January 16, 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:

The Bank Policy Institute[1] and the American Bankers Association[2] appreciate the opportunity to comment on the joint notice of proposed rulemaking issued by the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency that would amend the capital requirements applicable to large banks[3] and those with significant

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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.

3 In this letter, the term "bank" includes all banking organizations as defined in the proposal. *See* 88 Fed. Reg. at 64,030, note 1.

trading activity.[4]

I. Executive Summary

If adopted, the proposed rule would have a profound effect on the availability and cost of credit for nearly every American business and consumer, as well as on the resiliency of U.S. capital markets. The U.S. economy would suffer a significant, permanent reduction in GDP and employment; U.S. capital markets would become less liquid, and therefore more dependent on non-bank intermediation in normal times and on governmental support when those non-banks step away from financial markets during times of stress. The precise potential impact on capital market liquidity is extremely complex to assess but would likely be significant for several segments of the market, with resulting harm to U.S. businesses, consumers and Americans saving for their retirement. Moreover, given the stakes involved, the proposal is remarkable for its conclusory assertions and lack of analysis, including its failure to consider both its costs and benefits, not just to banks but to all corners of the U.S. economy.

At a macro level, the proposal contains no standard by which to determine what an appropriate risk weight should be for credit risk and operational risk, and therefore makes it impossible to determine whether a proposed risk weight is too high or too low or whether the costs of higher capital outweigh the benefits. The absence of a standard is significant on two levels. On the one hand, if the agencies articulated a standard with a specific and particularly high probability that capital would be able to absorb any losses experienced over the course of a year, commenters might acknowledge that the proposed risk weights were consistent with that standard but object to the standard itself on the grounds that its economic and market functioning costs were too high. On the other hand, if the agencies articulated a specific standard with a lower probability that capital would be able to absorb losses over the same period, then commenters might acknowledge that such a standard represented a reasonable balance of costs and benefits but cite data to show that the risk weights in the proposal are, in fact, inconsistent with that standard. The current proposal leaves the public unable to do either: we cannot assess the appropriateness of a standard that was never disclosed, and we cannot assess the calibration of individual risk weights against a non-existent standard.

At a micro level, in almost every case the proposed risk weight for a given asset is based on no data or historical experience and no economic analysis. In most cases, the proposal simply takes as given the risk weights negotiated by agency staff in Basel over many years, resulting in the capital mandates released in 2017 and 2019, which, in turn, are lacking in data or analysis, or at least any that has been made public. In other cases, the agencies purport to rely on data they have not disclosed or on unverifiable "supervisory experience." Also, in many cases, the agencies not only take Basel risk weights as a basis for the proposal but they then add arbitrary surcharges on top of the Basel weights, again with very little explanation. In all these cases, respondents are denied any meaningful opportunity to comment, as they do not know the standard used to develop the risk weights and the proposal generally provides them with no data or analysis on which to comment.

Because of the lack of supporting data and analysis for the policy choices in the proposal, we (and other members of the public) lack a meaningful opportunity to assess and comment on the methodology and the basis for many elements of the proposal.[5] In this letter, we attempt where possible to provide the

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[4] *See* Regulatory Capital Rule: Large Banking Organizations and Banking Organizations With Significant Trading Activity, 88 Fed. Reg. at 64,028 (Sept. 18, 2023).

[5] The substantial legal problems, both procedural and substantive, with the proposal are described in a

data and analysis that we would have expected the agencies to include in the proposal – such as data and analysis that can be used to produce risk weights based on risk of loss that reflects actual experience and other quantifiable standards. Where the agencies have access to the relevant data and we do not, we suggest analysis that could be undertaken to produce a coherent and empirically grounded proposal.

The proposed rule covers four categories of risk: credit risk, operational risk, market risk and credit valuation adjustment ("CVA") risk. The risk weights applicable to each risk are substantially and unjustifiably overstated based on all historical experience of which we are aware. Since major reforms were instituted in the wake of the Global Financial Crisis, we have had over a decade of experience with the existing capital framework. By 2017, when the Basel agreement was reached, its authors concluded that no further increases in capital were required; rather, a key purpose of the revisions to the Basel framework finalized in 2017 was to reduce the variability of risk-weighted assets ("RWAs") across banks. Since 2017, there has been no evidence that U.S. banks hold insufficient capital against the four risks addressed in the proposal. Much attention has focused, since March 2023, on the case of Silicon Valley Bank, but it did not fail due to credit, operational, market or CVA risk: its borrowers repaid their loans; it suffered no cyber-attack or other operational loss; and it did not trade derivatives or securities. Indeed, agency officials have acknowledged that its failure is not a basis for the significant increase in proposed capital requirements.[6]

Furthermore, with respect to operational, CVA and market risk, the proposal fails to acknowledge the existence of the Stress Capital Buffer ("SCB") set by the Federal Reserve, which, in part, was designed to cover the same risks and results in higher capital charges with respect to operational, CVA and market risk. By not considering all components of the framework that determines bank capital requirements, the proposal effectively treats the calculation of RWAs as entirely distinct from the aspects of the framework establishing numerical ratio requirements, such as the SCB and Global Systemically Important Bank ("GSIB") surcharge. But they are not distinct. Rather, RWA calculations and ratio requirements are inextricably linked in establishing bank capital requirements. RWAs also determine how much capital a bank must have to satisfy both minimum requirements and buffer requirements. Looking at and revising only one aspect of the bank capital framework, while effectively ignoring the interrelationship with the other, as the proposal would do, is a flawed and fragmented approach to the design and calibration of the bank capital framework.

Credit Risk

Standardized Risk Weights

The proposed rule would establish a new "Expanded Risk-Based Approach" to which the SCB would be applied, and would make the binding requirement for large banks the higher of that approach and the existing Standardized Approach. It also would eliminate the Advanced Approaches that use bank models for credit risk.

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separate comment letter and are not discussed here.

6 *See, e.g.*, Statement by Travis Hill, Vice Chairman, FDIC, on the proposal to Revise the Regulatory Capital Requirements for Large Banks (July 27, 2023), *available at* https://www.fdic.gov/news/speeches/2023/spjul2723b.html ("It's worth noting that implementation of the new Basel agreement was expected to result in no increase in required capital at any of the three banks that failed, but would result in major increases at several other Category IV banks.").

With respect to the standardized risk weights, the most notable overstatements of risk in the proposed rule include the following:[7]

- Risk weights for credit card loans and other retail loans are substantially overstated.

    - For **credit card loans**, experience taken from regulatory reports supports a risk weight of 73 percent, whereas the proposal would impose an effective risk weight of 111 percent, to which would be added a further operational risk charge – combining for a total risk weight of approximately 140 – 190 percent, or roughly double what the actual risk justifies.[8] Notably, credit card loans – like all loans – may be subject to a further capital charge through the Federal Reserve's stress test depending on the severity of the stress scenario, the composition of banks' portfolios and the level of allowances for credit losses at the start of the tests. The combined charge is likely to increase the cost of credit for the millions of Americans who use credit card loans and could potentially make credit cards unavailable for many.

    - For **other consumer loans**, data from the Advanced Approaches supports a risk weight of 50 percent.[9] The proposal would introduce a risk weight of 85 percent, which is 10 percentage points higher than what the U.S. agencies agreed to in Basel and materially overstates the actual credit risk, particularly for auto loans. Moreover, other consumer loans may also face an additional surcharge through the stress tests, contingent on the severity of the scenario and the banks' allowances for credit losses at the start of the stress tests.

    - The proposal would impose credit conversion factors ("CCFs") on **unused credit card lines** based on no analysis and in conflict with historical data. The CCFs would increase the risk weights applicable to these lines of credit, incentivizing banks to reduce them – with particular harm to lower-income consumers who rely on unused lines as an emergency source of funding and as a way to build a credit history and gain access to other forms of retail borrowing such as mortgages.

    - Risk weights for loans where a bank offers relief to a borrower would rise to unjustifiably high levels. For example, in the case of auto loans to low- and moderate-income ("LMI") borrowers and other borrowers who may be experiencing temporary financial hardship, banks may offer a one- or two-month extension to help customers stay current and avoid default and repossession. Under the proposal – based on no historical loss experience or analysis – this relief would be considered a default, and a 150 percent risk weight would apply to the loan. Banks would then have a powerful economic incentive to withhold such relief. There is no acknowledgment or consideration of this fact in the proposed rule.

- Risk weights for business loans are similarly overstated. According to the FFIEC 101 reports, documented historical experience from 2014 to 2022 suggests that a risk weight of 41 percent would be appropriate. The proposal establishes a general risk weight of 100 percent, with a 65 percent risk weight available only to businesses that are both rated investment grade by the bank and have

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7 The examples listed below are indicative and not exhaustive.

8 Paul Calem and Francisco Covas, *The Basel Proposal: What It Means for Retail Lending*, Bank Policy Institute (Nov. 8, 2023) [hereinafter *Retail Lending*], *available at* https://bpi.com/the-basel-proposal-what-it-means-for-retail-lending/, and attached as Appendix 2.

9 *Id.*

securities listed on a national exchange or have a parent that does.

  - The latter requirement would effectively impose a 100 percent risk weight, in addition to the charge for operational risk, on loans to tens of thousands of creditworthy small and mid-sized businesses that do not qualify as regulatory retail exposures, as well as high credit-quality, highly regulated mutual funds and pension funds that do not, as a normal part of their function, list securities on an exchange, either increasing their cost of credit or limiting their access to credit.

  - The proposal includes no analytical basis for the securities listing requirement. In fact, researchers using a robust data set have demonstrated that the listing requirement does not result in more consistent internal ratings across banks or lower credit risk, demonstrating that the requirement is arbitrary.[10]

  - Whether with or without a listed security, historical analysis based on FFIEC 101 report data from 2014 to 2022, combined with the Advanced Approaches risk weight formula, shows that a business rated investment grade by a bank merits a risk weight significantly below 65 percent, and below the 41 percent for all business loans – something on the order of 30 percent.

  - U.S. and international businesses alike would face higher borrowing costs, given the significant overstatement of the risk of those exposures and therefore uneconomically high capital charges that attach to them.

- Risk weights of loans to other banks are overstated relative to historical experience and the Basel standard. Historical experience based on data from FFIEC 101 reports from 2014 to 2022 supports a risk weight of 30.3 percent for loans to banks; the proposal would provide for a minimum 40 percent risk weight for exposures to banks in the highest grade,[11] regardless of the duration of the exposure. This overstatement of bank risk weights would reduce liquidity in repo markets, especially in times of stress.

- Risk weights for mortgage loans would range from 40 to 90 percent, even before one considers the impact of the separate operational risk charge and the Federal Reserve's stress test; for loans intended to be sold to government-sponsored enterprises ("GSEs"), the effective risk weight could be as high as 140 percent.[12] Documented historical experience based on data from the FFIEC 101 reports from 2014 to 2022 suggests an average risk weight of 25 percent is more appropriate. Indeed, research shows

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[10] *See* Francisco Covas and Barbora Stepankova, *Consistency in Risk Weights for Corporate Exposures Under the Standardized Approach*, Staff Working Paper – Bank Policy Institute (Jan. 2022), *available at* https://bpi.com/wp-content/uploads/2022/01/Consistency-in-Risk-Weights-for-Corporate-Exposures-Under-the-Standardized-Approach.pdf, and attached as Appendix 3.

[11] The proposed rule separates banks into Grades A, B and C depending on several factors, including, for example, whether the bank is investment grade and whether it meets applicable minimum capital requirements. *See* 88 Fed. Reg. 64,041.

[12] *See* Paul Calem and Francisco Covas, *The Basel Proposal: What It Means for Mortgage Lending*, Bank Policy Institute (Sept. 30, 2023) [hereinafter *Mortgage Lending*], *available at* https://bpi.com/the-basel-proposal-what-it-means-for-mortgage-lending/, and attached as Appendix 4.

that the risk weights in the proposal – even leaving aside the operational risk and stress test add-ons – assume loss rates higher even than the loss rates suggested by subjecting current bank mortgage portfolios to the stress undergone by GSE loans from 2005 to 2008.[13] The risk weights in the proposal would unjustifiably increase the cost and decrease the availability of mortgage credit to consumers, and particularly LMI and minority borrowers, who face the largest charges, as discussed further in Section IV.A.9.

Internal ratings-based risk weights

Compounding the effect of punitive standardized risk weights, the proposal would eliminate the Advanced Approaches for credit risk, effectively imposing a de facto 100 percent output floor for U.S. banks as opposed to 72.5 percent as negotiated in Basel. There is no evidence that internal models for credit risk have led to a systematic understatement (or overstatement) of risk at any bank. In fact, since 2014, banks have successfully used internal models to gauge credit risk for capital purposes, subject to backtesting and model approval from an independent risk function, an independent model validation group, internal auditors and agency examiners. The virtue of internal models is that they are inherently more granular and risk-sensitive than government-imposed, one-size-fits-all standardized methodologies; they can also be adjusted over time to reflect changing behavior.

- Ending the use of internal models for credit risk greatly increases the costs of over-calibration of standardized risk weights. In every other major jurisdiction implementing the 2017 Basel agreement, those standardized risk weights have not been surcharged; more importantly, they are effectively discounted given that in most cases internal models or external credit ratings (the use of which is not permitted in the United States) will produce a lower capital charge. If the U.S. were to eliminate internal models for credit risk and maintain a level playing field, it would need to recalibrate and substantially reduce standardized risk weights compared to those in the Basel framework. This outcome could be achieved by basing those risk weights on empirical evidence, as described in this letter.

- Additionally, ending the use of internal models for credit risk, and failing even to use it as a basis for calibrating the Expanded Risk-Based Approach, represents a repudiation of the core element of the 2017 Basel agreement that the agencies purport to be implementing.[14] That agreement's most negotiated and prominent feature was the continued use of bank models subject to an "output floor," meaning modeled outcomes cannot collectively produce RWAs lower than 72.5 percent of those calculated using a standardized approach. In this respect, the standardized approach was not designed or calibrated to be the primary determinant of credit risk capital. The agencies do not even note the

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13 *See* Laurie Goodman and Jun Zhu, "Bank Capital Notice of Proposed Rulemaking – A Look at the Provisions Affecting Mortgage Loans in Bank Portfolios," Urban Institute (Sept. 2023), *available at* https://www.urban.org/sites/default/files/2023-09/Bank percent20Capital percent20Notice percent20of percent20Proposed percent20Rulemaking.pdf.

14 The Basel framework contemplates the continued use of internal models for credit risk. Although the Basel Committee provides that implementing only the standardized approaches would not, in and of itself, constitute noncompliance with the Basel framework, *see* Basel Committee on Banking Supervision, *High-level summary of Basel III reforms*, 12 (Dec. 2017), *available at* https://www.bis.org/bcbs/publ/d424_hlsummary.pdf, nothing in the Basel framework requires the elimination of internal models for credit risk, and implementing the Basel standards in the United States in no way necessitates the elimination of internal models for credit risk.

existence of this component of the Basel agreement.

- In effect, having negotiated in Basel an output floor of 72.5 percent, the agencies now propose a de facto output floor of 100 percent but only for U.S. banks, and with the standardized approach that forms the basis of that output floor set even higher than the Basel agreement in almost every major respect.

- The effects of that choice are even greater than the top-line numbers suggest: the 72.5 percent output floor is an average, and that means some loans in other jurisdictions could receive risk weights significantly lower than 72.5 percent of the risk weight the same loan would receive under the U.S. Expanded Risk-Based Approach. For U.S. banks only, every loan would be subject to the full 100 percent floor under the proposed Expanded Risk-Based Approach and the current Standardized Approach. Thus, for lower-risk activities, U.S. banks will be at a serious competitive disadvantage compared to foreign peers, impeding the maintenance of a level playing field across jurisdictions.

Operational Risk

If the proposal were adopted without change, large U.S. banks would end up holding over $300 billion in capital against "operational risk." This capital charge results because the proposed rule would, together with the stress capital charge, create more than $3.5 trillion in phantom assets to represent operational risk, which, unlike credit and market risk, is not based on actual assets held by banks, and then impose a capital charge against those assets. For capital purposes, approximately 24 percent of banks' collective RWAs would stem from these phantom assets. Based on analysis released by the banking agencies, the new operational risk charge accounts for nearly 90 percent of the increase in banks' capital requirements under the proposed rule.

This requirement is massively overstated, and the agencies provide no basis for it in the proposal. This overstatement of risk is the product of multiple, fundamental errors in the proposal.

- As a threshold matter, the proposal breaks from current practice and imposes a standalone operational risk charge as part of a standardized approach to calculating RWAs that is also subject to stress-based capital requirements, ignoring in the process that capital held for purposes of credit and market risk can also cushion against operational risk. The proposed rule's approach involves summing RWAs arising from credit risk, market risk, operational risk and CVA risk – in effect, presuming that extreme losses relating to credit, market, operational and CVA risk will all occur simultaneously, with a correlation of 1.0. That presumption is without historical precedent and is a fatal flaw of the proposal. There is no historical evidence that the timing of recognizing operational risk losses in bank earnings, and therefore capital, correlates with the timing of recognizing losses relating to financial risks (credit, market and CVA) otherwise capitalized by the proposal. Fines or judgments against banks for anti-money laundering and sanctions compliance, antitrust violations and consumer credit practices – which now make up the largest operational risk loss events – seemingly have very little correlation with credit and market loss events. The only case where there appeared to be some correlation involved penalties for mortgage practices in connection with the credit losses of the Global Financial Crisis. However, in reality, there is a material timing mismatch between the large operational risk losses that occurred during the GFC and credit and market risk losses because the actual loss to the bank was generally recognized several years later. In practice, this means that any estimate of operational risk capital needs to be substantially discounted.

- The proposal also fails to acknowledge that U.S. banks are already required to capitalize for operational risk through the Federal Reserve's stress test. The proposed rule would create $2 trillion in phantom operational risk assets; another $1.5 trillion in phantom assets (effectively) already results from the SCB that is calculated in the Federal Reserve's annual stress test, whose latest iteration assumed $188 billion in aggregate operational risk losses. The combination of both minimum requirements and stress buffer requirements results in massive over-capitalization for operational risk, even assuming perfect correlation with other risks.

- The proposal ignores relevant data in calibrating the operational risk capital requirement. As described in detail below, a recent study shows that, based on 20 years of actual loss data for U.S. banks, the proposed operational risk charge, in combination with the existing SCB charge, assumes operational risk losses that are multiples of the largest losses experienced by banks in any year over that 20-year period, which includes all litigation losses associated with the Global Financial Crisis.

  The agencies could have obtained access to loss data through the regulatory FR Y-14Q dataset that includes information on operational loss amounts, loss classifications and loss descriptions since the early 2000s. However, there is no indication in the proposal that they made use of it, resulting in an approach to operational risk that is seemingly arbitrary and unsupported by data.

- One source of the overstatement of operational risk is a material over-capitalization for the risk arising from fee-related income. Unlike the calculation of the interest component and the financial component of the business indicator for operational risk, the services component does not offset revenues with expenses. There is also no upward limit on the size of the services component; in contrast, for the interest component, there is a cap set at 2.25 percent of interest-earning assets. This method of deriving operational risk RWAs disincentivizes banks from diversifying their income streams away from net interest income and runs counter to sound risk management practices.

  This problem has an outsized effect on U.S. banks, which have a higher proportion of fee-oriented banks than other jurisdictions, especially when including Category III and IV banks and considering the recent trends in the evolution of U.S. banks' fee income. As detailed in this letter, 12 of the 15 banks with the highest noninterest income relative to RWAs are subject to U.S. capital rules. Thus, it is surprising that this flaw in the 2017 Basel agreement did not receive attention in the proposal.

- The vastly overstated base operational risk charge in the proposal is, in turn, subject to a bank-specific "internal loss multiplier" ("ILM") floored at one, designed to assess whether that bank's individual operational risk loss history differs from the norm. There are two major problems with this approach. First, the proposal reflects a belief that unfavorable loss experience is relevant and should raise a bank's capital charge but simultaneously indicates that favorable loss experience is irrelevant and cannot lower that very same charge. Second, past operational loss events are not, in fact, a reliable predictor of future operational risk losses. As the United Kingdom regulators (along with regulators in the European Union) found in rejecting the multiplier, many operational loss events are "low-probability high-impact events," which, given their heterogeneity, "are generally not good predictors of other unlikely events and therefore future losses." Furthermore, the multiplier is based on data from the previous 10 years, but the "information value of operational risk losses generally diminishes over time as business models and lending activities

change."[15] The proposal does not address these concerns and therefore lays out a fundamentally flawed approach to capitalizing operational risk.

As detailed below, there are numerous other components of the operational risk charge that are based on no data or analysis and result in a significant misstatement of the risk of various financial activities. The current proposal with respect to operational risk capital needs to be thoroughly reconsidered and re-proposed with a lower calibration, and once it is adopted, the operational risk component of the Federal Reserve's stress test needs to be eliminated.

Market Risk

The proposed rule would produce outsized increases in market risk capital despite no indication that firms have undercapitalized those activities, including during numerous recent periods of market stress. According to the proposal, market risk RWAs are expected to rise 77 percent for Category I and II bank holding companies. The increase results from the proposal to require market risks to be capitalized using either a standardized approach that, among other problems, does not sufficiently recognize the benefits of diversification, or a models-based approach that determines a substantial part of the capital requirement through a draconian stress test. Additionally, the eligibility requirements for the models-based approach lack empirical support and have the potential to introduce volatility and uncertainty into capital requirements, as banks could be forced to switch between applying models-based and standardized approaches due to the inability to "pass" arbitrary tests.[16]

Even more concerning, the proposed rule completely ignores that overall capital requirements for market risk are set through both the regulatory capital rules (which the proposal would revise) and the Federal Reserve's annual stress test and resulting capital charge (the SCB), in particular the use of the Global Market Shock ("GMS") component of the Federal Reserve's stress test. Both the GMS and FRTB assess market risk under extreme stress conditions and assume prolonged periods of illiquidity during which banks are unable to hedge or close out positions. Therefore, implementing the new market risk rule without adjusting the GMS in the stress tests would lead to a considerable over-capitalization in the capital requirements for market risk.

If adopted, the proposal would harm U.S. capital markets, given the important role banks play in those markets. An unjustified increase in market risk capital requirements would raise the cost of debt and equity financing while reducing market liquidity. The increase in the costs of debt financing and hedging activities would translate to increased prices for consumers as they purchase homes, automobiles or other goods and services.[17] In addition, the proposal would reduce the liquidity of the U.S. capital markets,

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15 Bank of England, *CP16/22 – Implementation of the Basel 3.1 standards: Operational risk*, (Nov. 30, 2022), https://www.bankofengland.co.uk/prudential-regulation/publication/2022/november/implementation-of-the-basel-3-1-standards/operational-risk.

