![Bank Policy Institute logo | American Bankers Association logo]

July 12, 2024

Via Electronic Mail

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

Federal Deposit Insurance Corporation
550 17th Street NW
Washington, D.C. 20429
Attention: James P. Sheesley, Assistant Executive Secretary, Comments/Legal OES

Office of the Comptroller of the Currency
400 7th Street, SW, Suite 3E-218
Washington, D.C. 20219
Attention: Chief Counsel's Office, Comment Processing

>   Re: Regulatory Capital Rule: Large Banking Organizations and Banking Organizations with
>   Significant Trading Activity (Federal Reserve Docket No. R-1813, RIN 7100-AG64; FDIC RIN
>   3064-AF29; Docket ID OCC-2023-0008)

Ladies and Gentlemen:

On behalf of the Bank Policy Institute[1] and the American Bankers Association,[2] please find attached as **Annex 1** hereto a supplement to our comment letter filed January 16, 2024 in response to the above referenced proposal. **Annex 1** includes a third-party analysis of the transmission of higher capital requirements through the broader economy and how these costs could impact U.S. banks' products and services.

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[1]   BPI is a nonpartisan public policy, research and advocacy group, representing the nation's leading banks and their customers. BPI's members include universal banks, regional banks and major foreign banks doing business in the United States. Collectively, they employ almost two million Americans, make nearly half of the nation's small business loans, and are an engine for financial innovation and economic growth.

[2]   The American Bankers Association is the voice of the nation's $23.5 trillion banking industry, which is composed of small, regional and large banks that together employ more than 2.1 million people, safeguard $18.6 trillion in deposits and extend $12.3 trillion in loans.

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If you have any questions, please contact Francisco Covas, Executive Vice President and Head of Research, Bank Policy Institute by email at Francisco.Covas@BPI.com or Hu Benton, Senior Vice President and Policy Counsel, American Bankers Association by email at hbenton@aba.com.

Respectfully submitted,

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/s/ Hu A. Benton

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Annex 1

Our Take: PwC's Financial Services Update
Basel III endgame: Assessing the bigger picture

Since the Federal Reserve, Federal Deposit Insurance Corporation (FDIC), and OCC released the Basel III endgame Notice of Proposed Rulemaking (NPR) in July 2023, industry participants have been assessing its implications for their capital requirements and how they engage their corporate and retail customers.

While there will be "broad and material" changes before the rule is final,[1] the NPR broadly reforms how banks calculate their capital requirements for credit, market, and operational risk exposure – making it the most potentially consequential change to U.S. banking regulation since the 2010 passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

This **Our Take Special Edition**, which follows a series of prior publications,[2] analyzes the transmission of higher capital requirements in the form of risk-weighted assets (RWA)[3] through the broader economy and assesses how these costs could impact U.S. banks' products and services. This analysis is divided into two parts and produces a number of key takeaways:

Part I: Macroeconomic View analyzes the effect of higher RWA on economic growth as measured through gross domestic product (GDP) under positive, neutral, and negative economic environments.

Part II: Financial Instruments and Credit Products focuses on key products and asset classes that have an essential role in how consumers and corporate borrowers access credit and hedge their risks.

→ **A negative impact to GDP is expected regardless of the economic outlook.** Reviews of academic literature suggest that U.S. banks are currently operating at or near optimal levels of capital.[4] Accordingly, negative effects on GDP growth would likely not be offset by the long-term gains achieved by reducing the probability of a financial crisis as the NPR assumes.[5]

→ **An increase in capital requirements will lead to reduced lending and higher borrowing costs.** While there is uncertainty as to the allocation of costs, higher capital costs will either materialize as reduced returns to bank shareholders (including indirect shareholders through pensions and mutual funds) or through increased costs to consumers.

→ **Differences between the U.S. proposal and adoption of the Basel Framework in other jurisdictions could result in different capital treatment for similar risks across global banks.** The NPR's requirements would raise costs for U.S. banks in ways that would not apply to foreign competitors for the same transactions. This outcome would undermine the goal of having globally consistent capital requirements and create a misalignment of risk, whereby capital requirements for the same risks would differ by jurisdiction.

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[1] Testimony of Jerome Powell, Federal Reserve Chair, before the House Financial Services Committee on March 6, 2024
[2] Basel III endgame: The next generation of risk-weighted assets
[3] The NPR estimates the following increases to RWA: $1,800 billion for Category I and II Holding Companies and $400 billion for Category III and IV banks.
[4] Basel III Endgame: The next generation of capital requirements
[5] Notice of Proposed Rulemaking: Section V: Impact and Economic Analysis, Section C: Economic Impact on Lending Activity

Part I Summary: Macroeconomic View

To assess the macroeconomic impact of the NPR, this analysis considers higher RWA, which determines the minimum capital a bank must hold, as reflecting new costs for U.S. banks. The Federal Reserve estimates that capital requirements will increase by 20%, though recent industry studies of the impact of Basel III endgame have estimated that it would raise total RWA for U.S. banks by up to one third.

Estimating the impact of Basel III Endgame on GDP is a highly complex process, and for which there are a number of defensible approaches. This section utilizes the Modigliani-Miller (M&M) theorem and a framework similar to that used by Firestone et al. in 2017 to estimate changes to GDP. The M&M theorem states that, given certain assumptions regarding frictional costs, information asymmetry and efficient markets, the market value of a firm is not affected by its financing structure. In simpler terms, it means that the way a bank raises equity, whether through retained earnings or other means, does not impact its overall value in sufficiently active and mature markets. For this study, the following additional assumptions are included within the model itself:

- Transmission of the impact to GDP is considered only through changes to credit RWA;

- Estimations do not consider any additional operational costs as part of internal investments required to meet new supervisory expectations; and

- U.S. banks[6] have the ability to maintain their revenue by passing the additional costs from regulatory changes to their clients.

The impact to GDP is then quantified through the lens of three scenarios that project different economic conditions. The economic outlook for each scenario drives the assumed trade-offs that banks would contemplate when deciding between the feasibility of raising equity through retained earnings versus reducing the balance sheet. The GDP impact for each scenario may also vary based on the extent to which banks pass on the costs to consumers through increased loan rates; higher costs in the form of higher rates yield larger declines in GDP.

Regardless of scenario, the impact to GDP is negative, from -17 basis points (bps) to -56 bps based on this analytical framework, which is presented in the table below with associated results that assume banks pass on all costs. It is also important to note that the cost in GDP growth is not limited to a single period. For historical context, the U.S. compound annual growth rate over the past 10 years is 2.1%, meaning growth would decline by approximately 25% under the negative outlook.

Figure 1: Economic Scenario Impact

Economic Outlook	Scenario Description	Maximum Impact to GDP
Positive	Sustained economic growth with stable inflation, including business growth, strong labor growth, and investment drive increased lending and lower credit risk	-17 bps
Neutral	Moderate growth leads to stable employment and consumption dynamics with steady financial and credit conditions	-36 bps

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[6] This analysis uses data from Category I U.S. bank holding companies.

Negative	Declines in consumer demand, weaker labor markets and lower consumer confidence lead to reduced lending and higher default rates	**-56 bps**

Overall, a negative impact to GDP driven by higher borrowing costs would have a range of impacts to the broader economy, whether through reduced borrowing and investment in business expansion or reduced credit for consumer spending on products such as mortgages, auto loans or credit cards.

Part II Summary: Financial Instruments and Credit Products

Part II of this paper analyzes the impact of increased capital requirements driven by higher RWA on U.S. bank products and services, with associated implications for their customers. This includes retail customers that rely on credit-based lending products to engage in everyday economic transactions as well as corporate and other private entities (such as mutual funds, pension funds, and insurance companies) that rely on markets for hedging their risks and managing their portfolios. This paper assesses the business segments and products outline in figure 2 below.

Figure 2: Applicable business segments

Retail banking	Commercial banking	Capital markets
• Credit and charge cards • Residential mortgages	• Corporate loans and lines of credit	• Securities financing transactions (SFTs) • Securitized products • Derivatives

This analysis revealed common themes across products and services:

➔ **Higher capital costs reduce overall capacity to support capital markets, which would imply higher end-user costs (to maintain current levels of return), fewer counterparties, reduced liquidity, and greater concentration.** For example:

- o Additional capital requirements for derivatives could require banks passing on additional costs of $10.4 billion per annum.

- o Changes to the securitization framework whereby risk weights for certain tranches of mortgage-backed securities (MBS) could increase by 250%.

➔ **The ability for U.S. banks to pass on costs is key to the viability of certain products and businesses. Changes to bank strategy may result in reduced credit availability and higher borrowing costs.** For example:

- o The 10% credit conversion factor (CCF) applied to unused lines of credit and lower risk weight for transactor exposures incentivizes banks to reduce credit lines for all customers and reduce credit exposure to segments with traditionally lower credit scores;

- o Incremental capital costs from higher loan-to-value (LTV) bands would affect $1.46 trillion in outstanding first lien mortgages, possibly reducing credit availability for expanding home-ownership; and

- o Distinctions in capital treatment between publicly listed and private companies, including regulated entities unable to publicly issue securities (e.g., mutual funds and pension funds) incentivizes banks to treat customers differently despite similar credit risk profiles.

➔ **The NPR contains requirements that diverge from the Basel Framework and its adoption in other jurisdictions in ways that create uneven capital requirements for the same products.** For example:

- o The effective risk weights in the NPR are 18-35% higher for investment grade corporates and 27-59% higher for other corporates when compared to the Basel Framework;

- o Risk weights for retail exposures are 10% higher in the U.S. than the Basel Framework, which would drive higher effective RWA requirements for U.S. banks by approximately 14%; and

- o Without the adoption of the simple, transparent, and comparable (STC) framework, risk weights for securitizations could be 47% higher for auto asset-backed securities (ABS), 68% higher for collateralized loan obligations (CLOs), and 26% higher for residential MBS.

