to calculate its capital requirement for the overlapping portion of the exposure under whichever of subpart E or subpart F results in the higher capital requirement.

> The current U.S. capital rules do not allow banking organizations to treat non-overlapping securitization exposures as overlapping or allow banking organizations to choose between applying subpart E or subpart F for securitization exposures that overlap with market risk covered positions.

8. Securitization Exposures
RWAs – Securitization Look-Through Approach and NPL Securitizations

— The Proposed Rule would introduce two new RWA treatments in the SEC-SA of the ERB Approach compared to the Standardized Approach, introducing provisions for a securitization look-through approach and for NPL securitizations.

Look-Through Approach for Securitizations

— For a senior securitization exposure that is not a resecuritization, a banking organization may assign a risk weight that is equal to the <u>greater</u> of:

  ▪ Weighted-average risk weight of all underlying exposures, with the weight determined by the unpaid principal amount of the exposure; and

  ▪ **15%**

— A banking organization could use the look-through approach only if it knows the composition of all of the underlying exposures.

NPL Securitization

— Subject to the provisions governing the provision of implicit support (i.e., support to a securitization in excess of the banking organization's contractual obligation), a banking organization would be able to:

  ▪ Assign a risk weight of **100%** to a senior securitization exposure to an NPL securitization if:

    — The NPL securitization is (i) a traditional securitization and (ii) the nonrefundable purchase price discount is ≥ 50% of the outstanding balance of the pool of NPLs.

  ▪ If the banking organization is an originating banking organization for the NPL securitization, it would be able to hold risk-based capital as if they had not been securitized, in which case it <u>must</u> deduct from CET 1 capital any after-tax gain-on-sale resulting from the transaction and any portion of a CEIO that does not constitute an after-tax gain-on-sale.

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8. Securitization Exposures
Recognition of Credit Risk Mitigants

— The Proposed Rule would introduce two limitations of credit risk mitigants compared to the current Standardized Approach:

  ▪ Eliminating the use of nth-to-default credit derivatives; and

  ▪ Limiting the use of credit risk mitigants in securitization exposures.

ERB Approach to the Use of Credit Risk Mitigants for Securitization Exposures

— If a credit risk mitigant only hedges a portion of a securitization exposure, the banking organization would be required to calculate the hedged and unhedged portions separately.

  ▪ A banking organization would calculate its capital requirements for the hedged portion by applying the guarantees and credit derivative rules or the collateral transaction rules.

  ▪ A banking organization would calculate its capital requirements for the unhedged portion by applying the securitization framework described above.

— A banking organization that sells credit protection on a portion of a senior tranche must treat the lower-priority portion that is not referenced by the credit protection (whether hedged or unhedged) as a non-senior securitization exposure.

> The current U.S. capital rules do not include these two requirements.

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9. Equity Exposures
Overview of Changes under ERB Approach

— The Proposed Rule would make a number of changes to the calculation of RWAs for credit risk to equity exposures under the ERB Approach compared to the Standardized Approach, including:

▪ Under the market risk rule (Subpart F), would treat the following as a market risk covered position, regardless of whether it is a trading asset or trading liability:

— A publicly traded equity position with no restrictions on its tradability.

— An equity position in an investment fund, provided that:

(1) The banking organization has access to the investment fund's prospectus, partnership agreement or similar contract that defines the fund's permissible investments and investment limits; and

(2) The banking organization <u>either</u> (i) is able to use the look-through approach to calculate a market risk capital requirement for its pro rata ownership share of each exposure held by the fund, <u>or</u> (ii) obtains daily price quotes for the fund.

— As a result, the ERB Approach for equity exposures would generally apply only to non-publicly traded equity positions that are not equity positions in investment funds, and equity positions with restrictions on their tradability.

▪ The elimination of the **100%** risk weight for non-significant equity exposures up to a cap of 10% of a banking organization's total capital and for the effective portion of hedge pairs, and other modifications to risk weights.

▪ Modifications to the look-through approaches for equity exposures to investment funds, including to reflect a fund's off-balance sheet exposures, CVA risk of any underlying derivative exposures, and leverage.

— In addition, consistent with the elimination of the Advanced Approaches for credit risk, the Proposed Rule would eliminate the use of the internal models approach for the calculation of credit risk to equity exposures.

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9. Equity Exposures
Scope and Definition of Equity Exposure

— The Proposed Rule preserves the current U.S. capital rule's definition of **equity exposure**, which includes most equity securities, securities that are convertible into equity securities, and options or warrants on equity securities.

— The Proposed Rule would require banking organizations to use the proposed market risk framework to calculate RWAs for publicly traded equity exposures free of restrictions on their tradability.

— Certain equity exposures excluded from the proposed definition of market risk covered position (see Section 6, page 152) would instead be subject to the proposed equity framework, including:

- Publicly traded equity positions with restrictions on their tradability.

- Non-publicly traded equity positions that are not equity positions in an investment fund.

- Equity positions in investment funds that do not meet one of the criteria for inclusion as market risk covered positions.

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9. Equity Exposures
Adjusted Carrying Value

— Under both the Standardized Approach and the ERB Approach, a banking organization would calculate RWA amounts for equity exposures by **multiplying** the exposure's **adjusted carrying value** by the prescribed **risk weight** applicable to the exposure.

— Compared to the Standardized Approach, the Proposed Rule would eliminate the distinction in maturities for a conditional commitment to acquire an equity exposure and would apply a 40% conversion factor to any such commitment under the ERB Approach, as shown in the table below.

Adjusted Carrying Value

Exposure Type	Standardized Approach	ERB Approach
On-balance sheet component of an equity exposure	The carrying value of the exposure	The carrying value of the exposure
Unconditional commitment to acquire an equity exposure	The effective notional principal amount of the exposure multiplied by a 100% conversion factor	The effective notional principal amount of the exposure multiplied by a 100% conversion factor
Conditional commitment to acquire an equity exposure	The effective notional principal amount of the exposure multiplied by a: — 20% conversion factor if maturity ≤ 1 year — 50% conversion factor if maturity > 1 year	The effective notional principal amount of the exposure multiplied by a 40% conversion factor
Off-balance sheet component of an equity exposure that is not an equity commitment	The effective notional principal amount of the exposure, the size of which is equivalent to a hypothetical on-balance sheet position in the underlying equity instrument that would evidence the same change in fair value (measured in dollars) for a given small change in the price of the underlying equity instrument, minus the adjusted carrying value of the on-balance sheet component of the exposure.	The effective notional principal amount of the exposure, the size of which is equivalent to a hypothetical on-balance sheet position in the underlying equity instrument that would evidence the same change in fair value (measured in dollars) for a given small change in the price of the underlying equity instrument, minus the adjusted carrying value of the on-balance sheet component of the exposure.

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9. Equity Exposures
Risk Weights

– Compared to the Standardized Approach, the Proposed Rule would eliminate the 100% risk weight for non-significant equity exposures up to 10% of a banking organization's total capital and for the effective portion of hedge pairs, and make other modifications to the risk weights for equity exposures under the ERB Approach, as shown in the table below.

Equity Exposure*	SA Risk Weight	ERB Approach Risk Weight
Sovereigns, MDBs and other entities whose credit exposures receive a risk weight of **0%**	**0%**	**0%**
An equity exposure to a PSE, FHLB, or Farmer Mac	**20%**	**20%**
An equity exposure that qualifies as a community development investment under section 24 (Eleventh) of the National Bank Act	**100%**	**100%**
A significant investment in the common stock of an unconsolidated financial institution that is not deducted from capital	**250%**	**250%**
A publicly traded equity exposure**	**300%**	
An equity exposure that is not publicly traded	**400%**	**400%**
An equity exposure to an investment firm that has greater than material leverage and would meet the definition of a traditional securitization were it not for the application of paragraph (8) of that definition	**600%**	**1,250%**

These risk weights are generally consistent with the revised Basel Framework, except that (1) the Basel Framework applies an aggregate cap of 10% of total capital to **100%** risk weighted equity investments "made pursuant to national legislated programs," and (2) also applies materiality thresholds to non-deducted investments in significant minority- or majority-owned and controlled commercial entities, with a **1,250%** risk weight for investments exceeding the materiality thresholds. The Basel Framework does not distinguish between equity exposures and credit exposures to sovereigns, MDBs or PSEs. Assuming the Basel Framework intends to apply the same risk weight to equity and credit exposures to these three types of issuers, the Proposed Rule takes a consistent approach.

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

** The elimination of the treatment for effective hedge pairs in the ERB Approach is intended to reflect the fact that publicly traded equity exposures are generally treated as market risk covered positions.

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9. Equity Exposures
Equity Exposures to Investment Funds

— The definition of **investment fund** would be the same under both the Standardized Approach and the ERB Approach:

- A company (1) where all or substantially all of the assets are financial assets; and (2) that has no material liabilities.

  — Because the ERB Approach for equity exposures to investment funds would take into account an investment fund's leverage, it is unclear why the second component of the definition would not be amended for the ERB Approach.

— To calculate RWA amounts for equity exposures to investment funds, a banking organization must first identify the applicable approach in the hierarchy of approaches shown in the chart on the next page.

- Certain equity exposures to investment funds are subject to the market risk rule instead of the credit risk framework.

- Equity investments in an investment fund that satisfy the definitional criteria for a traditional securitization are subject to the securitization framework,

  — <u>unless</u> the investment fund has greater than immaterial leverage <u>and</u> the relevant Agency determines that the investment fund:

    - exercises substantially unfettered control over the size and composition of its assets, liabilities, and off-balance sheet exposures; and

    - the equity exposure is not a traditional securitization based on the leverage, risk profile, or economic substance of the exposure.

  — If these conditions are satisfied, the equity exposure to the investment fund is assigned a **1,250%** risk weight.

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9. Equity Exposures
Investment Funds – Hierarchy of Approaches

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Does the banking organization have access to the fund's prospectus, partnership agreement, or similar contract that defines the fund's permissible investments and investment limits?

and

Can the banking organization (1) obtain daily price quotes for the equity exposure to the investment fund or (2) is it able to use the look-through approach to calculate a market risk capital requirement in respect of its proportional ownership of each exposure held by the fund?

No →

Does the investment fund meet the definition of a traditional securitization were it not for the application of paragraph (8) of that definition

and

have material leverage?

No →

Does the banking organization have financial information, reported at least quarterly and subject to independent third party verification on at least a quarterly basis, sufficient to calculate RWA amounts for each exposure held by the investment fund as if it were held directly by the bank?

No →

Does the investment fund's prospectus, partnership agreement, or similar contract provide information sufficient for the banking organization to determine the risk weight applicable to each exposure type in which the investment fund is permitted to invest?

Yes ↓

Calculate RWAs for equity exposure to investment fund under the market risk rule.

Yes ↓

Has the Agency determined under paragraph (8) that the equity exposure to an investment fund is **not** a traditional securitization?

Yes ↓

Apply **1,250%** risk weight.

No →

Yes ↓

Calculate RWAs for equity exposure to investment fund using the full look-through approach.

No →

Calculate RWAs for equity exposure to investment fund under the securitization framework.

Yes ↓

Calculate RWAs for equity exposure to investment fund using the alternative modified look-through approach.

No ↓

Apply **1,250%** risk weight.

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9. Equity Exposures
Investment Funds – Look-Through Approaches

— Compared to the Standardized Approach, the Proposed Rule would make the following change to the look-through approaches for the calculation of RWAs to investment funds under the ERB Approach:

- In order to use the full look-through (**Full L-T**) approach, the information about the investment fund's underlying exposures must be verified by an independent third party at least quarterly.

- Under both the Full L-T and alternative modified look-through (**Alternative L-T**) approaches, a banking organization must calculate RWA amounts for an investment fund's:

  — Off-balance sheet exposures;

  — Counterparty credit risk and CVA risk for derivative exposures;

  — Securitization exposures; and

  — Equity exposures to other investment funds.

- While maintaining the existing minimum risk weight floor of 20% for the Full L-T and Alternative L-T approaches, the Proposed Rule would apply a maximum risk weight cap of **1,250%** for either L-T approach.*

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* Although the Agencies state in the preamble to the Proposed Rule that the cap applies to the Full L-T approach as an incentive to use the Full L-T approach, the text of the Proposed Rule does not list the cap as being among the exceptions applied in using the Alternative L-T approach compared to the Full L-T approach.

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9. Equity Exposures
Investment Funds – Look-Through Approach RWAs

— Under either the Full L-T approach or the alternative L-T approach, a banking organization's RWA amount for an equity exposure to an investment fund is calculated in accordance with the following formula under the ERB Approach:

Pro Rata IF RWAs   IF Leverage Factor

$$RW_{IF} = min\left(max\left(\left(\frac{RWA_{on}+RWA_{off}+RWA_{derivatives}}{Total\ Assets_{IF}}\right) \times \left(\frac{Total\ Assets_{IF}}{Total\ Equity_{IF}}\right), 20\%\right), 1{,}250\%\right)$$

Risk Weight Floor

Risk Weight Cap

Pro Rata IF RWAs represents the banking organization's pro rata share of RWAs for the investment fund's underlying exposures.

IF Leverage Factor represents the investment fund's leverage, calculated as total on-balance sheet assets divided by total on-balance sheet equity.

RWA_{on} is the aggregate risk-weighted asset amount of the on-balance sheet exposures of the investment fund, including any equity exposures to other investment funds and securitization exposures, calculated as if each exposure were held directly on balance sheet by the banking organization.

RWA_{off} is the aggregate risk-weighted asset amount of the off-balance sheet exposures of the investment fund, calculated for each exposure as if it were held under the same terms by the banking organization.

$RWA_{derivatives}$ is the aggregate risk-weighted asset amount for the counterparty credit risk and CVA risk, if applicable, of the derivative contracts held by the investment fund, calculated as if each derivative contract were held directly by the banking organization.

N.B. Under the Alternative L-T approach, the calculation of RWA_{on}, RWA_{off} and $RWA_{derivatives}$ is based on an assumption that the investment fund invests in the exposure category to the maximum extent permitted under its investment limits, subject to a windfall for exposure types ranked by highest risk weight if the sum of a fund's investment limits for all exposure types exceeds 100%.

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9. Equity Exposures
Investment Funds – Derivative Exposures

— Under both the Full L-T approach and the Alternative L-T approach, a banking organization must calculate an RWA amount for each derivative netting set of the investment fund by multiplying the **exposure amount** of the netting set by the risk weight applicable to the derivative counterparty (or **100%** if a counterparty cannot be determined).

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

- C = 1 if a banking organization can determine that no derivative contracts in the netting set are CVA risk covered positions under Subpart F, and C = 1.5 otherwise.

- α = 1 if a banking organization can determine that the counterparty is a commercial end-user, and α = 1.4 otherwise.

- A banking organization that uses the Full L-T approach must use replacement cost and potential future exposure as calculated under SA-CCR where possible.

- A banking organization that (i) uses the Full L-T approach that does not have sufficient information to calculate the replacement cost and potential future exposure under SA-CCR, or (ii) uses the Alternative L-T approach, use the notional amount of each netting set and 15% of the notional amount of each netting set for the replacement cost and potential future exposure, respectively.

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9. Equity Exposures
Investment Funds – Other Exposures

Securitization Exposures Held by an Investment Fund

— Under the Full L-T approach, a banking organization (i) calculates the applicable risk weight under the securitization framework or (ii) applies a **1,250%** risk weight to the exposure.

— Under the Alternative L-T approach, a banking organization must apply a **1,250%** risk weight to the exposure.

Equity Exposures to Other Investment Funds

— A banking organization with an equity exposure to Fund A, which itself holds an equity exposure to Fund B, must determine an RWA amount for Fund A's equity exposure to Fund B using: (i) the Full L-T approach (if the information is available), or (ii) the Alternative L-T approach (if the information is available), or (iii) apply a **1,250%** risk weight to the exposure.

— For subsequent indirect equity exposure layers (e.g., Fund B's equity exposure to Fund C, etc.), a banking organization would either:

  ▪ Apply a risk weight of **1,250%** to the indirect exposure to Fund C; or

  ▪ If a banking organization uses the Full L-T approach to calculate RWAs for Fund A's equity exposure to Fund B, it <u>may</u> either use (i) the Full L-T approach for Fund B's exposure to Fund C (if the information is available) or (ii) apply a risk weight of **1,250%** to the indirect exposure to Fund C.

Operational Risk RWAs

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Operational Risk
Overview

- **Scope of Operational Risk:** Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, and systems, or from external events.

  - Operational risk includes legal risk, but excludes strategic and reputational risk.

- **Proposed Changes to RWAs for Operational Risk:** The Proposed Rule would require all Category I – IV banking organizations to use a new approach known as the **standardized approach for operational risk** (**SA-OR**) to calculate their RWAs for operational risk as part of their Expanded Total RWAs.

  - For Category I and II banking organizations, consistent with the elimination of the Advanced Approaches, the Proposed Rule would change the method for calculating RWAs for operational risk and would include the RWAs for operational risk within Total Expanded RWAs, rather than Advanced Approaches RWAs.

    - The calculation of SA-OR is based on a standardized measure of business volume and prior operational loss events, whereas the current advanced measurement approach (**AMA**) is based on internal models of operational risk losses (including based on prior operational loss events).

    - The Proposed Rule would remove the AMA for calculating RWAs for operational risk because the Agencies are concerned that the AMA's reliance on internal models has resulted in a lack of transparency and comparability across banking organizations.

  - For Category III and IV banking organizations, the Proposed Rule would introduce RWAs for operational risk, which are not included in Standardized Total RWAs.

  - As a result, for all Category I – IV banking organizations, operational risk RWAs would be a component of their calculation of Expanded Total RWAs, but would not be a component of their calculation of Standardized Total RWAs.

- **Basel Framework Comparison:** The SA-OR methodology under the Proposed Rule would deviate from the Basel Framework in that it would floor the variable Internal Loss Multiplier (ILM) parameter at 1.0.

  - The Proposed Rule for operational risk is otherwise consistent with the Basel Framework.

> Under the current U.S. capital rules, RWAs for operational risk are only included in Advanced Approaches RWAs. As a result, only Category I and II banking organizations are currently required to calculate RWAs for operational risk. Under the current Advanced Approaches, a banking organization calculates RWAs for operational risk using the AMA, which is based on internal models of operational risk.