16 *See* Greg Hopper, *The New Profit and Loss Attribution Tests: Not Ready for Prime Time*, Bank Policy Institute (Dec. 14, 2023), *available at* https://bpi.com/the-new-profit-and-loss-attribution-tests-not-ready-for-prime-time/#:~:text=In%20light%20of%20these%20fundamental,reporting%20and%20monitoring%20purposes%20only, and attached as Appendix 5.

17 With respect to the increased costs of hedging that would result from the proposal, see David Murphy and Sayee Srinivasan, *Capital proposal: Endgame for a robust U.S. derivatives market?*, ABA Banking Journal, *available at* https://bankingjournal.aba.com/2023/11/capital-proposal-endgame-for-a-robust-u-s-derivatives-market/, and attached as Appendix 6 ("It is highly likely that banks will react to these proposals, if

which would drive up the cost of funding for American businesses and negatively affect investment and retirement savings for millions of Americans.

The treatment of CVA risk would exacerbate the adverse effects on banks' trading activities. Currently, CVA is included only in the Advanced Approaches; because the current capital regime does not apply the SCB to the Advanced Approaches capital ratios, the RWAs resulting from the Advanced Approaches generally are not the binding capital requirements for banks with significant trading activities. The proposal would fundamentally change the treatment of CVA risk by including CVA in the Expanded Risk-Based Approach RWAs, to which the SCB would apply. By the agencies' own analysis, taking into account market RWAs, CVA RWAs and operational risk RWAs the agencies attribute to trading activities, RWAs for trading activities would more than double, increasing by 157 percent.

Tailoring

The proposed rule, in conjunction with other rules proposed over the summer, would have the practical effect of repealing the tailoring provisions of the Economic Growth, Regulatory Relief and Consumer Protection Act of 2018, at least with respect to capital and related requirements. Although the agencies certainly have the right to identify to Congress laws with which they disagree, they lack the authority to override Congress and must implement all statutory mandates. Although the regional banking turmoil of 2023 may merit some change to the law, Congress has not enacted any such changes; rather, through their actions the agencies have assumed the lawmaking process.

The proposed rule would largely apply the same capital requirements to banks in Categories I through IV, namely by (i) requiring banks in Categories I through IV to calculate RWAs in the same manner, including by requiring Category III and IV banks to move to the dual-stack approach previously only required for Category I and II banks; (ii) requiring Category III and IV banks to recognize unrealized gains/losses on available-for-sale ("AFS") debt securities and most other elements of accumulated other comprehensive income ("AOCI") in regulatory capital; (iii) requiring Category III and IV banks to apply the capital deductions and minority interest treatments that currently apply to only Category I and II banks; (iv) applying the Supplementary Leverage Ratio ("SLR") and countercyclical capital buffer ("CCyB")to Category IV banks; and (v) requiring all Category I through IV banks – regardless of the extent of their trading activities – to calculate market RWAs under the revised market risk capital rule. Some of these changes conceivably could be justified as a reaction to events of March 2023; the majority, however, bear no relation. Furthermore, even where change is deemed necessary, the agencies have failed to tailor requirements and instead have opted to treat mid-sized banks the same as GSIBs. In particular, requiring Category IV banks to apply a dual-stack approach – meaning those banks must calculate their capital ratios using both the current U.S. Standardized Approach and the Expanded Risk-Based Approach, with the lower of the two being the binding capital requirement – would impose undue costs and burdens without a commensurate supervisory or policy benefit.

Summary

This proposal is the most radical transformation of bank regulation in the last decade. The largest banks in the country, which represent 80 percent of total bank assets, would be forced to increase their capital materially – by the Agencies' estimate, by 16 percent on average. The industry's estimates show a

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finalized, by increasing fees for providing market access, reducing the amount of risk that they allow clients to transfer, and refusing to provide access at all to the least profitable clients.").

far greater impact, with many banks estimating an increase of over 20 percent and with the GSIBs needing to increase capital by 25 percent.[18] In particular, banks with higher levels of fee income may see their capital requirements surge by more than 50 percent due to the new operational risk charges. Furthermore, trading assets are set to experience a capital requirement increase of over 70 percent.

This extraordinary increase in capital charges – both overall and in individual products and sectors – is not justified in the proposal by any adverse developments in the banking sector, and we are unaware of any justification. In particular, it is widely accepted, including by the regulators, that the bank failures in 2023 were not caused by inadequate capital. Nor does the proposal seek to explain in any concrete detail why any of the individual proposals for capital charges are more closely aligned with the risk in the particular component than the current risk requirement. In the absence of a demonstrated need for a sharp change in capital requirements, there should be a substantial burden of proof on the agencies to justify those changes. The agencies are far from carrying that burden of proof.

The current banking model is not broken, but the proposal creates a risk of breakage. As the agencies have acknowledged, the banking system has been strong and resilient in confronting recent macro-economic challenges. The industry built capital and liquidity to prepare for those eventualities. The capital build required by the proposal, however, would be far more demanding and would inevitably force banks out of certain business lines, require them to charge higher prices and fees, and reduce the number of marginal customers – all to the detriment of the Americans saving for their retirements, consumers of goods and services, small businesses, companies seeking access to the capital markets, businesses seeking to hedge risk, pension funds and even smaller banks not subject to the proposal – ultimately, the entire American economy.[19] The agencies should require far more justification than what is in the proposal to risk that result.

We urge the agencies to fundamentally reconsider this proposal and conduct a rigorous and comprehensive assessment of the first- and second-order consequences that changes to the capital framework could cause. We highlight specific issues for further consideration throughout this letter.

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[18] *See* Letter from the Financial Services Forum, American Bankers Association, Bank Policy Institute and Securities Industry and Financial Markets Association to Ann E. Misback, Secretary, Board of Governors of the Federal Reserve System, James P. Sheesley, Assistant Executive Secretary, Federal Deposit Insurance Corporation, and Chief Counsel's Office, Office of the Comptroller of the Currency (Dec. 22, 2023), *available at* https://www.sifma.org/wp-content/uploads/2023/12/Associations-Letter-re-B3E-Impact-on-U.S.-GSIBs.pdf.

[19] A survey of BPI and ABA banks, discussed in detail in Appendix 1, reveals that banks expect the proposal to reduce their ability to meet the needs of customers across almost every category.

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Appendix 11 (*The Federal Reserve Should Revise the U.S. GSIB Surcharge Methodology to Reflect Real Risks and Support the Economy*)

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Appendix 13 (*Rationalizing the Global Market Shock*)

Appendix 14 (*About Excessive Calibration of Capital Requirements for Operational Risk*)

Appendix 15 (*Estimating the Implicit Capital Charges in the Stress Tests*)

Appendix 16 (*ABA and BPI Member QIS*)

Appendix 17 (*A Modification to the Basel Committee's Standardized Approach to Operational Risk*)

Appendix 18 (*Template and Instructions for the Operational Risk QIS*)

II. Due to analytical deficiencies in the proposal's assessments of both its potential benefits and its potential costs, the agencies must revise the analysis and significantly recalibrate the framework to limit the unjustifiable effect on overall capital requirements.

The proposal includes an "Impact and Economic Analysis" section of approximately 16 pages out of 1,087 total that describes how the agencies "assessed the impact of the proposal on bank capital requirements and its likely effect on economic activity and resilience."[20] With respect to the benefits of the proposal, the central conclusion of the analysis is that "[o]n balance, [the academic literature on optimal capital levels] concludes that there is room to increase capital requirements from their current levels while still yielding positive net benefits."[21] But the academic literature cited does not, in fact, support this conclusion, and the proposal's analysis does not attempt to independently quantify the benefits the agencies expect from the proposal. With respect to the costs, the analysis separately estimates the economic impacts on lending activity and trading activity, but the analysis overlooks significant drivers of additional cost in both areas and also costs related to other financial activities widely undertaken by banks. In light of these deficiencies in the proposal's economic analysis, the significant increase in capital requirements that the proposal would cause is not appropriately justified. The agencies must perform a revised analysis to correct these deficiencies and recalibrate the capital framework significantly downward prior to issuing a final rule.

A. Current bank capital levels are above the midpoint of the range of optimal estimates cited in the proposal and are close to the upper end of recent academic estimates.

The proposal justifies the substantial increase in aggregate capital requirements with the claim that "current capital requirements in the United States are toward the low end of the range of optimal capital levels described in the existing literature."[22] To support this assertion, the proposal cites seven

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[20] 88 Fed. Reg. at 64,167.

[21] *Id.*

[22] *Id*. at 64,169.

papers in a footnote. Of these, five papers suggest bank capital levels ought to be higher than they are currently, whereas two papers argue for lower optimal capital requirements. However, the cited analysis does not, in fact, support the proposal's assertion that current requirements are toward the low end of the range of optimal levels for two reasons. First, two of the seven papers cited do not provide estimates for optimal capital levels. Second, although the proposal refers to "existing literature," the agencies failed to conduct a comprehensive review of the seven papers they selected and also did not include some of the recent academic journal publications that suggest optimal capital levels are lower than current levels in the United States.

As of the end of the second quarter of 2023, the common equity tier 1 ("CET1") risk-based capital ratio, the best regulatory measure of loss-absorbing capacity on a going-concern basis, for all U.S. bank holding companies stood at 12.8 percent. Based on the papers cited in the proposal, the range of optimal estimates varies between six percent and 17.5 percent, with a midpoint of 11.8 percent.[23] Thus, even the studies cited in the proposal do not support the agencies' assertion that current capital requirements in the United States are toward the "low end" of the range of optimal capital levels.

Furthermore, the agencies should give more weight to the results of recent academic studies, which offer a more comprehensive analysis of the costs and benefits of higher capital requirements and are calibrated to match various data features, both in terms of macroeconomic quantities and prices.[24] In these frameworks, the primary benefit of higher bank capital is a reduced probability of bank failure and therefore higher GDP from lower bankruptcy costs. In contrast, the main cost of higher capital requirements is a smaller banking sector, resulting in decreased business borrowing and investment, along with a decline in GDP. The optimal level of bank capital is that which maximizes lifetime consumption for households in the economy.

These more recent and comprehensive academic papers, several of which are not cited in the proposal, provide estimates of optimal capital ratios that range from six percent to 14.5 percent, with a midpoint of 10.3 percent. Accordingly, the current CET1 capital ratio of U.S. banks, as measured using existing RWA calculation methodologies (*i.e.*, 12.8 percent), falls well within the range of optimal capital ratios.

In summary, current bank capital levels are above the midpoint of the range of optimal estimates cited in the proposal and are close to the upper end of recent academic estimates. Therefore, the partial justification given by the agencies for substantially revising and increasing capital requirements for large

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[23] *See* Francisco Covas and Bill Nelson, *U.S. Bank Capital Levels: Aligning With or Exceeding Midpoint Estimates of Optimal*, Bank Policy Institute (Sept. 18, 2023), *available at* https://bpi.com/u-s-bank-capital-levels-aligning-with-or-exceeding-midpoint-estimates-of-optimal/, and attached as Appendix 7.

[24] *See* Laurent Clerc et al., *Capital regulation in a macroeconomic model with three layers of default*, 11 Int'l J. Cent. Banking 9 (July 22, 2015), *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2629093; Vadim Elenev, Tim Landvoigt and Stijn Van Nieuwerburgh, *A Macroeconomic Model with Financially Constrained Producers and Intermediaries*, Vol. 89 Issue 3 Econometrica 1361, 1418 (May 13, 2021), *available at* https://doi.org/10.3982/ECTA16438; Juliane Begenau, *Capital requirements, risk choice, and liquidity provision in a business-cycle model*, Vol. 136 Issue 2 J. Fin. Econ. 355, 378 (May 1, 2020), *available at* https://doi.org/10.1016/j.jfineco.2019.10.004; Juliane Begenau and Tim Landvoigt, *Financial Regulation in a Quantitative Model of the Modern Banking System*, Vol. 84 Issue 4 The Rev. of Econ. Stud. 1748, 1784 (July 2022), *available at* https://doi.org/10.1093/restud/rdab088.

banks fails to engage meaningfully with the current state of academic research, which tends not to support an increase to existing capital levels.

Furthermore, the proposal does not include an independent or specific assessment of what the optimal level of capital is, which makes it difficult to ascertain exactly how the agencies came to the conclusion that the estimated benefits of the proposal outweigh the estimated costs. This is discussed further below.

B. The proposal's analysis of the economic impacts of the proposal excludes nearly half of the increase in RWAs; the agencies must correct this error, conduct a more granular cost-benefit analysis and calibrate the proposed capital framework downward accordingly.

According to the proposal's impact analysis, the average loan would see a cost increase of a mere three basis points. Therefore, according to the agencies' assessment, the proposal's impact on borrowing costs would be negligible, and its benefits for financial stability would outweigh the costs.

The agencies have estimated the effect of the proposal on the lending and trading activities of covered banks by allocating the share of the additional RWAs across all lending and trading activities. The proposal includes changes to the calculation of capital requirements for four risk stripes: credit risk, market risk, operational risk and CVA risk. Credit risk and a portion of operational risk were allocated to lending activities, while market risk, CVA risk and a portion of operational risk were assigned to trading activities.

Although the agencies' analysis is not fully transparent, we were able to estimate how much of the proposed operational risk charge is allocated to lending activities and how much to trading activities in the agencies' analysis. The proposal states: "The agencies estimate risk-weighted associated with lending activities would increase by $380 billion."[25]

Since the agencies have estimated a $400 billion decline in RWAs for credit risk, we can implicitly estimate that the lending portion of operational risk is $780 billion. The $380 billion increase in RWAs represents a 3.5 percent rise, or a 0.3 percent increase in required capital. If we assume that the cost of equity is 10 percentage points higher than the cost of debt, this leads to a three basis point increase in lending costs, consistent with the proposal's estimate. Therefore, we believe this is the analysis reflected in the proposal.

With respect to the impact of the proposal on trading activity, the proposal states: "…the agencies estimate that the increase in RWA associated with trading activity (market risk RWA, CVA risk RWA and attributable operational risk RWA) would be around $880 billion for large holding companies."[26]

Applying a similar approach to trading as to lending, we can implicitly estimate that the trading activity portion of operational risk is $172 billion. The results are summarized in Figure 1.

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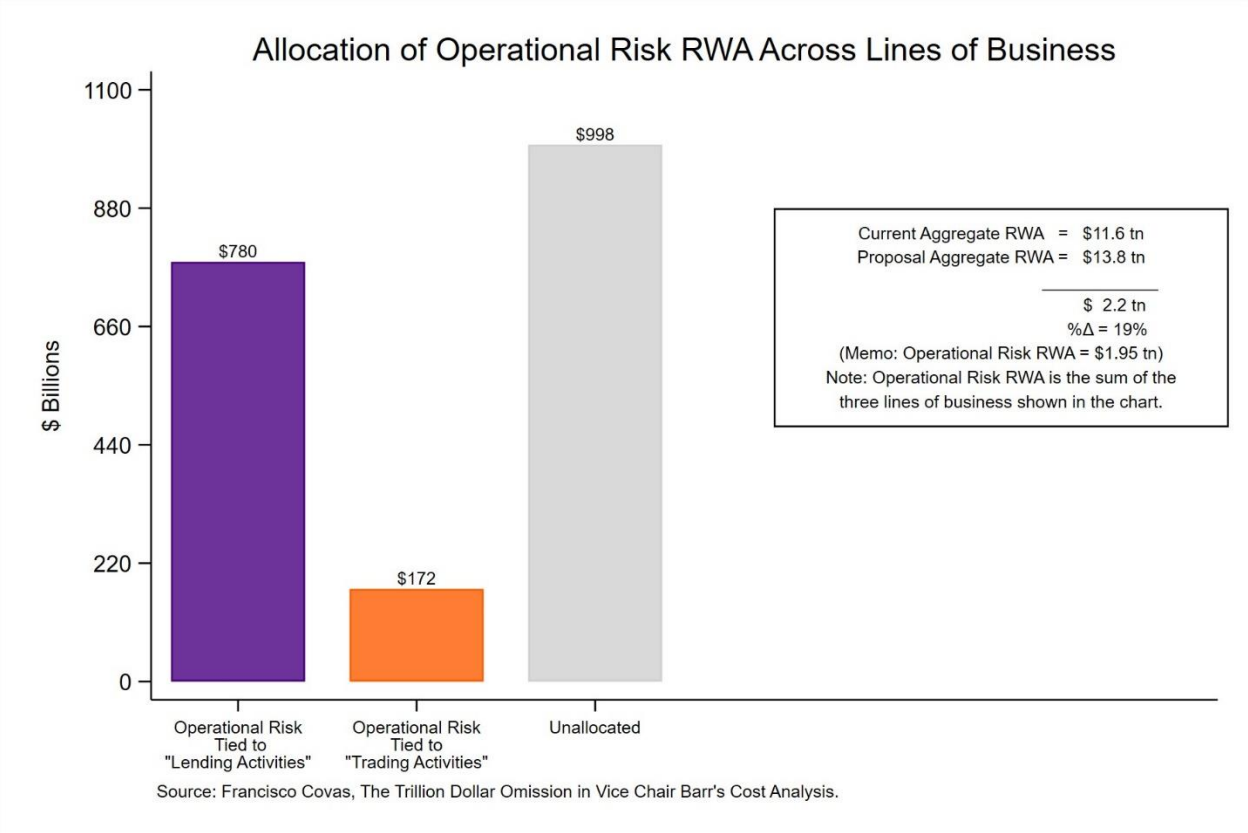
[25] 88 Fed. Reg. at 64,169.

[26] *Id*. at 64,170.

Figure 1



As the figure above demonstrates, while the agencies estimate a $1,950 billion increase in RWAs due to the proposed operational risk charge, they have omitted approximately a $1 trillion increase in RWAs in their economic impact analysis by allocating it to neither lending nor trading activities.[27] About $1 trillion of the $2.2 trillion increase in RWAs attributed to operational risk has not been allocated and is excluded from the agencies' estimation of the effects on lending and trading due to the proposed rule. Nor is the economic impact of this $1 trillion considered elsewhere in the agencies' cost-benefit analysis. This omitted amount, which the agencies implicitly associate with fee income related to other services provided by large banks, represents nearly half of the estimated increase in RWAs. Therefore, its significance is substantial, and its omission results in a meaningful underestimation of the overall economic impact of the proposal.

Given the complexity of the capital proposal, an accurate evaluation of its impact on lending and trading activities requires a careful, comprehensive examination of each component of the proposal and its effects on each of the various lines of business of banks. A survey of BPI and ABA members, discussed in further detail in Appendix 1, demonstrates that banks uniformly expect that the proposal would decrease the amount of credit they can provide, decrease the number and/or variety of customers they can serve and increase their customers' cost of credit, but banks' expectations with respect to different business lines vary considerably. The second-order, and therefore total economic, effects of any changes to capital

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27 *See* Francisco Covas, *The Trillion Dollar Omission in Vice Chair Barr's Cost Analysis*, Bank Policy Institute (Oct. 12, 2023), *available at* https://bpi.com/the-trillion-dollar-omission-in-vice-chair-barrs-cost-analysis/, and attached as Appendix 8.

requirements will depend on the way in which specific business lines are affected, but the proposal does not explore this dynamic in any meaningful way.

First, the agencies' estimate must consider the lending activity share of the missing $1 trillion in the services component of the operational risk capital charge calculation. Second, the overall impact assessment needs to consider RWA effects on banks' trading and other financial intermediation activities. Third, the economic impact analysis must consider the business practice of banks, where capital is specifically allocated to different business lines. If a bank's return on equity for a particular business line fails to exceed its cost of capital, considering all changes to capital requirements, the bank may either pass the higher funding cost to borrowers or reduce the size of the business line. This will result in the bank redirecting capital to other business lines or returning it to its shareholders.

BPI analysis, based on publicly available data, suggests that approximately one-third of the RWAs generated from the operational risk's services component is related to lending activity.[28] That includes credit card revenues, lease revenues and loan commitment fees. The other two-thirds applies to trading activities and non-banking services, such as asset management, the underwriting of securities, fees and commissions from securities brokerage and fiduciary activities. The large capital charge associated with the services component also discourages diversification by banks from net interest income. Ultimately, the higher capital charge would still affect consumers because they would bear the increased costs of financial intermediation services.

Within the services component there is notable variation in the proportion of banking and non-banking services driven by differences in banks' business models. For example, lending is most impacted in banks where the lending share of the services component is nearly 100 percent, such as those specializing in credit card and auto lending. In the case of other banks that specialize in asset management, payments and custody services, customers would also feel the impact of the proposal driven by the increase in banks' cost of providing those services.

Unfortunately, the available public data provides only a rudimentary method for categorizing fee income across business lines. Therefore, we recommend that the agencies use information from the Federal Reserve's quarterly FR Y-14 regulatory reports to assess the impact of the RWA generated from the services component on lending activity, trading and other non-banking services, and thereby more accurately assess the overall impact of the proposal on those activities. The FR Y-14 data collection gathers data on noninterest income by line of business and would allow the agencies to allocate the $1 trillion of RWA in the services component to the different business lines, such as mortgages, credit cards, small business lending, commercial lending, asset management, investment banking, custody services and sales and trading, among others.

Performing revised economic analysis that addresses the gaps and deficiencies in the proposal's current analysis will show a significant increase in the estimated costs of the proposal and that it would result in excessive capitalization of many bank activities. Not only would this over-capitalization fail to achieve a clear benefit that would outweigh the associated costs, but it would actually discourage banks from diversifying from lending activities generating net interest income. Moreover, it would create heightened financial stability risks by promoting the further migration of financial activities outside of the

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[28] *See* Francisco Covas, Paul Calem, Laura Suhr Plassman and Benjamin Gross, *A Better Way to Conduct the Economic Impact of the Basel Proposal*, Bank Policy Institute (Jan. 9, 2024), *available at* https://bpi.com/a-better-way-to-assess-the-economic-impact-of-the-basel-proposal/, and attached as Appendix 9.

banking system to non-bank financial intermediaries[29] that have proven less willing to maintain access to credit in periods of market stress.[30] In addition, because higher capital requirements would make it more expensive – and, in some cases, impracticable – for banks to provide liquidity during periods of economic and financial market stress, the proposal would make it more likely for the Federal Reserve to intervene as a "market-maker of last resort."[31]

Maintaining an appropriate balance between costs and benefits of the proposal will therefore require many adjustments to achieve significant downward adjustment of its aggregate impact. The

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29 *See, e.g.*, Sayee Srinivasan and Jeff Huther, *The Basel III endgame proposal: Yet another gift to private credit funds*, ABA Banking Journal (Nov. 3, 2023) *available at* https://bankingjournal.aba.com/2023/11/the-basel-iii-endgame-proposal-yet-another-gift-to-private-credit-funds/, and attached as Appendix 10 ("One of the consequences will be a further shift of lending to unregulated firms that are free from oversight and capital requirements, increasing the risk of financial instability."); *see also* Bill Dudley, "Bigger Financial Cushions Won't Solve Banks' Woes," Bloomberg (Sept. 11, 2023, 6:00 AM), *available at* https://www.bloomberg.com/opinion/articles/2023-09-11/the-fed-s-bank-capital-proposal-isn-t-the-right-answer ("...rising costs will inevitably make banks less competitive relative to non-bank institutions such as private credit firms and alternative mortgage lenders. This should be cause for concern because the latter face much less regulatory oversight and often no capital requirements at all. In trying to strengthen banks, the U.S. could end up with a much more fragile financial system."); *see also* A Holistic Review of Regulators: Regulatory Overreach and Economic Consequences: Hearing Before the H. Subcomm. on Fin. Institutions and Monetary Policy of the Comm. on Fin. Servs., 118th Cong. (Sept. 19, 2023), *available at* https://docs.house.gov/meetings/BA/BA20/20230919/116342/HHRG-118-BA20-Wstate-PetrouK-20230919.pdf (testimony of Karen Petrou) ("…the raft of new, bank-centric capital and resolution proposals and of rules still to come has not been constructed with the best possible or even a good, credible effort to anticipate cumulative macroeconomic and systemic consequences. As a result, perverse effects are already all too evident. These perverse consequences will quickly and significantly impair financial stability and sustained, shared growth, as the discussion of key proposals provided below will make all too clear.").