Summary Conclusion

Overall, the analyses show that there are adverse impacts to the economy at large, both in terms of GDP growth as well as potential decreases in affordability and/or availability across several product classes. This is without considering other regulations (such as the G-SIB surcharge) or other macroeconomic factors (such as rising interest rates and inflation) which taken together add incremental capital and operating costs for U.S. banks.

The NPR would have significant effects on U.S. banks, challenging both senior management and boards of directors to design and execute on strategic plans that continue to meet the needs of key stakeholders including investors, depositors, customers, and supervisors.

While there are numerous analytical approaches and subject-matter areas to consider when adopting new regulations, the analyses provided both here and in the responses to the NPR suggest that the scale of the proposed changes and their second-order effects merit continued reflection, additional research, and ongoing dialogue. The final adoption of the Basel Framework will need to consider an approach that achieves policy objectives without potentially harming consumers, borrowers, capital markets and the economy as a whole.

Appendix Part I: Macroeconomic View

RWA determines the minimum capital a bank must hold in relation to the risk profile of its lending and other activities. Recent studies of the impact of Basel III endgame have estimated that it would raise total RWA

for U.S. banks by up to one third.[7] The Federal Reserve estimates that market risk capital would increase by 75% and credit would decrease by 4%, while some industry estimates project RWA requirements would more than double[8] for capital markets activities and would increase credit risk RWA by approximately 5%. Additionally, the NPR's enhanced risk-based approach (ERBA) will introduce operational risk capital requirements to banks for the first time.

This section assesses the impact of such material increases in capital requirements on the health of the U.S. economy. Building on a previous review, the academic literature on optimal capital requirements suggests that large banks are already operating at or near levels of optimal capital. The assessment in this paper provides additional context for considering the trade-off between assumed gains from greater financial stability, which may have largely been achieved by current capital levels, and the incremental costs to economic growth as measured by GDP.

Evaluating bank options to address RWA increases

Given the expected increase in RWA requirements under the NPR, banks will need to address the need for additional capital on existing businesses while evaluating the return implications for their investors.

To address the need for additional capital, banks may consider options including:

- Raising additional equity from outside investors;
- Retaining a higher degree of earnings to build capital at the expense of returns for existing investors; and
- Reducing the asset base that drives the need for additional capital.

From a return perspective, there are arguably two ends of the spectrum:

- Banks absorb the additional capital requirements with no impact on transaction pricing, depressing returns; or
- Banks embed the costs of additional capital into transaction pricing, maintaining returns.

If banks absorb the cost of additional capital requirements, the resulting reduced returns would likely make it more expensive to source additional capital. Depressing bank returns would also likely impact the broader economy should banks seek to better optimize their business mix to focus on those activities with lower capital requirements and retrench from those activities requiring higher levels of capital. This would reduce the competition in market sectors that require higher bank capital or push more of this business either to offshore bank competitors or to alternative providers (e.g., the non-bank finance sector).

Impacts would also cascade to the broader investor base including pension and mutual funds as depressed returns would adversely impact share prices and financial services remains one the largest sectors of major market indices such as the S&P.

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[7] Analysis from the Financial Services Forum notes total RWA is expected to increase by 32.8% (including the impact of the G-SIB buffer, which will not be explored as part of this analysis). An updated Quantitative Impact Study (QIS) is expected in response to concerns raised that costs will materially exceed initial expectations from the regulatory agencies.

[8] Analysis from the Securities Industry and Financial Markets Association and the International Swaps and Derivatives Association notes market risk and CVA risk RWA is expected to increase by 129%.

Alternatively, passing the costs of additional capital to end users would have the effect of maintaining bank returns but would also have impacts in the broader market. Pricing of banking activities is well understood to be a function of bank costs of funding and capital, costs of risk transfer / risk management, and the fair profit required in any commercial enterprise, balanced by supply and demand. Accordingly, embedding additional costs of capital in transaction pricing is consistent with existing market practice.

The result would be higher costs for end users, including corporate entities, municipalities or individuals, as borrowing costs and transaction pricing from banks would likely increase.

In practice, a combination of additional capital sources, repositioning of businesses and balance sheet usage, and cost considerations is likely to apply, based on market forces. However, for illustrative purposes this analysis will consider the impact of allocating the increased costs of capital to transaction pricing.

Quantitative Impact to GDP

Estimating the impact of Basel III endgame on GDP is a highly complex process for which there are a number of defensible approaches. This paper utilizes the Modigliani-Miller (M&M) theorem and a framework similar to that used by Firestone et al. in 2017[9] to estimate changes to GDP. The M&M theorem states that, given certain assumptions regarding frictional costs, information asymmetry and efficient markets, the market value of a firm is not affected by its financing structure. In simpler terms, it means that the way a bank raises equity, whether through retained earnings or other means, does not impact its overall value in sufficiently active and mature markets.

This approach estimates changes to GDP within three economic outlook scenarios:

- **Positive economic outlook:** Banks can increase retained earnings to meet capital requirements through equity increases with minimal or no decreases in asset levels. The retained earnings would translate to approximately 5% to 9% change in equity.

- **Neutral economic outlook:** Banks can increase retained earnings to meet capital requirements through equity increases with some decreases in asset levels. The retained earnings would translate to approximately 2% to 5% change in equity.

- **Negative economic outlook:** Banks can increase retained earnings to meet capital requirements through equity increases with significant decreases in asset levels. The retained earnings would translate to approximately -2% to 2% change in equity.

Additionally, this analysis focuses on impacts to credit RWA and estimates the transmission of cost through increased loan rates. As mentioned above, the sensitivity analysis assumes that banks pass on all costs to end-users with no net reduction in revenue. However, when considering the incremental effects of market risk RWA, operational risk RWA and RWA increases resulting from related frameworks (e.g., stress capital buffer (SCB), G-SIB surcharge), the potential impact to GDP may be higher than suggested by this analysis.

To quantitatively assess the impact of Basel III endgame to GDP via increased loan rates, a three-step approach is taken using the M&M theorem:

1. *Assess impact of increases in equity to total asset levels*

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[9] Firestone, Simon, Amy Lorenc and Ben Ranish (2017). "An Empirical Economic Assessment of the Costs and Benefits of Bank Capital in the US," Finance and Economics Discussion Series 2017-034. Washington: Board of Governors of the Federal Reserve System.

The first step in the modeling process is to assess banks' ability to raise equity, whether through retained earnings or otherwise, and the related impact to total asset levels. To account for the impact of equity raised through retained earnings, the M&M theorem posits that equity raised can offset the capital requirements, resulting in a lower impact on the balance sheet.

This assessment is conducted for varying levels of change in equity as follows:

- Calculate the updated capital across banks based on current level of Category I banks and the percentage of current Tier 1 capital that can be raised through retained earnings.

- Due to the increase in RWA ratios from Basel III endgame (approximately 5% for credit based on literature), the level of additional equity that needs to be raised can be estimated.

- Based on the level of the available equity and the resulting impact of RWA increases, the change in total assets that can be maintained based on the level of available equity can be estimated.

Figure 3 illustrates the change in total asset levels against the increase in equity levels based on retained earnings. Based on the description above of each economic outlook, the figure distinguishes between negative (-2% to 2%), neutral (2% to 5%), and positive (5% to 9%) economic outlooks, represented by red, gray, and green boxes, respectively. This color scheme will be consistent across all subsequent charts in this section.

Figure 3: Interaction between Equity and Total Asset Levels[10]
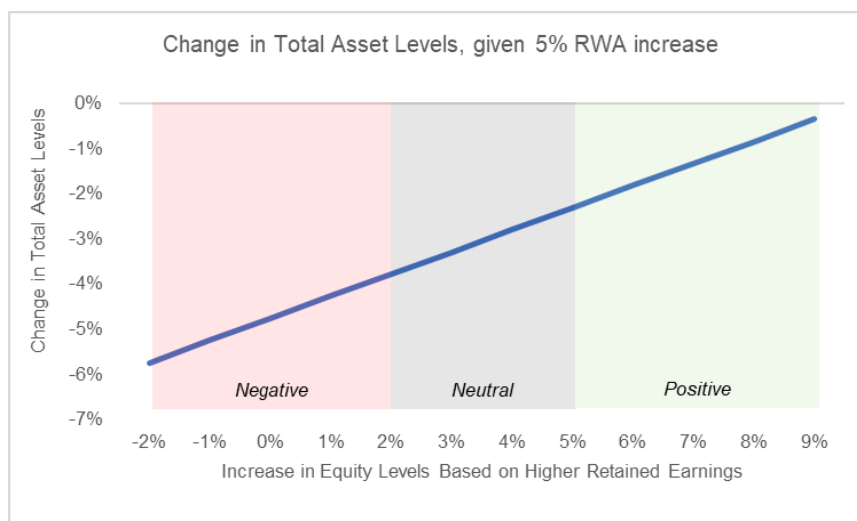
2. Assess impact to loan rates

The change in total asset levels is then used to calculate the expected change in loan rates. Loan interest rates change as asset levels change because banks would like to maintain after-tax revenue with the same

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[10] Supporting data for Figures 3, 4, and 5 sourced from SNL Sector Financials dataset, S&P Global Marketplace.

base of assets.[11] This analysis is performed across varying levels of equity and leverages the M&M theorem. The changes in loan rates are influenced by current interest rates, revenue of the bank, tax rates, total asset levels, and expected changes in total asset levels.