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Operational Risk
Calculation of RWAs for Operational Risk

— Under SA-OR, the **RWAs for operational risk** would be equal to 12.5 times the operational risk capital requirement (**ORC**).

$$\textit{Operational Risk RWAs = ORC x 12.5}$$

— The **ORC** would be a function of a banking organization's business indicator component (**BIC**) and internal loss multiplier (**ILM**).

$$\textit{ORC = BIC x ILM}$$

The **BIC** would serve as a proxy for a banking organization's **volume** of business activity.

The BIC would be a function of:

— (1) the **Business Indicator** (**BI**), a measure consisting of a sum of three components measuring different categories of business activity; and

— (2) the **BIC coefficient**, which changes based on the size of the BI.

The **ILM** would act as a **scalar** that increases the ORC based on a banking organization's historical experience of operational losses.

The ILM would be calculated based on the ratio of a banking organization's **average annual total net operating losses** to its BIC.

— The **Business Indicator** (**BI**) measure would be the sum of three broad categories of activities, as follows:

$$\textit{BI = Interest, Lease and Dividend Component + Services Component + Financial Component}$$

— In general, each of the components of the BI measure would be calculated based on a 3-year rolling average* of measures based on specified financial statement line items, subject to **exclusions** specified in the Proposed Rule.

  ▪ The Agencies state that the inputs to each component of the BI are not meant to overlap (e.g., income and expenses would not be counted in more than one component).

*   For items based on the income statement (such as dividend income), the 3-year rolling average would be based on the average of the item for each of the three most recent four-calendar-quarter periods. For items based on the balance sheet (such as interest-earning assets), the 3-year rolling average would be based on the 12 most recent quarter-end values.

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Operational Risk
Interest, Lease and Dividend Component

Component	Formula and Explanation	Relevant Definitions
Interest, Lease, and Dividend (ILD) Component: *Aims to capture lending and investment activities through measures of net interest margin and dividend income.*	$$ILD\ Component =$$ $$min \begin{pmatrix} Avg_{3y}(|Total\ Interest\ Income - Total\ Interest\ Expense|), \\ 2.25\% \times Avg_{3y}(Interest\ Earning\ Assets) \end{pmatrix}$$ $$+$$ $$Avg_{3y}(Dividend\ Income)$$ — The ILD Component is the sum of (1) the net interest margin (absolute value of interest income minus interest expense) and (2) dividend income. — The net interest margin measure would be based on the absolute value, to account for cases where the margin is negative. — The net interest margin measure would be subject to a cap equal to 2.25% of total interest-earning assets, limiting the impact of this component on the size of the ORC.	— **Total interest income** would mean interest income from all financial assets and other interest income; — **Total interest expense** would mean interest expenses related to all financial liabilities and other interest expenses; — **Interest-earning assets** would mean the sum of all gross outstanding loans and leases, securities that pay interest, interest-bearing balances, federal funds sold, and securities purchased under agreements to resell; — **Dividend income** would mean all dividends received on securities not consolidated in the banking organization's financial statements.

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Operational Risk
Services Component

Component	Formula and Explanation	Relevant Definitions
Services Component: *Aims to capture fee and commission-based activities as well as other banking activities, such as those resulting in other operating income and other operating expense.*	$$Services\ Component =$$ $$max \begin{pmatrix} Avg_{3y}(fee\ and\ commission\ income), \\ Avg_{3y}(fee\ and\ commission\ expense) \end{pmatrix}$$ $$+$$ $$max \begin{pmatrix} Avg_{3y}(other\ operating\ income), \\ Avg_{3y}(other\ operating\ expense) \end{pmatrix}$$ — The fee and commission elements and the other operating elements of the Services Component would be calculated as <u>gross</u> amounts, reflecting the <u>greater of</u> (i) income and (ii) expense. — In the preamble to the Proposed Rule, the Agencies state that the use of the gross amount accounts for the different business models of banking organizations better than a netting approach, which may lead to variances in the services component that exaggerate differences in operational risk.	—**Fee and commission income** would mean income received from providing advisory and financial services, including insurance activities; —**Fee and commission expense** would mean expenses paid by the banking organization for advisory and financial services received; —**Other operating income** would mean income not included in other elements of the business indicator and not excluded from the business indicator; —**Other operating expense** would mean expenses associated with financial services not included in other elements of the business indicator and all expenses associated with operational loss events.

Operational Risk
Financial Component

Component	Formula and Explanation	Relevant Definitions
Financial Component: Aims to capture trading activities and other activities that are associated with assets and liabilities.	$$\begin{aligned} Financial\ Component =\\ Avg_{3Y}(|Trading\ Revenue|)\\ +\\ Avg_{3Y}\begin{pmatrix} |Net\ Profit\ and\ Loss\ on\\ Assets\ and\ Liabilities\ Not\\ Held\ for\ Trading| \end{pmatrix} \end{aligned}$$ — The use of net values for trading revenue and net profit and loss would align with current regulatory reporting. — Both of these inputs would be measured in terms of their absolute value to better capture business volume, which the Agencies believe is associated with higher operational risk.	— **Trading revenue** would be defined as the net gain or loss from trading cash instruments and derivative contracts (including commodity contracts); and — **Net profit or loss on assets and liabilities not held for trading** would be defined as the sum of realized gains (losses) on held-to-maturity securities, realized gains (losses) on available-for-sale securities, net gains (losses) on sales of loans and leases, net gains (losses) on sales of other real estate owned, net gains (losses) on sales of other assets, venture capital revenue, net securitization income, and mark-to-market profit or loss on bank liabilities.

Operational Risk
Exclusions from Business Indicator

- The following items would be required to be excluded from the calculation of the Business Indicator:

  - **Expenses that do not relate to financial services** received by the banking organization, except those that relate to operational loss events;

    - Examples: staff expenses, expenses to outsource non-financial services (e.g., human resources, IT), administrative expenses, expenses relating to premises and fixed assets, and depreciation of tangible and intangible assets

  - **Loss provisions and reversals** of provisions, except those that relate to operational loss events;

  - Changes in **goodwill**; and

  - Applicable income **taxes**.

- In calculating the BI components, a banking organization is required to reflect three full years of data for entities that were acquired by or merged with the banking organization, including for any period prior to the acquisition or merger.

- With prior supervisory approval, a banking organization may also exclude income and expenses associated with activities that have ceased to be conducted, provided that the banking organization demonstrates that such activities do not carry legacy legal exposure.

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Operational Risk
Business Indicator Component

— A banking organization's BIC would be calculated based on its Business Indicator using a sliding scale approach whereby the BIC increases at a marginal rate (called the BIC Coefficient) that increases with the size of the Business Indicator.

  ▪ The BIC Coefficient is a marginal rate that applies to the amount of the Business Indicator within a specified range, similar to how marginal tax rates apply to income within a specified tax bracket.

  ▪ This approach, and the calibration of the BIC Coefficients under the Proposed Rule, are consistent with the Basel Framework and reflect the view that exposure to operational risk generally increases more than proportionally with a banking organization's overall business volume.

— The BIC would be calculated as follows:

BI Range	BIC Coefficient	BIC Formula
$0 to $1 billion	12%	12% * BI
> $1 billion to $30 billion	15%	15% x (BI - $1 billion) + $120 million
> $30 billion	18%	18% x (BI - $30 billion) + $4.47 billion

— There is no provision in the Proposed Rule for the amounts in the BI Range to be adjusted for economic growth or inflation.

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Internal Loss Multiplier

– The ILM is based on a banking organization's historical operational loss events (at or above a $20,000 *de minimis* threshold), averaged over a 10-year period, and would depend on the ratio of (1) a banking organization's average annual total net operational losses to (2) its BIC.

$$\text{Internal Loss Multiplier} = max\left\{1, ln\left(\exp(1) - 1 + \left(\frac{15 \; x \; Average \; Annual \; Total \; Net \; Operational \; Losses}{Business \; Indicator \; Component}\right)^{0.8}\right)\right\}$$

- The ILM would accordingly be greater for banks that have experienced higher operational losses in the past.

- The net operational loss portion of the ILM ratio would be multiplied by a factor of 15.

  – The factor of 15 is meant to capture the potential for unusually large losses.

- The ILM ratio would then be dampened by an exponent of 0.8, which would limit the effect that large operational losses have on a banking organization's operational risk capital requirement.

– **ILM Floor:** Under the Proposed Rule, the ILM would be floored at 1.

- This floor would prevent the ILM dropping below 1, even where the banking organization has a strong record of avoiding operational loss events.

- The ILM could still be greater than 1.

> The Basel Framework does not require the ILM to have a floor of 1. Instead, the Basel Framework allows the ILM to be less than 1, permitting banking organizations with losses that are small relative to the firm's business volume to hold less capital. By allowing the ILM to go below 1, the Basel Framework may help to better incentivize banking organizations to implement strong operational risk management programs. In contrast, by flooring the ILM at 1, the Proposed Rule would not recognize any incremental benefit to a banking organization from reducing its operational risk relative to its BIC.

> Under the Basel Framework, the ILM can be higher or lower than 1. There is an option under the Basel Framework to **set the ILM <u>at 1</u>**, which some jurisdictions have chosen to do. This would tie a banking organization's ORC solely to its BIC, which is a factor of the banking organization's business volume.

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Operational Risk
Internal Loss Multiplier

The Proposed Rule would define the terms relevant to the ILM calculation as follows:

— **Net Operational Losses:** Net losses (excluding insurance or tax effects) resulting from an operational loss event, including any reduction in previously reported capital levels attributable to restatements or corrections of financial statements.

— **Operational Loss Event:** An event that results in loss due to inadequate or failed internal processes, people, or systems or from external events.

- There are seven categories of operational loss events in the Proposed Rule.

- A banking organization would <u>include</u> in its calculation of total net operational losses any operational loss events incurred by an entity that has been acquired by or merged with the banking organization.

- In cases where historical loss data is not available for a merged or acquired entity within the calculation window of the ILM, the Proposed Rule would provide a formula for calculating annual total net operational losses for this merged or acquired entity for these missing years.

- The Proposed Rule thus recognizes that historical data for operational losses may be difficult to obtain in certain circumstances, particularly in cases where an acquired or merged entity had not previously been required to track operational losses.

- A banking organization would be able to request supervisory approval to exclude operational loss events that are no longer relevant to their risk profile from the ILM.

- Operational loss would be understood to exclude any losses that are also credit losses and are related to exposures within the scope of the framework for credit risk RWAs.

Seven Categories of Operational Loss Events

(1) internal fraud;

(2) external fraud;

(3) employment practices and workplace safety;

(4) clients, products, and business practices;

(5) damage to physical assets;

(6) business disruption and system failures; and

(7) execution, delivery and process management.

Under the current U.S. capital rules, these are the same seven categories of operation loss events used in calculating operational risk RWAs under the Advanced Approaches.

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Market Risk RWAs

6

Market Risk
Overview

— In this section we:

- Provide background on the history of the U.S. market risk capital rule and the Basel Committee standards for market risk capital requirements

- Describe the scope of applicability of the market risk section of the Proposed Rule

- Summarize key differences between the current U.S. market risk capital rules and the Proposed Rule

- Describe the scope of trading positions covered by the Proposed Rule

- Summarize the general risk management requirements under the Proposed Rule

- Outline the proposed standardized measure for market risk under the Proposed Rule (the **Standardized Measure for market risk**)

- Outline the proposed models-based measure for market risk under the Proposed Rule (the **Models-based Measure**)

— Throughout this section, we highlight differences between the Basel Committee's 2019 revised market risk capital standard and the Proposed Rule, where relevant.

Market Risk
Background

- The Agencies first adopted the current U.S. market risk capital rules in 1996 to help ensure that banking organizations maintain a sufficient amount of capital to withstand adverse market risks. During the global financial crisis of 2007-2009, it became evident that the 1996 market risk rules, which were based on a measure known as value at risk (**VaR**), did not fully capture banking organizations' market risk exposures.

- Following the global financial crisis, the Basel Committee finalized an interim standard to enhance the Basel Framework's market risk capital rule to increase the calibration of market risk capital requirements by incorporating stressed conditions into the VaR-based measure and by increasing the comprehensiveness and quality of the standard for internal models for market risk. This interim standard, known as **Basel 2.5**, was adopted by the Agencies in 2012.

- Soon after Basel 2.5 was finalized, the Basel Committee conducted a fundamental review of the trading book (**FRTB**), which sought to address structural shortcomings of the VaR-based measure on which both the 1996 standard and the post-crisis interim standard were based. The Basel Committee's FRTB standard was first finalized in 2016 and revised in 2019.

- In the Proposed Rule, the Agencies would largely align the U.S. market risk capital rule with the Basel Committee's 2019 FRTB standard.

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Market Risk
Key Takeaways

— The Agencies estimate that the Proposed Rule would increase RWAs associated with trading activity by 67% on average for Category I – IV banking organizations.

— Unlike the current U.S. market risk capital rules, which require all covered banking organizations to use internal models to calculate their VaR-based and stressed VaR-based measures of market risk and allow firms to choose between modeled and standardized measurement methods for other measures of market risk, the Proposed Rule would create both:

- (1) a Standardized Measure for market risk, which is based on standardized risk factors and risk weights (**Standardized Approach**, or **SA**), and

- (2) a Models-based Measure, which is based on internal models (**Internal Models Approach**, or **IMA**).

— The Standardized Measure would consist of three core components (calculated under the Standardized Approach) plus three additional components.

— The Models-based Measure would consist of three core components (calculated under the Internal Models Approach and under the Standardized Approach) plus four additional components.

- Compared to the current U.S. market risk capital rules, the Internal Models Approach would be more risk-sensitive and capture tail risk by calculating a banking organization's market risk capital requirements using the expected shortfall methodology rather than the VaR methodology.

Market Risk
Key Takeaways

— The Proposed Rule would also replace the current U.S. market risk capital rules' fixed 10-business day liquidity horizon with liquidity horizons that vary from 10 to 120 days based on underlying risk factors.

— The additional components for both the Standardized Measure and the Models-based Measure include the possibility of an additional capital requirement established by a banking organization's primary federal banking supervisor, i.e., analogous to a pillar 2 capital requirement.

- A potential additional supervisory capital requirement is also a feature of the current U.S. market risk capital rules.

— Under the Proposed Rule, a banking organization would be required to define its trading desk structure and identify whether each trading desk is approved for, and remains eligible to use, the Internal Models Approach (**model-eligible** (**M-E**) **trading desks**) or is not approved for, or is temporarily ineligible to use, the Internal Models Approach (**model-ineligible** (**M-I**) **trading desks**), based on the sufficiency of data supporting the application of the Internal Models Approach to that trading desk.

- The Agencies would only permit a banking organization to use the Internal Models Approach for M-E trading desks.

- For M-I trading desks, banking organizations would be required to apply the Standardized Approach, which would generally produce higher capital requirements.

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Market Risk
Key Takeaways

— A banking organization using the Models-based Measure must perform multiple calculations of market risk capital requirements:

1. Calculate market risk capital requirements for the three core components of the Models-based Measure using the Internal Models Approach for M-E trading desks, the Standardized Approach for M-I trading desks, and (if applicable) an add-on for certain M-E trading desks (referred to as the PLA add-on, discussed on page 194).

2. Calculate market risk capital requirements for the three core components of the Standardized Measure for all its trading desks using the Standardized Approach.

3. Apply the lower of 1 and 2 as the market risk capital requirements for the three core components of the Models-based Measure (prior to applying the four additional components of the Models-based Measure).

   - For the three core components of market risk under the Models-based Measure, the Standardized Approach for all trading desks thus serves as a ceiling on a banking organization's market risk capital requirements.

   - However, one of the four additional components of the Models-based Measure is an additional market risk capital requirement equal to any amount by which the capital requirements for M-E trading desks under the Internal Models Approach exceed the capital requirements for M-E trading desks under the Standardized Approach.

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Market Risk
Applicability

— **Covered Firms:** The Proposed Rule reflects the following changes in applicability from the current U.S. market risk capital rules:

Current U.S. Market Risk Capital Rules	Proposed Rule
— Applies only to firms whose trading activities ≥ the trading activity threshold: ▪ Trading activity threshold of $1 billion of trading assets plus trading liabilities or 10% of the firm's total consolidated assets. ▪ Trading activity threshold based on spot quarter-end amount in most recent regulatory report.	— Applies to (i) all Category I – IV holding companies (on a consolidated basis), regardless of trading activity, and (ii) any banking organization subsidiary of such a firm that engaged in any trading activity over any of the four most recent quarters. — <u>Also</u> applies to firms whose trading activities ≥ the trading activity threshold: ▪ Trading activity threshold of $5 billion of trading assets plus trading liabilities,[*] based on the average for the most recent quarters in most recent regulatory report. ▪ 10% of the firm's total consolidated assets, based on spot quarter-end amount in most recent regulatory report.

[*] For purposes of determining applicability, excludes from trading assets and liabilities securities related to customer and proprietary broker-dealer reserve bank accounts – i.e., segregated accounts established by a subsidiary of a banking organization that fulfill the requirements of SEC Rule 15c3-3 or CFTC Regulation 1.20. If a banking organization is subject to market risk capital requirements, these accounts must be included in the banking organization's measure for market risk.

Market Risk

Key Differences Between Current U.S. Market Risk Capital Rules and Proposed Rule

	Current U.S. Market Risk Capital Rules	Proposed Rule
Methodology	Applies VaR methodology in standardized measure and advanced measure, with stress VaR component designed to calculate risk in a stressed scenario.	The Models-based Measure is based on an expected shortfall methodology to better account for extreme tail events. The Standardized Measure for market risk, although it would not include an expected shortfall methodology, would apply risk weights to trading positions that are calibrated to have a similar effect on RWAs as the expected shortfall methodology.
Use of Internal Models	Requires all firms that exceed the trading threshold to use internal models to calculate market risk capital requirements. Advanced Approaches (i.e., Category I and II) banking organizations must use the supervisory formula approach and all other firms must use the simplified supervisory formula approach to determine their RWAs for securitization exposures.	Limits use of Models-based Measure to specific trading desks (M-E trading desks), subject to approval by primary federal supervisor. Firms would use the Standardized Approach for all M-I trading desks. Firms using internal models for one or more trading desks would also be required to calculate the Standardized Approach capital requirement for all trading desks, which serves as a ceiling for purposes of calculating the three core components of the Models-based Measure capital requirements. Banking organizations would be subject to backtesting and PLA testing requirements at the trading desk level in order to maintain model eligibility.
Liquidity Horizon	Imposes a flat liquidity horizon of ten business days.	Impose liquidity horizons, ranging from 10 to 120 days, that vary across risk factors based on the time it would take to sell or hedge a particular category of positions.
Covered Positions	Trading assets or liabilities that are trading positions or hedge another covered position and are free of restrictions on tradability or can be edged in a 2-way market, foreign exchange, commodities.	Broader scope of market risk covered positions (see below).