30 *See* Fleckenstein, Q., et al., *Nonbank Lending and Credit Cyclicality*, NYU Stern School of Business (Dec. 23, 2023) *available at* https://ssrn.com/abstract=3629232 (finding that non-banks were responsible for the majority of the decline in lending during the Global Financial Crisis); *see also* Aldasoro, Iñaki, Sebastian Doerr and Haonan Zhou, *Non-Bank Lending during Crises*, BIS Working Papers No. 1074 (Feb. 16, 2023), *available at* https://www.bis.org/publ/work1074.htm ("We find that non-banks cut their syndicated credit by significantly more than banks during crises, even after accounting for time-varying lender and borrower characteristics."); Ben-David, Itzhak, Mark Johnson, and René Stulz, *Why Did Small Business FinTech Lending Dry Up During the COVID-19 Crisis?*, Nat'l Bureau of Econ. Rsch. Working Paper No. 29205 (Sept. 2021), *available at* https://www.nber.org/papers/w29205. For a discussion regarding the role of nonbank mortgage lenders and servicers in particular, see Kim, You Suk, et al., "Mapping the boom in nonbank mortgage lending – and understanding the risks," Brookings Institution Commentary (Sept. 10, 2018), *available at* https://www.brookings.edu/articles/mapping-the-boom-in-nonbank-mortgage-lending-and-understanding-the-risks/; *see also* Kim, You Suk, et al., "Liquidity Crises in the Mortgage Market," Brookings Papers on Econ. Act. 347 – 428 (Mar. 8, 2018), *available at* https://www.brookings.edu/articles/liquidity-crises-in-the-mortgage-market/.

31 *See generally* Board of Governors of the Federal Reserve, "Federal Reserve announces extensive new measures to support the economy," (Mar. 23, 2020), *available at* https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm; *see also* Gara Afonso, Marco Cipriani, and Gabriele La Spada, *Banks' Balance-Sheet Costs, Monetary Policy, and the ON RRP*, Federal Reserve Bank of New York (Dec. 2022), *available at* https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1041.pdf.

remainder of this letter outlines a variety of such possible adjustments.

III. Sufficiently reducing the over-calibration embedded in the proposal requires fundamental structural and conceptual changes to the capital framework.

A. The agencies should rationalize the overall structure of the proposal to increase risk-sensitivity and eliminate unjustifiable surcharges.

A significant portion of the over-calibration of the proposal stems from unsupported structural elements of the U.S. capital framework, specifically, the interaction between the proposal's "dual-stack"[32] approach and its application of all capital buffer requirements to both stacks. This over-calibration is further aggravated by the way in which the proposal would interact with existing and proposed total loss-absorbing capacity ("TLAC") and long-term debt ("LTD") requirements, which the proposal does not meaningfully consider.

The proposal would retain a dual-stack approach in the U.S. capital framework and expand the applicability of the approach to all banks with total assets of $100 billion or more.[33] The proposal suggests this dual-stack approach is intended to "ensure that large [banks] would not have lower capital requirements than smaller, less complex [banks]."[34] However, the proposal fails to address the ways in which this approach is not sufficiently risk-sensitive – a key objective of the Basel framework[35] – and is unjustifiably designed and calibrated to produce higher capital requirements compared to the international standard.[36]

With respect to risk-sensitivity, the proposal asserts that the Expanded Risk-Based Approach "would be more risk-sensitive than the [Standardized Approach] by incorporating more credit-risk drivers (for example, borrower and loan characteristics) and explicitly differentiating between more types of risk (for example, operational risk, CVA risk)" and, as a result, would "better account for key risks faced by large

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[32] "Dual-stack" refers to the requirement that banks calculate their capital ratios using both the Standardized Approach and the Expanded Risk-Based Approach, with the lower of the two being the binding capital requirement.

[33] Banks with less than $100 billion in total assets would calculate their risk-based capital ratios using only the Standardized Approach (inclusive of market RWAs under the new market risk capital rule, if applicable).

[34] 88 Fed. Reg. at 64,030.

[35] *See, e.g.*, Basel Committee on Banking Supervision, *Basel III: Finalising post-crisis reforms*, (Dec. 7, 2017), *available at* https://www.bis.org/bcbs/publ/d424.pdf (noting that the revisions aim to promote credibility in the calculation of RWAs by "enhancing the robustness and risk-sensitivity of the standardised approaches for credit risk and operational risk").

[36] *See, e.g.*, Statement by Travis Hill, Vice Chairman, FDIC, on the proposal to Revise the Regulatory Capital Requirements for Large Banks (July 27, 2023), *available at* https://www.fdic.gov/news/speeches/2023/spjul2723b.html ("... a number of items are gold-plated from the Basel standard, including: within the credit risk framework, the risk weights for residential mortgages, retail exposures, exposures to banks and credit unions, and exposures to small businesses; within the operational risk framework, the floor for the ILM; and within the market risk framework, the requirement that banks use the standardized approach, rather than a modeled approach, for default risk charges. The U.S. is also declining to make several modifications that European jurisdictions have proposed, each of which further reinforces the relative conservatism of the U.S. approach.").

banks."[37] Yet, the proposal does not sufficiently explain why major components of the Expanded Risk-Based Approach would depart from the principle of increasing risk-sensitivity. For example, the proposal would add 20 percentage points to the Basel Committee's risk weights for each loan-to-value ("LTV") category of residential real estate exposures,[38] which would impose capital requirements higher than necessary to protect against the loss history of the financial crisis[39] and increase capital requirements for residential mortgages with higher LTV ratios, risking significant increases in cost and the reduced availability of credit for many first-time homebuyers and LMI households. More broadly, rather than proposing that banks with total assets of $100 billion or more calculate their risk-based capital ratios using only the Expanded Risk-Based Approach – or that all banks, including those with less than $100 billion in total assets, have the option to calculate their risk-based capital ratios using the Expanded Risk-Based Approach – the agencies propose to retain a dual-stack approach, which calls into question the putative rationale of greater risk-sensitivity and alignment to exposures (*i.e.*, if the agencies believed the Expanded Risk-Based Approach was uniformly more risk-sensitive than the Standardized Approach, it would logically follow that they would implement the proposal in a manner that would use only the Expanded Risk-Based Approach to calculate capital requirements for large banks – which are the focus of the proposal – and would permit the use of the Expanded Risk-Based Approach by all other banks).[40] The agencies' sole justification for requiring banks with more than $100 billion in total assets to calculate RWAs using both the Expanded Risk-Based Approach and the Standardized Approach is that this approach would "mitigate[] potential competitive benefits for large banks" by requiring that they maintain capital levels "at least as high" as banks with less than $100 billion in total assets.[41]

With respect to structural surcharges, the proposal would apply all buffer requirements – including the SCB – regardless of whether the Expanded Risk-Based Approach or the Standardized Approach produces the lower capital ratio.[42] This aspect of the proposal diverges from the existing dual-stack approach, under which, for banks subject to an Advanced Approaches capital conservation buffer requirement (*i.e.*, Category I and II banks), a static 2.5 percent capital conservation buffer requirement applies instead of the firm-specific SCB.[43] Because the Expanded Risk-Based Approach would almost

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37 88 Fed. Reg. at 64,030.

38 *Compare* 88 Fed. Reg. at 64,048 (proposing risk weights of 40 percent, 45 percent, 50 percent, 60 percent, 70 percent and 90 percent across categories of residential real estate loans based on LTV ratios), *with* Basel Committee on Banking Supervision, *Calculation of RWA for credit risk*, 24 (Dec. 8, 2022), *available at* https://www.bis.org/basel_framework/chapter/CRE/20.htm?inforce=20230101&published=20221208 (setting risk weights of 20 percent, 25 percent, 30 percent, 40 percent, 50 percent and 70 percent across categories of residential real estate loans with the same LTV ratios).

39 *See* Goodman and Zhu, *supra* note 13.

40 In addition to this incongruity, the agencies' assertion that the proposal would "reduce complexity and operational costs" appears to be offered without any corresponding analysis or support. 88 Fed. Reg. at 64,030. Independent analyses have observed that the proposed requirements, including the proposed calculation of RWAs under multiple approaches, would "impose significant operational complexity." *See* PwC, *Basel III endgame: Complete regulatory capital overhaul*, (Aug. 2023), *available at* https://www.pwc.com/us/en/industries/financial-services/library/our-take-special-edition-basel-iii-endgame.pdf.

41 88 Fed. Reg. at 64,170.

42 *See* 88 Fed. Reg. at 64,031.

43 *See id*. at 64,034.

always produce the binding capital requirement for covered banks,[44] and because the application of the SCB to the Expanded Risk-Based Approach would effectively require covered banks to over-capitalize for operational risk and certain market risks,[45] this structural aspect of the proposed framework would result in substantially higher capital requirements.[46]

The agencies must correct the structural deficiencies embedded in the proposal by addressing (i) the interaction between the proposal and TLAC and LTD requirements (existing and proposed), (ii) the calibration of the GSIB surcharge, including its interaction with elevated RWAs under the Expanded Risk-Based Approach and (iii) the application and structure of the SCB requirement, as discussed in Section III.B below.

1. The interrelationship between the proposal and the current, and proposed, LTD requirements requires a holistic evaluation before adoption.

The proposal would increase risk-based TLAC and LTD applicable to U.S. GSIBs and the IHCs of non-U.S. GSIBs, as well as the proposed LTD requirements applicable to Category II through IV banks and certain of their insured depository institution subsidiaries. The proposal would broadly increase RWAs, and the increase in RWAs would increase current and proposed TLAC and LTD requirements, among other things. The agencies acknowledged that they did not consider the potential effects of the proposal in their impact analysis on the proposed LTD requirements applicable to Category II through IV banks and certain of their insured depository institution subsidiaries, but recognized that (i) if adopted, the proposal would increase RWAs for banks covered by the proposal, and (ii) the RWA increases would "lead mechanically to increased requirements for LTD under the LTD proposal."[47] Beyond this recognition, however, the agencies have not analyzed the interrelationship between the two proposals in terms of overall costs, whether and how either proposal should factor into the design or calibration of the other, or otherwise. Nor have the agencies addressed the fact that the LTD proposal would require a significantly higher volume of LTD issuance, which could strain market capacity and increase costs for banks and, by extension, their customers, including consumers and end users. There is also no indication that the agencies have considered whether there is any evidence indicating that overall levels of loss-absorbing capacity should increase for banks currently subject to TLAC/LTD requirements. Finally, it is important to note that studies of optimal levels of capital have not considered the impact of TLAC or LTD, and the fact that the proposal would significantly increase RWAs – and, thereby, TLAC and LTD requirements – only exacerbates that shortcoming.

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[44] *See id*. at 64,168 (estimating that the Expanded Risk-Based Approach would become the "binding risk-based approach for most large banks"); *see also* Guowei Zhang, Peter Ryan and Carter McDowell, "Understanding the Proposed Changes to the U.S. Capital Framework," SIFMA (Aug. 28, 2023), *available at* https://www.sifma.org/resources/news/understanding-the-proposed-changes-to-the-us-capital-framework/.

[45] *See infra* Section III.B.1 and Section III.B.2.

[46] The agencies estimate that the proposal would increase binding CET1 capital requirements by 19 percent for holding companies in Categories I and II, six percent for domestic holding companies in Categories III and IV, and 14 percent for intermediate holding companies of foreign banks in Categories III and IV.

[47] Long-Term Debt Requirements for Large Bank Holding Companies, Certain Intermediate Holding Companies of Foreign Banking Organizations, and Large Insured Depository Institutions, 88 Fed. Reg. 64,524, 64,551 (Sept. 19, 2023).

2. The interrelationship between the proposal and GSIB surcharge requires a holistic evaluation before adoption.

The proposal would have a multiplier effect on capital requirements for GSIBs given that increases in RWAs correspond to higher capital requirements to satisfy GSIB surcharges. The Federal Reserve should address the over-calibration of the capital requirements resulting from the application of the GSIB surcharge to RWAs calculated under the Expanded Risk-Based Approach by recalibrating the GSIB surcharge to reflect (i) economic growth since the framework was finalized in 2015[48] and (ii) the broad increase in capital requirements as a result of the Expanded Risk-Based Approach. We also support the recommendations from the Financial Services Forum regarding changes to the calibration of the GSIB surcharge.

B. The proposal wholly fails to recognize and reconcile how its requirements are excessive when accounting for stress capital requirements and thereby significantly overstates risk.

In addition to the multiplier effect on capital requirements for GSIBs, the proposal would result in the excessively high calibration of capital requirements for operational risk and market risk across stress capital requirements and the new standardized Expanded Risk-Based Approach.

Although Vice Chair for Supervision Barr has attempted to distinguish between minimum capital requirements and capital buffers derived from the stress tests,[49] this argument fails for three reasons. First, it does not reflect that capital requirements are set through two aspects of the capital framework: (i) the calculation of RWAs and (ii) the determination of numerical ratio requirements, including buffer requirements; *i.e.*, RWAs determine the dollar amount of capital necessary to satisfy both minimum requirements and buffer requirements. Second, it does not reflect that, for all practical purposes, a buffer requirement is as binding as a minimum requirement in light of the severe market, reputational, supervisory and regulatory requirements of breaching a buffer. Third, there are design similarities between the underlying methodologies for calculating stress capital requirements and RWAs under the

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48 *See* Sean Campbell, Francisco Covas, and Guowei Zhang, *The Federal Reserve Should Revise the U.S. GSIB Surcharge Methodology to Reflect Real Risks and Support the Economy,* Bank Policy Institute (Oct. 11, 2023), *available at* https://bpi.com/wp-content/uploads/2023/10/The-Federal-Reserve-Should-Revise-the-U.S.-GSIB-Surcharge-Methodology-to-Reflect-Real-Risks-and-Support-the-Economy.pdf, and attached as Appendix 11.

49 *See, e.g.*, Michael S. Barr, "Holistic Capital Review," (July 10, 2023), *available at* https://www.federalreserve.gov/newsevents/speech/barr20230710a.htm ("Banks have raised concerns that the changes to the risk-based capital framework I described earlier, combined with the stress test, result in a 'double counting' of risk that is already captured in the minimum requirements. Conceptually, this shouldn't be the case, as the changes in the risk-based capital requirements affect the way that minimum capital requirements are calculated, and the stress test is used to calculate the buffer."); *see also* Michael S. Barr, "Multiple Scenarios in Stress Testing," (Oct. 19, 2023), *available at* https://www.federalreserve.gov/newsevents/speech/barr20231019a.htm ("Some people have raised this idea of whether risk-based capital requirements interact with the stress test in a way that people say double counts the risk. I would just say, conceptually, I don't think that's the right way of thinking about it. Conceptually, the risk weights that we use in our static risk-weight approach are designed to assess the minimum capital requirements for a firm, and we use the stress test process to figure out what the buffer above that minimum should be.").

Expanded Risk-Based Approach.

Under the Expanded Risk-Based Approach, RWAs would include, among other things, operational risk, CVA risk and market risk, the latest using the new market risk capital rule based on the Basel Committee's Fundamental Review of the Trading Book ("FRTB").[50] Because the Dodd-Frank Act Stress Tests ("DFAST") are designed to capture similar risks,[51] the application of the SCB to RWAs under the Expanded Risk-Based Approach would introduce excessive capital requirements for operational risk, certain market risks and CVA risk. In particular, operational risk and market risk relating to tail events and illiquidity would be capitalized through both the SCB and the Expanded Risk-Based Approach.

In his statement accompanying his vote against the proposal, Governor Waller observed this excessive calibration, stating: "Operational risk expense projections in the stress test have been just under $200 billion over the past few years. The impact analysis in the proposal suggests the enhanced standardized capital stack will have operational RWAs that are nearly $2 trillion higher than in the current standardized stack, which could lead to a more than doubling of the operational risk capital required relative to just the stress test-based requirement . . . there is no discussion on why operational risk capital needs to be an additional charge as opposed to just using the existing capital stack to absorb operational losses."[52]

Although the agencies argue that applying the SCB to banks' risk-based capital ratios resulting from both the Expanded Risk-Based Approach and the Standardized Approach would "ensure that the [SCB] requirement contributes to the robustness and risk-sensitivity of the risk-based capital requirements of banks,"[53] they do not address the fact that applying the SCB to the revised methods for calculating RWAs would effectively increase required capital for these risks. We appreciate Vice Chair for Supervision Barr's commitment to seek public comment on "whether interaction [of the proposal] with the stress test results in an inappropriate treatment."[54] To respond succinctly, it unquestionably does.

To address the excessive calibration of capital requirements and rationalize the capital framework, the Federal Reserve should:

(i) not apply the SCB to capital requirements under the Expanded Risk-Based Approach;

(ii) if the SCB is applied to capital requirements calculated under the Expanded Risk-Based Approach:

- Remove operational risk losses in the stress tests (from peak to trough) from the business indicator component ("BIC") or exclude operational risk losses from the SCB;

- Exclude CVA losses from the SCB; and

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50 The Standardized Approach would also include market RWAs using the FRTB-based market risk capital rule.

51 *See* 12 C.F.R. 252, Appendix A.

52 Board of Governors of the Federal Reserve, "Statement by Governor Christopher J. Waller," (July 27, 2023), *available at* https://www.federalreserve.gov/newsevents/pressreleases/waller-statement-20230727.htm.

53 88 Fed. Reg. at 64,034 – 35.

54 Barr, Holistic Capital Review, *supra* note 49.

- Fundamentally recalibrate operational risk RWAs, as described in more detail in Section V;

(iii) recalibrate the GMS by modifying the assumption of no liquidity over an extended period of time to one of limited liquidity;

(iv) recalibrate the GMS by removing private equity from the GMS and instead forecasting private equity losses as part of the macroeconomic scenario; and

(v) recalibrate the assumptions related to loss given default in the stress test loss projections.

These changes would mitigate some – but would not solve all – of the issues relating to structural surcharges and over-calibration. Without these changes, however, banks subject to the proposal would be required to over-capitalize these risks, which could have significant unintended consequences.[55]

1. The Federal Reserve should address the over-calibration of operational risk capital requirements due to the interplay between the SCB and the Expanded Risk-Based Approach.

Supervisory stress testing models were designed and calibrated based on the existing Standardized Approach. With the application of stress capital requirements to the Expanded Risk-Based Approach, capital requirements for operational risk would more than double because, unlike the Standardized Approach, the Expanded Risk-Based Approach contains an explicit capital charge for operational risk.[56] The dramatic increase implies that banks are, today, severely undercapitalized with respect to operational risk capital, but the agencies have provided no evidence to suggest that that is the case. To the contrary, officials from the Federal Reserve – including Vice Chair for Supervision Barr – and other leading policymakers have recognized the strong capital levels across banks subject to U.S. capital rules.[57]

BPI's top-down models indicate that the inclusion of operational risk losses in the 2022 DFAST (*i.e.*, the last stress test conducted with all covered banks participating) would result in a 118 basis point decline in the CET1 capital ratios under stress across the 32 participating banks. This is equivalent to a capital requirement for operational risk of $138 billion. The Expanded Risk-Based Approach would require banks

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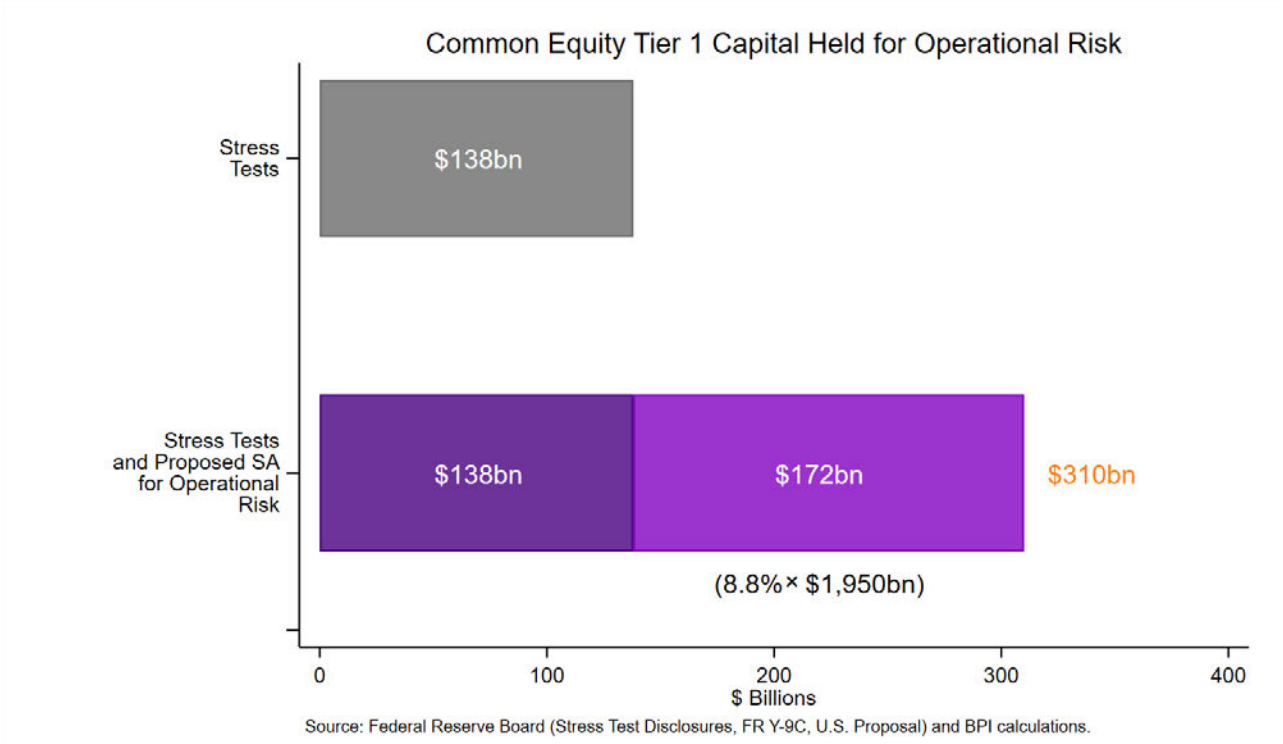
55 *See* Barr, *supra* note 49.