The expected change in loan interest rates is calculated based on the following assumptions:

- To determine the change in interest rates, revenues are assumed to remain the same, irrespective of the size of the loan book.

- Required interest rates are estimated by deriving the product of asset levels and rates to generate the same interest income.

Figure 4 illustrates the change in loan interest rates against the increase in equity levels based on retained earnings. In a positive environment, banks have higher quality loans on the balance sheet and lower provisions for credit losses. As a result, they can retain more earnings as capital to maintain a larger loan book, as well as offset the impact of larger capital requirements without having to raise loan interest rates.

Figure 4: Change in Loan Interest Rates vs Change in Retained Earnings
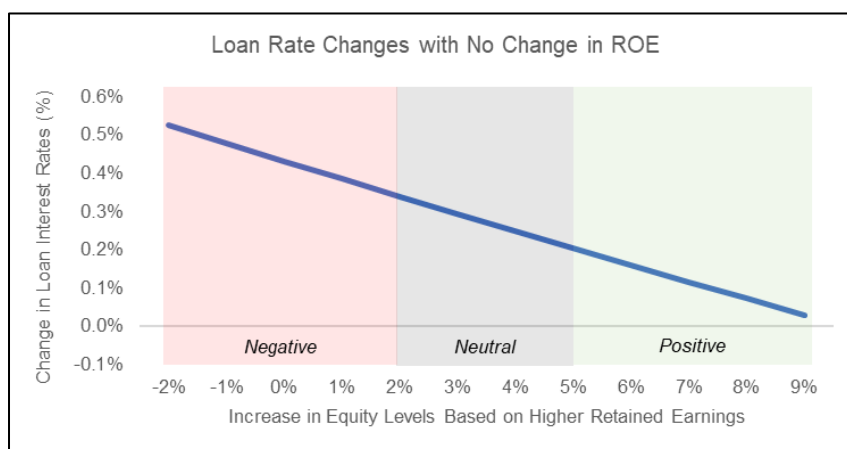
*3. Assess relationship of loan interest rates to U.S. GDP*

Once the changes to loan interest rates have been calculated, these increases are translated to changes in U.S. GDP. The change in GDP is determined through a straight-line calculation using the ratio between the change in GDP and change in loan rates, which is estimated to be negative 1.07 bps.[12] Figure 5 illustrates the change in GDP against the increase in equity levels based on retained earnings.

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[11] This is a simplifying assumption. In deciding to increase loan interest rate levels, banks consider many factors, including but not limited to return on average tangible common shareholders equity (ROTCE), operating leverage, net interest margin (NIM), absolute levels of revenue, etc.

[12] Analysis from Firestone et al. (2017) "An Empirical Economic Assessment of the Costs and Benefits of Bank Capital in the US," notes that for every 1 bp increase in lending rates, GDP declines by approximately 1.07 bp.

Figure 5: Change in GDP vs Change in Retained Earnings

GDP Impact with No Change in ROE
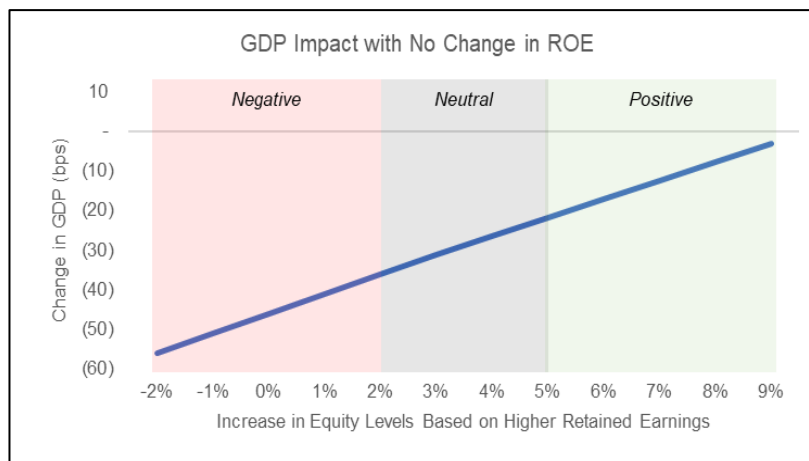
Discussion from Quantitative Analysis

The quantitative analysis conducted reveals two key factors driving changes to GDP (relative to current levels): the economic outlook and the revenue impacts banks are willing to accept.

1. *Economic outlook*

Using the M&M theorem, the analysis indicates that if the rules go into effect during a positive economic outlook, GDP is estimated to decrease by up to 17 bps, relative to current levels. In a neutral economic outlook, GDP is estimated to decrease by up to 36 bps, whereas in a negative economic outlook, GDP is estimated to decrease by up to 56 bps. As shown in Figure 5, even if banks pass on all costs to consumers by increasing loan interest rates, GDP is negatively impacted regardless of the economic outlook.

2. *Resulting bank revenue impacts*

Alternatively, banks could absorb the associated costs and not pass on the increase to the consumer. This outcome depends, in part, on the feasibility of raising additional equity to meet capital requirements through achieving higher revenue in a positive economic outlook. Still, regardless of economic outlook, banks would need to reduce their loan book, leading to some degree of reduction in credit availability and subsequently in consumer spending. This would mean a negative impact to GDP.

Under a more likely scenario of banks transferring at least some of the costs of increased capital requirements via higher loan interest rates, several implications arise for the broader economy:

1. *Decreased consumer spending:* Higher interest rates increase the cost of borrowing for consumer products, such as mortgages, auto loans, and credit cards. This likely reduces disposable income, negatively impacting consumer spending.

2. *Reduced borrowing and investment:* Higher interest rates make borrowing more expensive, discouraging existing businesses from using credit to finance investments or individuals from borrowing to establish new businesses. This can result in a decrease in business expansion, capital expenditure, and job creation.

3. *Reduced housing market activity:* Higher interest rates make home mortgages more expensive, leading to a decline in housing demand. This can result in a slowdown in home building/construction, reduced home sales, and a decrease in related economic activities.

Appendix Part II: Financial Instruments and Credit Products

This section of the paper examines the impacts of the NPR on individual asset classes. Given the differing availability of product-level data, these analyses offer different levels of detail in terms of how changes in capital requirements could cascade down to individual transactions.

These analyses assume that the incremental costs of additional capital are passed on to customers resulting in broadly negative consequences in terms of credit access and cost. As noted previously, that assumption is one of a range of potential outcomes but is explored here for the sake of simplicity and consistency.

These analyses take several approaches to evaluating the implication of higher capital costs, including:

- The incremental capital costs that may impact the cost of risk management solutions for customers (derivatives);

- The potential misalignment of the NPR with the underlying risks of certain products, or with other policy goals (credit cards, residential mortgages); or

- The comparison between the NPR and the Basel Framework, particularly the ways in which U.S. requirements would go beyond the international standard (i.e. gold plating[13]) and how this divergence effects U.S. bank competitiveness (securitizations, securities financing transactions).

Derivatives

Market Risk and CVA Capital increases and associated costs

The Basel Framework's changes under the fundamental review of the trading book (FRTB) and credit valuation adjustments (CVA) result in a significant increase in market risk and CVA capital requirements for U.S. banks. This section comments on the recurring theme of the NPR's divergence from both the Basel Framework and other jurisdictions, including an assessment of costs for both U.S. banks and end-users of derivative products.

Comparison to European Union Implementation

There are several key differences in how the NPR and the EU implementation operate that are directly linked to market risk and CVA risk capital requirements.

First, the EU's adoption of the Basel Framework includes notable exemptions. For example, the European Banking Authority implementation under the Capital Requirements Regulation Article 382(4)[14] exempts transactions with non-financial and pension fund counterparties from the calculation of CVA. The NPR does not include such an exemption for these types of end users.

Similarly, unlike the NPR, the EU implementation exempts client cleared derivatives (where a bank clears a derivative on behalf of a client and guarantees the client's performance) from the CVA requirements. For

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[13] "Gold plating" refers to instances where U.S. regulatory agencies go beyond the international minimum in their proposed adoption of the Basel Framework.
[14] Capital Requirements Regulation (CRR), Part III: Title VI, Article 382. European Banking Authority (EBA)

context, the Bank for International Settlements[15] notes approximately 80% of interest rate derivative activity has been cleared in recent years, meaning such exemptions would meaningfully impact differences in capital requirements between U.S. and EU banks.

Additionally, the transition period under the EU implementation is 2 years longer than under the NPR, allowing for a more gradual transition to the new regulatory environment and longer time to build the increased capital required. Furthermore, once transitioned the EU implementation more closely aligns with the Basel Framework by implementing a capital floor of 72.5% in the Standardized Approach, unlike in the U.S. where the capital floor would remain at or above 100%.

As derivative markets are global in scale and participation, these divergent approaches to adopting the Basel Framework create a market where U.S. and EU banks would be required to set aside different levels of capital for the same type of risk.

Capital cost implications for Market and CVA Risk components of U.S. NPR

Based on the analysis provided in the NPR[15] (utilizing data as of the end of 2021), the Standardized Approach to market risk capital and the CVA rule requirements would increase capital requirements for U.S. category I-IV banks by approximately $700 billion, more than doubling existing requirements.

Industry analysis implies an extra dollar of capital is needed for approximately every additional $9 of RWAs.[16] Given that ratio, the increased FRTB and CVA RWA requirements in the NPR's analysis would translate to about $78 billion in additional capital requirements. If banks wished to maintain a current rate of after-tax return on capital for their investors (about 10% based on recent trends), then the industry would need to generate approximately $10.4 billion of incremental revenue to offset the costs of increased capital requirements from FRTB and CVA RWA (exclusive of overlapping capital requirements for such activities under other aspects of the U.S. regulatory capital framework such as the SCB).