Market Risk
Covered Positions

Covered Positions in the Proposed Rule
Trading assets and liabilities that firms include on their regulatory reports that are trading positions or hedge another covered position, any position that is held for regular dealing or market making purposes, and is free of restrictions on tradability or can be hedged in a 2-way market
Foreign exchange positions*
Commodity positions*
Publicly traded equity positions with no restrictions on their tradability
Equity positions in investment funds that provide investors with prospectuses or other documentation of the fund's investments, and the banking organization is able to (1) apply the look-through approach based on the fund's underlying exposures or (2) obtain daily price quotes for the funds
Net short risk positions – Short positions used to hedge long credit or equity exposures where the short position exceeds the long position by $20 million or more. These positions are not traded, and thus not included in trading positions
Derivatives embedded in hybrid instruments issued by the firm that relate to credit or equity risk that the firm bifurcates for accounting purposes (i.e., if not bifurcated the entire instruments would be covered by the market risk rule)
Certain internal risk transfers made within the firm
CVA hedges with external parties that are not eligible CVA hedges

The current U.S. market risk capital rules cover trading assets and liabilities that banking organizations include in their regulatory reports that are trading positions or hedge another covered position, foreign exchange positions, and commodity positions.

* Subject to exclusions (see next page)

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Market Risk
Excluded Positions

Excluded Positions in the Proposed Rule
Intangible assets, including servicing assets
Hedges of a trading position that a banking agency determines to be outside scope of banking organization's trading and hedging strategy
Instruments that act as liquidity facility for asset-backed commercial paper
Publicly traded equity positions with restrictions on their tradability
Non-publicly traded equity positions that are not equity positions in an investment fund
Equity positions in investment funds that do not meet one of the criteria for inclusion as covered positions
Positions a firm holds with intent to securitize
Direct real estate holdings
Derivative instruments or exposures to a fund with material exposure to above instrument types as underlying assets
Debt securities for which the firm elects fair value option for asset and liability management

Listed as excluded positions under current U.S. market risk capital rules, in some cases subject to different conditions

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Market Risk
Excluded Positions

Excluded Positions in the Proposed Rule
Instruments held for purpose of hedging particular risk of a position in above types of instruments
Significant investments in common equity capital of unconsolidated financial institutions that are not deducted from capital
Eligible CVA hedges with external parties
CVA segments of internal risk transfers that are eligible CVA hedges
Equity positions arising from deferred compensation plans, employee stock ownership plans and retirement plans

Listed as excluded positions under current U.S. market risk capital rules, in some cases subject to different conditions

Market Risk
Standardized Measure v Models-Based Measure

— The Proposed Rule would permit banking organizations to choose between a Standardized Measure for market risk and a Models-based Measure for market risk.

> Unlike the Basel Framework, the Proposed Rule does not provide firms with the option of using the Simplified Standardized Approach.

	Standardized Measure	**Models-Based Measure**
Regulatory Approval	Default measure, does not require regulatory approval.	Requires regulatory approval to apply internal models for <u>each</u> trading desk. If a trading desk does not receive approval, then the banking organization would use the Standardized Approach for that trading desk.
Applicability to trading desks	Calculate market risk capital requirements for all trading desks using the Standardized Approach for the three core components.	Calculate market risk capital requirements for M-E trading desks using the Internal Models Approach and for M-I trading desks using the Standardized Approach.
Frequency of Calculation	At least weekly	Daily

> The Basel Framework requires only that the Standardized Measure be calculated on a **monthly** basis.

> The current U.S. market risk rules largely apply the same requirements to Advanced Approaches banking organizations and other covered firms. All covered firms must use internal models to calculate their VaR-based capital requirement and stressed VaR-based capital requirement, and have some discretion to apply a mix of internal models or a standardized approach to the remaining components of their market risk capital requirement (specific risk add-ons, incremental risk capital requirement, comprehensive risk capital requirement and capital requirement for *de minimus exposures*). The only difference between the treatment of Advanced Approaches banking organizations and other covered firms in the current U.S. market risk rules is that Advanced Approaches firms must use the supervisory formula approach and all other firms must use the simplified supervisory formula approach to determine their RWAs for securitization exposures.

Market Risk
Standardized Measure v. Models-Based Measure

	Standardized Measure	**Models-Based Measure**

Components	**Standardized Approach**
	 3 Core Components:
	 — Sensitivities-Based Method
	 — Standardized Default Risk
	 — Residual Risk Add-on
	
	 +
	
	 3 Additional Components:
	 — Fallback Capital Requirement
	 — Capital Add-on for Redesignations
	 — Any Additional Supervisory Capital Requirement
		Lower of:
		 1) 3 Core Components:
		   — Internal Models Approach for M-E trading desks
		   — PLA add-on for M-E trading desks with model shortcomings
		   — Standardized Approach for M-I trading desks
		
		 and
		
		 2) Standardized Approach for all trading desks
		
		 +
		
		 4 Additional Components:
		 — Capital Requirement to extent IMA for M-E desks > SA for M-E trading desks
		 — Fallback Capital Requirement
		 — Capital Add-on for Redesignations
		 — Any Additional Supervisory Capital Requirement

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Market Risk
Standardized Measure for Market Risk

Components of the Standardized Measure for Market Risk

— The market risk capital requirements under the Standardized Measure for market risk would be calculated by adding:

1) the **standardized approach capital requirement** (the sum of three core components); and

2) three **additional components**, to the extent applicable, as shown below.

The Standardized Approach capital requirements would be generally consistent with the standardized approach under the Basel Framework.

Standardized Measure for Market Risk

Standardized Approach Capital Requirement (Core Components)

Sensitivities-based Method (**SBM**)

+

Standardized Default Risk (**SDR**)

+

Residual Risk Add-On (**RRA**)

+

Additional Components (as applicable)

Fallback Capital Requirement (**FCR**)

+

Capital Add-On for Redesignations (**RdA**)

+

Additional capital requirement established by primary federal supervisor (**SCR**)

The first two additional components do not appear in the Basel Framework for market risk. The third additional component is effectively similar to a Pillar 2 supervisory requirement under the Basel Framework.

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Market Risk
Standardized Approach Capital Requirement

1. Sensitivities-Based Method (SBM): Overview

— The SBM for non-default market risk accounts for estimated losses resulting from changes in value of positions in accordance with standardized risk weights reflecting prescribed stress conditions

— Changes in value of covered positions are estimated based on risk factor sensitivities, based on 7 risk classes (and more granular risk buckets within risk classes for positions with common characteristics) and applicable risk factors for 3 sensitivities

Risk classes:
1. Interest rate risk
2. Credit spread risk – non-securitization positions
3. Credit spread risk – correlation trading positions
4. Credit spread risk – securitization positions that are not correlation trading positions
5. Equity risk
6. Commodity risk
7. FX risk

Sensitivities:
1. **Delta** impact on value from small changes in underlying risk factors)
2. **Vega** (impact on value from small changes in volatility)
3. **Curvature** (additional change in value not captured by delta arising from changes in value of option or embedded option)

Risk Factors:
Vary by risk classes and sensitivities (e.g., for interest rate risk, delta risk factors for each currency would be tenor and interest rate curve)

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Market Risk
Standardized Approach Capital Requirement

Standardized Measure for Market Risk

MR$_{SA}$			AC$_{SA}$		
SBM	SDR	RRA	FCR	RdA	SCR

1. SBM: Risk Classes, Risk Buckets and Delta Risk Factors

— The risk classes, risk buckets (within each class) and dimensions of the risk factors (within each bucket) are prescribed by the proposed rule. The seven risk classes are provided below, along with descriptions of the proposed risk buckets and delta risk factors for each class.

Risk Class	Risk Buckets	Dimensions of Delta Risk Factors
Interest rate risk	Each currency	— Interest rate curve (e.g., overnight index swaps) — Inflation rate — Cross-currency basis — Tenor: 0.25Y, 0.5Y, 1Y, 2Y, 3Y, 5Y, 10Y, 15Y, 20Y, 30Y
Credit spread risk for non-securitization positions	19 buckets, by credit quality and sector	— Issuer credit spread curve — Tenor: 0.5Y, 1Y, 3Y, 5Y, 10Y
Credit spread risk for correlation trading positions	17 buckets, by credit quality and sector	— Underlying credit spread curve — Tenor of the underlying name: 0.5Y, 1Y, 3Y, 5Y, 10Y
Credit spread risk for securitization positions that are not correlation trading positions	25 buckets, by credit quality and sector	— Tranche credit spread curve — Tenor of the tranche: 0.5Y, 1Y, 3Y, 5Y, 10Y
Equity risk	13 buckets, by market capitalization, economy type (emerging or liquid market), and sector	— Spot equity price by issuer — Equity repo rate by issuer
Commodity risk	11 buckets, by commodity type.	— Contracted delivery location — Remaining maturity of contract: 0Y, 0.25Y, 0.5Y, 1Y, 2Y, 3Y, 5Y, 10Y, 15Y, 20Y, 30Y
Foreign exchange risk	Each exchange rate between the currency in which a market risk covered position is denominated and the reporting currency.	

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Market Risk
Standardized Approach Capital Requirement

1. SBM: Risk Classes, Risk Buckets and Vega Risk Factors

— **Scope**: The vega capital requirement applies to covered positions that are options or other positions with embedded optionality, including positions with material prepayment risk.

— The risk classes, risk buckets (within each class) and dimensions of the risk factors (within each bucket) are prescribed by the proposed rule. The seven risk classes are provided below, along with descriptions of the proposed risk buckets and vega risk factors for each class.

Risk Class	Risk Buckets	Dimensions of Vega Risk Factors
Interest rate risk	Each currency	— Implied volatilities of interest rate risk-sensitive options, inflation rate risk-sensitive options and cross-currency basis risk-sensitive options — Residual maturity of the underlying instrument at the expiry date of the interest rate option: 0.5Y, 1Y, 3Y, 5Y and 10Y — Maturity of the interest rate, inflation rate and cross-currency basis options: 0.5Y, 1Y, 3Y, 5Y and 10Y
Credit spread risk for non-securitization positions	19 buckets, by credit quality and sector	
Credit spread risk for correlation trading positions	17 buckets, by credit quality and sector	— Implied volatilities of credit spread options — Maturity of the option: 0.5Y, 1Y, 3Y, 5Y, 10Y
Credit spread risk for securitization positions that are not correlation trading positions	25 buckets, by credit quality and sector	
Equity risk	13 buckets, by market capitalization, economy type (emerging or liquid market), and sector	— Implied volatilities of spot prices of equity risk-sensitive options — Maturity of the option: 0.5Y, 1Y, 3Y, 5Y, 10Y
Commodity risk	11 buckets, by commodity type.	— Implied volatilities of commodity-sensitive options, by commodity — Maturity of the option: 0.5Y, 1Y, 3Y, 5Y, 10Y
Foreign exchange risk	— Implied volatility of options that reference exchange rates between currency pairs — Maturity of the option: 0.5Y, 1Y, 3Y, 5Y, 10Y	

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Market Risk
Standardized Approach Capital Requirement

1.   SBM: Risk Classes, Risk Buckets and Curvature Risk Factors

— The risk classes, risk buckets (within each class) and dimensions of the risk factors (within each bucket) are prescribed by the proposed rule. The seven risk classes are provided below, along with descriptions of the proposed risk buckets and curvature risk factors for each class.

— The curvature capital requirement applies to market risk covered positions that are options or other positions with embedded optionality, including positions with material prepayment risk. A banking organization may choose to include covered positions without optionality on a trading desk by trading desk basis.

Risk Class	Risk Buckets	Dimensions of Curvature Risk Factors
Interest rate risk	Each currency	— Interest rate curve, term structure not recognized — Shift all tenors provided for delta in parallel: 0.25Y, 0.5Y, 1Y, 2Y, … 30Y
Credit spread risk for non-securitization positions	19 buckets, by credit quality and sector	— Issuer credit spread curve — Shift all tenors provided for delta in parallel: 0.5Y, 1Y, 3Y, 5Y, 10Y — Treat the bond-inferred spread curve and CDS-inferred spread curve of an issuer as a single spread curve
Credit spread risk for correlation trading positions	17 buckets, by credit quality and sector	— Underlying credit spread curve — Shift all tenors provided for delta in parallel: 0.5Y, 1Y, 3Y, 5Y, 10Y — Treat the bond-inferred spread curve and CDS-inferred spread curve of a given name in an index as a single spread curve
Credit spread risk for securitization positions that are not correlation trading positions	25 buckets, by credit quality and sector	— Tranche credit spread curve — Shift all tenors provided for delta in parallel: 0.5Y, 1Y, 3Y, 5Y, 10Y — Treat the bond-inferred spread curve and CDS-inferred spread curve of tranche as a single spread curve
Equity risk	13 buckets, by market capitalization, economy type (emerging or liquid market), and sector	— All spot equity prices by issuer
Commodity risk	11 buckets, by commodity type.	— Constructed curve per commodity spot prices or forward prices — Shift all tenors provided for delta in parallel: 0Y, 0.25Y, 0.5Y, … 30Y
Foreign exchange risk	Each exchange rate between the currency in which a market risk covered position is denominated and the reporting currency	

Market Risk
Standardized Approach Capital Requirement

1. SBM: Calculation Steps

— To determine the sensitivities-based capital requirement, a banking organization would perform the following steps:

1. Assign each market risk covered position to one or more **risk buckets** within the appropriate **risk classes**.
   - A position may be placed in multiple risk classes and buckets if it is exposed to multiple forms of risk. For example, a corporate bond position has both interest rate risk and credit spread risk.

2. Map the positions to the appropriate risk factors within the risk bucket.
   - Risk factors reflect the specific market risk variables that impact the value of a position. For example, for a USD corporate bond with a 3Y maturity, the 3Y USD interest rate and 3Y credit spread for the particular bond issuer would both be risk factors for this position.

3. For each market risk covered position, calculate the **sensitivities** of the position to each of the risk factors applicable to the position.
   - Each sensitivity is a measure of how much a position's value might change as a result of a specified change in the risk factor, assuming all other relevant risk factors remain constant.
   - For each risk factor, a banking organization would calculate up to three sensitivities per position:
     — **Delta** – How much the position's value would change based on a specific change in the risk factor's price
     — **Vega** – For options or similar positions with optionality, how much that position's value would change based on a specific change in the risk factor's volatility
     — **Curvature** – For options or similar positions with optionality, how much that position's value would change beyond what is calculated by delta based on upward and downward shocks to the risk factor

Market Risk
Standardized Approach Capital Requirement

1.   SBM: Calculation Steps (continued)

4. Sum the resulting delta, vega and curvature sensitivities for all market risk covered positions within the same risk bucket to produce a **net sensitivity** for each risk factor.

5. Apply the risk weights:

- Multiply the net delta sensitivity and the net vega sensitivity to each risk factor within the risk bucket by the proposed **standardized risk weight** for the risk bucket.

- To capture curvature risk, a banking organization would be required to aggregate the incremental loss above the delta capital requirement from applying larger upward and downward shock scenarios to each risk factor.

    — The proposed standardized risk weights are intended to capture the amount that a risk factor would be expected to move during the defined liquidity horizon of the risk factor in stressed conditions and are calibrated to be consistent with the expected shortfall methodology of the IMA.

    — Risk weights for credit spread risk are based on buckets for qualitative credit quality categories (investment grade, speculative grade, and sub-speculative grade) and obligor sectors or instrument or underlying asset types

    — Risk weights for equity risk are based on buckets for large vs. small market cap categories, liquid vs. emerging economy categories, industry sectors or indices, and spot equity prices vs. equity repo rates

    — Risk weights for commodity risk are based on buckets for commodity types

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Standardized Measure for Market Risk

MR_{SA}

| SBM | SDR | RRA |

AC_{SA}

| FCR | RdA | SCR |

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Market Risk
Standardized Approach Capital Requirement

1. SBM: Calculation Steps (continued)

6. Apply the proposed aggregation formulas for calculating **total delta, vega and curvature capital requirements** within the risk buckets and across risk buckets, for each of **three prescribed correlation scenarios** (medium, low and high correlation).

   - The proposed aggregation formulas prescribe offsetting and diversification benefits via correlation parameters.
   - The correlation parameters specified for each risk factor pair are intended to limit the risk-mitigating benefit of hedges and diversification.

7. For each of the three correlation scenarios, sum the separately calculated delta, vega and curvature capital requirements for all risk classes <u>without</u> recognition of any diversification benefits.

   - The final **sensitivities-based capital requirement** would be the largest capital requirement resulting from the three correlation scenarios.
   - The proposed requirement to apply three prescribed correlation scenarios is intended to capture the potential for risk factor correlations to increase or decrease in periods of stress.

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Market Risk
Standardized Measure for Market Risk

Standardized Measure for Market Risk

MR$_{SA}$

| SBM | SDR | RRA |

AC$_{SA}$

| FCR | RdA | SCR |

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1. **SBM: Comparison to the Basel Framework**

— The risk weights for sensitivities-based risk in the Proposed Rule are largely consistent with the final Basel Framework for market risk, with two notable exceptions:

- **Credit spread risk:** The risk weights for credit spread risk depend on the credit quality of the position. The Dodd-Frank Act prohibits the use of ratings from credit rating agencies in U.S. regulations. Instead, the Proposed Rule would determine the risk weight of positions based on the Agencies' existing definition for Investment Grade and newly proposed definitions for Speculative Grade, and Sub-speculative Grade.
- **Commodity risk:** The Basel Framework uses separate risk weights for electricity and gaseous combustibles. The Proposed Rule would apply the same risk weight to gaseous combustibles and electricity to reflect the inherent relationship between the price of electricity and natural gas.