56 *See* Barr, *supra* note 49.

57 *See, e.g.*, Michael S. Barr, "Why Bank Capital Matters," Board of Governors of the Federal Reserve (Dec. 1, 2022) ("We have strong capital levels today, and generally higher bank capital requirements in the United States after the Dodd-Frank Act have corresponded with healthy economic growth and have supported the competitiveness of U.S. firms in the global economy . . . We're starting from a good place because capital today is strong."), *available at* https://www.federalreserve.gov/newsevents/speech/barr20221201a.htm; Board of Governors of the Federal Reserve, "Statement by Chair Jerome H. Powell," (July 27, 2023) ("The U.S. banking system is sound and resilient, with strong levels of capital and liquidity."), *available at* https://www.federalreserve.gov/newsevents/pressreleases/powell-statement-20230727.htm; CNBC News Releases, "CNBC Transcript: United States Treasury Secretary Janet Yellen Speaks with CNBC's Sara Eisen on 'Closing Bell: Overtime' Today," CNBC (May 8, 2023, 5:05 PM) (quoting Treasury Secretary Yellen as saying there is "adequate capital and liquidity in America's banking system"), *available at* https://www.cnbc.com/2023/05/08/cnbc-transcript-united-states-treasury-secretary-janet-yellen-speaks-with-cnbcs-sara-eisen-on-closing-bell-overtime-today.html.

to hold an additional $172 billion in CET1 capital.[58] If the Federal Reserve adjusted the ILM under DFAST to result in an increase in RWAs under stress, capital requirements for operational risk would be even more excessive. However, given the flat balance sheet/RWA assumption in the Federal Reserve's Stress Testing Policy Statement,[59] we do not believe the Federal Reserve would, under its current policy, be permitted to use the ILM to increase RWAs – and, thereby, operational risk capital – under stress. We urge the Federal Reserve to maintain this aspect of the Stress Testing Policy Statement to avoid exacerbating the clear problem of excessive calibration.

Figure 2



For the purposes of calculating operational risk RWAs, banks are effectively required to set aside $1,725 billion from the stress tests and another $1,950 billion resulting from the implementation of the proposal (Figure 3). This corresponds to approximately 23.7 percent of total RWAs allocated for operational risk under the U.S. proposal.

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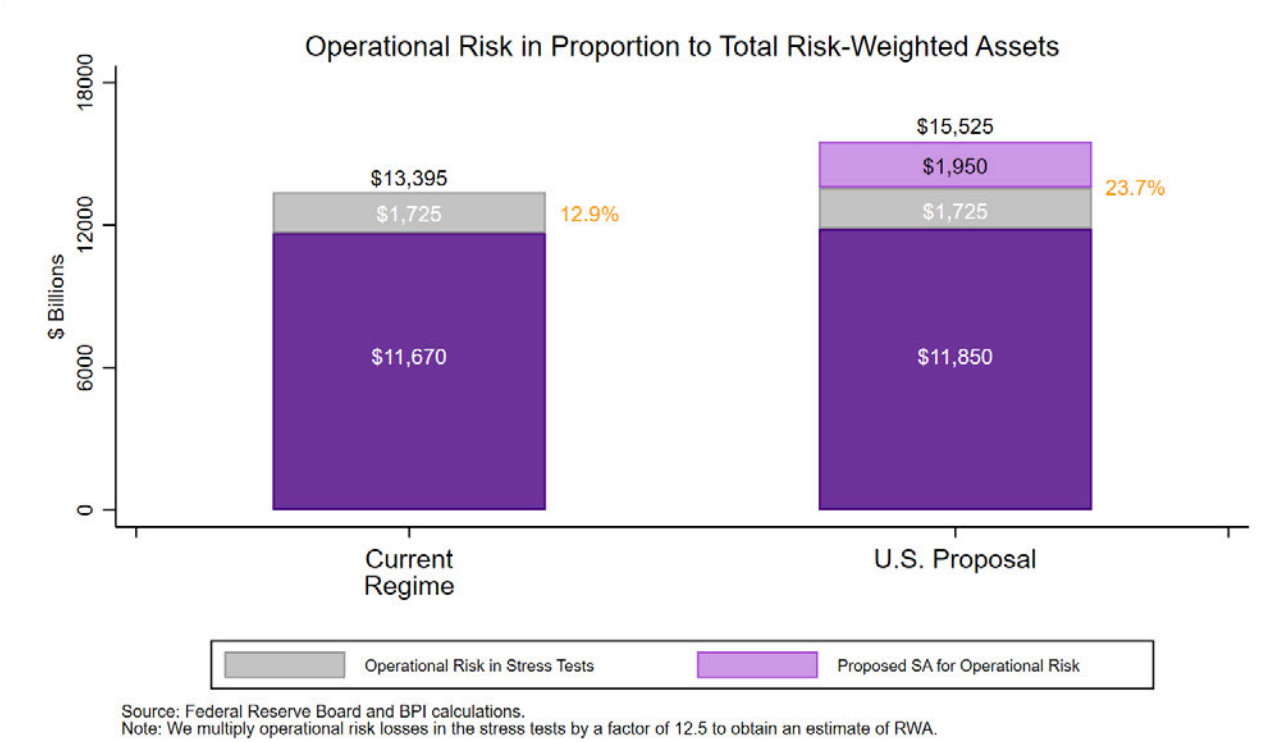
58 This figure is derived by multiplying $1.95 trillion (*i.e.*, the estimated amount of operational RWAs added by the Expanded Risk-Based Approach) by 8.8 percent (*i.e.*, the weighted average of seven percent CET1 capital requirements plus the GSIB surcharge).

59 *See* 12 C.F.R. 252, Appendix B, § 3.4 ("In projecting risk-weighted assets, the Federal Reserve will generally assume that a covered company's risk-weighted assets remain unchanged over the planning horizon."). However, RWAs under stress could increase under banks' company-run stress tests as a result of the ILM.

Figure 3



Source: Federal Reserve Board and BPI calculations.
Note: We multiply operational risk losses in the stress tests by a factor of 12.5 to obtain an estimate of RWA.

2. The Federal Reserve should address the excessive calibration of market risk capital requirements.

a) The Federal Reserve should remove private equity from the GMS and instead forecast private equity losses as part of the macroeconomic scenario, which the Federal Reserve has stated is more appropriate.

In addition to substantially reducing the calibration of the GMS, the Federal Reserve should remove private equity from the GMS. Private equity is in the banking book and should not be subjected to a mark-to-market shock developed for the trading book. The Federal Reserve has not established that the GMS is more appropriate for forecasting stress losses related to private equity exposures than using the nine-quarter macroeconomic scenario. The Federal Reserve should develop and disclose a methodology to forecast private equity exposures in the macroeconomic scenario and remove these losses from the GMS.

In addition, the Federal Reserve's existing treatment of private equity under the stress tests is inconsistent with the way losses are recognized under generally accepted accounting principles ("GAAP"). Under GAAP, banks may elect to measure the value of equity investments that do not have readily determinable values, such as private equity investments, at cost minus impairment, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer.[60]

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[60] *See* Financial Accounting Standards Board, *Investments – Equity Securities (Topic 321), Investments – Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)*, (Jan. 2020), *available at*

As discussed further in Section VI.A, because the proposal would not include a separate risk weight for non-significant equity exposures, certain investment activities would be subject to a 400 percent risk weight – four times the current risk weight for these activities. If the agencies do not implement our recommendations to modify that proposed change, the increase in RWA would justify reducing the shocks under the GMS by at least 40 percent.[61]

b) The Federal Reserve should recalibrate the GMS by modifying the assumption of no liquidity over an extended period of time to one of limited liquidity.

The combination of the FRTB and the inclusion of the GMS as currently calibrated in the SCB would result in a significant over-capitalization of market risk. The GMS grew out of the Supervisory Assessment Program ("SCAP") in 2009 and was formalized in the Comprehensive Capital Analysis and Review ("CCAR") in 2011.[62] Introduction of the GMS, which subjects banks' trading portfolios to stress shocks that might occur during extreme market conditions or a financial crisis, was intended to address the problems with Basel I and ensure that banks were adequately capitalized for market risk while the problems with Basel I were addressed. To resolve these problems, the Basel Committee began work on the FRTB in early 2009.[63] The FRTB was designed to solve the same problem already addressed by the GMS,[64] since it measures market risk under extreme market conditions or in a financial crisis.[65] Both methodologies are designed to capture the risk of long periods of complete market illiquidity. In effect, the inclusion of the GMS in the SCB as currently calibrated is designed to ensure that banks could sustain very large losses caused by profound market illiquidity in an extreme financial crisis and still have sufficient capital to withstand

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https://fasb.org/Page/ShowPdf?path=ASU+2020-01%2C0.pdf.

61 Currently, with a 100 percent risk weight for these investment activities, the average capital rate (excluding the SCB) is 8.8 percent, and the average shock related to private equity is 60 percent, yielding a total rate of 69 percent (100*0.088+60). Assuming the elimination of non-significant equity exposures, the total rate would be 95.2 percent (400*0.088+60). Thus, the shock should be reduced by 43 percent to set the total rate back to 68 percent (400*0.088+34).

62 *See* Board of Governors of the Federal Reserve, "Comprehensive Capital Analysis and Review: Objectives and Overview," (Mar. 18, 2011) ("In addition to the macroeconomic scenario provided by the Federal Reserve to all 19 bank holding companies, the six largest firms were required to estimate potential losses stemming from trading activities and private equity investments using the same severe global market shock scenario that was applied in the SCAP."), *available at* https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20110318a1.pdf.

63 *See* Basel Committee on Banking Supervision, *Revisions to the Basel II market risk framework*, (Jan. 16, 2009), *available at* https://www.bis.org/publ/bcbs148.htm ("[T]he Committee will be initiating a longer-term, fundamental review of the risk-based capital framework for trading activities.").

64 *See* Basel Committee on Banking Supervision, *Explanatory note on the minimum capital requirements for market risk*, (Jan. 2019), *available at* https://www.bis.org/bcbs/publ/d457_note.pdf (addressing the perceived weaknesses in Basel 2.5, including 10-day liquidity horizons, exclusions of tail risks and extensive diversification benefits).

65 For a more detailed analysis of how the FRTB captures the same risks as the GMS, *see* Greg Hopper, *How Can The Global Market Shock More Effectively Complement The Fundamental Review of the Trading Book?*, Bank Policy Institute (May 30, 2023), *available at* https://bpi.com/how-can-the-global-market-shock-more-effectively-complement-the-fundamental-review-of-the-trading-book/, and attached as Appendix 12.

additional very large losses produced by profound market illiquidity in another extreme financial crisis.

Since there seem to be no empirical or theoretical reasons for the excessive amount of capital required for market risk and CVA risk, the GMS shocks should be recalibrated to: (i) reduce the excessive amount of capital required between FRTB/CVA and the GMS and (ii) make the GMS calibration based on an empirically grounded and objective methodology rather than subjective assumptions.

To recalibrate the GMS, the Federal Reserve should compare the liquidity assumptions in the FRTB and the GMS to avoid capturing the same risks in both. The FRTB's liquidity assumptions are explicit (although not justified in the proposal): For equities, the period of illiquidity is 10 – 20 days; for investment grade credit, the period of illiquidity is 40 days; for high yield credit, the period of illiquidity is 60 days.[66] For the models-based approach, the FRTB captures financial crisis conditions by requiring asset shocks at the 97.5 percent confidence level, measured by expected shortfall, calibrated using one year of the most volatile market conditions[67] during periods of substantial market illiquidity.[68]

On the other hand, the GMS generally assumes longer illiquidity horizons but is relatively opaque about how it calibrates the risk factor shocks. Initially, the GMS was calibrated using a six-month illiquidity period in both the original SCAP and the 2011 CCAR exercise. Subsequently, the Federal Reserve became more vague, saying that the shocks were initially and generally calibrated to market moves in the second half of 2008.[69] In the three most recent DFAST exercises, it is unclear to what horizon the GMS was calibrated. In the 2023 CCAR/DFAST scenario, the Federal Reserve appears to calibrate to a final value slightly higher than the maximum investment grade credit default swap ("CDS") spread level in November 2008:

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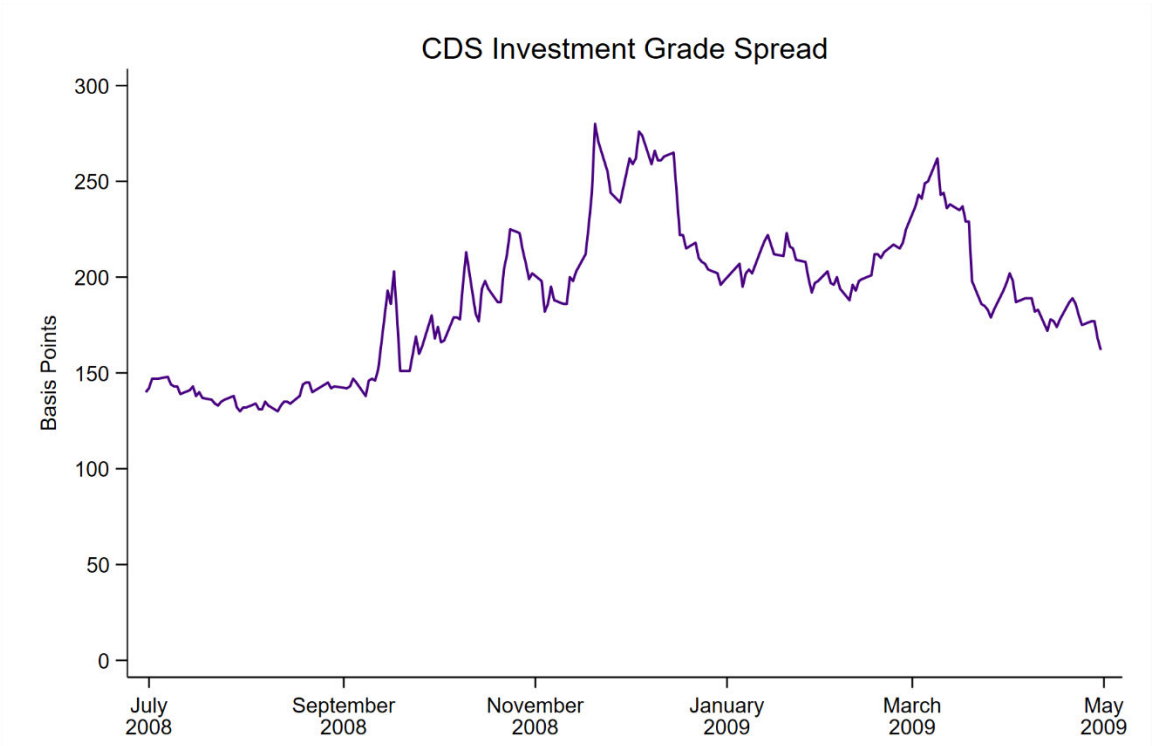
66 *See* 88 Fed. Reg. at 64,137 – 38.

67 *See id*. at 64,135.

68 Although the standardized approach in the FRTB was not expressly calibrated to a 97.5 confidence level, the calibration of the models-based approach is relevant for the standardized approach because, according to the proposal, "[t]he agencies view the proposed standardized measure for market risk as sufficiently risk sensitive to serve as a credible floor to the models-based measure for market risk." 88 Fed. Reg. at 64,110.

69 *See* 12 C.F.R. 252, Appendix A, § 5.2.3 ("… the market shock component for the severely adverse scenario will incorporate key elements of market developments during the second half of 2008, but will also incorporate observations from other periods or price and rate movements in certain markets that the Board deems to be plausible, though such movements may not have been observed historically. Over time, the Board also expects to rely less on market events of the second half of 2008 and more on hypothetical events or other historical episodes to develop the market shock.").

Figure 4



In the 2021 DFAST scenario, the GMS investment grade CDS shock was unprecedented. The Federal Reserve has stated that it chooses its calibration horizons of the risk factor shocks to account for "unpredictable liquidity conditions that prevail in times of stress."[70] However, the choice of six months or any other historical period to account for uncertainty is arbitrary.[71] Moreover, the six months of losses are assumed to happen instantaneously, with no ability of a bank to re-hedge. In other words, this assumption implies that a bank could not exit its equity, Treasury or other security holdings for six months while it accrues losses, and it could not hedge such losses because of market illiquidity. These assumptions do not align with the Federal Reserve's policy objectives of designing a conservative but plausible scenario.[72] In sum, the FRTB's liquidity horizons are explicit and based on specified confidence intervals. By contrast, the GMS liquidity horizons are opaque, and appear to be highly subjective.[73]

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70 *See, e.g.*, Board of Governors of the Federal Reserve, "2023 Stress Test Scenarios," 10 (Feb. 2023), *available at* https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20230209a1.pdf.

71 *See* 12 C.F.R. 252, Appendix A, § 3.2 ("For instance, market shocks that might typically be observed over an extended period (*e.g.*, six months) are assumed to be an instantaneous event which immediately affects the market value of the companies' trading assets and liabilities.").

72 *See* 12 C.F.R. 252, Appendix A, § 5.2.2.

73 *See* Board of Governors of the Federal Reserve, 2023 Stress Test Scenarios, *supra* note 70 ("shocks to risk factors in more-liquid markets, such as those for government securities, foreign exchange, or public equities, are calibrated to shorter horizons (such as three months), while shocks to risk factors in less-liquid markets, such as those for non-agency securitized products or private equities, have longer calibration horizons (such

Although the Federal Reserve has never explained how it designs the GMS shocks, it appears the shocks are designed to target either a spread level or a default probability for spread shocks and a fair-value level for equity shocks. Using that methodology, shocks would be worse if spreads were tighter or equities were overvalued. That methodology could be used if the shock calibration were being subjectively determined, but it is not necessarily consistent with an econometric model. To develop an objective way to compare the FRTB illiquidity assumptions to those of the GMS, we can simulate equity prices and CDS spreads using econometric models starting on the as-of date of the last three GMS exercises.[74] For example, to compute the 99 percent[75] worst equity loss over 20 days for the S&P 500, we would simulate 20-day equity paths using as the starting value the S&P 500 on each of the as-of dates of the last three GMS tests.

Figure 5

Simulated S&P 500 Shocks
Compared to FRTB and GMS

	2023 GMS	2022 GMS	2021 GMS
Days	25	25	25
Shock	-43.2%	-42.6%	-43.2%
Days	20	20	20
Shock	-36.6%	-36.6%	-37.1%
Days	10	10	10
Shock	-25.3%	-24.9%	-23.9%
Actual GMS	-26.3%	-38.3%	-26.0%
FRTB Liquidity Assumption (Days)	10	10	10

The above table shows the simulated equity shocks produced at the 99 percent confidence level at various horizons for the S&P 500. We use 99 percent to maintain comparability with the FRTB, which calibrates estimated shortfall to a 97.5 percent confidence level, equivalent to a 99 percent VaR when returns are normally distributed. For example, using a 20-day horizon, the 99 percent shock was -36.6 percent using the starting value of the 2022 GMS. Thus, if we assumed that the period of illiquidity was 20 days, so that the S&P 500 could not be bought, sold or hedged over that period, then a position that a bank is forced to sit on for 20 trading days would have lost 36.6 percent in value at the 99 percent confidence level. Judging from the vantage point of the simulation, the 2022 GMS of -38.3 percent appears to assume roughly a 20-day period of illiquidity.

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as 12 months)").

74 For more details on the analysis presented in this section, *see* Greg Hopper, *Rationalizing the Global Market Shock*, Bank Policy Institute (Oct. 17, 2023), *available at* https://bpi.com/rationalizing-the-global-market-shock/, and attached as Appendix 13.

75 We use a 99 percent confidence level for the simulations since the 97.5 percent confidence level used for the expected shortfall in the FRTB methodology is equivalent to a 99 percentile VaR when asset returns are normally distributed.

Comparing the simulated shocks to the GMS shocks in general, we can see that over the last three GMS exercises, the U.S. public equity GMS stress seems to be calibrated to between a 10- to 20-day illiquidity horizon at a 99 percent confidence level under stressed market conditions. It is worth noting that the 2023 Stress Test Scenarios issued by the Federal Reserve stated that public equity shocks were calibrated to a three-month liquidation period,[76] but the results suggest the GMS shocks actually assumed a 10-day period of illiquidity in 2023 when stated in FRTB-equivalent terms. Thus, the equity shock in the GMS, at least over the most recent GMS tests, is essentially repeating the FRTB illiquidity assumptions.

The following tables repeat the analysis for investment grade and high yield CDS spread shocks. Comparing the GMS shocks to the simulated CDS shocks, the results suggest strongly that the GMS shocks for investment grade CDS spreads are indeed calibrated to a period of six months or longer when compared to the FRTB. We see the same result for high yield CDS spreads. High yield spread shocks seem to be calibrated to a six-month liquidation period at a 99 percent confidence level under stressed market conditions.[77]

Figure 6

Simulated IG CDS Spread Shocks
Compared to FRTB and GMS

	2023 GMS	2022 GMS	2021 GMS
Days	126	126	126
Shock	187.2%	199.1%	189.7%
Days	90	90	90
Shock	156.5%	146.3%	150.2%
Days	60	60	60
Shock	110.7%	112.5%	105.8%
Days	40	40	40
Shock	83.7%	83.3%	83.1%
Days	20	20	20
Shock	54.5%	53.8%	55.2%
Days	10	10	10
Shock	37.5%	37.8%	37.2%
Actual GMS	177.4%	326.7%	548.2%
FRTB Liquidity Assumption (Days)	40	40	40

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[76] *See* Board of Governors of the Federal Reserve, 2023 Stress Test Scenarios, *supra* note 70.

[77] We recognize that credit and most other spread shocks are defined under the current GMS methodology in basis points. Thus, in percentage terms, IG shocks will always be larger than HY shocks because spreads are tighter for IG, so any given spread increase in basis points will result in a larger percentage shock due to a smaller denominator for IG.

Figure 7

Simulated HY CDS Spread Shocks
Compared to FRTB and GMS

	2023 GMS	2022 GMS	2021 GMS
Days	126	126	126
Shock	204.3%	200.8%	195.2%
Days	90	90	90
Shock	146.1%	142.8%	142.7%
Days	60	60	60
Shock	97.5%	101.1%	97.8%
Days	40	40	40
Shock	70.6%	69.5%	68.5%
Days	20	20	20
Shock	44.0%	42.5%	43.5%
Days	10	10	10
Shock	28.6%	29.0%	29.1%
Actual GMS	80.0%	206.8%	247.8%
FRTB Liquidity Assumption (Days)	60	60	60

It is unclear why there is such a vast discrepancy between the illiquidity assumptions used for equities and CDS in the GMS. It is understandable that credit markets are assumed to be more illiquid than equity markets during a crisis, but the difference in assumptions is notable. When compared to the FRTB, the GMS equity shock repeats the FRTB. However, the GMS credit shocks repeat the FRTB many times over. The GMS shocks could be substantially reduced while maintaining realistic, but conservative, illiquidity assumptions that do not repeat the FRTB.