Impact on derivatives hedging interest rate risks

To identify how these regulatory costs could translate into higher costs for end users, such as corporations and regulated funds, we used public information to estimate how one could allocate these costs to relevant customers. The assumptions embedded in the analysis necessarily rely on certain judgments but are grounded to the extent possible in verifiable and plausible data. As the NPR breaks the RWA impact into that applicable to Category I and II institutions versus Category III and IV institutions, we have applied a similar construct to our analysis.

The initial analysis focuses on the most common hedging instruments – interest rate swaps that customers may use to manage interest rate risks (for example swapping variable interest on floating rate debt issued by corporations to fixed rate for greater certainty of funding costs) or cross currency swaps (used to manage the value in USD of revenues generated in foreign currency cash flows, regardless of whether floating or fixed rate). The analysis includes the following steps:

- Examine the market risk capital disclosures in regulatory filings to identify the proportion of market risk capital attributable to derivative instruments.[17]

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[15] Table 11, Risk-weighted Assets (RWA) by Risk Category.

[16] Analysis from the Securities Industry and Financial Markets Association and the International Swaps and Derivatives Association response to the NPR

[17] Source includes FFIEC 102 reports stored within the National Information Center (NIC). Federal Financial Institutions Examination Council (FFIEC)

- Utilize the ratio of the VaR and Stressed VaR RWA drivers over the total RWA requirements as an indication of the contribution of derivatives to market risk. The remaining risks are primarily driven by specific and incremental risk charges on debt instruments.

- Finally, consider the proportion of Rates and FX VaR over the total VaR contribution as an indication of the interest rate and cross currency swaps contribution to derivatives RWA. The remaining risks are primarily driven by commodity and equity risk.

- For CVA, apply the simplifying assumption that attribution of CVA RWA to different risk classes is proportional to the total fair values of OTC derivatives in each risk class. Based on the OCC's quarterly report as at 2021 Q4, it is estimated that approximately 83% of CVA RWA can be attributed to rates and FX.

The analysis indicates that interest rate and cross currency swaps likely drive approximately 25% of the market risk capital requirement for Category I and II banks, and approximately 40% of the requirement for Category III and IV banks. Applying similar assumptions to the revenue estimates above results in approximately $5.25 billion in incremental revenues to be recovered.

The next step is to estimate the volume of transactions to which those incremental costs need to be attributed. By using public information on the total notional amount of interest rate and cross currency swaps held by the banks as of the end of December 2021 to align to the dates underlying the RWA assessments included within the NPR. Additional data is sourced from the stated notional of interest rate swaps and cross currency swaps noas noted in the derivative footnote disclosures in the annual reports or 10K[18] for the ultimate holding companies of U.S. banks as of the end of 2021. Key assumptions in this analysis include:

- For Category I and II banks: the proportion of the derivatives business for interest rates and cross currency swaps driven by end users can be approximated using the ratio of non-financial customers swap notionals to the total notional of interest rate swaps as of the end of 2021.[19]

- For Category III and IV banks: the business is primarily comprised of derivatives provided to customers, with the risk offset through transactions with dealers that are ultimately cleared; and 50% of the notional is applicable to end users.

Applying these assumptions to interest rate products implied the $5.25bn in incremental costs noted above would need to be recovered across approximately $4.5 trillion in notional of eligible derivatives for Category I and II banks and approximately $1.1 trillion in notional for Category III and IV banks.

Consequently, this analysis indicates that the cost to hedge interest rate risks would likely increase by nearly 10 bps, i.e. about $1 million annually per $1 billion of swaps notional. Such an increase is an order of magnitude over the bid-offer typically seen on liquid swaps and comes on top of a rate environment that has increased over 500 bps in the last two years.

Impact on derivatives hedging commodity risks

A similar analysis can be performed on commodity instruments, such as those used by oil or gas producers to hedge the variability in their sales prices, or airlines, cruise lines or shipping firms buying derivative instruments to manage their fuel costs. The analysis applies a similar approach to that noted above for interest rate risks with some modifications:

[18] Public annual reports or 10-K filings.
[19] BIS Statistics Explorer, OTC derivatives outstanding, Table D7

- The analysis is focused on the 6 U.S. G-SIB dealer banks because that is where the market risk capital for U.S. banks related to commodities is also most heavily focused.

- Leveraging a similar analysis to interest rate swaps but focused on the commodity component of the VaR calculation implied approximately 10% of the market risk capital as being driven by commodity risk.

- For CVA, the same attribution approach as in the previous section was used to determine that approximately 5% of CVA RWA can be attributed to commodities.

- Since the BIS information on non-financial counterparties used for the interest rate analysis is not available for Commodities, a comparison of daily open interest data from CME[20] with the BIS data supported the estimation that approximately 10% of the total volume of commodities derivates are customer-facing trades.

Application of these refinements to the commodities business implied the need to recoup approximately $667 million to maintain returns, across approximately $220 billion notional of transactions.

As with the interest rate derivatives example above, this scenario indicates hedging costs will rise in commodities products as well – to the tune of approximately $250,000 per million barrels of oil. Similar cost implications will arise across other commodity classes whether related to energy, agricultural products or raw materials for manufacturing processes and likely cascade down to end users whether in their grocery bills or prices at the gas pump.

Retail Credit Products

Credit Cards
Overview of key aspects of the NPR

Previous publications[21] by PwC examined the impact of the three new sub-categories for calculating RWA (Transactor, Regulatory Retail, Other Retail) and their associated risk weights. This initial analysis explored the mechanics of these new risk weights, which have been calibrated to levels above those in the Basel Framework (see figure 6) and the inclusion of a 10% Credit Conversion Factor (CCF) on undrawn credit lines. One key takeaway from this assessment was that the application of the CCF, which applies to the unused portion of a credit card limit, could change the incentives for the largest card issuers and drive higher capital requirements despite the lower risk weights introduced by the NPR for on-balance sheet exposures. Building on this analysis, this section uses simplifying assumptions to explore the incremental capital cost of operational risk RWA, to examine the all-in effective risk-based capital charge for credit cards created by the NPR.

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[20] Daily Exchange Volume and Open Interest, CME group.
[21] Our Take Special Edition - Basel III endgame: Changes for cards (pwc.com)

Figure 6: Basel Framework Risk Weights for Retail Exposures[22]

Category	Criteria	Example	NPR Risk Weight	Basel Risk Weight
Transactor	A credit facility where the balance has been fully repaid on schedule for the past 12 months or an overdraft facility without drawdowns over the past 12 months	Customer that pays their balance in full at each scheduled repayment date.	55%	45%
Regulatory Retail	Retail exposure that meets product criteria (revolving credit, line of credit, term loan, or lease), an aggregate limit (sum below $1 million) and a granularity limit (0.2% per customer of total retail exposures)	Customer that carries a balance.	85%	75%
Other Retail	Retail exposure that is not a regulatory retail exposure	Customer that has cumulative borrowing exceeding $1 million across credit cards and a small business line of credit.	110%	100%

Estimation of the NPR's effective risk weight

Credit card portfolios are composed of exposures to transactors and revolvers. Transactors are customers that pay their balance in full each month, while revolvers carry a period-to-period balance. While portfolio composition varies across banks with differing business strategies, for the seven largest issuers revolving balances were 54% to 77% of total credit card balances, with utilization rates ranging from 18% to as high as 29%.[23] Using publicly available data to construct a hypothetical portfolio[24] in line with large issuer observations produces a risk weight of 109% after the application of the 10% CCF to the unused lines. Again, this illustrates how the NPR can drive RWA above the current 100% risk weight requirement.

Additionally, credit card exposures will also be subject to the new operational risk capital requirements, which will add approximately 15 percentage points[25] to the risk weight. Taken as a whole, the combined capital requirements for this hypothetical portfolio would reach approximately 124%, which is 24% higher than the current 100% risk weight. Moreover, this capital charge would be 14 percentage points higher than the Basel Framework would have imposed (see figure 7). This increase is driven by U.S. regulatory agencies choosing to add an additional 10 percentage points to each risk weight established in the Basel Framework (figure 6). The operational risk capital requirement is primarily driven by the introduction of the new standardized measurement approach (SMA).[26]

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[22] Risk-Weighted Assets for Credit Risk, § 111 General Risk Weights
[23] Our Take Special Edition - Basel III endgame: Changes for cards (pwc.com)
[24] Portfolio considers 28% transactors/72% revolvers, and a utilization rate of 19% based on averages from the quarterly credit card data (based on FR Y-14M) published by the Philadelphia Federal Reserve Bank
[25] Assuming credit card fees of approximately 3.5% of the outstanding balance.
[26] Unlike the Basel Framework, the NPR's imposition of an ILM floor would prevent banks with stronger operational risk management and lower operational risk losses from achieving and ILM below 1. For additional information on the impact of Operational Risk RWA, refer to Our Take – Basel III endgame: Outsized operational risk impact (pwc.com).