Investment grade means that the entity to which the Board-regulated institution is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments for the projected life of the asset or exposure. Such an entity or reference entity has adequate capacity to meet financial commitments if the risk of its default is low and the full and timely repayment of principal and interest is expected.

Speculative grade means that the entity to which the national bank or Federal savings association is exposed through a loan or security, or the reference entity with respect to a credit derivative, has adequate capacity to meet financial commitments in the near term, but is vulnerable to adverse economic conditions, such that should economic conditions deteriorate, the issuer or the reference entity would present an elevated default risk.

Sub-speculative grade means that the entity to which the national bank or Federal savings association is exposed through a loan or security, or the reference entity with respect to a credit derivative, depends on favorable economic conditions to meet its financial commitments, such that should such economic conditions deteriorate the issuer or the reference entity likely would default on its financial commitments.

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Market Risk
Standardized Approach Capital Requirement

2.   Standardized Default Risk (SDR): Overview

— The standardized default risk capital requirement would require banking organizations to hold capital against the risk that the issuer of an equity or credit position suddenly defaults (**jump-to-default risk**).

  ▪ This is in contrast to the SBM, which captures the loss to a banking organization when a position loses value due to stressed conditions, including changes in credit spreads and equity prices.

  ▪ The SDR captures the incremental loss to a banking organization if the issuer of a debt or equity position were to immediately default.

— The SDR capital requirement would apply to market risk covered positions that are subject to default risk (**default risk positions**), which are organized into the following **default risk categories:**

  ▪ (1) non-securitization debt positions (not including U.S. sovereigns and multilateral development banks) and equity positions,

  ▪ (2) securitization positions that are not correlation trading positions (**securitization non-CTP**), and

  ▪ (3) correlation trading positions (**CTP**).

— A banking organization's SDR capital requirement = the sum of the SDR capital requirements for each of the three default risk categories.

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Market Risk
Standardized Approach Capital Requirement

2. SDR: Risk Buckets

Default Risk Category	Risk Buckets
Non-securitization debt or equity	— Non-U.S. sovereign — PSE and GSE debt — Corporate — Defaulted

Securitization non-CTP	— Corporate
	— Asset class buckets
	  ▪ By asset class (e.g., asset-backed commercial paper, auto loans/leases, credit cards, commercial and residential mortgage-backed securities, etc.)
	  ▪ By region: (Asia, Europe, North America, Other)
	— Other (if non Corporate and cannot be assigned to a specific asset class or region)

CTP	— Each index to its own bucket — Bespoke position similar to index to corresponding index bucket, otherwise to its own bucket — For non-securitization position that hedges a CTP, both the hedge and the CTP to the same bucket

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Market Risk
Standardized Approach Capital Requirement

2.   SDR: Calculation Steps

— To calculate the **SDR capital requirement for a default risk category**, a banking organization would:

1. Assign each default risk position to one of the prescribed **default risk buckets** based on shared risk characteristics.
2. Calculate the **gross default exposure** for each default risk position, categorizing each position as long (loss on default) or short (gain on default).
3. For non-securitization debt or equity positions, gross default exposure is calculated based on applying prescribed Loss Given Default (LGD) rates by type of instrument, face value, and cumulative profit and loss already realized on the position, and for credit derivatives the LGD rate of the reference exposure.
4. For securitization non-CTP and CTP, gross default exposure = market value.
5. Calculate the **obligor-level net default exposure** for each obligor by offsetting the gross long and short default exposures to the same obligor, where permissible.
6. Offsetting between gross long and short positions is subject to a number of conditions, including whether the obligor is the same, the maturities of long and short positions, the seniority of long and short positions, the extent to which securitization exposures have the same underlying asset pools and belong to the same tranche, and whether decomposition and replication mechanics can be used to permit offsetting between subsets of long and short positions.
7. Calculate the **hedge benefit ratio** for each default risk bucket, apply the **prescribed risk weights** to the net default exposures within the same default risk bucket for the class of instruments, and generate **bucket-level default risk capital requirements** by aggregating risk weighted obligor-level net default exposures according to specified aggregation formulas.

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Market Risk
Standardized Approach Capital Requirement

2. SDR: Calculation Steps (continued)

▪ The hedge benefit ratio is intended to recognize partial hedging of net long and net short default positions due to systematic credit risk

$$\text{Hedge Benefit Ratio} = \frac{\text{Total net long default risk positions}}{\text{Total net long default risk positions} + |\text{Total net short default risk positions}|}$$

▪ <u>Risk weights</u>:
  – For non-securitization debt or equity positions, risk weights for each bucket are based on qualitative credit quality categories (investment grade, speculative grade and sub-speculative grade).
  – For securitization non-CTP, risk weights for each bucket are the risk weights that would apply to the securitization exposure under the securitization provisions of Subpart D (for Standardized Total RWAs) and Subpart E (Expanded Total RWAs), as applicable, multiplied by **8%**.
  – For CTP, risk weights for each bucket are:
    ▪ For tranched CTP, the risk weights that would apply to the securitization exposure under the securitization provisions of Subpart D (when calculating Standardized Total RWAs) and Subpart E (when calculating Expanded Total RWAs), as applicable, multiplied by **8%**.
    ▪ For non-tranched hedges of CTP, the same risk weights as for non-securitization debt or equity positions (provided such hedges are excluded from calculation of SDR capital requirement for non-securitization debt or equity positions).

The risk weights for the SDR in the Proposed Rule are largely consistent with those proposed by the Basel Framework, with the exception that the risk weights for non-securitization positions in the Basel Framework are based on the position's credit rating and in the Proposed Rule the risk weights are based on the Agencies' existing definition for Investment Grade and newly proposed definitions for Speculative Grade, and Sub-speculative Grade.

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Market Risk
Standardized Approach Capital Requirement

2. SDR: Calculation Steps (continued)

8. Determine the standardized default risk capital requirement for each default risk category as follows:

- For non-securitization debt and equity positions and securitization non-CTP, sum the bucket-level default risk capital requirements determined in step (4); and

- For CTP, sum the bucket-level default risk capital requirements for net long default exposures + **50%** of the sum of risk-weighted exposures for net short default exposures.

  – This is designed to limit the risk of several individual risk buckets that contain only net short exposures resulting in an overstatement of the offsetting benefits of non-identical exposures.

— A banking organization's total SDR capital requirement is the sum of the SDR capital requirements for each of the three default risk categories, without recognizing any diversification benefits across different types of risk categories.

Market Risk
Standardized Approach Capital Requirement

3. Residual Risk Add-on (RRA): Overview

— The RRA captures risks not covered by the SBM or the SDR.

— Positions subject to RRA are grouped into two categories:

- **Positions with exotic exposures**, including but not limited to longevity, weather and natural disaster risk.
  - **Exotic exposure** means an underlying exposure that is not in scope of any of the risk classes under the SBM or is not captured by the SDR.
- **Positions with other residual risks**, such as gap risk, correlation risk, and behavioral risks such as prepayment behavior.
  - Specifically, these positions include:
    - CTP with ≥ 3 underlying exposures, except for hedges of CTP positions.
    - Positions subject to the SBM vega or curvature capital requirements that have pay-offs that cannot be replicated as a finite linear combinations of vanilla options or the underlying instrument.
    - Options or positions with embedded options that do not have a maturity.
    - Options or positions with embedded options that do not have a strike price or barrier, or with multiple strike prices or barriers.
- **Excluded Positions**: Banking organizations may exclude positions that do not have exotic exposures but have residual risks from the RRA, such as listed positions, positions eligible to be cleared by a CCP or QCCP, and options without path dependent pay-offs or with ≤ 2 underlying exposures.
  - Banking organizations may also exclude certain positions that have both exotic exposures and residual risks from the RRA, such as back-to-back transactions; and for positions that can be delivered into a derivative contract that the banking organization hedges to fulfill the contract, both the position and the derivative.

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Market Risk
Standardized Approach Capital Requirement

3.   Residual Risk Add-on (RRA): Calculation Steps

— **RRA for exotic exposures:** The residual risk add-on for positions with exotic exposures would equal the gross effective notional amount multiplied by a risk weight of **1%**.

— **RRA for other residual risks:** The residual risk add-on for positions with other residual risks would equal the gross effective notional amount multiplied by a risk weight of **0.1%**.

— Total RRA is the sum of RRA for exotic exposures and RRA for residual risks.

Market Risk

Additional Components of the Standardized Measure for Market Risk

1. Fallback Capital Requirement (FCR)

— Applies if a banking organization is unable to calculate the SBM or SDR capital requirement to a market risk covered position.

+

> The first two additional components do not appear in the Basel Framework for market risk. The third additional component is effectively similar to a Pillar 2 supervisory requirement under the Basel Framework.

2. Re-designation Add-on (RdA)

— Applies if a banking organization re-designates an instrument from being a credit risk exposure (Subject to Subpart D or E) to a market risk covered position (Subpart F) or vice versa.
  ▪ It is intended to discourage such re-designations.

+

> The Proposed Rule allows banking organizations to reclassify positions between the banking and trading books, but discourages this practice by requiring banking organizations to apply the capital add-on. The Basel Framework, by contrast, does not include a capital add-on for reclassifying positions, but does not allow banking organizations to reclassify positions without supervisory approval.

3. Supervisory Capital Requirement (SCR)

— Applies if the banking organization's relevant banking agency, using its reservation of authority under Subpart F, deems it necessary or appropriate because of the banking organization's level of market risk or to ensure safe and sound banking practices

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Market Risk
Additional Component 1: FCR

Standardized Measure for Market Risk

MR$_{SA}$

| SBM | SDR | RRA |

AC$_{SA}$

| FCR | RdA | SCR |

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1.   FCR

— All positions for which a banking organization cannot calculate the SBM or SDR capital requirement must be excluded from the Standardized Approach capital requirement and must be included in the FCR.

— The total FCR is the sum of the absolute fair value of each position subject to the FCR.

Market Risk
Additional Component 2: RdA

2. RdA

— For each re-designation, a banking organization must calculate its RdA as:

- For Expanded Total RWAs, the higher of:
    1) zero; and
    2) total capital requirement under Subpart E or Subpart F <u>before</u> re-designation – total capital requirement under Subpart E or Subpart F <u>after</u> re-designation.

- For Standardized Total RWAs, the higher of:
    1) zero, and
    2) total capital requirement under Subpart D or Subpart F <u>before</u> re-designation – total capital requirement under Subpart D or Subpart F <u>after</u> re-designation

— With the prior written approval of the banking organization's banking agency, no RdA is required if the re-designation is due to circumstances outside the banking organization's control (e.g., re-designation required for accounting purposes).

— Total RdA capital requirement would be the sum of each RdA.

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Market Risk
Additional Component 3: SCR

3. SCR

— A banking agency's use of its reservation of authority to impose an SCR may result in:

- a higher amount of capital than otherwise required under Subpart F;

- application of a different risk-based capital requirement to the affected market risk covered positions; or

- application of Subpart F to the affected positions or exposures instead of Subpart D or E, as applicable, or application of Subpart D or E, as applicable, instead of Subpart F.

Market Risk
Models-Based Measure for Market Risk

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

Overview of the Models-Based Measure

— The Proposed Rule would replace the existing internal models method for Advanced Approaches firms with a new Models-based Measure that would be available to all covered firms.

— In order to use the Models-based Measure, a banking organization must obtain the prior approval of its primary federal banking supervisor to apply the **Internal Models Approach** (**IMA**) to at least one trading desk and meet model eligibility requirements for each trading desk for which it seeks to apply internal models.

— Banking organizations would calculate its market risk capital requirements under the Models-based Measure using a combination of the IMA and the **Standardized Approach** (**SA**) (see page 181).

> Under the Basel Framework, a banking organization may only use the IMA if at least 10% of its market risk capital requirement is based on market risk positions that qualify for the bank's internal models.

- A banking organization would apply the **IMA** capital requirements to trading desks approved for, and that remain eligible to use, the IMA (M-E trading desks).

- Banking organizations would apply the SA:
  - As one of the parts of the IMA, to the calculation of default risk capital requirements.
  - As one of the core components of the Models-based Measure, to trading desks that are approved for the use of internal models but that temporarily become M-I trading desks (e.g., if a M-E trading desk has too many backtesting exceptions).
  - As another one of the core components Models-based Measure, to trading desks that are not approved for the use of internal models (M-I trading desks); and
  - As one of the additional components of the Models-based Measure, to certain positions on M-E trading desks that are not eligible for the use of internal models.

Market Risk
Models-Based Measure for Market Risk

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

Components of the Models-Based Measure

— The market risk capital requirements under the Models-based Measure for market risk would be calculated by adding:

- ▪ (1) the <u>lesser</u> of:
  - — (A) the sum of three **core components**, and
  - — (B) the Standardized Approach capital requirements for all trading desks, and
- ▪ (2) four **additional components**, to the extent applicable, as shown below

Models-Based Measure for Market Risk

Core Components: *The lesser of:*

{A} *The sum of:*

For all M-E trading desks: IMA capital requirement

+

Profit & Loss Attribution add-on (**PLA**)

+

For all M-I trading desks: Standardized Approach capital requirement

and

{B} Standardized Approach capital requirement for all trading desks

Additional Components (as applicable)

Excess of IMA capital requirement over Standardized Approach capital requirement for M-E trading desks (**IMA Excess**)

+

Fallback Capital Requirement (**FCR**)

+

Capital Add-On for Redesignations (**RdA**)

+

Capital Add-On for Ineligible Positions (**IPA**)

+

Additional capital requirement established by primary federal supervisor (**SCR**)

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_{MBM}		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

IMA: Overview

— The IMA consists of four parts:

> **1. Internal Models Capital Calculations for modellable risk factors (IMCC)**
>
> +
>
> **2. Stressed Expected Shortfall for non-modellable risk factors (SES)**
>
> +
>
> **3. Standardized Default Risk capital requirement (SDR)**
>
> +
>
> **4. Aggregate Trading Portfolio Backtesting Capital Multiplier (BTM)**

Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

IMA: Model Eligibility

— As noted above, approval for a banking organization to use the IMA would be required at the level of individual trading desks. All trading desks would by default be considered model-ineligible unless they receive approval to be treated as model-eligible.

— To receive initial approval from a primary federal supervisor to use the IMA for any trading desk, a banking organization would need to demonstrate that the model:

- Properly measures all material risks of the trading desk's covered positions

- Has been properly validated

- Is sophisticated enough to match the complexity and amount of the trading desk's covered positions

- Meets all other requirements imposed by the supervisor, including robust modeling requirements

— Supervisor would review a trading desk's backtesting and Profits and Loss Attribution (**PLA**) test results (discussed further on page 194) when initially approving a model and would require a banking organization to pass quarterly backtesting and PLA testing on an ongoing basis to maintain the trading desk's model eligibility.

- Criteria include at least 250 business days of backtesting and PLA results, or alternative combinations including at least 125 business days of such results, similarity to another approved trading desk based on at least 250 business days of such results or temporary applicability of the PLA add-on.

— A banking organization would also need to promptly notify its supervisor if it makes any material changes to an internal model or its modeling assumptions, or to its trading desk structure.

Under the Basel Framework, a banking organization must receive affirmative approval from its supervisor to treat a trading desk as model-eligible **or as model-ineligible**. A banking organization may not seek approval for a trading desk to be model-ineligible due to the capital requirements for that trading desk being lower under the SA than the IMA.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

Basic Formula

— The IMA capital requirement for M-E trading desks (**IMA$_{G,A}$**) would be calculated as the sum of:

- The non-default risk capital requirement (denoted **C$_A$**) for M-E trading desks; and

- The default risk capital requirement for M-E trading desks, which would be determined using the same methodology as the SDR capital requirement under the Standardized Approach (denoted **DRC$_{SA}$** and described above).

$$IMA_{G,A} = C_A + DRC_{SA}$$

Non-Default Risk Capital Requirement

— The non-default risk capital requirement, C_A, would be determined based on a formula that considers two measures (capturing modellable and non-modellable risk factors) and a multiplier that increases based on the number of recent backtesting exceptions experienced by the banking organization's internal models:

- Internally modelled capital calculation (**IMCC**), which captures modellable risk factors

- Stressed expected shortfall (**SES**), which captures non-modellable risk factors

- Aggregate trading portfolio Backtesting Capital Multiplier (**BTM**) (**m_c**), which defaults to a value of 1.5 and increases, if a banking organization has five or more backtesting exceptions in the previous 250 business days, to a maximum of 2.0.

— The proposed formula for the non-default risk capital requirement, C_A, is based on the <u>greater</u> of a banking organization's:

- (1) *most recent spot calculations* for the combined IMCC and SES measures; and

- (2) *60-day trailing average* measures for IMCC (multiplied by the BTM) and SES (without the BTM), as follows:

$$C_A = max \left((IMCC_{t-1} + SES_{t-1}), \left((m_c \ x \ IMCC_{average}) + SES_{average} \right) \right)$$

— Because of the applicability of the BTM to the IMCC 60-day trailing average, the IMA's non-default risk capital requirements would generally be based on 60-day trailing average measure.

— The spot measure based on the most recent calculation date is designed to capture situations in which the banking organization has significantly increased its level of non-default market risk relative to the 60-day trailing average.

Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD	PLA Add-on	AC$_{MBM}$	
IMCC | SDR		IMA Excess	FCR
SES | BTM	SA for MITD	RdA | IPA	SCR

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IMA: Risk Factors, Risk Factor Eligibility, Risk Buckets

Risk Factors	— A banking organization must use the following risk factors to calculate its non-default risk capital requirement under the IMA:
	  ▪ All risk factors required for the SBM, (e.g. interest rate, credit spread risk for non-security positions, credit spread risk for CTP, credit spread risk for securitization positions that are not CTP, equity risk, commodity risk and foreign exchange risk) unless the banking organization can justify its omission to the satisfaction of its primary federal regulator.
	  ▪ All risk factors included in the banking organization's internal risk management models or used to report the banking organization's actual profits and losses.
	  ▪ Any other risk factors necessary to represent the risks inherent in the market risk covered positions held by the trading desk.