Finally, if the Federal Reserve declines to modify the GMS along the lines suggested in this letter, it should exclude the impact of GMS-related losses from SCB calculations, including the CVA component. Alternatively, the Federal Reserve could use the GMS like the exploratory market shock (*i.e.*, for informational and supervisory purposes, but not to set buffer requirements).

c) The Federal Reserve should either modify the large counterparty default or exclude the impact of LCD-related losses from SCB calculations.

The Federal Reserve should also modify the large counterparty default ("LCD") given its overlap with the FRTB and the standardized approach to counterparty credit risk ("SA-CCR"). If the Federal Reserve declines to modify the LCD, it should exclude the impact of LCD-related losses from SCB calculations. At a minimum, the Federal Reserve should align the LCD calibration with standard counterparty credit risk assumptions (*e.g.*, with respect to margining practices).

3. The Federal Reserve should adjust the calibration of the assumptions related to loss given default in the stress test projections to align with banks' own loss experience and risk-mitigating actions taken during stress periods.

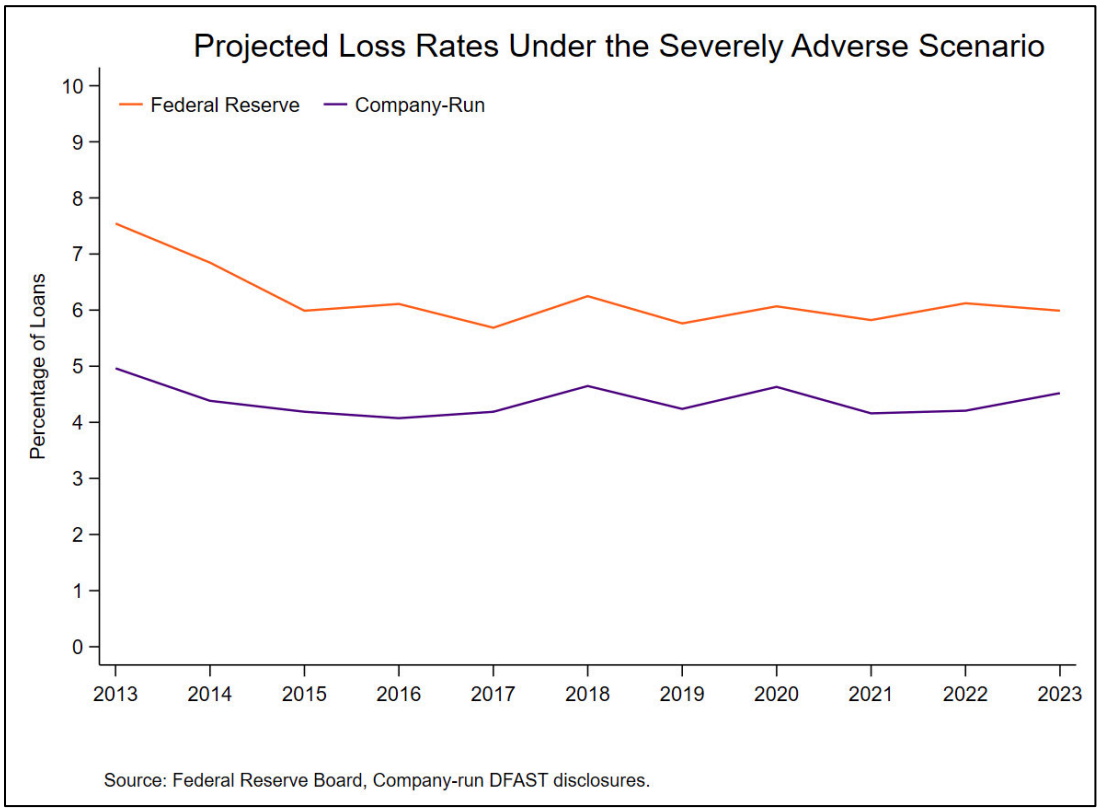
The significant increase in RWAs proposed under the Expanded Risk-Based Approach, combined with potential upcoming changes in the Federal Reserve's calculation of the allowance for credit losses ("ACL") in the stress test, would lead to an even greater increase in capital requirements. The Federal Reserve should adjust the calibration of the assumptions related to loss given default in the stress test loss projections to be more in line with banks' own loss experience and risk-mitigating actions taken during stress periods. These adjustments would prevent the potential upcoming changes in the Federal Reserve's allowance calculations from further increasing banks' capital requirements without any change in risk.

Banks subject to DFAST have adopted the current expected credit loss ("CECL") framework as of January 1, 2020, in both their business-as-usual operations and capital stress tests. However, the supervisory stress testing methodology still uses the incurred loss model framework for calculating allowances for credit losses. The Federal Reserve may incorporate CECL into DFAST as early as 2025.[78] Determining appropriate allowances under CECL is a complex process, which can have a significant impact on the supervisory stress test results and SCB requirement.

In addition, the Federal Reserve's projections of losses have consistently been higher than banks' own projections (Figure 8 below includes all Category I through III banks, which adopted CECL in 2020 and report company-run results at least once every two years).

[78] *See* Federal Reserve Board, "Comprehensive Capital and Analysis Review and Dodd-Frank Act Stress Tests: Questions and Answers," (Dec. 20, 2023), *available at* https://www.federalreserve.gov/publications/ccar-qas/comprehensive-capital-analysis-and-review-questions-and-answers.htm (noting that the Federal Reserve is "extending the period of time over which it will maintain the current framework for allowance for credit losses in the supervisory stress test through the 2024 stress test cycle," but that it "continues to evaluate future enhancements to the stress test approach").

Figure 8

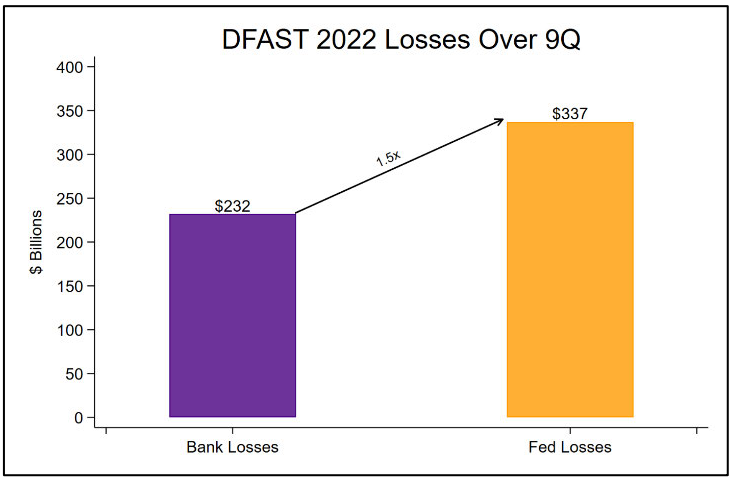


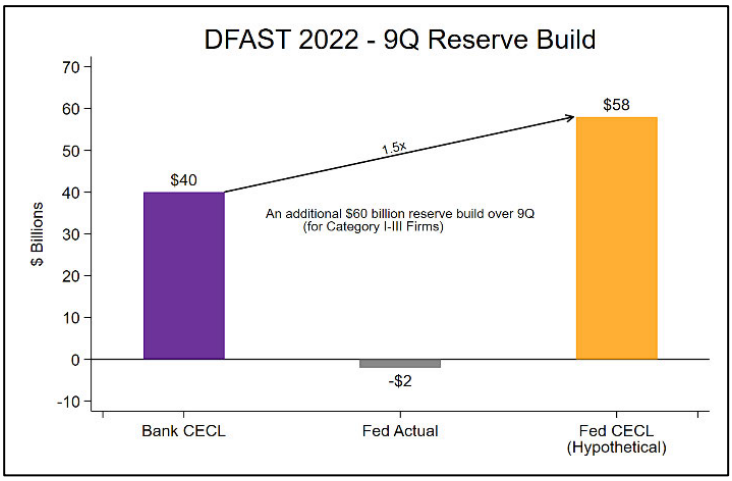
Losses from the supervisory stress test tend to be higher than banks' own projections due to differences in loss-forecasting models (most likely driven by differences in assumptions around loss given default) and balance sheet assumptions.

In setting the ACL, the assumption of imperfect foresight plays a critical role in banks' implementation of CECL reserving in stress testing. Economic forecasts often have a lag in detecting recessions, leading to gradual reserve builds over multiple quarters, mirroring banks' own actions in real time. The same applies to recognizing improvements in economic conditions post-stress, resulting in gradual releases over multiple quarters. There are alternative ways to model the gradual build of allowances for credit losses under imperfect foresight. However, even the longest period would result in earlier recognition of provisions compared to the current supervisory methodology in DFAST. The choice of approach to simulate CECL reserving in the stress test would significantly impact capital requirements for most banks. An unrealistic approach with perfect foresight or a rapid reserve build would result in higher capital needs under stress, all else being equal.

As shown in the chart below, if the Federal Reserve does not make changes to the supervisory loss models and essentially replicates banks' own CECL methodologies, the projections of provisions for loan losses would increase in DFAST and raise capital requirements through the SCB.

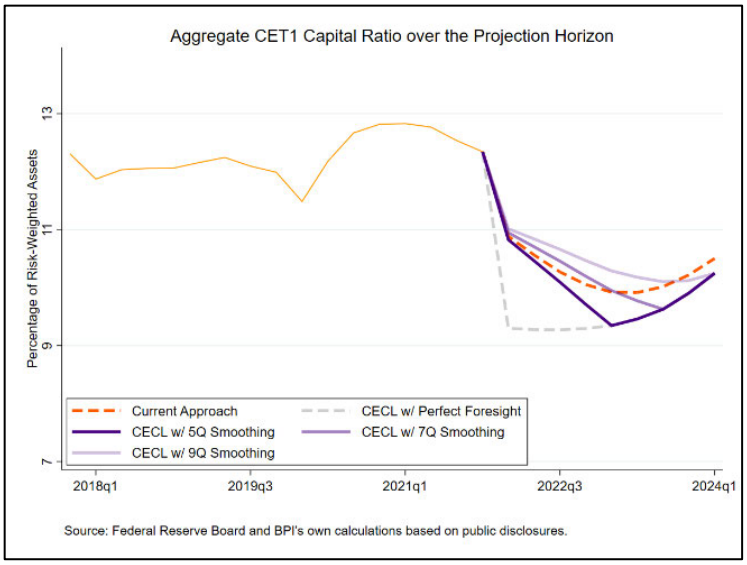
Figure 9

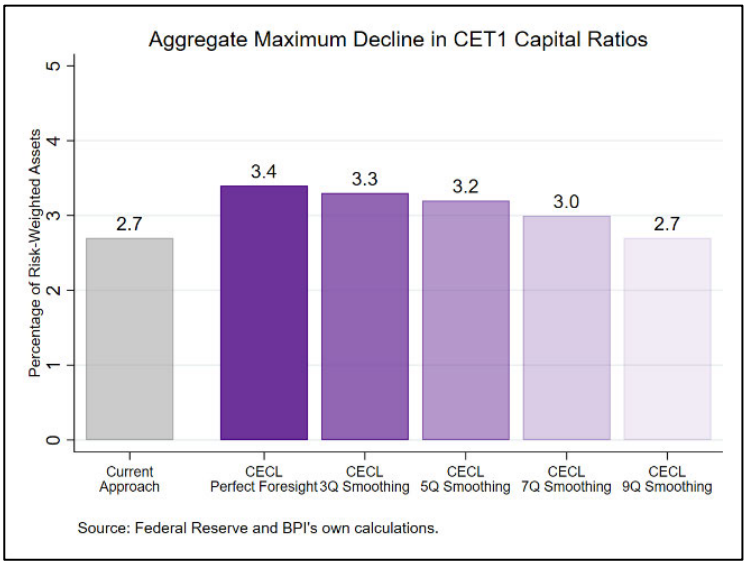




We can estimate the effect of adopting CECL on the SCB and the assumption of perfect foresight using a simple top-down model, and we find that bank capital requirements could increase by an additional 50 to 60 basis points compared with the Federal Reserve's current approach.

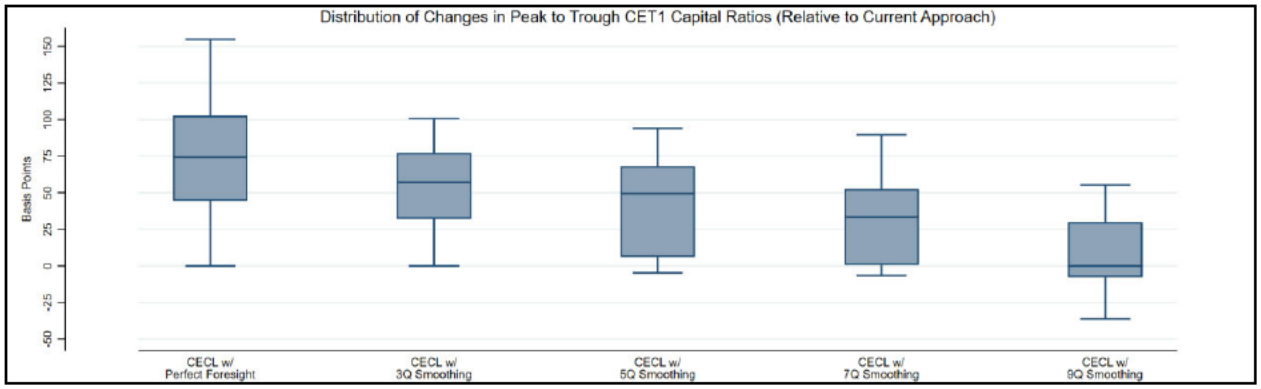
Figure 10





Moreover, the effect of the incorporation of CECL on the maximum decline in CET1 capital ratios depends on the composition of banks' own portfolios. The increase in SCB requirements could be as high as 100 basis points for certain banks. This impact is likely even higher because this estimate does not consider the impact of higher deferred tax assets ("DTAs") related to CECL allowances and threshold deductions for DTAs.

Figure 11



If the Federal Reserve decides to incorporate CECL into DFAST, it should revisit the assumptions of its loss models to move them in line with the experience that it has accumulated over the post-crisis period.

4. <u>The Federal Reserve should address timing considerations that could result in unintendedly high SCBs.</u>

If the Federal Reserve does not adopt the recommendation not to apply the SCB to capital requirements under the Expanded Risk-Based Approach, it should address timing considerations that could result in unintendedly high SCBs. Because of the flat balance sheet/RWA assumption in the Federal Reserve's Stress Testing Policy Statement,[79] the SCB is generally based on the ratio of stress losses to actual RWAs as of the prior year-end. For any given amount of stress losses, as RWAs increase, the SCB declines. For most banks, RWAs under the Expanded Risk-Based Approach are expected to be higher – and, in a number of cases, significantly higher – than RWAs under the Standardized Approach. If a bank's RWAs increase on July 1, 2025 because RWAs under the Expanded Risk-Based Approach are higher than RWAs under the Standardized Approach, that bank could face an unintended increase in capital requirements because of the application of the SCB, which is based on RWAs under the Standardized Approach, to capital ratios calculated using the higher RWAs under the Expanded Risk-Based Approach.

The below table highlights how the mismatch in timing of SCB and the Expanded Risk-Based Approach phase-in results in a bank being over-capitalized during the transition period:

Figure 12

Period Start	Period End	Actual RWA	SCB RWA	Actual RWA ($)	SCB RWA ($)	SCB $	SCB%	SCB% x Actual RWA	Excess Capital
7/1/2025	9/30/2025	ERBA point in time	Standardized as of Dec 2023	125.0	100.0	5.0	5.0%	6.3	**1.3**
10/1/2025	9/30/2026	ERBA point in time	Standardized as of Dec 2024	131.3	105.0	5.3	5.0%	6.6	**1.3**

[79] *See* 12 C.F.R. 252, Appendix B, § 3.4(a) ("In projecting risk-weighted assets, the Federal Reserve will generally assume that a covered company's risk-weighted assets remain unchanged over the planning horizon.").

In order to adjust for the timing issues highlighted above, if the Federal Reserve does not apply a static 2.5 percent buffer requirement to capital requirements under the Expanded Risk-Based Approach, the Federal Reserve should (i) align the phase-in of the Expanded Risk-Based Approach with the effective date of the SCB (*i.e.*, October 1) and (ii) apply one of the following adjustments:

- Apply a static 2.5 percent buffer requirement to capital requirements under the Expanded Risk-Based Approach until the Expanded Risk-Based Approach is fully phased in as of December 31 of the prior year, after which the Federal Reserve can calculate an SCB using the Expanded Risk-Based Approach beginning October 1, 2029;

- Apply a static 2.5 percent buffer requirement to capital requirements under the Expanded Risk-Based Approach beginning October 1, 2025 and, for subsequent years, use a fully phased-in Expanded Risk-Based Approach to calculate the SCB beginning October 1, 2026;[80] or

- Apply a static 2.5 percent buffer requirement to capital requirements under the Expanded Risk-Based Approach for the first year beginning October 1, 2025 and, for subsequent years, adjust the SCB to account for the difference between the percentage used in calculating the SCB and the current phase-in percentage (*e.g.*, 80 percent/85 percent for SCBs effective October 1, 2026).

The utility of any phase-in arrangement is to permit time for banks to reach the end-state requirement and allow stakeholders and regulators to measure banks' progress toward that end state on a quarterly basis. Accordingly, the transition period should avoid abrupt and discontinuous changes in capital requirements that do not reflect data, analysis, or a bank's actual economic exposures but instead result from unintended interactions between two different aspects of the capital framework that have developed separately over time. In addition, the introduction of the revised approach for calculating market risk RWAs for purposes of Standardized Approach capital requirements would make the existing Standardized Approach RWA calculations more conservative, so there is no scenario in which banks' capital requirements would decrease during the transition period due to an approach that addresses the interaction between the Expanded Risk-Based Approach and the SCB framework in a coherent fashion.

Finally, the Federal Reserve should revise the proposal to clarify that it would use only RWAs calculated under one approach (either the Standardized Approach or Expanded Risk-Based Approach) in the supervisory stress test for any firm for any year. This clarification would address an aspect of the proposal that, if read literally, suggests the interaction between the proposal and the Stress Testing Policy Statement could have the unintended effect of using RWAs under the Standardized Approach *and* the Expanded Risk-Based Approach over the course of the nine-quarter stress testing horizon to calculate SCBs. The Stress Testing Policy Statement provides, in relevant part: (i) "the Federal Reserve will generally

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[80] As an alternative, the Federal Reserve could, during the transition period, adjust SCB calculations to assume a 100 percent phase-in of RWAs under the Expanded Risk-Based Approach for all quarters in the stress test (including the December 31 jump-off point) so that an SCB that applies to Expanded Risk-Based Approach capital requirements is based on RWAs under the Expanded Risk-Based Approach, instead of RWAs under the Standardized Approach. We acknowledge, however, that this alternative would be complex, and probably unduly complex, particularly in the first year because it would be necessary for firms to report estimated RWAs under the Expanded Risk-Based Approach before the Expanded Risk-Based Approach takes effect.

assume that a covered company's [RWAs] remain unchanged over the planning horizon," and (ii) "the Federal Reserve will account for the effect of changes associated with the calculation of regulatory capital *or changes to the Board's regulations in the calculation of [RWAs]*."[81] The proposal would amend the definition of "regulatory capital ratio" for purposes of the regulations governing the supervisory stress test to provide that "regulatory capital ratios may be calculated using each of 12 C.F.R. part 217, subpart D, and 12 C.F.R. part 217, subpart E."[82] In contrast, the proposal would amend the definition of "regulatory capital ratio" for purposes of the regulations governing the company-run stress test to provide that a "covered company must calculate its regulatory capital ratios using either 12 C.F.R. part 217, subpart D, or 12 C.F.R. part 217, subpart E, whichever subpart resulted in the higher amount of total [RWAs] as of the last day of the previous stress test cycle."[83] The differences between the two proposed definitions appear to contemplate that the Federal Reserve may use RWAs under both the Standardized Approach and the Expanded Risk-Based Approach in the supervisory stress test. The SCB is calculated as the start-to-trough decline in a firm's CET1 capital ratio. If the Federal Reserve projects that RWAs will increase in the 2025 supervisory stress test because of the July 1, 2025 effective date of the proposal, as the italicized language from the Stress Testing Policy Statement could be read to suggest, the corresponding increase in RWAs and decline in CET1 capital ratios could factor into banks' SCBs. Factoring such a decline into SCB capital ratios does not appear to be intentional, nor would it make conceptual sense. Accordingly, the Federal Reserve should clarify the proposal to prevent this unintended outcome.

C. The inclusion of operational risk in the Expanded Risk-Based Approach is duplicative and results in a material overstatement of the capital that must be held against operational risk.

Another key source of the proposal's massive over-calibration of the capital requirements is its introduction of a new standardized approach for calculating a bank's operational risk capital requirements. Under this standardized approach, a bank's operational risk capital requirements would be a function of the BIC and a firm-specific ILM. The BIC would be calculated based on the sum of three components – an interest, lease and dividend component; a services component; and a financial component – multiplied by a scaling factor that increases from 0.12 to 0.18 as the business indicator rises. The ILM would be based on the ratio of a bank's historical operational losses to its BIC, generally increasing the bank's operational risk capital requirement as historical operational losses increase.

The proposal would introduce, for the very first time, an operational risk capital charge that is both added to credit risk capital charges calculated using standardized risk weights rather than internal models and subject to stress-based capital requirements. This represents a significant departure from the agencies' past policy. In prior rulemakings, the agencies have expressly declined to add incremental operational risk capital charges to RWAs calculated using standardized risk weights because "the general risk-based capital rules include a buffer for risks not easily quantified (for example, operational risk and concentration risk), [therefore] general banks would not be subject to an additional direct capital charge for operational risk."[84] The proposal would continue that approach for the existing Standardized Approach. But it would deviate from that approach by adding, under the new Expanded Risk-Based Approach, an operational risk capital charge to the RWAs calculated using the Expanded Risk-Based

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81 12 C.F.R. 252, Appendix B, § 3.4(b) (emphasis added).

82 88 Fed. Reg. at 64,326.

83 *Id*.

84 *See* Risk-Based Capital Guidelines; Implementation of New Basel Capital Accord, 68 Fed. Reg. 45,900, 45,902.

Approach's new standardized risk weights for credit risk. On top of that, the capital requirements resulting from the Expanded Risk-Based Approach would also be subject to the SCB, which imposes a material additional capital charge for operational risk.