Figure 7: Comparison of All-in Effective Risk Weight between Basel Framework and NPR[27]
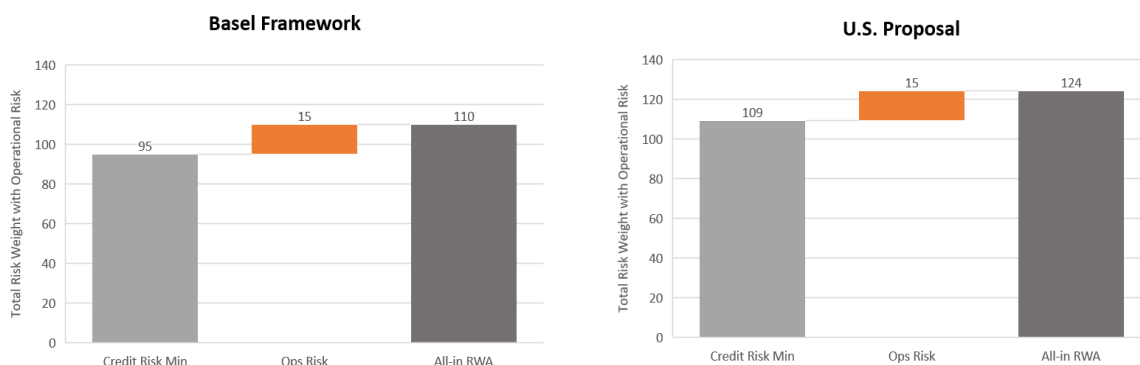
Consumer Impact

Consistent with previous conclusions, this assessment reaffirms the expectation that the increased capital requirements for credit cards will impact credit availability across the credit spectrum. Particularly, the introduction of the CCF will cause banks to reexamine the size of credit lines to all customer types, which definitionally implies reduced access to credit. The introduction of the operational risk RWA requirement as part of the new SMA may compound or accelerate the need for U.S. banks to make shifts in the composition of their lending portfolios. This reduced access to credit impacts the ability of consumers to purchase goods and services, negatively impacting economic growth as described in Appendix I.

Residential Mortgages
Overview of key aspects of the NPR

The NPR's proposed risk weights have attracted significant attention from the industry and policymakers. As of Q4 2023, the aggregate first lien mortgage balance held directly on bank balance sheets (rather than securitized) was $1.46 trillion.[28] Access to credit is essential for the vast majority of home purchasers, and as described in Part I of this paper, the housing market is an important driver of economic activity. Recognizing this, U.S. public policy has sought to promote homeownership broadly by encouraging various paths towards financing home purchases, both inside and outside of the regulated banking sector.

Under current U.S. capital requirements, regulatory residential real estate exposures may receive a 50% or 100% risk weight, depending on whether certain criteria are met. However, the NPR proposes to introduce a level of risk sensitivity through the adoption of a range of risk weights that correspond to Loan-to-Value (LTV) bands, with the underlying assumption that higher LTV corresponds to higher risk (figure 8). This section assesses this assumption through a comparative review of this approach with the assumptions that support the supervisory stress test models used to establish a bank's SCB.

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[27] Assumptions: 1) Calculations above estimate CCB risk weight for BCBS by scaling down the 100% minimum risk weight by 2.5%/4.5 where 4.5% is the minimum CET1 capital requirement and 2.5% is the minimum CCB requirement in BCBS; 2) The 60% RW for ops risk (in U.S. and BCBS) is estimated based on the average of 20%-100% range as discussed in the prior section; 3) The credit risk minimum risk weight of 97% for BCBS is based on the same revolver/transactor composition of the portfolio that would give the minimum risk weight of 111% under the U.S. proposal.

[28] First lien mortgage balances published by the Philadelphia Federal Reserve Bank using FR Y-14M data. Balance is expected to represent approximately one-eighth of total U.S. residential mortgage market debt.

Figure 8: Risk Weight for Regulatory Residential Real Estate Exposures under NPR[29]

Criteria						
LTV Bands	Below 50%	50% - 60%	60% - 80%	80% to 90%	90% to 100%	Above 100%
Exposure is not dependent on cash flows	40%	45%	50%	60%	70%	90%
Exposure is dependent on cash flows	50%	55%	65%	80%	95%	125%

Assessing Risk Sensitivity

Since 2020, the U.S. regulatory framework for large banks[30] has included an SCB, which unlike the Basel Framework's Capital Conservation Buffer (CCB) is sized using supervisory severely adverse stress tests. Conceptually, this capital requirement is designed to support capital adequacy by requiring a bank to maintain capital that can absorb severe macroeconomic downturns, market shocks and counterparty defaults, while remaining a going concern. Since these stress tests include conservative and historically observed assumptions regarding losses in residential real estate,[31] they provide an illustrative point of comparison for analyzing the risk sensitivity of the NPR's proposed capital requirements against the Federal Reserve's projection of risks in a stressed operating environment.

Taking loans with higher LTVs as an illustrative example, the NPR would apply a risk weight of either 60%, 70% or 90% (see table below). The increasingly higher risk weight across LTV bands is intended to apply increasingly higher capital towards loans presumed to be riskier. However, the Domestic First-Lien Residential Mortgage Model used by the Federal Reserve for its supervisory stress tests differentiates FICO® groupings within LTV bands. For example, in its projections, the model considers first-lien mortgages with an LTV of 80% or higher, but some of these mortgages have borrowers with FICO® scores of 740 or above (i.e. very good to excellent credit quality).

This regulatory structure establishes a conceptual misalignment of risk, whereby minimum capital requirements and stress capital requirements differ in their assumptions regarding the inherent riskiness of the same type of exposure. The former sets capital using one variable (LTV), whereas the latter has a more nuanced consideration of borrower credit quality that accounts for both LTV and credit score. This misalignment is more apparent when comparing the average portfolio-level loss rates of the Federal Reserve's model against the NPR's incremental capital requirement across each LTV band. Under minimum capital requirements, U.S. banks would be required to hold up to 4.2% in additional capital for higher LTV loans, which supervisory stress tests project to have lower average losses (1.8%) where the credit score of the borrower is higher (figure 10). This difference would suggest that setting minimum capital requirements solely on LTV would omit key variables required for capturing the risk of a mortgage.

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[29] Table 5 and Table 6, Regulatory residential real estate exposure,
[30] Reference to large banks refers to U.S. banks that are Category I-IV
[31] Dodd-Frank Act Stress Test Publications: Modeled Loss Rates.

Figure 9: Comparison of Supervisory Stress Test and NPR Requirements[32]

NPR Requirements		Comparison of Capital Requirements		
LTV Band	Risk Weight for LTV Band	Proposed	Current	Total Increase
	A	B = A*10.5%[33]	C = 50%*10.5%	D = B - C
80% ≤ 90%	60%	6.30%	5.25%	1.05%
90% ≤ 100%	70%	7.35%	5.25%	2.10%
100% ≤ 110%	90%	9.45%	5.25%	4.20%

Figure 10: Projected first-lien mortgage portfolio loss rates and 25th and 75th percentile ranges by loan and borrower characteristics, 2022:Q1–2024:Q1, 2022 stress test severely adverse scenario[34]

Loan-to-value at origination	Credit score	Loan-level loss rates (percent)			Portfolio-level loss rates (percent)
	(FICO® score)	25th	Median	75th	Average
80% or less	Under 680	1.0	2.1	4.0	3.0
80% or less	680–739	0.6	1.1	2.0	1.7
80% or less	740 and over	0.2	0.4	0.7	0.7
Greater than 80%	Under 680	1.9	3.8	7.3	6.6
Greater than 80%	680–739	1.5	2.7	4.8	4.2
Greater than 80%	740 and over	0.5	1.0	1.9	1.8

This approach sets an initial capital requirement based on limited risk-sensitive drivers and then adds an additional charge via the SCB that incorporates a more nuanced view of borrower risk. This incongruity could be mitigated to a degree were banks able to continue to use internal models to account for multiple risk factors, but the U.S. has chosen to exclude internal models from the proposed ERBA for credit.

Consumer Impact

As illustrated above, the NPR would have the effect of creating conceptual inconsistencies within the U.S. capital framework, in addition to constraining the capacity of U.S. banks to participate in the mortgage lending market through generally higher capital costs. The adverse consequences could include a greater migration of financing activity into the non-bank financial sector and/or a reduction of available credit for borrowers. The decline in credit availability would impact those borrowers that have less equity available for down payment, including younger buyers.[35] This outcome would undermine current guidance from government agencies, including the Consumer Financial Protection Bureau and the Department of Housing and Urban Developments, encouraging lenders to design credit programs to increase the amount of home mortgage lending to underserved groups.[36]

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[32] Table 5 and Table 6, exposure Regulatory residential real estate,

[33] The 10.5% is reflective of the minimum capital requirement (8%) and the stress capital buffer (2.5%).

[34] Data sources from Table 30 of the 2023 Supervisory Stress Test Methodology – June 2023

[35] According to The Mortgage Reports the average down payment for first time home buyers is 15% and drops to 8-10% for buyers aged between 23 and 41.

[36] Laurie Goodman and Jun Zhu, Bank Capital Notice of Proposed Rulemaking: A look at the Provisions Affecting Mortgage Loans in Bank Portfolios, Urban Institute

Wholesale Credit Products

Corporate Loans and Counterparty Credit
Overview of key aspects of the NPR

Under the current capital rules, banks are required to calculate their capital requirements using either a Standardized Approach or an Advanced Approach, selecting the higher of the two. For most banks, the binding constraint is the current Standardized Approach. The NPR introduces a new ERBA, which is expected to be the new binding constraint for banks. Under the ERBA the risk weights for corporate exposures were reduced for investment grade corporates from 100% to 65% (based on banks' internal ratings) and left unchanged for general corporates (see figure 11), which is consistent with the Basel Framework. Although this treatment is beneficial relative to the current Standardized Approach, it is higher than the alternative Advanced Approaches that the ERBA is expected to replace.