Risk Factor Eligibility	**Modellable Risk Factors**: A risk factor that passes the **risk factor eligibility test** is modellable. A banking organization would calculate its capital requirements for modellable risk factors using the IMCC.
	— To pass the risk factor eligibility test, a risk factor must meet either of the following criteria on a quarterly basis:
	  ▪ Identify ≥ 24 **real price** observations in the preceding 12 months, provided there is no 90 day period with < 4 real price observations; or
	  ▪ Identify ≥ 100 real price observations over the previous 12 months.
	— **Non-Modellable Risk Factors:** A risk factor that fails the risk factor eligibility test is non-modellable. A banking organization would calculate its capital requirements for non-modellable risk factors using the SES.

***Real price* means:**
(1) A price at which the banking organization has executed a transaction;
(2) A verifiable price for an actual transaction between other arm's-length parties;
(3) A price obtained from a committed quote made by the banking organization itself or a third-party provider, provided that, for any price obtained from a third-party provider:
  (i) The transaction or committed quote has been processed through a third-party provider; or
  (ii) The third-party provider agrees to provide evidence of the transaction or committed quote to the banking organization upon request.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

IMA: Risk Factors, Risk Factor Eligibility, Risk Buckets

Risk Buckets	— To establish whether a risk factor passes the eligibility test, a banking organization must group all real price observations into buckets based on risk factors. If the number of real price observation in a bucket meets the limit for the risk factor eligibility test, then the risk factor is modellable.
	— Buckets may be defined using either of the following approaches:
	▪ **Own bucketing approach**: Each bucket includes only one risk factor. Real price observations may be included in multiple buckets.
	▪ **Standard bucketing approach**: Group risk factors into buckets as follows:
	— Group interest rate, foreign exchange and commodity risk factors with a single maturity into buckets based on the maturity of the risk factors.
	— Group interest rate, foreign exchange and commodity risk factors with several maturities into buckets based on the maturity of the risk factors.
	— Group credit spread and equity risk factors with one or several maturity dimensions into buckets based on the maturity of the risk factors.
	— Group risk factors with 1 or several strike dimensions into buckets based on the probability of those risk factors being in the money.
	— Group expiry and strike dimensions of implied volatility risk factors (exc. IR swaptions) into buckets based on the maturity of the risk factors or the probability of those risk factors being in the money.
	— Group maturity, expiry and strike dimensions of implied volatility risk factors from options on swaps into buckets based on the maturity of the risk factors or the probability of those risk factors being in the money.
	— For options markets with customary alternative definitions of moneyness, convert the standard buckets to the market-standard convention using the banking organization's own pricing models.

Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

IMA: Data Eligibility for Modellable Risk Factors

— For a risk factor to be modellable, a banking organization must also demonstrate that the data it uses to calibrate the model for the risk factor meets the following requirements:

- Data may include combinations of modellable risk factors.

- Data must allow models to capture both idiosyncratic and systematic risk, if applicable.

- Data must allow models to reflect volatility and correlation of risk factors.

- Data must reflect real price observations or be reasonably representative of real price observations.

- Data must be updated at least weekly and banking organization must have clear policies and procedures for filling missing data.

- Data used to determine a liquidity horizon-adjusted ES-based measure must reflect market prices during the period of stress.

- Proxies may be used as long as the banking organization can demonstrate that:

  — There is sufficient evidence that the proxies are appropriate.

  — The proxies are sufficiently similar to the transactions they represent.

  — The proxies are appropriate for the region, credit spread, quality and type of instrument they represent.

  — Proxies for new risk-free reference rates appropriately capture the risk-free rate and credit spread.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

---

1. IMCC: Overview

— The IMCC would measure the estimated losses on market risk covered positions (other than certain excluded positions) in a banking organization's M-E trading desks due to changes in **modellable risk factors** during substantial market stress.

- If a banking organization receives prior written approval from its primary federal supervisor, it may also apply the IMCC to non-modellable risk factors.

— The IMCC is based on an **expected shortfall** (**ES**) methodology, which is intended to better capture fat tail events than the VaR-based measures used under the current U.S. market risk capital rule.

— To calculate its IMCC, a banking organization must determine the following components:

- The daily **ES measure** (1) for each risk class across all M-E trading desks, (2) in the aggregate across all risk classes and all M-E trading desks and (3) for each trading desk (for purposes of the backtesting and PLA testing requirements).*

  - In each case using a one-tail, 97.5th percentile confidence level.

- The 12-month **stress period** in which the banking organization's M-E trading desks would experience the largest cumulative loss.

- A **liquidity horizon-adjusted ES measure**, calculated by adjusting each daily ES measure by risk factor specific liquidity horizons ranging from 10 to 120 days.

  - The liquidity horizon-adjusted ES measure may be calculated (1) for all risk factors for the 12-month stress period (**direct approach**), or (2) for a reduced set of risk factors if the banking organization is unable to source sufficient data for all risk factors, which would require the banking organization to estimate the liquidity horizon-adjusted ES measure for both the current period and the 12-month stress period (**indirect approach**).

- The **total IMCC capital requirement**, which would aggregate the liquidity horizon-adjusted ES measures calculated throughout the stress period at the entity-wide level for each risk class and at the entity-wide level across all risk classes, applying a **50%** multiplier to each measure as a means of recognizing only partial diversification benefits.

> The current U.S. market risk capital rules measure loss using a VaR-based measure.

* Banking organizations must calculate daily VaR-based measures for each trading desk for purposes of the backtesting and PLA testing requirements.

Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

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1. IMCC: Calculation Steps

— To determine the IMCC capital requirement, a banking organization would perform the following steps:

1. **ES measure:** A banking organization would use one or more internal models to calculate each business day the ES-based measure using a one-tail, 97.5th percentile confidence interval.
   - The internal models must address non-linearities as well as correlation and relevant basis risks.
   - To calculate the daily ES-based measure, a banking organization would apply one of the following approaches:
     - **Direct Approach:** If a banking organization has sufficient data for all modellable risk factors, use the full set of risk factors to calculate ES throughout a 12-month stress period.
     - **Indirect Approach:** If a banking organization does not have sufficient data for all modellable risk factors, perform three calculations: (i) use a reduced set of risk factors for the 12-month stress period, (ii) use the full set of risk factors for the current period, and (iii) use a reduced set of risk factors for the current period. Determine the ES-based measure by applying these three calculations as follows:

$$ES = \frac{\text{(i) Reduced set of risk factors/}}{\text{12-month stress period}} \times \max\left(1, \frac{\text{(ii) Full set of risk factors/current period}}{\text{(iii) Reduced set of risk factors/current period}}\right)$$

   - To use the indirect approach a banking organization would need to:
     - Demonstrate a sufficiently long history of observations for the reduced set of risk factors;
     - Update the reduced set of risk factors at least quarterly or whenever there are material changes to the risk factors; and
     - Demonstrate that the calculation for the reduced set of risk factors in the current period can explain at least 75% of the variability of losses estimated by the calculation for the full set of risk factors in the current period over the preceding 60 business days.

> The Basel Framework only provides for an indirect approach.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_{MBM}		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

1. IMCC: Calculation Steps

2. **Liquidity horizon-adjusted ES measure:** The Proposed Rule would require a banking organization to apply an appropriate liquidity horizon adjustment to the ES measure for each risk factor.
   - The ES measure is calculated with a base liquidity horizon of 10 days for each risk factor, representing the expected loss during a stress period if a banking organization takes up to 10 days to reduce its exposure through hedging or selling assets.
   - The liquidity horizon adjustments, which range from 10 days to 120 days, would set a minimum liquidity horizon for each risk factor in a banking organization's ES-based measure that is higher than the 10-day base, representing the incremental loss the banking organization would face due to the additional time it would take to reduce an exposure for a position with that risk factor. Longer liquidity horizons would produce higher capital requirements.
   - The liquidity horizon-adjusted ES measure would be calculated (1) for each risk class across M-E trading desks based on the risk factors within each risk class and (2) for the aggregate of all risk classes across M-E trading desks.
   - Banking organizations would update the liquidity horizon for each risk factor on a quarterly basis.

3. **Stress period:** A banking organization would determine the appropriate stress period by identifying the 12-month period, going back at least until 2007, when the banking organization's risk factors experienced the largest cumulative loss.
   - A banking organization using the direct approach would consider the full set of risk factors and a banking organization using the indirect approach would consider the reduced set of risk factors.
   - A banking organization would update the stress period at least quarterly or whenever there are material changes to the risk factors.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_{MBM}	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

1. IMCC: Calculation Steps

4. **Total IMCC capital requirement:**
   ▪ The Proposed Rule would require a banking organization to aggregate the following two entity-wide liquidity horizon-adjusted ES measures:
     — Entity-wide liquidity horizon-adjusted ES measure for all risk classes; and
     — Sum of entity-wide liquidity horizon-adjusted ES measures for each risk class
       • The banking organization would hold all risk factors constant other than the one being tested and apply the liquidity horizon-adjusted ES-based measure discussed above to estimate the loss to market positions based on changes to that risk factor during a stress period.

IMCC = 0.5 x **Entity-wide liquidity horizon-adjusted ES measure for all risk classes** + 0.5 x **Sum of entity-wide liquidity horizon-adjusted ES measures for each risk class**

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

2. SES: Overview

— The SES would measure the estimated losses on market risk covered positions in a banking organization's M-E trading desks due to changes in **non-modellable risk factors** during substantial market stress.

— The SES would be based on a **stress scenario** that is calculated in the same manner as the ES measure for the IMCC, with the following exceptions:

- **Stress scenario measure:** The SES stress scenario measure would be calculated for each risk factor, not for the whole risk class.

- **Stress period:** A banking organization calculating the SES would identify the 12-month stress period for each risk class based on the 12-month period in which that risk class would experience the largest cumulative loss, rather than applying a 12-month stress period when the entire banking organization would experience the largest common loss.

  — A banking organization would be permitted to apply a common 12-month stress period for idiosyncratic credit spread risks or equity risks that are not related to broader market movements.

- **Liquidity horizon:** The SES would apply a base liquidity horizon of 20 days, not 10 days.

- **Total SES capital requirement:** The SES formula would aggregate stress scenario measures for (1) idiosyncratic credit spread risk, (2) idiosyncratic equity risk (due to spot, futures and forward prices, equity repo rates, dividends and volatilities) and (3) systematic risk.

  — The SES formula would allow for a smaller diversification benefit than the IMCC.

The Basel Framework allows a banking organization, subject to supervisory approval, to calculate its stress scenario capital requirements at the bucket level, rather than the risk factor level.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

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2. SES: Calculation Steps

— To determine the SES capital requirement, a banking organization would perform the following steps:

1. **Stress scenario measure:** A banking organization would use one or more internal models to calculate a daily stress scenario measure similar to the ES measure for the IMCC. The stress scenario measure would use a one-tail, 97.5th percentile confidence interval, address non-linearities as well as correlation and relevant basis risks, and apply either the direct or indirect approach described on page 185. In addition, under the SES:

   ▪ A banking organization calculating a stress scenario measure would be allowed to use proxies in designing the stress scenario for each risk class as long as the proxies meet the data quality requirements for modellable risk factors, described on page 184.

   ▪ A banking organization may, with approval from its primary federal supervisor, use an alternative approach to design the stress scenario for each risk class.

   ▪ If a banking organization is unable to determine a stress scenario for a set of risk factors that is acceptable to its primary federal supervisor, the banking organization would need to use the methodology that estimates the maximum possible loss.

2. **Liquidity horizon-adjusted ES measure:** The Proposed Rule would require a banking organization to apply the same liquidity horizon adjustments for each risk factor as it would for the IMCC, with the exception that the base liquidity horizon would be 20 days, not 10 days.

3. **Stress period:** A banking organization would determine the appropriate stress period applying a separate 12-month stress period for each risk class in which that risk class experiences the largest cumulative loss. A banking organization may apply a common 12-month period only for idiosyncratic credit spread and equity risk factors.

Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

2. SES: Calculation Steps

4. **Total SES capital requirement:**
   - The Proposed Rule would require a banking organization to separately calculate the stress scenario measures for (i) idiosyncratic credit spread risk, (ii) idiosyncratic equity risk and (iii) systemic risk and aggregate those calculations to determine the total SES capital requirement.

Sum of stress scenario measures for idiosyncratic credit spread risk factors

Sum of stress scenario measures for systematic risk factors

$$SES = \sqrt{\sum_{i=1}^{I} ISES_{NM,i}^{2}} + \sqrt{\sum_{j=1}^{J} ISES_{NM,j}^{2}} + \sqrt{\left(\rho \sum_{k=1}^{K} SES_{NM,k}\right)^{2} + (1-\rho^{2}) \sum_{k=1}^{K} SES_{NM,k}^{2}}$$

$\rho = 0.6$

Sum of stress scenario measures for idiosyncratic equity spread risk factors

   - The SES formula includes zero correlation for idiosyncratic credit spread or equity risk and limited diversification benefits for systemic risk, as reflected in the supervisory parameter ρ.

Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_{MBM}	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA | IPA	SCR

3. SDR

— A banking organization calculating the capital requirements of a M-E trading desk under the IMA would calculate the SDR capital requirement using the same method applied in the standardized approach, as described above. The SDR would be used to calculate default risk for both modellable and non-modellable risk factors.

The Basel Framework requires a banking organization to apply an internal model to measure the default risk of trading book positions.

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Market Risk
Core Component 1: Internal Models Approach

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_{MBM}	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

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4.   BTM: Overview

Backtesting: Entity-Wide Backtesting Capital Multiplier

— The Proposed Rule would expand and amend this entity-wide backtesting requirement to:

- Require backtesting of banking organization's internal models against not only the firm's actual trading losses, but also against a newly defined calculation called "hypothetical profit and loss." Hypothetical profit and loss is defined as the change in value of the firm's trading portfolio using the real market data from the current day, but assuming that the firm maintained the same positions from the end of the previous day.

  – Comparing firms' VaR-based models to hypothetical profits and loss is intended to reveal modeling issues and prompt banks to either adjust their internal models or increase their total capital.

- Apply a lower multiplier, with a range from 1.5 to 2, to a firm's market risk capital requirement. The lower calibration of the multiplier reflects the shift from VaR-based to ES-based measures under the proposal.

Backtesting: Trading desk-level backtesting

— Under the Proposed Rule, banking organizations would need to perform the same backtesting process for each M-E trading desk. If the firm's VaR-based model of trading losses is less than the firm's actual trading losses or hypothetical trading and losses for more than a certain number of days, that **trading desk would become model-ineligible** requiring the firm to use the standardized approach for that trading desk.

> The current U.S. market risk rules require banking organizations to conduct backtesting, in which they compare the aggregate trading losses from their VaR-based models with the firm's actual aggregate trading losses from the most recent 250 business days. If the firm's actual daily trading losses for any day in the backtesting period are greater than the firm's VaR-based measure (for a one-day holding period and at a 99.0% confidence level), a backtesting **exception** occurs. Firms must apply a multiplication factor to their VaR-based and stressed-VaR based capital requirements, ranging from a factor of 3.0 (for four or fewer exceptions) to 4.0 (for 10 or more exceptions).

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Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

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Market Risk
Core Component 2: PLA Add-on

PLA Add-on: Overview

— A banking organization using the IMA would be subject to a second core component capital requirement, the PLA add-on, depending on the outcome of a quantitative test of a firm's internal models known as profit and loss attribution testing (the **PLA test**).

— The PLA test would measure the accuracy of a banking organization's internal models by evaluating the differences between (1) the profits and losses estimated by the firm's internal models and the (2) hypothetical profits and losses as measured by its front office models.

  ▪ If the internal models are materially different from the front office models, the internal models would be subject to an additional capital requirement or the trading desk would become model-ineligible.

— If a supervisor determines that a trading desk has failed either of these metrics, that **trading desk would become model-ineligible** and the firm would need to use the Standardized Approach for that trading desk.

— **PLA add-on:** If a supervisor determines that a trading desk is deficient based on one or both of these metrics, but has not failed either metric, the banking organization would be allowed to continue using the internal models approach for that trading desk, but would need to apply an additional capital requirement to that trading desk to account for the inaccuracy of its internal models.

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Market Risk
Core Component 2: PLA Add-on

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

PLA Add-on: Calculation Steps

— To calculate the PLA test, and thus determine if a banking organization would apply a PLA add-on or if a trading desk would become model-ineligible, a banking organization would perform the following steps:

1. **Test metrics:** A banking organization would compare, for the most recent 250 business days, the profits and losses estimated by the trading desk's internal models and its hypothetical profits and losses using two test metrics: (1) the Spearman correlation coefficient (which measures correlation between internal models and front office models) and (2) the Kolmogorow-Smirnov metric (which measures the similarity in distribution of values generated by internal models and front office models).

2. **Test zone:** Based on the results of the test metrics, a banking organization would identify one of the following PLA test zones for the trading desk: Green Zone, Amber Zone or Red Zone. A trading desk would have a PLA test zone for each test metric. A banking organization must identify the PLA test zone for the trading desk based on the test zones identified for each test metric, as shown in the following table:

Spearman correlation coefficient

Kolmogorow-Smirnov metric	Red Zone	Yellow Zone	Green Zone
Red Zone	Red Zone	Red Zone	Red Zone
Yellow Zone	Red Zone	Amber Zone	Amber Zone
Green Zone	Red Zone	Amber Zone	Green Zone

Market Risk
Core Component 2: PLA Add-on

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

PLA Add-on: Calculation Steps

3. **Model-eligibility:** A banking organization would be required to consider a trading desk in the Green Zone or Amber Zone and model-eligible and a trading desk in the Red Zone as model-ineligible.

   3. A banking organization may consider a trading desk in the Red Zone model-eligible again when (1) the trading desk produces results in the Green Zone or Amber Zone and passes the trading desk-level backtesting requirements for the most recent 250 business days; or (2) the banking organization receives approval from its primary federal supervisor.