The conceptual design presents two mutually exclusive possibilities. First, the addition of operational risk to the Expanded Risk-Based Approach could be duplicative, illogical and inappropriate (because operational risk remains implicitly covered by the Expanded Risk-Based Approach's new credit risk weights). Second, the Expanded Risk-Based Approach's new credit risk weights could have been carefully calibrated so as to quantify and subtract from those risk weights any portion of the risk weight captured by the Expanded Risk-Based Approach's operational risk capital charge. The second seems unlikely, as neither the proposal nor the Basel Committee's work in connection with its 2017 revisions contains any description of the relationship between the Expanded Risk-Based Approach's standardized credit risk weights and operational risk, let alone a statement of how these risk weights were calibrated so as to remove the implicit coverage of operational risk. Moreover, some risk weights remain unchanged or are even higher relative to the existing Standardized Approach, eliminating any possibility that they have been calibrated to exclude operational risk. According to the agencies' own impact analysis, credit RWAs are lower by approximately $400 billion under the Expanded Risk-Based Approach, while operational RWAs are higher by $1,950 billion. Thus, the agencies are effectively adding operational risk RWAs to a framework that already implicitly accounts for operational risk. It therefore appears that the agencies have reversed their prior position on the relationship between operational risk and standardized credit risk weights for no stated reason in favor of a policy that, as described below, is not based on a reasonable assessment of the correlation among these risk categories.

Based on analysis released by the agencies, the new operational risk charge accounts for nearly 90 percent of the increase in banks' capital requirements under the proposal. The agencies provide no analysis to explain why it is appropriate that the bulk of the increase is from operational risk. Our analysis shows the operational risk charge is materially overstated for three important reasons:

- Banks already must capitalize for operational risk losses in the SCB and stress tests, but the proposal's operational risk calibration takes no account of this fact;
- The standardized approach to operational risk overstates capital requirements relative to historical losses; and
- The approach assumes a perfect correlation of extreme operational risk losses with credit risk and market risk losses.

First, banks already capitalize for operational risk losses in the stress tests. As discussed in more detail in Section III.B.1 above, we estimate that the inclusion of operational risk losses in the stress tests results in an average decline of 118 basis points in the CET1 capital ratio for each bank. Considering that the aggregate RWAs of these banks currently amount to $11,670 billion, this equates to an operational risk capital requirement of approximately $138 billion (*i.e.,* $11,670 × 118/10,000).[85]

The combination of both the new standardized approach for operational risk and the stress test

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[85] *See* Francisco Covas, *About Excessive Calibration of Capital Requirements for Operational Risk*, Bank Policy Institute (Oct. 30, 2023), *available at* https://bpi.com/about-excessive-calibration-of-capital-requirements-for-operational-risk/, and attached as Appendix 14.

capital charge would result in a substantial overstatement of capital requirements for operational risk. To assess the amount of this overstatement, we compare the year with the highest operational risk losses recorded in data collected by ORX, the largest source of industry data on operational risk losses,[86] against the aggregate operational risk capital that banks would be required to maintain under both the Expanded Risk-Based Approach and the Federal Reserve's stress tests. This comparison presents a challenge primarily because ORX does not disclose the identities of the U.S. banks in its sample, and it is therefore impossible to compare the same sample of firms on both metrics. For this reason, we calculate the capital charges under the Expanded Risk-Based Approach and those in the stress tests in relation to banks' total revenues.

According to ORX data, 2008 was the year with the largest operational risk losses. As illustrated in Figure 13 below, these losses, relative to bank revenues in that year, amounted to 13.5 percent. ORX reports operational risk losses based on the event date (*i.e.*, it consolidates all individual operational losses relating to a single event and reports them in the period in which the underlying event occurred, regardless of when those operational losses were recognized for accounting purposes). Our analysis of the quarterly FR Y-9C data demonstrates that those losses were, in fact, distributed over a significantly longer period. For this reason, calculating those losses based on the date of recognition for accounting purposes results in a more realistic estimate of operational risk losses relative to revenues that is somewhat lower, that is, approximately 9.9 percent of total revenues.[87]

In contrast, according to the agencies' own estimates, the proposed capital charge for operational risk would be $156 billion. In 2022, the banks subject to the proposal reported total revenues of $842 billion, meaning the new operational risk charge would represent 18.5 percent of those banks' total revenues. Moreover, operational risk losses under the stress tests were approximately $138 billion, accounting for 16.4 percent of the total revenues for the banks included in the 2022 stress tests. Together, the proposed operational risk capital charge and the operational risk capital charge from the stress tests would be 34.9 percent of banks' revenues in 2022.

Based on the event date-based calculation of losses, the expected total operational risk capital charge after implementation of the proposal would therefore be 2.6 times the amount of the worst year of industry operational risk losses. However, this method significantly overestimates the operational risk losses incurred in the worst year. The more accurate accounting date-based method shows that the expected charge would be closer to 3.5 times those losses.

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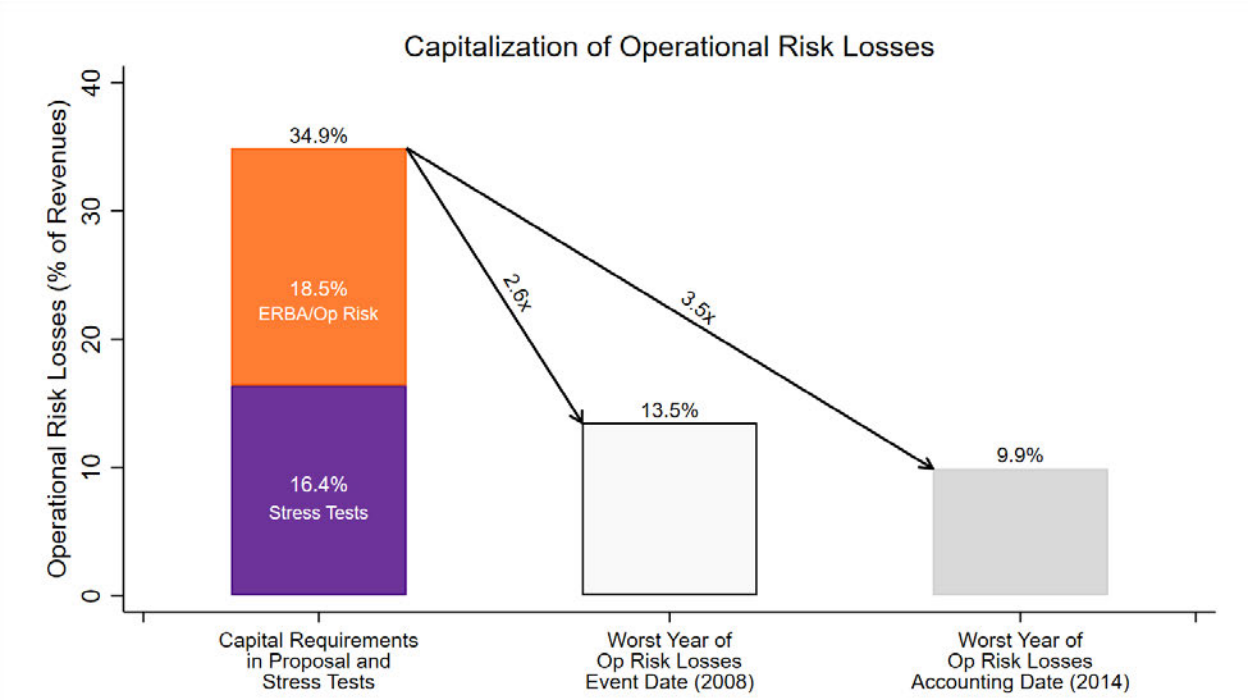
86 ORX is the largest operational risk management association in financial services, owned and driven by member institutions, which include some of the largest global banks. ORX has the largest and most comprehensive dataset on operational risk losses dating back to the early 2000s.

87 We were able to find litigation reserves by date for only the top three banks that incurred the largest operational risk losses. Consequently, if the sample of banks for which we have operational risk losses by accounting date were to match the ORX sample, the reported operational risk losses relative to revenues would be lower than 9.9 percent.

Figure 13



Second, data collected by ORX indicate that the new operational risk framework is over-calibrated as compared to historical loss data. In October 2023, ORX published a report that used 21 years of operational risk loss data to assess the calibration of the new standardized approach for operational risk, including the version included in the proposal.[88] The ORX report analyzes data on operational risk losses across various business lines. The ORX report also examines the capital adequacy of the Expanded Risk-Based Approach for operational risk among banks. Figure 14 plots the distribution of operational risk losses for each bank relative to the capital charge associated with the proposed standardized approach for operational risk included in the Expanded Risk-Based Approach, excluding the capital charges incorporated in the SCB. Specifically, it demonstrates that during the Global Financial Crisis, average operational risk losses were almost always less than 30 percent of the capital required under the new standardized approach for operational risk.[89] Moreover, the ORX loss data are reported at the event level, which means that losses spanning multiple years are consolidated into a single year. Consequently, the operational risk losses shown in Figure 14 during the Global Financial Crisis are considerably higher than what banks actually recognized in those years.

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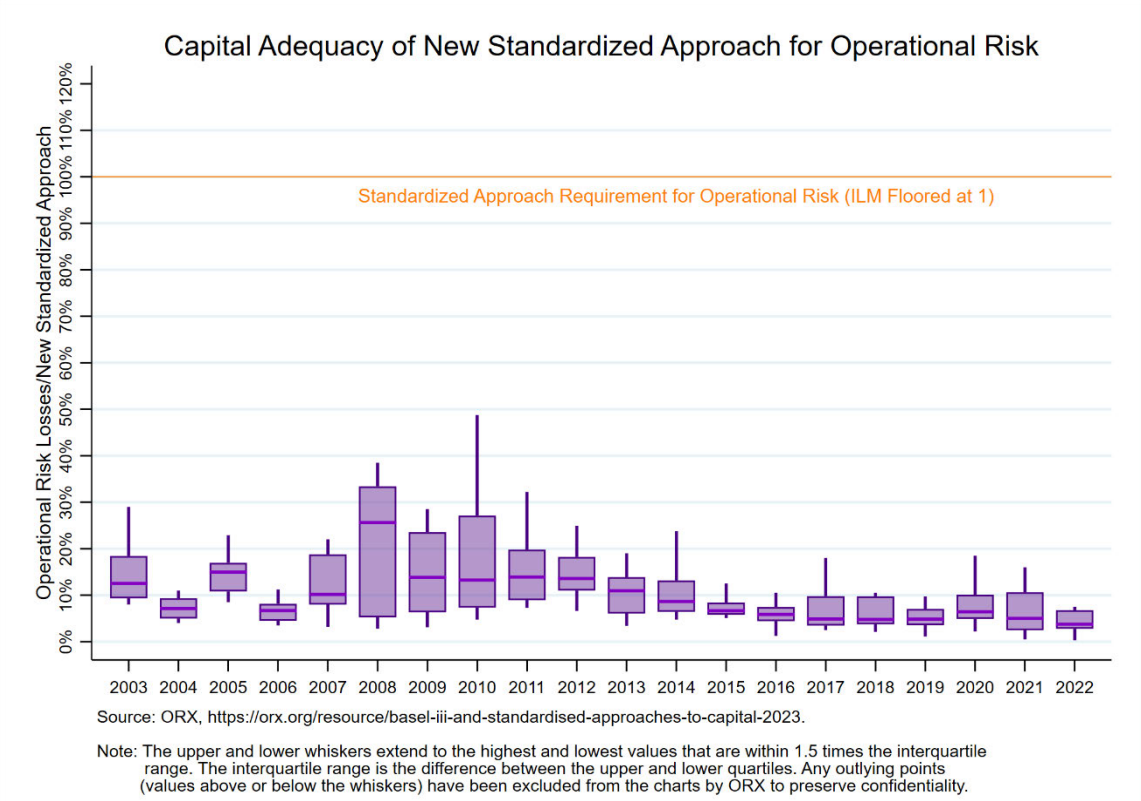
88 *See* O.R.X., "Basel III and standardised approaches to capital," (Oct. 2023), *available at* https://orx.org/resource/basel-iii-and-standardised-approaches-to-capital-2023.

89 The results provided by ORX assume the ILM is floored at one, as in the U.S. proposal. The upper and lower whiskers extend to the highest and lowest values that are within 1.5 × the interquartile range. The interquartile range is the difference between the upper and lower quartiles. Any outlying points (values above or below the whiskers) have been excluded from the charts by ORX.

Figure 14



Third, operational risk losses are unlikely to coincide with large market, credit and CVA risk losses, *i.e.*, with the risk stripes that are separately capitalized under the proposal. The proposed rule's calculation of regulatory capital involves summing RWAs arising from credit risk, market risk, operational risk and CVA risk. This method presumes that extreme losses in derivatives and credit, market and operational risks will all occur simultaneously, with a correlation of 1.0. For instance, under the 99.9 percent confidence interval assumed in the current Advanced Approaches,[90] it would mean that, if credit risk losses are in the 0.1 percent tail of the distribution of credit losses, the same is true for market risk losses, operational risk losses and CVA losses. This scenario is extraordinarily unlikely and without historical precedent. Therefore, the introduction of an explicit capital charge for operational risk into the binding capital requirement framework significantly overstates the capital requirements imposed on banks.[91]

For example, the largest operational risk losses banks incurred during the period covered by the ORX analysis were associated with mortgage underwriting and securitization leading up to the Global Financial Crisis. As illustrated with litigation expenses in Figure 15 below, banks incurred the bulk of those losses several years after the Global Financial Crisis (when banks incurred most of their derivatives, credit and market risk losses) because it takes time to bring forward legal claims and resolve those claims, which

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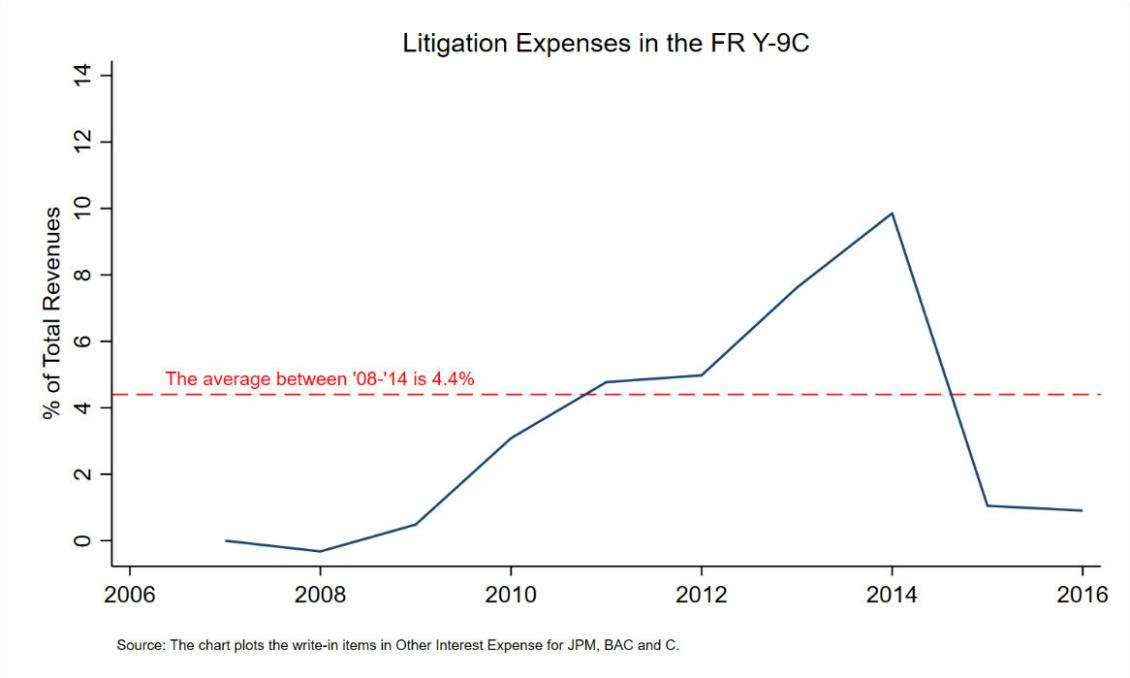
90 *See* "operational risk exposure" in 12 C.F.R. §§ 3.101; 217.101; 324.101.

91 *See* Joshua V. Rosenberg and Til Schuermann, *A general approach to integrated risk management with skewed, fat-tailed risks*, J. Fin. Econ. Vol. 79 Issue 3, 569, 614 (March 2006) (estimating that the capital requirements could be overstated by about 30 to 40 percent), *available at* https://doi.org/10.1016/j.jfineco.2005.03.001.

intuitively suggests that correlation between operational risk and other risk is low.

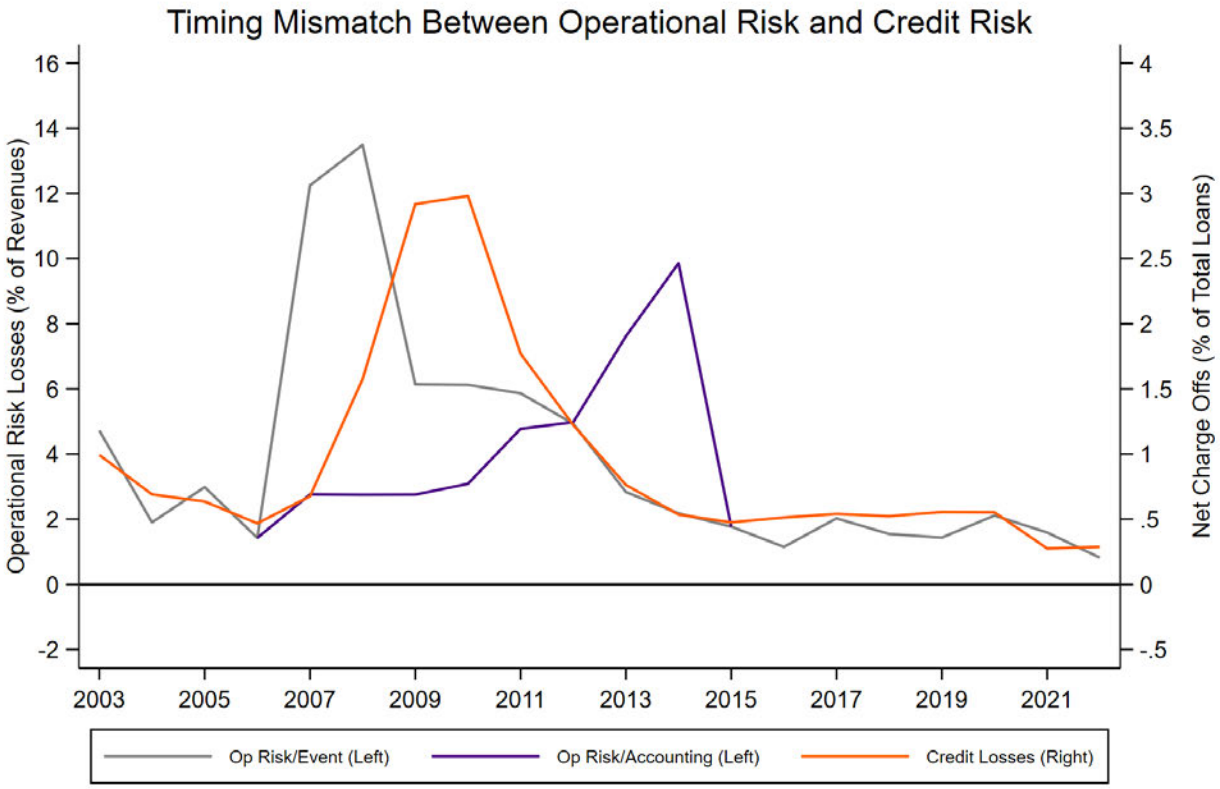
Figure 15



Comparing the timing of credit and operational risk losses bears this out. Some comparisons between operational risk losses and credit losses use the event date (the date on which the event prompting the loss occurred), but use of this date is misleading with respect to litigation losses or fines because the actual recognition of the operational loss – either through establishment of a reserve or payment of a judgment, fine or settlement – generally occurs years after the event that gave rise to the recognition of those losses. The use of event date is particularly misleading for the 2008 – 09 period, as it assumes all operational losses from legal judgments, fines and settlements associated with the Global Financial Crisis were incurred and recognized around the same time and concurrently with the recognition of credit and market losses. Using accounting date (*i.e.*, when the loss was actually recognized) shows that large operational risk losses do not tend to be recognized (*i.e.*, affect capital) contemporaneously with credit (and market) losses, as shown in Figure 16 below.[92]

[92] To estimate the accounting date for the period between 2008 and 2014, we utilized the write-in fields for other noninterest expenses in the quarterly FR Y-9C data. The specific text fields we referred to included "Litigation Expense," "Litigation and Regulatory Proceedings," "Release of Litigation Reserves," "Foreclosure Expense" and "OREO Expenses." The agencies have access to confidential supervisory data that could enable a more precise estimation of the correlation between operational risk losses and credit losses.

Figure 16



Due to these fundamental issues with the conceptual framework underpinning the operational risk elements of the Expanded Risk-Based Approach, and its resulting massive over-calibration of the operational risk capital charge, it is imperative that the agencies significantly revise and drastically lower the calibration of the operational risk capital charge required by any final rule. We propose specific adjustments in Section V below.

D. Uniform use of eight percent as the assumed binding capital requirement for purposes of translating notional capital charges to RWA amounts, particularly in the context of operational risk, is distortive and leads to excessively high capital requirements and therefore should be corrected.

There are several elements of the capital framework (both existing and proposed) that use formulas for translating capital charges to RWA amounts, or vice versa. For the purposes of these calculations, the framework assumes a uniform eight percent minimum capital requirement. So, for example, $100 in RWA would be assumed to produce an $8 capital charge, and a $100 capital charge would be assumed to equate to $1,250 in RWA. This uniform mechanism fails to account for differences among institutions' binding capital requirements (in the international framework, largely stemming from the static capital conservation buffer plus any GSIB surcharge or countercyclical capital buffer, and in the U.S. framework, stemming from any GSIB surcharge and the applicable SCB), and thereby systematically understates the true capital charges associated with different assets and activities, and results in an overstatement of RWA amounts and an over-calibrated framework.

The operational risk calculation is a good example of this issue, although it exists everywhere eight percent is the assumed minimum capital requirement for purposes of calculating RWAs or notional capital

charges. As described above, because the standardized approach for operational risk does not involve assessing the operational risk associated with each asset, exposure or activity, but instead involves assessing the operational risk of an organization in its entirety, the assessment of a bank's operational risk must be translated into a RWA equivalent for purposes of allowing operational risk to be factored into the bank's risk-based capital ratios.

The standardized approach for operational risk therefore starts by calculating the amount of capital that a bank should be required to hold against operational risk – *i.e.*, what could be thought of as the numerator of a bank's risk-based capital ratio requirement. To combine that operational risk capital requirement with the RWA-based credit and market risk capital requirements for purposes of assessing a bank's *overall* risk-based capital requirement, the operational risk capital amount must be translated into a notional RWA amount. This amount would then be added to the bank's credit and market RWAs to arrive at the organization's total RWAs.