Figure 11: Proposed Changes to Corporate Risk Weights[37]

U.S Basel III Endgame Updates to Corporate Risk Weight Treatment					
	Current U.S Capital Rules	**U.S Basel III Endgame Proposal**			
Corporate Exposures	**100% RW**	**100% RW,** except when corporate exposure is:			
		1	**Investment Grade:** must meet definition of investment grade and the entity (or its parent) must have securities listed on a recognized exchange		
			65% RW		
		2	**Project Finance Exposure:** corporate exposure for which the banking organization relies on the revenues generated by a single project (typically a large and complex, installation, such as power plants, manufacturing plants, transportation infrastructure, telecommunications, or other similar installations), both as the source of repayment and as a security for the loan		
			Not in Operational Phase	**130% RW**	**In Operational Phase** 100% RW
		3	**Object and commodities finance:** Acquiring of financing equipment or physical commodities where repayment of the exposure is dependent on the physical assets being financed for acquired		
			100% RW		

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[37] Risk-Weighted Assets for Credit Risk, § __.111 General Risk Weights,

In addition, when taking into consideration new operational risk requirements, the total risk weight for corporate exposures under ERBA will end up being higher than the current Standardized Approach. Using simplifying assumptions, the new operational risk requirement would add approximately 6% to the risk weight of a corporate.[38] The addition of the operational risk requirement would therefore raise the total risk weight for investment grade corporates from 65% to 71% and other general corporates from 100% to 106%.

Costs between jurisdictions

While the Basel Framework is an international agreed upon set of standards, other jurisdictions outside of the U.S. have also diverged from the standards in their adoption. For example, in order to recognize the more beneficial treatment of investment grade corporates, the NPR requires the obligor to have their securities listed on a recognized exchange (see figure 11). In this instance, both the EU and UK exempted the listing requirements for corporate exposures. This divergence results in two outcomes:

1. U.S. banks would be at a material disadvantage against foreign competitors in pricing loans for private corporations with investment grade credit. As context, there are currently 236 publicly listed companies with investment grade ratings in the U.S.[39] While they comprise approximately 51% of non-financial company debt outstanding, there are a substantial number of privately held corporations that have a similar risk profile and are internally rated by U.S. banks as investment grade. These may include private entities such as insurance funds, pension funds and mutual funds.[40]

2. The U.S. would have a framework of minimum capital requirements that is inconsistent with the broader goal of the Basel Framework, which is to have a level set of capital standards across jurisdictions.

This point is illustrated by assessing the incremental cost for investment grade and general corporate exposures. In the U.S., where ERBA will be the binding constraint for almost all banks, a 65% risk weight applies for an investment grade corporate exposure that meets the required criteria. Under the Basel framework, and in other jurisdictions such as the UK and EU, where Advanced Approach is still allowable, the incremental cost for a similar corporate exposure could produce either of the following risk weights depending on whether the Standardized Approach or Advanced Approach, is binding:

- If the Standardized Approach is binding, the effective risk weight for the investment grade exposure would be 47%, assuming the output floor is activated (i.e. 72.5% * 65%).

- If the Advanced Approach is binding, then the incremental risk weight would be 30%.

Similarly for general corporate exposures the risk weight under the Basel Framework could be 41% under Advanced Approaches and 73% under the Standardized Approach. Both risk weight outcomes are meaningfully lower than the U.S. proposal of a 100% risk weight for general corporates (see figure 12).

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[38] This assumes the interest leasing and dividend component (ILDC) of the Business Indicator (BI) is approximately 2.25, that the BI bucket is greater than $30 billion, and the ILM is at 1.13.
[39] U.S. Census Bureau, as of end of 2019.
[40] Statista: Share of financial and nonfinancial company debt in the United States in 2019, by rating.

Figure 12: Marginal cost of a Corporate exposure between NPR and Basel Framework
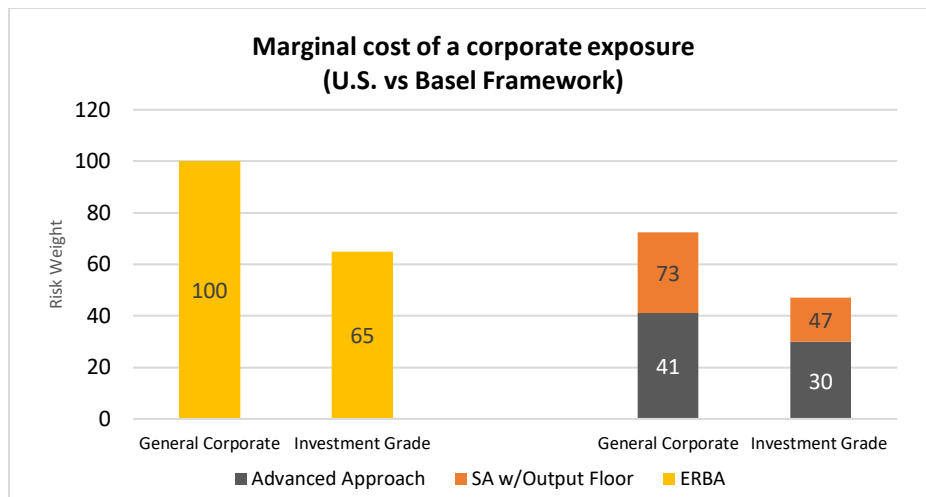
Therefore, under the current proposal, an investment grade exposure at a U.S. bank that does not meet the listing criteria could be subject to a 100% risk weight, while a similar exposure at a foreign bank would only be required to apply as low as a 30% risk weight, a differential of up to 70 percentage points.

Securitized Products

Overview of Key Aspects of the NPR

Securitized products play a crucial role in the capital markets, enabling the creation of innovative financial instruments resulting in increased funding sources and enhanced market liquidity. Securitization involves bundling cash-flow generating assets such as mortgages, auto loans or credit card receivables and issuing tranches of liability securities that are sold to investors, thereby converting illiquid loans and leases into liquid tradeable securities. By allowing risks to be spread beyond the entities issuing the loans or receivables, securitization provides significant economic benefits including:

- Enhanced market liquidity by transforming illiquid assets such as loan pools into tradable securities, offering greater funding flexibility for originators;

- Reduced borrowing costs due to the redistribution of risk resulting from tranching, allowing investors to choose investments that align with their risk appetite;

- Regulatory capital relief through more efficient sales of loan portfolios, allowing banks to reduce capital that can then be deployed for other lending activities; and

- Greater consumer access to credit such as mortgages, auto loans and credit cards.

As a result, the varying risk and return profiles of securitization exposures require a nuanced approach when considering bank regulatory capital treatment. In addition, there are varying regulatory capital regimes in place globally for assessing capital requirements for securitization exposures.

For Standardized Approach banks, the current U.S. regulatory capital treatment of securitization exposures is calculated in accordance with the parameters set out in the Simplified Supervisory Formula Approach (SSFA) developed as part of Dodd-Frank. Advanced Approach institutions are expected to utilize the Supervisory Formula Approach (SFA), however under the Collins amendment capital benefits are limited by SSFA as the binding constraint.

Proposed Changes for the U.S.

The changes proposed in the NPR are partially informed by the Basel Framework. The Basel Framework offers a hierarchical approach to calculating capital requirements for securitization exposures including:

- Internal ratings-based approach (SEC-IRBA): This approach is the most risk-sensitive method for calculating capital requirements for securitization exposures;

- External ratings-based approach (SEC-ERBA): This approach relies on external credit ratings to determine capital requirements for securitization exposures;

- Internal assessment approach (IAA): This approach allows banks to use their own internal models to assess the risks associated with securitization exposures; and

- Standardized approach (SEC-SA): This approach is the most conservative and least risk-sensitive method for calculating capital requirements for securitization exposures.

The NPR replaces the current SSFA with SEC-SA, the most conservative and least risk sensitive approach in the Basel Framework hierarchy. Notably, the continuing impact of Dodd-Frank precludes the U.S. from implementing the external ratings-based capital approach (i.e. SEC-ERBA) set out in the finalized Basel Framework. To date, the agencies have also chosen not to adopt the SEC-IRBA approach in the U.S.

Additionally, the NPR excludes the simple, transparent, and comparable (STC) framework published by BCBS and the International Organization of Securities Commissions (IOSCO) in July 2016.[41] The STC framework identifies "criteria for identifying simple, transparent and comparable securitization with the goal of aiding originators and investors in evaluating the risks and returns of a particular securitization exposure under a consistent framework. Securitization exposures meeting the STC criteria would enjoy preferential treatment, such as lower overall capital charges, under the SEC-IRBA, SEC-ERBA, and SEC-SA approaches in the Basel Framework.

Crucially then, the preclusion of the use of SEC-IRBA, SEC-ERBA and STC, in addition to the recalibration of SSFA parameters under SEC-SA (described below) results in an increase in securitization capital requirements for U.S. banks, both in comparison with the current domestic framework, as well as relative to their competitors in other major jurisdictions (e.g. UK and EU).

To illustrate the expected change in risk-weights under the different securitization approaches included in the Basel Framework, the following analysis examines a hypothetical new issue broadly syndicated CLO securitization. Under simplifying assumptions including a collateral delinquency rate of 1% and a typical new issue CLO capital structure (Figure 14), the example illustrates how the weighted average risk weight for holding all tranches in the CLO structure increases by 46 percentage points under the NPR as compared to current U.S. capital rules. Furthermore, when compared to other jurisdictions, the weighted average risk weight under the NPR is up to 68 percentage points higher than approaches available to non-U.S. banks (Figure 13).