4. **PLA Add-on:** If a banking organization has trading desks that are in the Amber Zone, it would be required to apply the PLA Add-on to its capital requirements for all M-E trading desks. A banking organization would calculate the PLA Add-on using the following formula:

The Basel Framework only permits trading desks to become model-eligible again if they produce results in the Green Zone

$$\text{PLA Add-On} = 0.5 \times \frac{\text{Sum of } \underline{\text{SA}} \text{ capital requirements for M-E trading desks in Amber Zone}}{\text{Sum of } \underline{\text{SA}} \text{ capital requirements for all M-E trading desks in Green Zone or Amber Zone}} \times \max\left(\left(\begin{array}{c}\text{Sum of } \underline{\text{SA}} \text{ capital requirements for M-E trading desks in Green Zone or Amber Zone}\end{array} - \begin{array}{c}\text{Sum of } \underline{\text{IMA}} \text{ capital requirements for M-E trading desks in Green Zone or Amber Zone}\end{array}\right), 0\right)$$

- Based on this formula, as the number of M-E trading desks in the Amber Zone increases, the PLA Add-on would gradually increase.

Market Risk
Core Component 3: SA for M-I Trading Desks

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

Standardized Approach for M-I Trading Desks

— Under the Models-based Measure for market risk, a banking organization would be required to calculate its capital requirements for M-I trading desks using the Standardized Approach, described above.

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Market Risk
Core Components of Models-Based Measure for Market Risk

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Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

Calculation of capital requirement for Core Components of Models-Based Measure:

Lower of:

Core Components of Models Based Measure for Market Risk **=**

**IMA (for all M-E trading desks)
+
PLA Add-on
+
SA (for all M-I trading desks)**

OR

SA for all trading desks

The Basel Framework does not require banking organizations to use the standardized approach as a ceiling for the aggregate firmwide market risk RWAs.
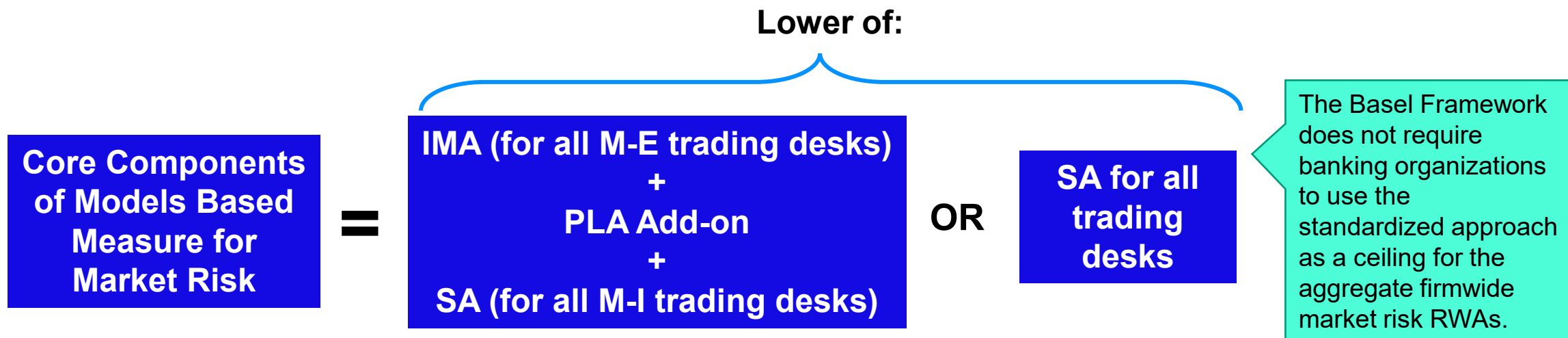
— Because the Proposed Rule would require a banking organization to calculate its market risk capital requirements separately for M-E trading desks and M-I trading desks, the banking organization would not receive credit risk mitigation for its hedging activities performed across M-E and M-I trading desks, and therefore would overcount its capital requirements.

— To prevent a banking organization from overcounting its capital requirements, the Agencies would apply the Standardized Approach for market risk for <u>all</u> trading desks as a ceiling for the capital requirement for the core components under the Models-based Measure.

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Market Risk
Additional Components of Models-Based Measure for Market Risk

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_{MBM}	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

— In addition to the three core components described above, when calculating the Models-based Measure for market risk, a banking organization would also need to include five additional components, to the extent applicable.

1. Excess of IMA capital requirement over Standardized Approach capital requirement for M-E trading desks (IMA Excess)

— Applies to the extent that a banking organization's capital requirements for M-E trading desks calculated under the IMA exceeds the capital requirements for those trading desks calculated under the Standardized Approach.

+

2. Fallback Capital Requirement (FCR)

— Applies to any covered position to which a banking organization is unable to apply:

- The IMA, for covered positions on M-E trading desks
- The Standardized Approach for covered positions on M-I trading desks
- The Standardized Approach for securitization positions and CTPs on M-E trading desks that are excluded from the calculation of the add-on for ineligible positions (described on the next page)

Market Risk
Additional Components of Models-Based Measure for Market Risk

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC~MBM~	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

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3. Re-designation Add-on (RdA)

— Applies if a banking organization re-designates an instrument from being a credit risk exposure (subject to Subpart D or E) to a market risk covered position (Subpart F) or vice versa.

  ▪ It is intended to discourage such re-designations.

+

4. Add-on for Ineligible Positions (IPA)

— Applies the following positions in M-E trading desks: (1) securitization positions; (2) CTPs; and (3) Equity positions in investment funds for which the banking organization cannot identify the underlying positions held by the fund on a quarterly basis.

— The IPA is equal to the SA capital requirement for such positions.

+

5. Supervisory Capital Requirement (SCR)

— Applies if the banking organization's primary federal supervisor, using its reservation of authority under Subpart F, deems it necessary or appropriate because of the banking organization's level of market risk or to ensure safe and sound banking practices

Market Risk
Additional Component 1: IMA Excess

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

1. IMA Excess

— A capital add-on is required to the extent the IMA capital requirement for a banking organization's M-E trading desks exceeds the standardized approach capital requirement for those trading desks.

- The capital add-on effectively makes the IMA capital requirements a floor for the calculation of capital requirements for a banking organization's M-E trading desks under the Models-based Measure.

- The Agencies cite the more risk-sensitive methodology for calculating capital requirements under the IMA compared to the Standardized Approach as the rationale for imposing this capital add-on.

Market Risk
Additional Component 2: FCR

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

2.   FCR

— The following positions must be <u>excluded</u> from the applicable components of a banking organization's Models-based Measure:

- Unless a banking organization receives the prior approval of its primary federal banking supervisor, if the banking organization is unable to calculate any portion of the relevant Models-based Measure Calculations (**Relevant Component**) listed below for a market risk covered position, it must <u>exclude</u> that covered position from the calculation of that Relevant Component.

   - Relevant Components are the IMA, SA for M-I trading desks, SA for all trading desks, SA for covered positions that a banking organization elects to include in M-E trading desks but not apply the IMA .

- For any securitization position, CTP position, or equity position in an investment fund for which the banking organization is unable to identify the underlying positions of the fund on a quarterly basis (i.e., the positions in M-E trading desks that are ineligible for the IMA, and which are normally subject to the capital add-on for ineligible positions (**IPA**)) as to which the banking organization is unable to calculate any portion of the Standardized Approach capital requirement, it must exclude that covered position from the IPA.

— The following positions must be <u>included</u> in the FCR:

- All covered positions on M-E trading desks excluded from the calculation of the IMA;

- All covered positions on M-I trading desks excluded from the calculation of the SA; and

- All securitization positions and CTP positions excluded from the SA as part of calculating the IPA.

— The total FCR is the sum of the absolute value of the fair values of the positions that must be included in the FCR.

Market Risk
Additional Component 3: RdA

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC_MBM	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

3.   RdA

— For each re-designation, a banking organization must calculate its RdA as:
- For Expanded Total RWAs, the higher of:
  - zero; and
  - total capital requirement under Subpart E or Subpart F <u>before</u> re-designation – total capital requirement under Subpart E or Subpart F <u>after</u> re-designation.
- For Standardized Total RWAs, the higher of:
  - zero, and
  - total capital requirement under Subpart D or Subpart F <u>before</u> re-designation – total capital requirement under Subpart D or Subpart F <u>after</u> re-designation

— With the prior written approval of the banking organization's primary federal supervisor, no RdA is required if the re-designation is due to circumstances outside the banking organization's control (e.g., re-designation required for accounting purposes).

— Total RdA capital requirement would be the sum of each RdA.

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Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC~MBM~		
IMCC	SDR		IMA Excess		FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

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Market Risk
Additional Component 4: IPA

4.   IPA

— The following covered positions on M-E trading desks are ineligible for calculation of the IMA (**Excluded Positions**):
  ▪ Securitization positions,
  ▪ CTP positions; and
  ▪ Equity positions in investment funds for which the banking organization cannot identify the underlying positions held by the fund on a quarterly basis.
— The total IPA equals the aggregate Standardized Approach capital requirement for these Excluded Positions.
— To the extent subject to the FCR additional component described above, an Excluded Position would not be subject to the IPA.

The Basel Framework does not require a capital add-on for ineligible positions. Instead, the Basel Framework requires that banking organizations apply the standardized approach to all security positions and equity positions in funds that cannot be looked through, producing the same effect on total market risk RWAs as the capital add-on.

Market Risk
Additional Component 5: SCR

Models-Based Measure for Market Risk

IMA for METD		PLA Add-on	AC$_{MBM}$	
IMCC	SDR		IMA Excess	FCR
SES	BTM	SA for MITD	RdA	IPA	SCR

5. SCR

— An Agency's use of its reservation of authority to impose an SCR may result in:
  - a higher amount of capital than otherwise required under Subpart F;
  - application of a different risk-based capital requirement to the affected market risk covered positions; or
  - application of Subpart F to the affected positions or exposures instead of Subpart D or E, as applicable, or application of Subpart D or E, as applicable, instead of Subpart F.

Expanded Total RWA				
Subpart E			*Subpart F*	
CR-ERB	ER-ERB	OR	MR	CVA

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Market Risk
Treatment of Certain Market Risk Covered Positions

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— The Proposed Rule would prescribe the treatment of certain types of market risk covered positions under the Standardized Measure and Models-based Measure for market risk, as follows:

- **Net short risk positions** must be calculated on a quarterly basis.

- A banking organization may cap the market risk capital requirement of **securitization positions** and **defaulted or distressed market risk covered positions** at the maximum loss of the market risk covered position.

- For purposes of calculating the standardized default risk capital requirement, a banking organization must include **defaulted market risk covered positions**.

  — A banking organization does not need to include **defaulted market risk covered positions** in the SBM, the RRA or the non-default risk capital requirement.

- For purposes of calculating the standardized approach capital requirement, a banking organization must assign risk sensitivities of **hybrid instruments** into the applicable risk classes such as interest rate, credit spread, and equity risk for calculating the delta, vega, and curvature capital requirements.

  — For the SDR capital requirement, a banking organization must decompose a **hybrid instrument** into a non-securitization position and an equity position and calculate the SDR capital requirement for each position respectively.

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Market Risk
Treatment of Certain Market Risk Covered Positions

- **Index instruments and multi-underlying options**
  - For purposes of calculating the delta and curvature capital requirements under the Standardized Approach:
    - A banking organization must apply the look-through approach for any market risk covered position that is an **index instrument** or a **multi-underlying option**.
      - Except that for market risk covered positions of **listed and well-diversified indices**, a banking organization may instead calculate a single sensitivity for the index and assign it to the relevant sector or index bucket
  - For purposes of calculating the vega capital requirement under the Standardized Approach:
    - For a **multi-underlying option** (including an **index option**), a banking organization may calculate the vega capital requirement based either on the implied volatility of the option or the implied volatility of options on the underlying constituents
    - For **indices**, a banking organization must calculate the vega capital requirement with respect to the implied volatility of the multi-underlying options based on the relevant sector or index bucket
  - For purposes of calculating the SDR capital requirement, a banking organization may apply the look-through approach for **multi-underlying options that are non-securitization debt or equity positions**.

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Market Risk
Internal Risk Transfers

— A banking organization that wishes to hedge an exposure on the banking book, or CVA risk held by an internal CVA desk, can engage in a hedging transaction with a third party through one of the organization's trading desks.

— Under the current U.S. market risk capital rules, an external hedging transaction **is not** a market risk covered position.

— External hedging transactions **are** market risk covered positions under the Proposed Rule.

— With the Proposed Rule's introduction of the concept of the trading desk into the market risk framework, it is necessary to account for internal risk transfers.

- For example, a banking organization holds high-yield notes issued by ABC Corp as a credit risk position, and wishes to hedge its credit exposure to ABC Corp.

- The banking unit seeking the hedge may ask one of the banking organization's trading desks to execute a credit default swap referencing ABC Corp with an external counterparty.

- The trading desk executing the hedge is risk neutral in this scenario—it executes the credit default swap on behalf of the banking unit.

- To accurately reflect the internal risk position of the banking organization, the banking organization would be required to recognize an internal transfer of risk from the banking unit to the trading desk.

- The banking organization may recognize the risk-mitigating effects of the internal transfer of risk when calculating RWA amounts in respect of the ABC Corp notes.

- The trading desk is risk neutral because its exposure under the external hedge is offset by its exposure in respect of the internal transfer of risk.

Market Risk
Internal Risk Transfers

— Under the Proposed Rule, **internal risk transfer** means a transfer, executed through internal derivatives trades, to a trading desk of:

- credit risk or interest rate risk arising from a banking book exposure; or

- CVA risk from a CVA desk.

— A banking organization may only recognize the risk-mitigating effects of **eligible internal risk transfers**. The criteria for eligibility are shown in the table below, based on the type of risk transferred.

Credit Risk	Interest Rate Risk	CVA Risk
— Documentation identifies the exposure and source of credit risk — The terms of the internal risk transfer, aside from amount, are identical to the terms of the external hedge — The external hedge meets credit risk-mitigant eligibility requirements under the credit risk framework	— Documentation identifies the exposure and source of interest rate risk — Is capitalized by the trading desk on a stand-alone basis without regard to other market risks generated by activities in the trading unit — Is executed by a trading desk established for conducting internal risk transfers to hedge interest rate risk, and has received approval as such from the primary federal regulator	— Documentation identifies the CVA risk being hedged and source of such risk — The internal risk transfer is an eligible CVA hedge* — If the internal risk transfer is subject to curvature risk, default risk, or the residual risk add-on under the market risk framework, then the trading desk must execute an external hedge with a third-party provider, identical in terms to the internal transfer of risk

* See Section 7 (CVA Risk RWAs), page 215.

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Market Risk

General Risk Management Requirements for Market Risk

— The Proposed Rule would expand a banking organization's existing risk management requirements for market risk by requiring it to satisfy additional risk management requirements in the following areas:

- Trading desk definition
- Trading desk structure
- Trading desk policies
- Operational requirements

Expanded Total RWA

Subpart E			Subpart F	
CR-ERB	ER-ERB	OR	MR	CVA

The current U.S. market risk capital rules require banking organizations to satisfy risk management requirements related to identifying trading positions, managing covered positions, stress testing, control and oversight and documentation. The Proposed Rule would keep these requirements and add to them.

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Market Risk
General Risk Management Requirements for Market Risk

Trading Desk Definition

— The Proposed Rule would define a trading desk as a clearly defined unit of a banking organization that:

- Implements well-defined business strategies;

- Appropriately monitors and reviews the desk's trading and hedging limits and strategies; and

- Acts as a unit, including by engaging in coordinated trading activity, operating according to a common set of risk metrics and trading limits, submitting compliance reports as a unit for management to monitor, and booking trades together.

— The proposal would define a trading desk in a manner generally consistent with the Volcker Rule (12 C.F.R. § 248.3(e)(14)).

Trading Desk Structure

— The Proposed Rule would require a trading desk structure to include:

- Definition of each of the banking organization's trading desks

- Identification of M-E trading desks used in the Models-based Measure for market risk

- Identification of M-I trading desks used in the Standardized Measure for market risk and Models-based Measure for market risk

- Identification of trading desks that are used for internal risk transfers

- Identification of **notional trading desks**, which would hold types of positions that may not arise from a banking organization's trading activities, such as net short risk positions, certain embedded derivatives, and foreign exchange and commodity exposures that are not trading assets or liabilities.

Market Risk
General Risk Management Requirements for Market Risk

Trading Desk Policies

— Each trading desk, other than a notional trading desk, must have a clearly defined policy that is approved by senior management and describes the desk's general strategy, risk and position limits, internal controls and governance structure.

— Trading desk policies must also include:

- A description of the desk's **general strategy** for its business, addressing the economics of its strategy, its primary activities, and its trading and hedging strategies.

- A clearly defined **trading strategy**, including the types of positions held by the desk and their expected holding period, and the risks associated with the positions.

- A clearly defined **hedging strategy** that details the level of risk the banking organization is willing to accept and the instruments, techniques and strategies that the desk will use to hedge its risk.

- A **business strategy**, including reports on the desk's revenue, costs and market risk capital requirements.

- A clearly defined **risk scope** that is consistent with the desk's business strategy and that specifies the desk's overall risk classes and permitted risk factors.

Market Risk

General Risk Management Requirements for Market Risk

Operational Requirements

— The Proposed Rule would require a banking organization to implement the following operational requirements to enhance its risk management practices associated with the calculation of its market risk capital requirements:

- Clearly defined **policies and procedures** describing internal controls, ongoing monitoring and management of covered positions.

  — These policies and procedures would require that trading desks take a number of actions to **manage risk**, including:

    - identifying key personnel to oversee their activities;

    - determining the fair value of covered positions;

    - establishing and assessing clear trading limits;

    - developing strategies to mitigate risks; and

    - requiring senior management to monitor their risk management activities.

- **Stress tests** of its covered positions quarterly at the aggregate level and for each trading desk. Stress tests would consider concentration risk, illiquidity under stressed market conditions, and any risks that may not be captured by the Standardized Measure or Models-based Measure for market risk.

Market Risk
General Risk Management Requirements for Market Risk

- Effective control and oversight of market risk by having in place:

  – Management systems and processes to **identify, measure, monitor and manage market risk**.

  – Independent risk control units **that design and implement risk management systems** and report to senior management.