This translation of operational risk capital into RWAs and back to capital, combined with other aspects of the U.S. capital framework, results in an over-calibration of the actual amount of capital required to be held. This distortion can be addressed by multiplying the capital by an "institution-specific factor" ("ISF").[93]

The following example illustrates this capital distortion:

Figure 17

	$ Billion, Unless Otherwise Stated
Operational Risk Capital	10.0
Hence, Operational RWA	125.0
Total Capital Requirement (8.0% Minimum Requirement Plus 2.5% Buffer Requirement)	10.5%
Capital Required for Operational Risk	13.1
Capital Distortion	3.1, or ~30% additional

Thus, the operational risk capital charge of $10 billion calculated in this example under the standardized approach for operational risk translates into a $13.1 billion charge when considered from a

[93] A similar institution-specific approach should be applied in all instances where the eight percent minimum capital requirement is assumed, in particular in the calculation of CVA RWAs and market risk RWAs, which, like the calculation of operational risk RWAs, use a multiplier of 12.5.

minimum capital point of view. This additional $3.1 billion results from flowing the amount of operational risk capital to RWAs and back and represents an over-calibration of the amount of operational risk capital.

This arises because the operational risk RWAs are derived by multiplying the operational risk capital number by 12.5. The 12.5 multiplier is based on the eight percent minimum total capital requirement (12.5 being the inverse of eight percent). This comprises a minimum 4.5 percent CET1 and the remaining 3.5 percent being other capital tiers. The inclusion of the SCB and GSIB surcharge in the U.S. context results in each bank having its own effective minimum capital requirement. This ranges from CET1 requirements of seven percent to as high as 13.8 percent per the Federal Reserve's 2023 DFAST.[94] As a result, the total capital requirement effectively ranges from 10.5 percent to 17.3 percent for banks. The example above illustrates the capital distortion for a firm with a 10.5 percent binding capital requirement. At 17.3 percent, the distortion would be even greater, and more than double an operational risk capital charge calibrated to an eight percent requirement.

To avoid this over-calibration, translating a bank's capital charges to RWA amounts, or vice versa, should involve the application of a yearly ISF, rather than a static eight percent assumption. The ISF would reflect the bank's SCB and GSIB surcharge as follows:

$$ISF = \frac{8\%}{8\% + SCB + GSIB\ Surcharge}$$

In the context of operational risk, operational risk capital would then be multiplied by 12.5 and the ISF to arrive at operational RWA without the distortion:

$$Operational\ Risk\ RWA = 12.5 \times ISF \times Operational\ Risk\ Capital$$

Applying the ISF to any translations between capital charges and RWAs would address over-calibration wherever the static eight percent assumption is currently used. In the case of operational risk, this approach could cut the over-calibration of operational risk capital in approximately half.

E. The agencies should maintain differentiation in capital requirements for banks in Categories I through IV and should revise the application of the new market risk capital rule to exempt banks with limited trading activities.

The agencies should maintain differentiation in capital requirements for banks in Categories I through IV, as required by the statute,[95] and should revise the application of the new market risk capital rule to exempt banks with limited trading activities.

1. Maintaining differentiation in capital requirements for banks in Categories I through IV is consistent with the letter and spirit of the law.

The proposal would provide for almost complete alignment in capital ratio calculations and requirements for banks in Categories I through IV, including by (i) requiring banks in Categories I through IV to calculate RWAs in the same manner, including by requiring Category III and IV banks to – for the first

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94 Board of Governors of the Federal Reserve, "Large Bank Capital Requirements," (July 2023), *available at* https://www.federalreserve.gov/publications/files/large-bank-capital-requirements-20230727.pdf.

95 12 U.S.C. § 5365(a)(2)(A) (requiring differentiation in the application of prudential standards based on capital structure, riskiness, complexity, financial activities, size and any other risk-related factors).

time – move to a dual-stack approach previously only required for Category I and II banks; (ii) requiring Category III and IV banks to recognize unrealized gains/losses on AFS debt securities and most other elements of AOCI in regulatory capital, subject to a phase-in period, as discussed below; (iii) requiring Category III and IV banks to apply the capital deductions and minority interest treatments that are currently applicable only to Category I and II banks; (iv) applying the SLR and CCyB to Category IV banks; and (v) requiring all Category I through IV banks to calculate market RWAs under the revised market risk capital rule.

The proposed application of these requirements ignores the statutory requirements to tailor the application of prudential standards and, in the case of Category IV banks, to make a determination regarding the application of these standards. Section 165 of the Dodd-Frank Act includes three core, yet simple, requirements. It provides that the Federal Reserve shall (i) establish enhanced prudential standards for bank holding companies with $250 billion or more in total consolidated assets;[96] (ii) differentiate the application of enhanced prudential standards (either on an individual basis or by category) based on a bank holding company's capital structure, riskiness, complexity, financial activities, size or other risk-related factors;[97] and (iii) make a determination in order to apply enhanced prudential standards to any bank holding company or bank holding companies with total consolidated assets between $100 billion and $250 billion.[98] The Federal Reserve has previously recognized its capital rules as enhanced prudential standards satisfying the requirements of Section 165.[99] Therefore, with respect to bank holding companies, Section 165 requires the Federal Reserve to differentiate the application of capital requirements based on the enumerated statutory factors and, with respect to bank holding companies with total assets between $100 billion and $250 billion, to make a determination that the application of these standards is appropriate to prevent or mitigate risks to the financial stability of the United States or to promote the safety and soundness of the bank holding company or bank holding companies. The Federal Reserve has not proposed to differentiate, among other things, the calculation of RWAs or regulatory capital among Category I through IV banks[100] and has not publicly made the requisite determination. Consistent with the letter and spirit of the law, the Federal Reserve must do so before finalizing the requirements.

In addition, both the statutory directive to differentiate among banks in the application of prudential standards and the legislative history related to the enactment of S. 2155 make clear that Congress did not intend for uniformity of regulation for all banks with $100 billion or more in total assets.[101] Contrary to the statutory purpose and congressional intent, the proposal would apply the new

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96 *See* 12 U.S.C. § 5365(a)(1).

97 *See* 12 U.S.C. § 5365(a)(2)(A).

98 *See* 12 U.S.C. § 5365(a)(2)(C).

99 *See* Enhanced Prudential Standards for Bank Holding Companies and Foreign Banking Organizations, 79 Fed. Reg. 17,240, 17,246 (Mar. 27, 2014) (describing the capital rules and the capital planning rule as enhanced prudential standards).

100 The GSIB surcharge and enhanced supplementary leverage ratio ("eSLR"), which are beyond the scope of the proposal, would continue to apply only to GSIBs (*i.e.*, Category I banks). The proposal would apply the Expanded Risk-Based Approach uniformly to all banks with $100 billion or more in total assets, and aside from the GSIB surcharge and eSLR – and in stark contrast to the current framework – the proposal would revise the U.S. capital framework so all large banks calculate capital and RWAs in the same manner.

101 *See, e.g.*, 164 Cong. Rec. at S1360 (Mar. 6, 2018) (statement of Sen. Mark Warner) ("Under the bill, the

capital framework uniformly to banks in Categories I through IV.[102] The Federal Reserve has appropriately implemented the statutory mandate by "establishing categories of standards that increase in stringency based on risk."[103] The proposal would – unjustifiably and without any explanation – reverse that decision by effectively treating banks in Categories II through IV as a uniform category.

2. Category IV banks should only be subject to one capital stack and should not be subject to the CCyB or SLR.

To maintain differentiation in capital requirements for banks, consistent with the letter and spirit of the law,[104] Category IV banks should only be subject to one capital stack. Requiring these banks to calculate RWAs under both the existing Standardized Approach and the Expanded Risk-Based Approach would be unnecessarily cumbersome, would add significant cost and operational complexity without any clear supervisory benefit and could lead to an outcome in which these banks' binding capital requirements oscillate between stacks. In addition, applying the Expanded Risk-Based Approach to Category IV banks would result in the application of more stringent requirements to these banks than those that applied prior to the enactment of S. 2155. The implementation burdens and ongoing operational costs of a dual-stack approach – as well as the requirement for Category IV banks to use SA-CCR, apply the FRTB-based market risk capital rule and calculate CVA RWAs without regard to the extent of their derivatives exposures or trading activities – outweigh any supervisory benefit or marginal increase to resiliency.

In addition, applying the same requirements for calculating capital and RWAs to all banks with $100 billion or more in total assets, without any apparent consideration of the statutorily enumerated tailoring factors, would have far-reaching consequences on the banking industry in light of the "cliff" effects of crossing that threshold, including with respect to growth of banks, acquisition activity, the cost and availability of credit and the extent of mortgage servicing activity.

Finally, the CCyB and the SLR should not be applied to Category IV banks. If the agencies do apply these requirements to Category IV banks, they should provide for a differentiated application that reflects the smaller size and different risk profiles of these banks.

3. The agencies should establish thresholds for the application of the new market risk capital rule so that banks with limited trading activities are not subject to operationally burdensome new requirements.

Under the proposal, banks with less than $100 billion in total assets would be subject to the new

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[Federal Reserve] can apply enhanced prudential standards to a bank with assets larger than $100 billion for financial stability reasons or to promote the safety and soundness of the bank – part of their traditional prudential regulations as they stand, but I don't think every enhanced prudential standard should apply to every bank with assets larger than $100 billion. There is a broad agreement that standards should be tailored for this group.").

102 The Federal Reserve's notice of proposed rulemaking to amend the GSIB surcharge methodology would also erode the differentiated application of prudential requirements, as that proposal indicates that several foreign banks would move up to a higher category without any changes to their risk.

103 Prudential Standards for Large Bank Holding Companies, Savings and Loan Holding Companies, and Foreign Banking Organizations, 84 Fed. Reg. 59,032, 59,037 (Nov. 1, 2019).

104 *See* 12 U.S.C. § 5365(a)(2)(A).

market risk rule only if they have $5 billion or more in trading assets plus trading liabilities, or trading assets plus trading liabilities that exceed 10 percent of total assets.[105] However, the new market risk rule would require all Category I through IV holding companies (and any depository institution subsidiary that has engaged in trading activity over any of the four most recent quarters) to calculate market RWAs under the revised market risk capital rule. This requirement would include banks not currently subject to the market risk capital rule because they have less than $1 billion in aggregate trading assets plus trading liabilities, as well as other banks with between $1 billion and $5 billion in aggregate trading assets and liabilities.

Application of the new market risk capital rule to banks with limited trading activities would result in undue compliance and operational burdens that are not commensurate with their market risk exposures. Consistent with the longstanding application of the market risk capital rule, there should be thresholds for application. Specifically, a Category III or IV bank should not be subject to the market risk capital rule unless its aggregate trading assets plus trading liabilities equal or exceed $5 billion or 10 percent of total assets. The agencies should maintain a threshold for Category III and IV banks because (i) they generally have low trading activity – and, in some cases, virtually no trading activity – and (ii) trading activity is generally related to customer-facilitation transactions (*e.g.*, an interest rate swap for a borrower on a commercial loan), not market-making transactions for customers that are not otherwise borrowers.

F. Failing to calibrate the credit risk elements of the Expanded Risk-Based Approach to be consistent with the outputs of the Advanced Approaches would undermine the agencies' professed goal of achieving a more risk-sensitive framework and result in arbitrarily high credit risk requirements.

The serious overstatements of risk in the proposed standardized approach for credit risk described below in Section IV.A are greatly magnified by the agencies' proposal to eliminate the use of internal models under the Advanced Approaches without regard to the risk weights those approaches generated. The agencies offer no evidence to support this major change from existing calibration of the capital risk weights, and considerable evidence suggests that it would make the capital regime less accurate. Therefore, to achieve appropriate risk-sensitivity and avoid excessively high capital requirements, the agencies should calibrate any standardized approach for credit risk to be generally consistent with the calibration of the existing Advanced Approaches. Although uniformity and simplicity may be desirable goals, they should not be achieved by sacrificing accuracy.

Furthermore, in both the proposal and their advocacy surrounding it, the agencies have repeatedly stressed their adherence to the Basel agreement of 2017. Therefore, it is noteworthy that the proposal's calibration repudiates completely one of the most important aspects of that agreement, which is the continued use of bank internal models *subject to a floor established as 72.5 percent of the output of the standardized approach*[106] without any corresponding adjustment to the calibration of the standardized approach to account for the fact that 100 percent of the RWAs resulting from the standardized approach apply in the U.S. Agency staff negotiated that agreement, praised that agreement and have consistently emphasized the importance of consistent adoption of that agreement, but the agencies now propose to be

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105 *See* 88 Fed. Reg. at 64,030.

106 The Basel framework contemplates the continued use of internal models for credit risk, while also providing that implementing only the standardized approaches would not, in and of itself, constitute noncompliance with the Basel framework. *See* Basel Committee on Banking Supervision, *supra* note 14.

the only major jurisdiction in the world to abandon a core element of the agreement in favor of an approach that would result in systematically higher capital requirements than what that agreement contemplated. Moreover, although the agencies express concerns about variation in bank modeled results (without providing any evidence to show such variation), they ignore the fact that the entire point of the output floor negotiated at Basel was to constrain such variation. The standardized approach was not intended or calibrated to act as a standalone measure of credit risk, but that is exactly how the agencies propose to apply it in the United States.

Unless the agencies demonstrate that the results of the Advanced Approaches for credit risk have been inaccurate (the proposal does not do so), any final rule should calibrate the Expanded Risk-Based Approach to achieve outcomes that are empirically grounded in the evidence produced by the Advanced Approaches, even if adjusted as necessary to be generally consistent with those that would be produced under the models-based approaches under the revised Basel Committee standard.[107] This change would (i) more closely align the U.S. capital framework with the international standard, (ii) logically follow from the agencies' recognition that internal models can "provide valuable information to a bank's internal stress testing, capital planning, and risk management functions,"[108] (iii) improve risk-sensitivity[109] and (iv) avoid the excessive and incorrect calibration of credit risk capital requirements. Although the proposal argues that the use of models-based approaches for calculating credit RWAs involves assumptions that "include a degree of subjectivity" and has produced "unwarranted variability across banks in requirements for exposures with similar risks,"[110] these assertions ignore evidence that variability is, in fact, limited.[111] Further, we do not see some "degree of subjectivity" as a negative, and, in any event, it is considerably less of a negative than arbitrariness. In addition, the proposed disregard of the results of models-based approaches for calculating credit RWAs would put the United States at odds with both the central tenets of the Basel framework[112] and implementation of the Basel framework in other jurisdictions, such as the EU and the UK, which have proposed to retain the use of bank models for calculating credit RWAs.[113] Finally,

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107 *See* Basel Committee on Banking Supervision, *Basel framework*, CRE 30 – 36 (March 27, 2020), *available at* https://www.bis.org/basel_framework/index.htm?m=97.

108 *See* 88 Fed. Reg. at 64,032.

109 *See* Covas and Stepankova, *supra* note 10, and attached as Appendix 3.

110 88 Fed. Reg. at 64,031.

111 *See* Covas and Stepankova, *supra* note 10, and attached as Appendix 3 ("In this note, we have shown that the systematic variation in risk weights under the revised standardized approach for corporate exposures (including investment funds) would be modest. This is particularly true where banks can use their own internal ratings to distinguish between investment grade and non-investment grade entities. The systematic variation in risk weights for publicly traded exposures is also not statistically different from the one observed for privately held entities.").

112 The Basel Committee has explained that "[t]he revisions seek to restore credibility in the calculation of risk-weighted assets (RWAs) and improve the comparability of banks' capital ratios by . . . constraining the use of the internal model approaches, by placing limits on certain inputs used to calculate capital requirements under the internal ratings-based (IRB) approach for credit risk and by removing the use of the internal model approaches for CVA risk and for operational risk." *See* Basel Committee on Banking Supervision, *supra* note 14.

113 *See* Prudential Regulation Authority, *CP16/22 – Implementation of the Basel 3.1 Standards*, 8.24 (Nov. 30, 2022), *available at* https://www.bankofengland.co.uk/prudential-regulation/publication/2022/november/implementation-of-the-basel-3-1-standards; *see also* Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 as regards

the proposed disregard of bank models as a way to address "unwarranted variability" ignores the fact that these models (i) include more granular data than standardized models and (ii) are subject to a rigorous backtesting process and overseen by an independent risk function, an independent model validation group, internal auditors and agency examiners.[114]

If the agencies ultimately eliminate the use of internal models for credit risk, they must, at a minimum, calibrate the Expanded Risk-Based Approach to credit risk to yield results that align broadly with those of the Advanced Approaches. This is necessary to prevent excessively high capital requirements for credit risk.

IV. The Expanded Risk-Based Approach lacks sufficient risk-sensitivity and would result in excessive and incorrectly calibrated capital requirements for credit risk.

Right-sizing capital requirements for U.S. banks requires making the fundamental changes described in Section III above; however, these changes alone do not fully address the proposal's design and calibration limitations that would, if unchanged, lead to the broad over-capitalization of many individual products, services and business lines. We address these issues within the proposed credit risk framework in this Section IV.

A. The proposed risk weights for credit significantly overstate actual risk and would have adverse consequences for both the cost and availability of credit for consumers and businesses.

1. The proposed risk weights for retail exposures are not based on an empirical assessment of actual risk and significantly overstate it.

The risk weights for retail exposures in proposed Section 111(g), including credit card loans and auto loans, are significantly higher than historical loss experience could justify and 10 percentage points higher than the corresponding risk weights in the Basel framework. Additionally, there would be a new, 10 percent CCF applied to the unused portion of retail lines of credit that has no empirical basis and which would further inflate RWAs.

We urge the agencies to recalibrate the proposal's risk weights for retail exposures based on an empirical analysis of the risk posed by these exposures, which we believe in most cases would be below, not above, the risk weights in the Basel framework. Doing so would be more risk-sensitive and also result in credit that is more affordable and readily available than under the proposed rule, thus mitigating the adverse effects of the proposal on consumers and the economy.

According to the FFIEC 101 reports, the average risk weight for credit card loans across banks using the Advanced Approaches was about 73 percent for the period from 2014 to 2022. This already includes the effect of a non-zero CCF for the unused portion of credit lines and reflects historical loss experience during a severe economic downturn. By comparison, the effective risk weight including the effect of the

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requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor, *available at* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0664.

[114] Additional problems with the decision to eliminate the existing Advanced Approaches are identified in the accompanying letter focused on legal deficiencies with the proposal.

CCF is 98 percent under the Basel standard and 111 percent under the proposal.[115] Similarly, the average risk weight of other consumer loans is 50 percent for Advanced Approaches banks over the period from 2014 to 2022 (based on FFIEC 101 report data), compared to a risk weight of 85 percent under the proposal.[116]

Furthermore, there is no justification for the proposed 10 percent CCF: the agencies have not provided data or analysis to demonstrate that this is the appropriate CCF for banks. Available evidence suggests the contrary – that the CCF should be lower, as discussed further in Section IV.B.1 below.[117]

As with the increase to the risk weights for residential real estate exposures discussed below, the impact analysis in the preamble of the proposal indicates that the agencies proposed risk weights higher than the Basel standard to enhance the competitive position of smaller banks. Capital requirements are designed to improve the safety and soundness of the banks to which they apply.[118] There is no valid basis in law or logic for using capital requirements for competitive engineering. Not only is the justification invalid, but the premise is also demonstrably erroneous:

- All banks subject to the proposal face a substantial SCB charge for all retail exposures, given the large rise in unemployment rates assumed in the stress tests. The stress test add-on is particularly pronounced for credit card loans.[119] BPI has estimated the SCB RWA add-on for credit cards to be as high as 63 percentage points using the methodology of Greenwood, Hanson and Stein.[120] For other retail loans, the SCB add-on could be as high as 20 percentage points.

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115 *See* Calem and Covas, *Retail Lending*, *supra* note 8, and attached as Appendix 2.

116 *See* Calem and Covas, *Retail Lending*, *supra* note 8, and attached as Appendix 2.

117 *See* "TCH Research Study: Empirical Analysis of BCBS-Proposed Revisions to the Standardized Approach for Credit Risk," The Clearing House (May 2016), https://bpi.com/wp-content/uploads/2018/07/20160519_tch_study_bcbs_standardized_approach_for_credit_risk.pdf; *see also* Calem and Covas, *Retail Lending*, *supra* note 8, and attached as Appendix 2.

118 *See*, *e.g.*, Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for U.S. Global Systemically Important Bank Holding Companies and Certain of Their Subsidiary Insured Depository Institutions; Total Loss-Absorbing Capacity Requirements for U.S. Global Systemically Important Bank Holding Companies, 83 Fed. Reg. 17,317, 17,319 ("Post-crisis regulatory reforms, including the capital rule, the eSLR rule, and the Board's GSIB surcharge rule, were designed to improve the safety and soundness and reduce the probability of failure of banking organizations, as well as to reduce the consequences to the financial system if such a failure were to occur.").

119 *See* Board of Governors of the Federal Reserve, "2023 Federal Reserve Stress Test Results," (June 2023), *available at* https://www.federalreserve.gov/publications/files/2023-dfast-results-20230628.pdf (showing that credit card loan loss rates in the 2023 stress tests were 17.4 percent, compared to 2.7 percent for domestic first-lien mortgages, and that projected credit card losses were $120 billion, compared to $65 billion, $34 billion and $7 billion in projected losses for domestic commercial real estate loans, first-lien mortgages and junior liens, respectively).

120 *See generally* Robin Greenwood et al., *Strengthening and Streamlining Bank Capital Regulation*, Brookings Papers on Econ. Activity 479, 563 (Sept. 7, 2017), *available at* https://scholar.harvard.edu/files/stein/files/greenwoodtextfa17bpea_002.pdf; *see also* Francisco Covas, *Estimating the Implicit Capital Charges in the Stress Tests*, Bank Policy Institute (Aug. 2, 2021), https://bpi.com/estimating-the-implicit-capital-charges-in-the-stress-tests/, and attached as Appendix 15.

- Banks subject to the Expanded Risk-Based Approach would also see substantial capital charges for operational risk, which would apply to interest and fee income generated from retail exposures, including credit card loans and auto leases. Moreover, as pointed out in a BPI recent research note, the agencies' estimate of the increase in funding costs for lending activities as a result of the proposal omits $1 trillion in RWAs from the operational risk component of the proposal, a substantial proportion of which is likely related to lending activities.[121] This omission means that the agencies' estimate of the impact on funding costs for lending activities is understated by up to a factor of almost four.[122]

- Banks subject to the proposal also face additional, non-capital requirements that broadly increase their funding costs relative to the funding costs of smaller banks, such as liquidity requirements (the Regulation YY liquidity buffer and, for some banks, liquidity coverage ratio and net stable funding ratio requirements), current or proposed LTD requirements and, for some banks, TLAC requirements.