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[41] BCBS and IOSCO STC framework

Figure 13: Risk weight by approach and jurisdiction

Jurisdiction	Approach	Risk Weight
U.S.	Current Rules: SSFA	171%
U.S.	Basel III Endgame – NPR: SEC-SA	217%
Europe/Canada	Internal Ratings Based: SEC-IRBA	158%
Europe/Canada	External Ratings Based: SEC-ERBA	163%
Europe/Canada	SEC-IRBA (STC)	149%

The current U.S. rules for securitization exposures are already more conservative than other global jurisdictions. The introduction of the NPR only further exacerbates the punitive U.S. treatment contributing to concerns of reduced international competitiveness for U.S. banks participating in certain sectors of the capital markets.

Assessing the impact of SEC-SA

While SEC-SA retains the same functional structure as the current SSFA approach, the following key parameters in the calculation are recalibrated:

Parameter	Current Rules: SSFA	NPR: SEC-SA
p-factor	Securitizations: 0.5 Resecuritizations: 1.5	Securitizations: 1.0 Resecuritizations: 1.5
Risk Weight Floor	20%	15%
Risk Weights on underlying exposures	Risk weights assigned to underlying exposures are significantly different under the NPR as compared to the current standardized approach.	

The p-factor is the supervisory parameter within the SEC-SA approach that dictates:

- "Capital non-neutrality": the capital charge for holding all tranches of a securitization relative to holding the underlying pool assets;
- The allocation of the securitization's aggregate capital charge to each tranche.

Under SEC-SA, the p-factor increases from 0.5 to 1.0 for securitization exposures (the p-factor for re-securitization positions remains at 1.5).

All else being equal, a higher p-factor results in a higher overall capital surcharge. In particular, the increase in the p-factor worsens capital non-neutrality, resulting in the aggregate capital required for holding all tranches of a securitization to exceed that for holding the underlying collateral pool alone. Capital non-neutrality is particularly relevant for sponsoring banks that must adhere to risk retention requirements, as well as any bank that would purchase for investment or temporarily hold any tranches of a securitization in a trading book. Due to the structure of the SEC-SA calculation, a doubling of the p-factor could potentially double or triple the securitization capital surcharge for retaining a portion of certain tranches across the securitization.
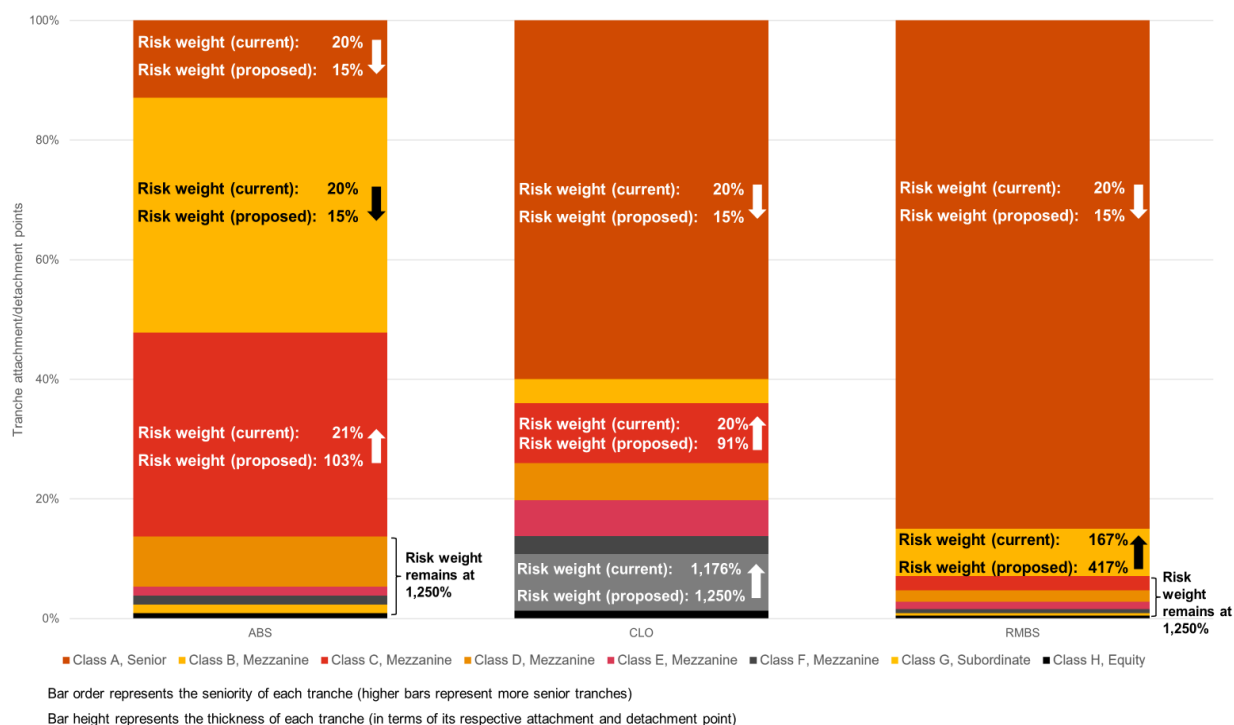
Impact analysis on example capital structures

The cost impact of the implementation of SEC-SA on specific securitized products can be evidenced based on recent new issue transaction data. The analysis below was conducted using hypothetical transaction structures based on new issue auto ABS, CLO, and RMBS transactions closed in Q4 2023 – Q1 2024.

The risk weights for holding each tranche of the respective capital structures under both current SSFA rules and proposed SEC-SA is estimated by making key parametric assumptions for underlying collateral pool capital requirements (based on the risk weights included in the NPR) and percentage of delinquent loans in the underlying collateral pool.[42]

Across each asset class, risk weights for individual tranches under SEC-SA are higher than those under SSFA, except for the most senior tranches where the new risk weight floor is activated or the most subordinate tranches where a 1250% risk weight continues to apply. In our analysis, the risk weight for the 14% - 48% mezzanine tranche of the auto ABS increases from 21% to 103%, an almost fivefold increase. Similarly, the risk weight for the 26% – 36% mezzanine tranche of the CLO increases 4.5x from 20% to 91%. Compare this to the change in risk weight for the 7% - 15% tranche of the RMBS, which increases only 2.5x from 167% to 417%. As such, the capital non-neutrality impact of moving to SEC-SA is more significant for structures such as CLOs and auto ABS with smaller senior tranches relative to RMBS.

Figure 14: Illustrative capital structures for auto ABS, CLO, and RMBS

Bar order represents the seniority of each tranche (higher bars represent more senior tranches)

Bar height represents the thickness of each tranche (in terms of its respective attachment and detachment point)

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[42] For purposes of this analysis, delinquencies (as defined by parameter W in the SSFA and SEC-SA regulatory calculation methodologies) were assumed to be 0.8% of the collateral pool for auto loans, 1% for CLOs, and 0.5% for RMBS.

The overall impact on capital non-neutrality resulting from the SEC-SA parameter changes is exhibited in the table below, which shows an increase in the blended average risk weight regardless of asset type due to the increase in the p-factor, although this is offset in each case by the decrease in the risk weight floor:

Figure 15: Impact to average risk weights from p-factor and risk weight floor changes

	SSFA (p-factor = 0.5; RW floor = 20%)	SSFA (p-factor = 1; RW floor = 20%)	SEC-SA (p-factor = 1.0; RW floor = 15%)
Autos	141%	186%	183%
CLOs	171%	220%	217%
RMBS	52%	60%	55%

Consistent with Figure 15, the effect of the offset from the risk weight floor decrease is proportionately higher for RMBS relative to the other products due to the size and thickness of the senior tranche.

International competitiveness of U.S. banks

As the U.S. has chosen not to adopt the STC and SEC-IRB frameworks, U.S. banks will have fewer options to minimize the effective risk weights for their securitization exposures as compared to non-U.S. banks.

To illustrate the impact of the STC framework and the implied benefits available to non-U.S. banks, the analysis from above is reperformed using the STC criteria to estimate the blended average risk weights for auto ABS, CLOs and RMBS. Under the STC framework, banks may calculate RWAs on securitization exposures that are deemed STC-compliant by assuming a p-factor of 0.5 (down from 1.0 for non-STC exposures) and a risk weight floor of 10%. Figure 16 below demonstrates the impact the availability of the STC framework would have on the average risk weight for each example product type. For STC compliant exposures, the blended average risk weight decreases by 20-47% compared to SEC-SA.

Figure 16: STC framework effect on product risk weights

Product	SEC-SA (p-factor = 1.0; RW floor = 15%)	SEC-SA (STC) (p-factor = 0.5; RW floor = 10%)
Autos	183%	136%
CLOs	216%	169%
RMBS	55%	35%

Similarly, the greater risk-sensitivity of SEC-IRBA gives non-U.S. banks a mechanism to achieve lower risk weights for certain exposures as the p-factor is calculated on a tranche basis based on the expected performance of the underlying securitization pool (taking into consideration credit risk parameters such as PD and LGD), as opposed to being fixed at 1.0 under the SEC-SA. As a result, senior tranches will typically have lower p-factors compared to subordinated tranches, a benefit to banks given exposures typically held on the balance sheet.

Figure 17 illustrates the point above, estimating the risk weight treatment for the example transactions by implementing SEC-IRBA using simplifying assumptions[43] based on features of similar transactions and attributes typical to these product-types.

Figure 17: p-factor effect on risk weights under SEC-SA and SEC-IRBA

	SEC-SA (p-factor = 1.0; RW floor = 15%)	SEC-IRBA	
	Blended average risk weight	p-factor	Blended average risk weight
Autos	183%	0.30 – 0.35	125%
CLOs	216%	0.35 – 0.40	158%
RMBS	55%	0.47 – 0.62	40%

As seen in Figure 17 above, utilizing the SEC-IRBA approach allows banks to apply a lower p-factor to an exposure, effectively lowering the overall securitization capital charge. Thus, the inability to apply a more risk-sensitive approach means that U.S. banks would have increased capital requirements for securitizations across both their banking and trading books.