  – Independent internal audit functions to **assess the controls** supporting the risk measurement systems and report its findings to the board of directors.

- Adequate documentation of:

  – How the banking organization identifies, manages and values its covered positions;

  – Trading desk structure and how each trading desk satisfies its regulatory requirements;

  – Material aspects of internal models; and

  – Policies and procedures relating to the risk factor eligibility test, PLA testing and liquidity horizons.

– The Proposed Rule **incorporates regulatory guidance for risk management practices** associated with the use of internal models in the Federal Reserve's Supervisory and Regulation Letter 11-7 and OCC Bulletin 2011-12, Regulatory Guidance on Model Risk Management.

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CVA Risk RWAs

7

Background on CVA Risk
What is CVA Risk?

- **Credit Valuation Adjustment (CVA):** Under U.S. GAAP, banking organizations are required to recognize derivatives at their fair value on the balance sheet (i.e., apply mark-to-market accounting) and to reflect certain portfolio-level valuation adjustments in the measurement of fair value.

  - One such valuation adjustment is CVA, which is a negative valuation adjustment reflecting the risk that the counterparties to OTC derivatives may default on their obligations prior to the expiration of the contract.

  - In other words, CVA measures the impact of a counterparty's potential default on the fair value of the OTC derivative contract(s).

- **CVA risk:** CVA risk is the risk that the amount of CVA recognized by a banking organization will increase, resulting in the immediate recognition of losses even if a counterparty has not yet defaulted.

  - Conceptually, a CVA amount can increase for two reasons, which correspond to the **two components** of CVA risk under the Proposed Rule:

  - Counterparty **credit spreads** increase, reflecting a deterioration in the creditworthiness of a counterparty.

  - Counterparty **credit exposures** increase, reflecting an increase in the expected future exposure to a counterparty from positions subject to CVA.

- **Relationship to counterparty credit risk:** CVA risk is related to, but distinct from, **counterparty credit risk**, which is the risk that the banking organization will experience a credit loss upon an event of default by a counterparty to a derivative or securities financing transaction.

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Background on CVA Risk
Current Treatment of CVA Risk

— The current U.S. capital rules require the calculation of CVA RWAs as part of the Advanced Approaches (Subpart E), which apply solely to Category I and II banking organizations.

- CVA RWAs are not separately calculated as part of the Standardized Approach (Subpart D).

— Under the current U.S. capital rules' Advanced Approaches, CVA RWAs are calculated using one of two methodologies:

- The Simple CVA Approach, which is a standardized measure based in part on the Exposure at Default (**EAD**) amounts for a banking organization's netting sets of OTC derivative contracts; or

- The Advanced CVA Approach, which is a VaR model-based measure.

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CVA Risk
Key Changes under the Proposed Rule

— Under the Proposed Rule, Category I – IV banking organizations would be subject to **capital requirements** and **risk management requirements** related to CVA risk (together, **CVA risk requirements**) as part of new Subpart F.

— **Capital requirements for CVA risk:** The Proposed Rule would:

  ▪ Include the **RWAs for CVA risk** in Expanded Total RWAs.

  ▪ Continue to exclude RWAs for CVA risk from the Standardized Approach and the calculation of Standardized Total RWAs.

  ▪ **Replace** the Simple CVA Approach and Advanced CVA Approach for calculating RWAs for CVA risk with two new approaches: the Basic CVA Approach (**BA-CVA**) and (subject to prior supervisory approval) the Standardized CVA Approach (**SA-CVA**).

    — BA-CVA is similar to the Simple CVA Approach under the Advanced Approaches.

    — SA-CVA employs sensitivities-based methods similar to the proposed Standardized Approach for Market Risk, albeit with less granular risk factors than market risk.

— **CVA risk management requirements:** The Proposed Rule would introduce risk management requirements for CVA risk.

> Consistent with the Basel Framework, the Proposed Rule would permit banking organization to use either the BA-CVA or the SA-CVA. There are no internal models-based approaches for CVA risk under either the Proposed Rule or the Basel Framework.

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CVA Risk Requirements
Scope of Application

— **General applicability:** The CVA risk requirements under the Proposed Rule would apply to <u>all</u> Category I – IV banking organizations.

— **Reservation of authority:**

▪ The primary federal supervisor of a banking organization that is <u>not</u> a Category I – IV banking organization would have the authority to nevertheless apply the CVA risk requirements to the banking organization if the supervisor deems it necessary or appropriate:

– Because of the level of CVA risk of the banking organization; <u>or</u>

– To otherwise ensure safe and sound banking practices.

▪ The primary federal supervisor of a Category I – IV banking organization would have the authority to <u>exclude</u> the banking organization from application of the CVA risk requirements if the supervisor determines that:

– The exclusion is appropriate based on the level of CVA risk of the banking organization; <u>and</u>

– The exclusion would be consistent with safe and sound banking practices.

> Under the current U.S. capital rules, only Advanced Approaches (i.e., Category I and II) banking organizations are subject to capital requirements for CVA risk. In effect, the Proposed Rule would extend capital requirements for CVA risk to Category III and IV banking organizations and introduce CVA risk management requirements for all Category I – IV banking organizations.

Calculation of CVA Risk RWAs
CVA Risk Covered Positions, CVA Hedges and Eligible CVA Hedges

Expanded Total RWA

Subpart E   *Subpart F*

CR-ERB	ER-ERB	OR	MR	CVA

– The Proposed Rule would require Category I – IV banking organizations to calculate RWAs for CVA Risk for **CVA risk covered positions**.

– **CVA risk covered position:** a derivative contract that is not a cleared transaction.

- A banking organization may exclude an eligible credit derivative recognized as a credit risk mitigant from its CVA risk covered positions.

- As a result, repo-style transactions and eligible margin loans would be excluded from CVA risk covered positions.

– The Proposed Rule would define a **CVA hedge** to be a transaction entered into by a banking organization for the purpose of mitigating CVA risk.

- CVA hedges may be external or internal.

  – In an **external CVA hedge**, the banking organization's counterparty is a third party that bears the transferred CVA risk.

  – In an **internal CVA hedge**, the hedging trading desk's counterparty is the banking organization's internal CVA desk.

  – An internal hedge has two perfectly offsetting positions: one held by the CVA desk and one held by the hedging trading desk.

- A CVA hedge that is <u>not</u> centrally cleared may itself be a CVA risk covered position.

– The Proposed Rule would define an **eligible CVA hedge** as an external or internal CVA hedge that is a whole transaction and that is not a securitization position or correlation trading position (**CTP**), provided that:

– For purposes of BA-CVA, **eligible CVA hedges** may include the following instruments if used to hedge the counterparty credit spread component of CVA risk: index credit default swaps (**CDSs**), single name CDSs, and single name contingent CDSs (in which payment obligations arise only if a credit event <u>and</u> another specified event occur).

– For purposes of SA-CVA, **eligible CVA hedges** may include any type of instrument used to hedge the counterparty credit spread component of CVA risk, and any type of instrument used to hedge the exposure component of CVA risk.

> Under the current U.S. rules, Category I or II banking organization calculates RWAs for CVA risk for all OTC derivatives that are not cleared transactions.

> The Basel Framework includes repo-style transactions and margin loans (Securities Financing Transactions, or SFTs) that are fair valued for accounting purposes, if the banking organization's supervisor determines that CVA loss exposures from SFTs are material.

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Calculation of RWAs for CVA Risk
Basic and Standardized Measures for CVA Risk

— A Category I – IV banking organization's **RWAs for CVA risk** would be calculated as its Measure for CVA Risk multiplied by 12.5.

— A banking organization's **Measure for CVA Risk** would be calculated using either:

  ▪ The BA-CVA (only, applied to <u>all</u> CVA risk covered positions and eligible CVA hedges); or

  ▪ With the prior approval of the banking organization's primary federal supervisor, a <u>combination</u> of the BA-CVA and SA-CVA (each applied to a different <u>subset</u> of CVA risk covered positions and CVA hedges):

— For a banking organization that is <u>not</u> approved to use SA-CVA, the Measure for CVA Risk = **Basic Measure for CVA Risk**, which would be calculated as follows:

> The **BA-CVA capital requirement** (denoted K_{basic}) calculated for <u>all</u> CVA risk covered positions and eligible CVA hedges
>
> ✚
>
> Any additional capital requirement for CVA risk required by the banking organization's primary Federal supervisor.

— For a banking organization that is approved to use SA-CVA, the Measure for CVA Risk = **Standardized Measure for CVA Risk**, which would be calculated as follows:

> The **SA-CVA capital requirement** calculated <u>only</u> for standardized CVA risk covered positions and standardized CVA hedges
>
> ✚
>
> The **BA-CVA capital requirement** calculated <u>only</u> for basic CVA risk covered positions and basic CVA hedges
>
> ✚
>
> Any additional capital requirement for CVA risk required by the banking organization's primary Federal supervisor.

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CVA Risk Capital Requirements
Comparison of Basic and Standardized Measures for CVA Risk

The table below summarizes the differences between the Basic Measure for CVA Risk and the Standardized Measure for CVA Risk.

	Basic Measure for CVA Risk	**Standardized Measure for CVA Risk**
CVA risk approach(es)	BA-CVA only	Both SA-CVA and BA-CVA, each applied to a subset of covered positions and hedges (see below)
Scope of covered positions and hedges included in the applicable measure	— <u>All</u> CVA risk covered positions — <u>Eligible</u> CVA risk hedges	SA-CVA capital requirement would be applied to: — Standardized CVA risk covered positions; and — Standardized CVA hedges.* BA-CVA capital requirement would be applied to: — Basic CVA risk covered positions; and — Basic CVA hedges.*
Components of CVA risk captured	Counterparty credit spread component <u>only</u>, because BA-CVA assumes static expected future exposures (i.e., no exposure component).	For standardized CVA risk covered positions and CVA hedges: <u>Both</u> the counterparty credit spread component <u>and</u> the exposure component. For basic CVA risk covered positions and basic CVA hedges: the counterparty credit spread component <u>only</u>.

Basic CVA risk covered position: any CVA risk covered position:

— That the applicable Agency specifies must be included in the BA-CVA capital requirement;

— In a netting set that the banking organization chooses to exclude from the calculation of the SA-CVA capital requirement; and

— In a partial netting set designated for inclusion in the basic CVA approach that the banking organization has prior written approval from the applicable Agency to create from splitting a netting set into two netting sets.

Standardized CVA risk covered position: any CVA risk covered position that is not a basic CVA risk covered position.

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*   **Basic CVA hedge:** as any <u>eligible</u> CVA hedge:

    — That the applicable Agency specifies must be included in the BA-CVA capital requirement;

    — That is eligible for purposes of BA-CVA and that the banking organization chooses to include in the BA-CVA capital requirement.

    Standardized CVA hedge: any <u>eligible</u> CVA hedge that is not a basic CVA hedge and that is included in the SA-CVA capital requirement.

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BA-CVA Capital Requirement
Formula and Assumptions

Expanded Total RWA

Subpart E   *Subpart F*

| CR-ERB | ER-ERB | OR | MR | CVA |

— A banking organization's BA-CVA capital requirement would be calculated for Basic CVA risk covered positions and Basic CVA hedges and using the following formula, which approximates CVA expected shortfall and which reflects certain **simplifying assumptions** (see sidebar):

$$K_{basic} = 0.65 \cdot (\beta \cdot K_{unhedged} + (1 - \beta) \cdot K_{hedged})$$

— Where:

- **Beta (β)** is a supervisory parameter set equal to 0.25, which limits the recognition of the eligible CVA hedges;

- $K_{unhedged}$ is the capital requirement for CVA positions before recognizing the risk-mitigating effect of eligible CVA hedges and is calculated as shown in the formula below;

$$K_{unhedged} = \sqrt{\left(\rho \cdot \sum_c SCVA_c\right)^2 + \left((1 - \rho^2) \cdot \sum_c SCVA_c^2\right)}$$

- K_{hedged} is the capital requirement for CVA positions after recognizing eligible CVA hedges as shown in the formula below;

$$K_{hedged} = \sqrt{\left(\rho \cdot \sum_c (SCVA_c - SNH_c) - IH\right)^2 + (1 - \rho^2) \cdot \sum_c (SCVA_c - SNH_c)^2 + \sum_c HMA_c}$$

- **Rho (ρ)** is a supervisory correlation parameter set equal to 0.5, which approximates the correlation between the credit spread of each counterparty and the systematic risk factor;

- $SCVA_c$ is the standalone CVA capital requirement for counterparty *c*, which represents the BA-CVA capital requirement a banking organization would be subject to if the counterparty *c* were the only counterparty with which the banking organization has CVA risk covered positions; and

- The remaining terms – SNH_c (for single-name hedges), IH (for index hedges), and HMA_c (aggregating components of indirect single-name hedges) – capture the risk-mitigating effect of eligible hedges.

> Under BA-CVA, expected shortfall replaces the standardized VaR methodology used under the Simple CVA Approach under the Advanced Approaches.

Simplifying Assumptions Reflected in BA-CVA

— Expected exposure profiles are fixed (i.e., considering only the counterparty credit spread component, not the exposure component, of CVA risk)

— Credit spreads have a flat term structure (i.e., no dependence on tenor)

— At the time horizon, credit spreads are lognormally distributed (i.e. "randomly")

— Each single-name credit spread is driven by: (1) a systematic factor represented by the supervisory parameter ρ (which captures the relationship between the standalone CVA risk for any two counterparties), and (2) an idiosyncratic factor specific to that single name ($SSVA_c$)

— The correlation between any single-name credit spread and the systemic factor is fixed at 0.5

— Credit indices are dependent only on the systematic factor

BA-CVA Capital Requirement
Standalone CVA Capital Requirement

— The calculation of the standalone CVA capital requirement (**SCVAc**) depends on the following parameters:

- The **risk weight** assigned to that counterparty for purposes of the CVA capital requirements,* which depends on both sector of the counterparty and its general credit quality;

- The **effective maturity** of the covered positions in the netting set; and

- **Exposure at default** (**EAD**) (discounted to present value using a 5% interest rate) in respect of the netting set (calculated by reference to the exposure amount to the counterparty under SA-CCR).

> The regulatory CVA risk weights in the Proposed Rule largely mirror those in the Basel Framework, with the exception of exposures to sovereigns and MDBs of speculative and sub-speculative credit quality. These exposures carry a **2%** risk weight under the Basel Framework, and **3%** and **7%** risk weights respectively under the CVA Risk Proposal.

$$SCVA_c = \frac{Risk\ Weight}{\alpha^*} \times \left(Effective\ Maturity \times EAD \times Discount\ Factor \right)$$

Sum over all netting sets

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* The risk weights applied for purposes of the CVA capital requirements (under both BA-CVA and SA-CVA) differ from the generally applicable risk weights for general credit risk. For BA-CVA, the risk weights range from **0.5%** to **12.0%.**

** Alpha is 1.4 for derivative contracts with counterparties that are not commercial end-users and 1.0 for derivative contracts with commercial end-users. Alpha is in the denominator of the $SCVA_c$ formula because the EAD term is based on SA-CCR, which reflects a multiplier applied to the exposure amount for non-commercial end users (the alpha factor) to capture certain risks not intended to be captured by BA-CVA.

> Alpha is always 1.4 under the Basel Framework.

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BA-CVA Capital Requirement
Recognition of Eligible CVA Hedges

— The risk-mitigating effect of eligible CVA hedges is recognized as part of the K_{hedged} term in the formula for BA-CVA capital requirements.

— Single-name eligible CVA hedges are weighted by a supervisory correlation parameter (r_{hc}) that varies depending on reference entity of the single-name hedge, as follows:

- r_{hc} is **100%** if the hedge directly references a counterparty;

- r_{hc} is **80%** if the hedge references a counterparty affiliate; and

- r_{hc} is **50%** if the hedge references an entity that belongs to the same economic sector and geographic region as the counterparty.

— Index hedges (provided that index constituents do not have similar economic sectors, geographic regions or credit quality) are recognized based on a composite of the risk weights applicable to each index constituent, in proportion to the notional composition of the index.

— The total BA-CVA capital requirement is composed of 25% of the unhedged capital requirement and 75% of the hedged capital requirement, implying an RWA floor of **25%** of the unhedged capital requirement (i.e., a completely hedged CVA portfolio would still recognize RWAs for CVA risk under BA-CVA using this floor).

BA-CVA Capital Requirement

K Hedged 75%

K Unhedged 25%

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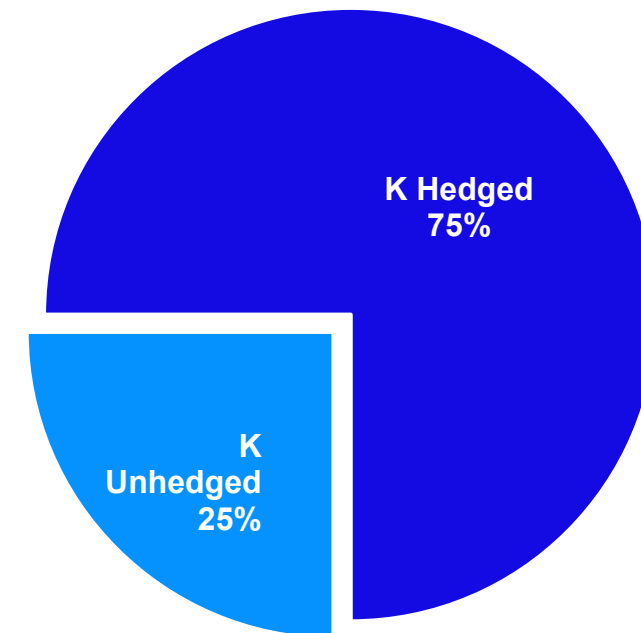
Requirements to Apply SA-CVA
Prior Supervisory Approval Requirement

— To receive supervisory approval to use the SA-CVA, a banking organization must, among other requirements:

  ▪ Have a CVA desk, or similar dedicated function, responsible for risk management and hedging of CVA risk consistent with the banking organization's CVA risk management and hedging policies and procedures;

  ▪ Be capable of calculating regulatory CVA and associated risk factor sensitivities on at least a monthly basis;

    — Due to the computational intensity of calculating sensitivities, a banking organization would be allowed to recognize certain netting sets of CVA risk covered positions under the BA-CVA, and others under the SA-CVA;

    — Eligible hedges must be assigned to either BA-CVA or SA-CVA and comply with the applicable requirements under that approach (e.g., an interest rate swap only qualifies as an eligible hedge under SA-CVA); and

  ▪ Use the same models it uses to calculate CVA for financial reporting purposes for its calculation of regulatory CVA.

— If a supervisor determines that a banking organization's models do not comply with applicable requirements, or fail to accurately reflect CVA risk, it may rescind its approval for the banking organization to use the SA-CVA either in whole or in part.

— In addition to these prior approval requirements, a banking organization that obtains approval to use the SA-CVA must comply with certain additional risk management requirements described below.

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SA-CVA Capital Requirement
High-level Summary

— Similar to the proposed Standardized Measure for Market Risk, the SA-CVA is based on an analysis of the sensitivity of a counterparty exposure to shocks applied to risk factors that impact both the counterparty credit spread component and the exposure component of CVA risk.

- Counterparty exposure is assumed to depend linearly on the spot price associated with a particular risk factor (represented by **delta**) and the volatility of that spot price (represented by **vega**).

- CVA risk capital requirements for a particular counterparty and netting set under the SA-CVA are a sum over all relevant risk factors of (i) the requirements arising from delta and (ii) the requirements arising from vega.

- **Curvature**, representing the nonlinear behavior of risk factors, is assumed to be zero for the purposes of the SA-CVA.

- Owing to the computational difficulty of computing sensitivities under the SA-CVA, risk factors and risk buckets are less granular than their counterparts in the Standardized Measure for Market Risk.

- Unlike the Standardized Measure for Market Risk, the SA-CVA incorporates the term structure of counterparty credit spreads as well as market risk factors that impact counterparty exposure.

— The calculation of **regulatory CVA**, on which the sensitivity analysis is based, must incorporate at least three inputs:

- The term structure of market-implied probability of default;

- The market-consensus expected loss-given-default; and

- The simulated path of discounted future exposure.

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SA-CVA Capital Requirement
Risk Classes

— There are **six risk classes** under the SA-CVA: one risk class for counterparty credit spread and five market risk classes as shown below:

SA-CVA Risk Classes

Market Risk Classes

— Counterparty Credit Spread*

— Interest Rate   — Foreign Exchange

— Equity   — Commodity

— Reference Credit Spread**

— For the five market risk classes: risk buckets, regulatory risk weights and correlation parameters are the same as those used in the standardized approach to market risk.

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* Vega is assumed to be zero for the counterparty credit spread risk class. In other words, the calculation of the SA-CVA capital requirement does not depend on the volatility of counterparty credit spreads.

** The reference credit spread risk class reflects the risk associated with derivative instruments that reference an entity which serves as a counterparty to a banking organization under a different set of derivatives.

CVA Risk Management Requirements
General CVA Risk Management Requirements

– A Category I – IV banking organization, whether it uses the BA-CVA or SA-CVA, would be subject to the following generally applicable risk management requirements related to CVA risk:

- **Identification requirements:** The banking organization would be required to identify all:

  – CVA risk covered positions

  – Transactions intended to hedge CVA risk

  – Eligible CVA risk hedges

- **CVA risk hedging policy:** The banking organization would be required to maintain a clearly defined hedging policy that quantifies CVA risk appetite and details the instruments, techniques and strategies used to hedge CVA risk.

  – The CVA risk hedging policy must be reviewed and approved by senior management.

- **Documentation requirements:** The banking organization would be required to maintain policies and procedures for:

  – Calculating CVA risk RWAs;

  – Documenting all material aspects of management and identification of CVA risk covered positions and eligible CVA risk hedges; and

  – Documenting control, oversight and review processes.

CVA Risk Management Requirements
Additional Risk Management Requirements for SA-CVA

– In addition to the general CVA risk management requirements discussed above, a banking organization approved to use the SA-CVA would be subject to the following additional CVA risk management requirements:

- **Identification:** The banking organization would be required to identify all eligible CVA hedges for the purposes of calculating the BA-CVA capital requirement and all eligible CVA hedges for the purposes of calculating the SA-CVA capital requirement.

- **Documentation:** The banking organization would be required to document:

  – The policies and procedures of its internal CVA desk (or similar dedicated function) and its independent risk control unit;

  – Its internal auditing process;

  – Internal policies, controls and procedures regarding CVA calculations for financial reporting purposes;

  – Its initial and ongoing validation of models, including exposure models, used to calculate regulatory CVA; and

  – Its process for assessing the performance of models used to calculate regulatory CVA, and remediating any identified model deficiencies.

- **CVA desk.** The banking organization would be required to maintain a CVA desk or similar dedicated function responsible for CVA risk management and hedging.

  – Internal hedges allow a banking organization to shift CVA risk from its other trading desks to its CVA desk in order to support more active management of CVA risk.

- **Independent risk control unit.** The banking organization must maintain an independent risk control unit that:

  – Is responsible for initial and ongoing validation of regulatory CVA models

  – Reports directly to senior management

  – Is independent of trading desks, the CVA desk or similar dedicated function, and business units that evaluate counterparties and set limits.

- **Oversight and internal audit:** The banking organization's CVA risk management process must be overseen by senior management and subject to regular review by internal audit.

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Disclosure and Reporting Requirements

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Disclosure and Reporting Requirements
Overview

— Under the Proposed Rule, banking organizations would be required to publicly disclose and report on their capital requirements, as follows:

- **Banking Organizations with ≥ $50 billion in Total Consolidated Assets, Other than Category I – IV banking Organizations:** would be required continue to comply with the existing disclosure and reporting requirements under Subpart D.

- **Category I – IV Banking Organizations:** would be required to comply with the proposed disclosure requirements in new Subpart E.

  - These requirements, which would replace the existing Subpart E (Advanced Approaches) disclosure and reporting requirements, are described below under titled "General Disclosure and Reporting Requirements."

- **Category I – IV Banking Organizations and Banking Organizations that Meet the Thresholds to Comply with the Proposed Market Risk Capital Requirements under Subpart F:** would be required to comply with the proposed disclosure requirements in new Subpart F.

  - These requirements, which would replace the existing Subpart F disclosure and reporting requirements, are described below under "Disclosure and Reporting Requirements for Market Risk."

General Disclosure and Reporting Requirements
Proposed Disclosure Requirements

— The Proposed Rule would change certain existing **qualitative disclosure requirements** and introduce new and enhanced qualitative disclosure requirements, in order to align the required disclosures with the proposed changes to the capital rules.

— The Proposed Rule would **remove** disclosure requirements related to **internal ratings-based systems and internal models**, consistent with the proposed elimination of the Advanced Approaches.

— The Proposed Rule would also **remove** from the required disclosure tables most of the existing **quantitative disclosures**, which would instead be included in regulatory reporting forms.

  ▪ The Agencies anticipate proposing **revisions to regulatory reporting forms** to reflect these changes, including to the following forms:

    — FR Y-9C (Consolidated Financial Statements for Holding Companies)

    — FFIEC 101 (Call Report for Advanced Approaches Institutions)

    — FFIEC 102 (Market Risk Regulatory Report)

    — FR Y-14A and -14Q (Capital Assessments and Stress Testing)

    — FR Y-15 (Systemic Risk Report)

— The Proposed Rule would **extend the enhanced public disclosure and reporting requirements**, which currently apply to Category I and II banking organizations, to **all Category I – IV banking organizations**.

  ▪ The top-tier entity in the banking organization (whether a holding company or depository institution) would be subject to both the qualitative and quantitative enhanced disclosure and reporting requirements.

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General Disclosure and Reporting Requirements
Specific Public Disclosure Requirements

— The Proposed Rule would make several changes to the disclosure requirements related to the risk-based capital framework.

— **Risk Management Objectives:** The Proposed Rule would require banking organizations to disclose qualitative information about their risk management objectives as they relate to the organization overall.

 ▪ The Proposed Rule would also extend to additional risk areas the requirement to disclose the banking organization's risk management objectives for specific risk areas, and remove corresponding requirements related to other risk areas, as shown below.*

Risk areas covered by existing disclosure tables in Section _.173(b)
— Table 5   Credit Risk: General Disclosures
— Table 6   Credit Risk: Disclosures for Portfolios subject to IRB Risk-Based Capital Formulas
— Table 7   General Disclosure for Counterparty Credit risk of OTC Derivative Contracts, Repo-Style Transactions, and Eligible Margin Loans
— Table 8   Credit Risk Mitigation
— Table 9   Securitization
— Table 10   Operational Risk
— Table 11   Equities Not Subject to Subpart F
— Table 12   Interest Rate Risk for Non-Trading Activities

Risk areas covered by proposed disclosure tables in Section _.162(b)
— Table 5   Credit Risk: General Disclosures
— ~~Table X   Credit Risk: Disclosures for Portfolios subject to IRB Risk-Based Capital Formulas~~
— Table 6   General Disclosure for Counterparty Credit Risk-Related Exposures
— Table 7   Credit Risk Mitigation
— Table 8   Securitization
— Table 9   Equities Not Subject to Subpart F
— Table 10   Interest Rate Risk for Non-Trading Activities
— Table 11   Additional Disclosures Related to the Credit Quality of Assets
— Table 12   General Qualitative Disclosure Requirements Related to CVA
— Table 13   Qualitative Disclosures for Banks Using the SA-CVA
— Table 14   General Qualitative Information on a Banking Organization's Operational Risk Framework (would replace existing Table 10 – Operational Risk)

*There are separate disclosure and reporting requirements for market risk as discussed below.

General Disclosure and Reporting Requirements
Specific Public Disclosure Requirements

– **Risk Management Objectives (continued):** In general, the required disclosures on risk management objectives would include the following elements:

- How the banking organization's business model determines and interacts with the overall risk profile

- How this risk profile interacts with the risk tolerance approved by the banking organization's board of directors

- The banking organization's risk governance structure

- Channels to communicate, define and enforce the risk culture within the banking organization

- The scope and features of the banking organization's risk management systems

- Risk information reporting

- Qualitative information on stress testing

- Strategies and processes to manage, hedge and mitigate risks

– **Features of Regulatory Capital and TLAC-eligible Instruments:** The Proposed Rule would also introduce a new disclosure table (Table 15) that would require banking organizations to disclose information regarding the terms and features of its regulatory capital instruments and other instruments eligible for total loss-absorbing capacity (TLAC) recognition.

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Disclosure and Reporting Requirements for Market Risk
Overview

— **Disclosure Requirements:** The Proposed Rule would retain, amend or eliminate existing elements of the public disclosure requirements specific to market risk, as well as add new disclosure requirements, to reflect corresponding changes to market risk capital requirements under the Proposed Rule.

- The quantitative and qualitative disclosures would apply to all banking organizations subject to the proposed market risk capital requirements, subject to several exceptions which are largely similar to the current U.S. capital rules:

  — An organization that is a consolidated subsidiary of a BHC;

  — A covered savings and loan holding company that is a banking organization, as defined;

  — A depository institution that is subject to these requirements; or

  — A non-U.S. banking organization that is subject to comparable public disclosure requirements in home jurisdictions.

— **Reporting Requirements:** The Proposed Rule would introduce new public and confidential supervisory reports related to market risk:

- All banking organizations subject to the proposed market risk capital requirements would be required to submit **public reports**; and

- All banking organizations using the Models-Based Measure for market risk would be required to submit **confidential supervisory reports**.

— **Generally Applicable Requirements:** The Proposed Rule would not change existing requirements regarding disclosures policies and attestations, the frequency of required disclosures, the location of disclosures, or the treatment of proprietary and confidential information.

- Under the Proposed Rule, however, each of these aspects would be extended to apply to <u>both</u> the public disclosures requirements <u>and</u> the public or confidential supervisory reports.

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Disclosure and Reporting Requirements for Market Risk
Overview

— The Proposed Rule would expand certain disclosure and reporting requirements for market risk and eliminate other requirements to align with the changes in the proposal. The following tables summarize these proposed changes.

Risk areas covered by existing disclosure requirements in Section _.212(c and d)
Quantitative Disclosures
— Calculations of VaR
— Incremental and comprehensive risk capital requirements
— Amount of securitization positions
— Amount of CTPs
Qualitative Disclosures
— Composition of material portfolios
— Accuracy of internal models
— Comparison of internal estimates to actual outcomes
— Processes for monitoring changes in securitization positions
— Policy governing credit risk mitigation
— Characteristics of internal models

Risk areas covered by proposed disclosure requirements in Section _.217(f)
Quantitative Disclosures
— Calculations of VaR
— incremental and comprehensive risk capital requirements
— Amount of securitization positions
— Amount of CTPs
— Comparison of VaR-based estimates to actual gains or losses
Qualitative Disclosures
— Composition of material portfolios
— Accuracy of internal models
— Comparison of internal estimates to actual outcomes
— Processes for monitoring changes in securitization positions
— Policy governing credit risk mitigation
— Characteristics of internal models
— Structure and organization of management system
— Policies and procedures for determining whether a position is covered
— Scope and nature of risk reporting and/or measurement systems and related strategies and processes
— Trading desk structure and types of positions
— Soundness criteria

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Disclosure and Reporting Requirements for Market Risk
Specific Public Disclosure Requirements

- **Quantitative Disclosures:** The Proposed Rule would require Category I – IV banking organizations and other banking organizations subject to market risk rules to make certain public quantitative disclosures on an at least <u>quarterly</u> basis, but would change elements of these disclosures compared to the current U.S. capital rule, as summarized below:

  - **Retain:** The Proposed Rule would retain the following quantitative requirements under the current U.S. capital rules:

    - The aggregate amount of on-balance sheet and off-balance sheet securitization positions by exposure type; and

    - The aggregate amount of correlation trading positions.

  - **Eliminate:** The Proposed Rule would eliminate the existing quantitative disclosures related to:

    - The calculations of VaR; and

    - The incremental and comprehensive risk capital requirements.

  - **Add:** The Proposed Rule would add the following quantitative disclosure:

    - For a banking organization using the Models-Based Measure for market risk, a comparison of VaR-based estimates to actual gains or losses for each material portfolio of market risk covered positions with an analysis of important outliers.

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Disclosure and Reporting Requirements for Market Risk
Specific Public Disclosure Requirements

- **Qualitative Disclosures:** The Proposed Rule would require Category I – IV banking organizations and other banking organizations subject to market risk rules to make certain public qualitative disclosures on an at least <u>annual</u> basis, but would change elements of these disclosures compared to the current U.S. capital rule, as summarized below:

  - **Retain:** The Proposed Rule would retain the following qualitative disclosure requirements in a substantially similar manner as under the current U.S. capital rules:
    - The composition of material portfolios of covered positions;
    - A description of the approaches used for validating and evaluating the accuracy of internal models and modeling processes;
    - A description of stress tests applied to the market risk covered positions subject to the factor for each market risk category;
    - The results of the comparison of the banking organization's internal estimates with actual outcomes during a sample period not used in model development;
    - A description of processes for monitoring changes in the credit and market risk of securitization positions;
    - A description of the policy governing the use of credit risk mitigation to mitigate the risks of securitization and resecuritization positions.

  - **Retain and Amend:** The Proposed Rule would retain the following qualitative disclosure requirement, but amend it to reflect changes to the market risk framework under the Proposed Rule:
    - The characteristics of internal models, which would be revised to eliminate disclosures relating to incremental and comprehensive risk capital requirements and require disclosures relating to (1) the approaches used to validate models; and (2) for non-default risk capital requirement, a general description of the models used to calculate the ES-based measure, the frequency of data updates and a description of the calculation based on current and stressed observations.

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Disclosure and Reporting Requirements for Market Risk
Specific Public Disclosure Requirements

— **Qualitative Disclosures (cont'd.):**

- **Add:** The Proposed Rule would add the following qualitative disclosure requirements to "increase transparency, encourage sound risk-management practices and assist the regulatory review process of a[n applicable] banking organization:"

  - A description of the structure and organization of the market risk management system;

  - A description of the polices and processes for determining whether a position is designated as a market risk covered position and the risk management policies for monitoring these positions;

  - A description of the scope and nature of risk reporting and/or measurement systems and the strategies and processes implemented by the banking organization to identify, measure, monitor, and control the banking organization's market risks; and

  - A description of the trading desk structure and the types of market risk covered positions included on the trading desks or in trading desk categories.

- **Quarterly Qualitative Disclosure Requirement:** The Proposed Rule would also require the following qualitative disclosure, which is based on an existing requirement under the current U.S. capital rules, to be disclosed on a <u>quarterly</u> basis (like the proposed quantitative disclosure requirements), rather than an annual basis (like the other qualitative disclosure requirements):

  - The soundness criteria on which the banking organization's internal capital adequacy assessment is based and a description of each methodology used to achieve the assessment that is consistent with the required soundness criteria. For banking organizations using the Models-Based Measure for market risk, the description should include non-modellable risk factors.

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Disclosure and Reporting Requirements for Market Risk
Public Reports and Confidential Supervisory Reports

— The Proposed Rule would also introduce certain **new reporting requirements** for market risk.

— **Public Reports:** Any banking organization subject to the market risk capital requirements would be required to provide a quarterly public regulatory report of its measure for market risk.

- The public report would be in a form specified by a banking organization's primary federal supervisor and contain the information deemed necessary to assess implementation of the proposed market risk rule. This would help identify problems to resolve through corrective actions imposed by the Agencies.

— **Confidential Supervisory Reports:** Any banking organization using the Models-Based Measure for market risk would also be required to submit certain data pertaining to their backtesting and PLA testing on a quarterly basis to their primary federal supervisor in a form prescribed by the supervisor.

- Such a banking organization would be required to submit:

  — Certain backtesting information at both the aggregate level for M-E trading desks and for each trading desk; and

  — Certain PLA testing information for M-E trading desks at the trading desk level.

- The collection of backtesting and PLA data is intended to enable the Agencies to determine the validity of a banking organization's internal models, and whether these models accurately account for the risk associated with exposure to price movements, changes in market structure, or market events that affect specific assets.

  — If the Agencies find these models to be flawed, the banking organization would be required to use the Standardized Approach for calculating its market risk capital requirements.

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