Consumer Impact

As illustrated above, the NPR's requirement to determine securitization capital requirements using the SEC-SA approach results in meaningful increases in the capital requirements for banks holding these exposures, amplifies the capital non-neutrality compared to the underlying assets and decreases the international competitiveness of U.S. banks compared to their global counterparts. As a result, U.S. banks may retrench from securitization markets causing a ripple effect in the liquidity and availability of credit in consumer markets, most notably credit cards, auto loans and residential mortgages. This further exacerbates concerns already noted for these markets discussed earlier in this paper.

Being unable to realize capital benefits through more risk-sensitive approaches like SEC-IRBA, preferential treatment for less complex STC exposures or even computing SEC-SA using a lower p-factor puts U.S. banks at a significant disadvantage compared to non-US banks and contradicts views put forth by the Basel Committee. The Basel committee has stated, "All other things being equal, a securitization with lower structural risk needs a lower capital surcharge than a securitization with higher structural risk; and a securitization with less risky underlying assets requires a lower capital surcharge than a securitization with riskier underlying assets."[44] The NPR results in capital treatment that is not only more punitive than the already conservative treatment U.S. banks face but results in outcomes that are not aligned with risks of securitization as a funding mechanism to the broader economy.

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[43] These assumptions include setting the number of loans in the pool, LGD, and effective maturity parameters for purposes of the illustrative examples based on data from similar issuances.

[44] Basel Committee on Banking Supervision, Basel III Document: Revisions to the securitization framework, December 11, 2014 (rev. July 2016)

Securities Financing Transactions

Overview of key aspects of the NPR

Securities financing transactions (SFTs) play a critical role in global markets by facilitating the exchange of cash and securities between two counterparties. Common types of SFTs include:

- Repurchase agreements (repos and reverse repos), in which one party purchases securities (the cash lender) subject to an agreement to sell the securities back at a later date (the cash borrower);

- Securities borrowing and lending agreements (securities lending) in which securities may be lent for a fee, sometimes in exchange for cash collateral; and

- Margin loans, in which cash is lent against a portfolio of securities (often to help finance that portfolio).

Critically, this market provides banks an opportunity to (a) borrow securities to meet customer delivery obligations and avoid settlement failures; (b) raise cash as a source of operational funding by lending or repo-ing out securities; and (c) facilitate transactions for customers and counterparties such as pension funds and mutual funds that benefit from lending securities in return for incremental revenue, which can enhance returns for the funds' investors.

The Basel III endgame proposal introduces a haircut floor framework or a minimum amount of collateral banks must receive from unregulated financial institutions (UFIs) for certain SFTs that are not centrally cleared. The haircut is the difference between the value of collateral posted and amount of cash lent and functions to mitigate the risk of loss to the lender if the borrower does not perform. This haircut would apply to both individual in-scope transactions, or if an in-scope transaction is part of a netting set, the entire netting set would have a portfolio-based floor.

Banks that fail to meet the haircut floor for in-scope transactions would have to treat those exposures as unsecured and receive no collateral benefit for capital calculations, resulting in materially higher capital requirements for those transactions or netting sets. Avoiding treatment as an unsecured exposure, which does not reflect the economic risk of the trade, requires meeting and continuously monitoring compliance with the haircut floor or meeting one of the exceptions embedded in the rule.

This section provides a qualitative overview of the operational challenges for U.S. banks in implementing these requirements. Particularly, it discusses how the application of definitions and management of exemptions could lead to different capital treatment for funds engaging in similar strategies and risks, with implications for U.S. banking competitiveness.

Applying new definitions

Under the NPR, any institution that meets the definition of a financial institution but is not prudentially regulated would fall under the UFI definition. The pre-amble to the proposal also states that "the definition would capture non-bank financial entities that employ leverage and engage in maturity transformation but are not subject to prudential regulation." Aside from the proposal's specific mentions of hedge funds and private equity funds, regulators will expect banks to determine whether other counterparties, particularly foreign counterparties, also fall under the definition of a UFI.

The purpose of the haircut floor is ostensibly to limit banks' exposure to risky counterparties and discourage banks from financing leverage in the non-bank sector; however, based on the definition in the rule, it is not clear that the definition of UFI is well-tailored to accomplish that goal. While more clarity may be provided in the final rule to scope out traditional, regulated investment funds, such as those subject to the Investment Company Act (ICA or 40 Act) and pension funds, which may be subject to federal regulation like ERISA, it is unclear how U.S. banks should treat certain foreign regulated, including foreign mutual fund-equivalents (such as UCITS), foreign pension plans and other sovereign and quasi-sovereign investment vehicles. Overemphasis on legal form could result in similar types of exposures receiving disparate capital treatment.

Unless the final rule provides clearer guidelines, banks will need to establish procedures for evaluating whether foreign funds are sufficiently similar to U.S. Investment Company Act funds, or pension/employee plans. Given that the definition in the U.S. focuses on legal form, it is not clear whether the evaluation of foreign funds should focus on their legal form or take a more holistic, risk-based approach.

Banks will also need to review and document all counterparty types that meet the UFI definition as well as implement processes and controls for adopting the collateral haircut approach with respect to those counterparties.

Managing Exemptions

While the scope of SFT transactions subject to the requirement is broad, the proposal does allow three potential exemptions for transactions in which:

- A UFI lends, sells subject to repurchase, or posts as collateral securities to a bank in exchange for cash and the UFI reinvests the cash at the same or a shorter maturity than the original translation;

- A UFI is unable to re-hypothecate, or contractually agrees that it will not re-hypothecate, the securities it receives as collateral for a collateral upgrade transaction; and
- A bank borrows securities from a UFI for the purpose of meeting current or anticipated demand, such as for customer demand or segregation requirements, and not to provide financing to the UFI.

Although these exemptions are intended to provide some relief from the haircut floor for securities borrowing transactions, it will be operationally complex for banks to meet these exemption requirements, potentially limiting their ability to take advantage. Generally, for a bank to rely on "representations made by the UFI," it must be able to provide supporting documentation to demonstrate how an exemption is met for the transactions. The criteria for the other exemptions also pose a challenge. For example, the second exemption may be infeasible if in-scope counterparties are unwilling to agree to additional contractual terms because they plan to rehypothecate the securities or want to retain the optionality. Additionally, for the third exemption the proposal states, "banking organizations must maintain sufficient written documentation that such transactions are for the purpose of meeting a current or anticipated demand and not for providing financing to an UFI." Currently, the NPR does not provide specifics on the form, frequency, and level of governance required for documentation, requiring banks to make an individual assessment which may or may not conform to supervisory expectations.

Monitoring Netting Sets

Moreover, the proposal would have additional implications for netting sets, which are a group of transactions with a single counterparty. The proposal specifically states, "if a netting set contains both in-scope and out-of-scope transactions, the banking organization would apply a portfolio-based floor for the entire netting set." In other words, if a bank cannot ascertain on an ongoing basis that none of its transactions within a netting set would be in-scope, then the haircut floor applies to the entire netting set. For a bank's most material UFI counterparties, the netting sets will contain a large number of securities borrowed and lent with daily changes in composition.

Once a netting set is determined to be in-scope, the bank must calculate the netting set haircut floor to determine whether or not it has received sufficient margin to meet or exceed the floor. In the event that the haircut floor is not met with sufficient margin, the exposure to the UFI is then treated as an unsecured exposure and the bank receives no benefit of collateral. Due to the risk of losing the collateral benefit when calculating exposures, banks would face the increased operational burden of enhanced daily monitoring of netting sets. Changes in the day-to-day value of collateral and composition of the netting sets could result in RWA volatility as the netting sets shift from being secured to unsecured exposures.

Competitive Implications

This requirement is the largest component driving an increase in RWA requirements for SFTs under the NPR, totaling approximately 20% of the total RWA attributable to SFTs for U.S. firms. Without the minimum haircut floor, RWA for SFTs decreases by approximately 7% from the current level at U.S. firms.[45] Given the potential volatility of RWA requirements for SFTs with UFIs, U.S. banks will need to confirm that exposures are sufficiently collateralized, possibly requiring collateralization of transactions well in excess of the haircut floor.

Here too the NPR diverges from other jurisdictions, such as the EU, UK, Japan, and Canada. These jurisdictions have decided to forego implementation of minimum haircut floors as part of their adoption of the Basel Framework, preferring instead to allow further deliberation on the need and design of this requirement.

Currently, U.S. banks play a leading role in the SFT market. As the SFT market is both global and competitive, the adoption of minimum haircuts in the U.S. would not only undermine the goal of maintaining equivalent minimum capital standards internationally but also result in an asymmetry in pricing between U.S. banks and their competitors, including non-banks, for similar transactions. To avoid absorbing these costs customers may choose to engage alternative counterparties, resulting in a counterproductive outcome that undermines U.S. bank competitiveness while incentivizing key market activity to migrate outside of U.S. regulatory purview.

Moreover, the increased costs associated with engaging UFIs could result in diminished liquidity, reduced market access and great concentrations. A diminished SFT market would also be detrimental to other counterparties, such as large asset managers, mutual funds and other savings funds that lend securities to enhance returns for their customers.

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[45] Estimation considers the change from current SFT RWA under the existing requirements to ERBA requirements without minimum haircut floors, which could result in an RWA impact of $124 billion. Supporting analysis driven by the results of the Quantitative Impact Study (QIS), p. 81 https://www.isda.org/a/1ElgE/ISDA-and-SIFMA-Response-to-US-Basel-III-NPR.pdf

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