As with residential real estate exposures discussed below, unjustifiably high risk weights for retail exposures, including credit card and auto loans, would adversely affect the cost and availability of credit for retail customers, with adverse implications for household financial inclusion. Of greatest concern are the potential impacts on the credit card market, due to the relatively large increase in effective risk weights for credit cards, and the singular importance of credit cards for financial inclusion: Individuals with limited or no credit record may find it more difficult to obtain affordably priced credit cards, which for many is a first step toward building a credit history.

Furthermore, the proposed rule's introduction of a capital charge on the unused portion of credit card lines could cause banks to close rarely used accounts or to decrease credit limits on low-utilization accounts, as it would become significantly more costly for them to provide such credit lines. This could be especially detrimental to financially vulnerable households that require access to these lines should they face an unanticipated cash shortfall. Federal Reserve survey data indicate that credit cards are the first line of defense for households facing an unanticipated cash shortfall.[123] Also, if banks are pushed to reduce credit limits or close low-utilization accounts, the credit scores of the affected consumers will immediately suffer, impeding their access to credit. Reducing credit limits could have a variety of other implications for consumers across the credit spectrum. For example, credit utilization rates are among the factors that determine a consumer's credit score. Reduced credit limits would likely result in higher utilization rates, which could, in turn, cause credit scores to go down and credit to become more expensive. There is no indication that the agencies considered this or other potential knock-on consequences of the substantial revisions to the capital treatment of consumer credit products.

In addition, a likely consequence of imposing an excessive capital charge on the other retail credit categories would be to constrain the growth of bank lending. Particularly for small-dollar personal loans, this poses financial inclusion concerns, as the agencies have established principles governing such

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121 *See* Covas, *supra* note 27, and attached as Appendix 8.

122 *Id.*

123 *See* Board of Governors of the Federal Reserve System, "Report on the Economic Well-Being of U.S. Households in 2022," (May 2023), *available at* https://www.federalreserve.gov/publications/files/2022-report-economic-well-being-us-households-202305.pdf.

lending[124] to encourage it as a safer, more affordable alternative to high-cost consumer credit from non-banks. Banks have been expanding their offering of such products, and unnecessarily high capital requirements would impede this development. The excessive operational risk capital charge affecting auto leases likewise may lead to increased cost of auto loans for consumers.[125]

In sum, the proposed risk weights for retail exposures are unjustifiably high and likely to increase the cost and reduce the availability of credit for retail customers. The proposal does not provide sufficient justification for the calibration of these risk weights or this departure from the Basel framework, especially when weighed against the potential effects on the cost and availability of credit for retail borrowers. Accordingly, the agencies should redevelop risk weights for retail exposures, particularly credit card and auto loans, based on a risk-based, empirical analysis such as the Advanced Approaches calculation.

2. The requirement that a corporate entity have a publicly traded security outstanding in order for an exposure to qualify for a lower risk weight is arbitrary.

The proposed risk weights for corporate loans, as outlined in Section 111(h) of the proposed rule, significantly exceed reliable industry benchmarks based on historical loss experience for this exposure category. From 2014 to 2022, according to the FFIEC 101 reports, the average risk weight for corporate loans across U.S. banks using the Advanced Approaches was 40.6 percent. This average risk weight includes loans across the entire credit risk spectrum.

In contrast, the proposal, with no analytical basis, generally assigns corporate loans a risk weight of 100 percent or a risk weight of 65 percent for a loan (1) that is rated as investment grade by the bank, and (2) where the issuer or the parent of the issuer has a security listed on a public exchange. In effect then, the proposal would arbitrarily impose a 100 percent risk weight on loans to tens of thousands of creditworthy small and mid-sized businesses and to thousands of highly regulated investment funds, such as mutual funds regulated under the Investment Company Act of 1940 ("1940 Act") and pension funds, that would otherwise be investment grade, potentially increasing their cost of credit or limiting its availability. According to a quantitative impact study involving ABA and BPI members ("Member QIS"), this restriction of the investment grade risk weight due to the securities listing requirement leads to an unnecessary 3.3 percent over-calibration of RWAs, on average.[126] In addition, these loans would factor into the interest and services components of the operational risk framework, resulting in an effective risk weight for investment grade corporate exposures that is even higher than the risk weights under the current Standardized Approach.

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124 *See* Board of Governors of the Federal Reserve, et al., "Small-Dollar Lending: Interagency Lending Principles for Offering Responsible Small-Dollar Loans," (May 2020), *available at* https://www.occ.gov/news-issuances/news-releases/2020/nr-ia-2020-65a.pdf; Consumer Financial Protection Bureau, "Consumer Financial Protection Bureau Issues No Action Letter to Facilitate Consumer Access to Small-Dollar Loans," (Nov. 5, 2020), *available at* https://www.consumerfinance.gov/about-us/newsroom/consumer-financial-protection-bureau-issues-no-action-letter-facilitate-consumer-access-small-dollar-loans/.

125 *See* Calem and Covas, *Retail Lending*, *supra* note 8, and attached as Appendix 2.

126 This corresponds to the decrease in RWAs resulting from the elimination of the securities listing requirement, relative to the RWAs under the Expanded Risk-Based Approach. For a description of the study, including the study population and methodology, *see* Appendix 16.

A study using Federal Reserve data shows that banks subject to stress testing lend to 155,589 unique U.S. corporations. Of these, 153,000 are private, with only 2,589 being publicly listed.[127] Based on this sample, the overwhelming majority of U.S. corporations would not be able to satisfy the securities listing requirement and would be subject to a 100 percent risk weight even if they are investment grade. Further, according to another study, regulated investment funds, such as mutual funds and pension plans that do not, in the normal course of their operations, list securities on an exchange are more likely to qualify as investment grade based purely on creditworthiness.[128] This reflects their specific legal and regulatory structure, including detailed asset quality, asset coverage and asset diversification mandates, as well as robust valuation and investor disclosure requirements. Thus, the securities listing requirement makes the Expanded Risk-Based Approach less risk-sensitive because it arbitrarily excludes from the lower 65 percent risk weight a substantial number of corporate entities that should, by any objective measure, qualify for treatment as investment grade.

The proposal includes no analytical basis for the use of the securities listing requirement. In fact, two researchers (one from BPI) using a robust data set have demonstrated that the listing requirement does not result in more consistent ratings or reduced credit risk.[129] That research employed a data set comprising more than 36,000 observations of the probability of default for 12,342 unique corporate entities. It found banks' investment grade rating assignments to the same corporate entity are generally consistent regardless of whether the corporate entity is or is not publicly listed. Consistency of ratings is especially high for investment fund exposures. The securities listing requirement is therefore unnecessary for banks to properly assess their credit risk to corporate entities, in particular to regulated investment funds.

The securities listing requirement would drastically and unnecessarily constrain the number of corporate entities eligible for the reduced 65 percent risk weight, despite the fact that many have similar, if not better, credit risk profiles than companies that would qualify. Certain corporate entities, in particular regulated funds, have good reasons (including in some cases structural and legal considerations) not to operate as public companies, yet are important to economic growth and the ability of Americans to save for retirement and other life events. The securities listing requirement would result in higher costs for these entities, which would have downstream impacts on consumers. Consumers save and invest through mutual funds and pension funds, but higher costs for these funds would result in lower returns on savings and investments, especially over the long term. For unlisted companies, higher cost would result in higher prices paid by consumers for those companies' goods and services.

Likely for these reasons, other jurisdictions, including the EU and UK, have not included a securities listing requirement in their proposed implementation of the Basel standards,[130] compounding the benefit

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127 *See* Cecilia Caglio, Mathew Darst and Sebnem Kalemli-Ozcan, *Risk-Taking and Monetary Policy Transmission: Evidence from Loans to SMEs and Large Firms*, Nat'l Bureau of Econ. Rsch. (Oct. 2021), *available at* https://conference.nber.org/conf_papers/f159755.pdf.

128 *See* Covas and Stepankova, *supra* note 10, and attached as Appendix 3.

129 *See id.*

130 Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor, *available at* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0664; *see also* Prudential Regulation Authority, *CP16/22 – Implementation of the Basel 3.1 Standards*, 8.24 (Nov. 30, 2022), *available at*

that banks in those jurisdictions already receive from the ability to use external ratings for the assessment of credit risk. This approach vastly expands the number of entities eligible for the reduced 65 percent risk weight at EU and UK banks. The Director of Prudential Policy at the Bank of England explained this decision, saying, "[i]n the UK context, however, the challenge is that there are material numbers of unrated corporates and the 100 percent risk weight for them is particularly risk-insensitive."[131] In the EU, legislators have opted not to implement the securities listing requirement, through at least 2032, with banks instead able to rely on internal probability of default calculations for the assessment of credit risk.[132] In Canada, the securities listing requirement does not apply if a borrower's annual sales are greater than CAD 75 million and banks are able to access on a regular basis information on the corporate entity to complete due diligence analyses as described in the rule (*e.g.*, annual reports, audited financial statements, quarterly financial statements, and business plans projecting the activities and financial condition for the next 12 months).[133]

According to the proposal, part of the reason for including the securities listing requirement is that "publicly-traded corporate entities are subject to enhanced transparency and market discipline as a result of being listed publicly on an exchange."[134] But of course banks demand financial statements before lending to privately held companies and also in many cases know the senior management well. Similarly, and as previously noted, regulated investment funds are subject to robust transparency obligations that meet, if not exceed, the standards which apply to publicly listed companies. There is therefore no objective reason to believe that a corporate entity having a listed security would better reflect the probability of default on a loan than a bank's underwriting process. Indeed, public company requirements under the Securities Exchange Act of 1934 and securities exchange listing standards primarily focus on disclosure and not on creditworthiness. And there is no empirical evidence to suggest that publicly listed companies are any more creditworthy than unlisted companies or regulated investment funds, all else being equal. As noted above, there is considerable evidence to suggest the contrary – none of which is addressed in the proposal.

The proposal also notes that the agencies included the securities listing requirement to provide a "simple, objective criterion that would provide a degree of consistency across banks."[135] However, there is no empirical evidence to suggest that the securities listing requirement enhances the consistency of investment grade and non-investment grade ratings – and consequently risk weights – across banks that

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https://www.bankofengland.co.uk/prudential-regulation/publication/2022/november/implementation-of-the-basel-3-1-standards.

131 Bank of England, "Implementing Basel 3.1 in the UK – speech by Phil Evans," (Dec. 7, 2022), *available at* https://www.bankofengland.co.uk/speech/2022/december/phil-evans-speech-at-uk-finance-on-basel-3-1-consultation.

132 Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor, *available at* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0664.

133 *See* Office of the Superintendent of Financial Institutions, "Capital Adequacy Requirements (CAR) Chapter 4 – Credit Risk–Standardized Approach," (Jan. 31, 2022), *available at* https://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gl-ld/Pages/CAR22_chpt4.aspx.

134 88 Fed. Reg. at 64,054.

135 *Id.*

lend to the same entity.[136] Rather, the research cited above found, based on a sample of entities rated by 12 banks, that those banks reached different conclusions on the investment grade determination for a given entity just eight percent of the time, and the difference between the most conservative average risk weights and the most optimistic average risk weights was slightly higher for public entities than private entities (although the difference between the two values is not statistically significant at the five percent level).[137] Therefore, the securities listing requirement is not necessary to promote consistency in banks' investment grade analyses, given the high level of consistency in those ratings.

Contrary to the agencies' justification, the securities listing requirement is both too simple and can produce highly inconsistent outcomes. The corporate risk weight applies to a wide variety of entities, including privately held corporates, mutual funds, pension funds, real estate companies, bank holding companies, insurance companies and other regulated financial institutions that are not insured depository institutions or foreign banks. These entities have a wide variety of business models, many of which do not include publicly listed securities, and the investment grade criteria must apply to all of them. The securities listing requirement is not flexible enough to accommodate the variety of entities that should be eligible for the risk weight applicable to investment grade corporates. In addition, also as a result of the variety of entities subject to the corporate risk weights, the securities listing requirement can result in different treatment for largely similar entities. For instance, while an investment grade exchange-traded fund that tracks the S&P 500 would be eligible for the 65 percent risk weight in view of its status as a listed security, this would not be true of an otherwise investment grade traditional mutual fund with the exact same investment mandate.

For the reasons described above, the agencies should eliminate the securities listing requirement and allow banks to rely on their own internal assessments of credit risk (which we note are subject to supervisory review) to determine whether corporate exposures merit the reduced 65 percent risk weight for investment grade exposures.[138] Doing so would improve the risk-sensitivity of the Expanded Risk-Based Approach by eliminating an arbitrary restriction, unrelated to creditworthiness, on the types of entities the exposures to which can qualify. In addition, eliminating this requirement would be in line with the general acknowledgement in other jurisdictions that the scope of the 65 percent risk weight for investment grade corporate exposures is too narrow under the Basel framework.

Although the limitation on the availability of the investment grade risk weight should be abandoned altogether, at a minimum, the agencies should consider whether to include alternative means of allowing unlisted companies to qualify for the lower risk weight applicable to investment grade exposures. For example, the Expanded Risk-Based Approach could provide that an exposure to an investment grade company would qualify for the 65 percent risk weight if:

- The company or its parent has publicly listed securities;
- The company is a highly regulated entity;[139] or

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136 *See* Covas and Stepankova, *supra* note 10, and attached as Appendix 3.

137 *See* Covas and Stepankova, *supra* note 10, and attached as Appendix 3.

138 The agencies allow banks to rely on their own investment grade determinations in other contexts, including the OCC's investment securities regulations. *See generally* 12 C.F.R. Part 1.

139 We note the agencies' request for comments on applying a lower risk weight to highly regulated entities in

- The company satisfies the informational requirements described below.

For these purposes, there are a variety of entities that should be considered highly regulated.[140] First, regulated investment funds, such as mutual funds registered under the 1940 Act, business development companies regulated under the 1940 Act, pension funds such as employee benefit plans and government plans (as defined in the Employee Retirement Income and Security Act of 1974), and foreign equivalents (such as UCITS in the case of 1940 Act funds), should all qualify for the 65 percent risk weight under the second option above. Regulated investment funds are subject to regulatory requirements relating to leverage and asset quality that decrease their credit risk and disclosure requirements that increase transparency.

Second, highly regulated entities such as investment advisors, insurance companies, broker-dealers, swap dealers, security-based swap dealers and foreign equivalents should likewise qualify for the 65 percent risk weight. These entities are also subject to capital requirements and reporting requirements that increase transparency, such as annual financial statement filings for insurance companies and FOCUS reports for broker-dealers.

For a corporate exposure to qualify under the third prong, a bank should have access to the entity's audited financial statements, unaudited interim financial statements and, where relevant, the fund's prospectus. This information is similar to that provided by publicly listed companies and therefore should result in similar transparency. The addition of these alternative means of qualifying for the 65 percent risk weight would provide for simple, objective criteria to use in the investment grade analysis while avoiding penalizing smaller firms and highly regulated entities for factors unrelated to credit risk. Ultimately, however, the addition of these alternative means of qualifying for the investment grade risk weight does not address the arbitrary nature of the securities listing requirement and the inaccuracy of its underlying premise, and the requirement should be abandoned altogether.

3. Small or medium-sized entity general corporate exposures should be subject to a separate risk weight.

Most general corporate exposures to an SME would default to a 100 percent risk weight under the proposal unless they qualify as investment grade (and the obligor or its parent has listed securities) or as a regulatory retail exposure. The public FFIEC 101 disclosures do not provide the relevant risk weight for small businesses, and the agencies have produced no data to support a 100 percent risk weight. The Basel framework provides for an 85 percent risk weight for SME general corporate exposures. Unless the agencies can produce empirical analysis to demonstrate that a higher risk weight is warranted, the agencies should include a separate 85 percent risk weight category for corporate exposures to SMEs.

Question 39: "For what reasons, if any, should the agencies consider applying a lower risk weight than 100 percent to exposures to companies that are not publicly traded but are companies that are ''highly regulated?'' What, if any, criteria should the agencies consider to identify companies that are ''highly regulated?'' Alternatively, what are the advantages and disadvantages of assigning lower risk weights to highly regulated entities (such as open-ended mutual funds, mutual insurance companies, pension funds, or registered investment companies)?" *See* 88 Fed. Reg. at 64,054.

[140] In Section IV.A.6, we also recommend that exposures to certain regulated financial entities should be treated as exposures to banks. The agencies could implement either of these recommendations to improve the risk-sensitivity of the Expanded Risk-Based Approach with respect to such regulated financial entities.

Similar to credit cards, small business loans also are subject to steep stress capital add-ons in the stress tests. For instance, Covas estimates that stress tests effectively double the capital requirement for small business loans.[141] The stakes are significant. Academic research has demonstrated that stress tests have reduced the availability of credit to small businesses in the United States. For instance, Acharya, Berger and Roman find that banks subject to the stress tests have reduced the supply of credit to borrowers that could be perceived as carrying higher credit risk, such as small businesses. Also, Cortés, Demyanyk, Li, Loutskina and Strahan find that banks most affected by the stress tests reduced their supply of business loans by increasing loan rates and shifting their portfolios towards loans perceived to have less credit risk.[142] The proposal could similarly result in reduced availability of credit for small businesses without any evidence that loans to small businesses are undercapitalized.

Additionally, small business loans would also attract an operational risk capital charge. These loans generate interest income and fees from lines of credit, which would affect the interest and services component of the operational risk charge. This would result in an even higher overall capital charge for small business loans.

Therefore, implementing an 85 percent risk weight for SMEs would mitigate undue increases in capital requirements for lending activities involving SMEs, which may already face challenges in obtaining credit, as demonstrated by the research cited above.

4. The agencies should include a separate risk weight for highly capitalized banks.

The risk weight applicable to exposures to banks[143] would be 40 percent under the proposal.[144] From 2014 to 2022, according to the FFIEC 101 reports, U.S. banks utilizing the Advanced Approaches assigned an average risk weight of 30.3 percent to loans to banks of all "grades" under the proposal and across all tenors of loans. There are numerous criteria by which bank credits could be differentiated. The Basel framework provides for a lower risk weight for certain Grade A banks. However, the agencies did not reflect this aspect of the framework in the proposal, and they offer no analysis or justification for why there should not be further risk-sensitivity by distinguishing among Grade A banks.

The Expanded Risk-Based Approach is meant to be more risk-sensitive than the Standardized Approach, yet the lowest risk weight applicable to banks under the Expanded Risk-Based Approach would be 40 percent. To be truly risk-sensitive, the Expanded Risk-Based Approach should have risk weights for banks that start lower than those under the generally applicable Standardized Approach and increase based on measures of risk, such as the Grade A, B and C criteria or other, more granular criteria, such as the Basel framework's differentiation between certain Grade A exposures.

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141 *See* Francisco Covas, *Capital Requirements in Supervisory Stress Tests and Their Adverse Impact on Small Business Lending*, The Clearing House (Sept. 25, 2018), *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3071917.

142 *See* Kristle R. Cortés, et al., *Stress tests and small business lending*, J. Fin. Econ., Vol. 136, Issue 1, 260, 279 (April 1, 2020), *available at* https://doi.org/10.1016/j.jfineco.2019.08.008.

143 In this Section IV.A.4, and in Sections IV.A.5 and IV.A.6, "bank" refers to a depository institution, foreign bank or credit union; *i.e.*, the entities an exposure to which would be considered a "bank exposure" under the proposal. *See* § __.101.

144 Basel framework, 20.21, note 15.

Including a 40 percent risk weight as the lowest possible risk weight for exposures to banks also would put U.S. banks at a competitive disadvantage compared to banks that are subject to the external credit ratings approach in the Basel framework. Under the external credit ratings approach, exposures to banks rated A- or higher would receive a lower risk weight than the minimum risk weight that would be possible under the proposal. Many banks, including many in the United States, have credit ratings within that range, and therefore, compared to U.S. banks, non-U.S. banks would have lower capital requirements for exposures to highly rated banks.

The Expanded Risk-Based Approach should therefore include a 20 percent risk weight for exposures to certain banks that pose the least amount of credit risk. This would facilitate large banks' provision of credit to small banks, which they use to support their local communities. This would also be important for the cost and availability of derivatives for commercial end users to hedge their business risks because banks usually hedge these exposures through transactions with other banks. It would also improve the risk-sensitivity of the Expanded Risk-Based Approach and the coherence of the overall capital framework, as well as avoid putting U.S. banks at a competitive disadvantage.

In addition, the expectations regarding how banks would determine whether a foreign bank is subject to capital standards consistent with the Basel framework should be clarified. In order to determine whether an exposure to a foreign bank is a Grade A, Grade B or Grade C bank exposure, the proposal would require banks to determine, among other things, whether the foreign capital standards imposed by the home country supervisor of the foreign bank are consistent with the Basel framework.[145] The proposal does not elaborate upon what would make foreign capital standards "consistent" with the Basel framework. The agencies should revise the definitions of Grade A bank exposure and Grade B bank exposure to provide that a foreign bank must be subject to capital standards *broadly* consistent with the Basel framework. This change would facilitate efficient implementation of the Grade A, Grade B or Grade C framework as it would make clear that banks should focus on material aspects of the capital framework (*e.g.*, the components of capital consisting of CET1, Tier 1 and Total capital and whether the ratio requirements align with the Basel framework), as opposed to a detailed provision-by-provision review of foreign regulatory regimes.

5. Short-dated exposures to banks should receive lower risk weights.

The proposal would apply the same risk weights in Table 2 of Section 111 to all exposures to banks, including those with a maturity date of less than three months.[146] This undifferentiated treatment conflicts with the purported goal of making the capital framework more risk-sensitive. Indeed, the risk weights in the proposal are up to 25 percentage points higher (depending on the grade of the exposure) than the risk weights applicable to short-dated exposures under the Basel framework. The proposal does not provide any justification for this treatment, and the agencies provide no data or analysis, for departing from the already excessive approach prescribed in the Basel framework. The agencies should conduct a rigorous analysis of the relative performance of exposures by maturity date, which we presume would yield lower risk weights for short-term exposures to banks.

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145 *See* the definitions of "Grade A bank exposure" and "Grade B bank exposure" in § __.101.

146 We acknowledge that the proposal would provide lower risk weights for foreign bank exposures that are self-liquidating, trade-related contingent items that arise from the movement of goods and that have a maturity of three months or less. *See* § __.111(d)(2)(iii).

Doing so would improve the risk-sensitivity of the Expanded Risk-Based Approach by recognizing the lower credit risk posed by short-dated bank exposures as compared to longer-dated bank exposures. This is particularly important in the context of the elimination of the Advanced Approaches where the recognition of maturity is embedded in the risk weight determination. Short-dated bank-to-bank exposures are key to providing intra-bank liquidity, and the proposal's higher risk weights would needlessly increase the capital charges for these exposures, impairing a key source of liquidity for the financial markets. According to the Member QIS, simply aligning the short-dated bank exposure risk weights with those of the Basel framework, which may still be too high, would reduce the over-calibration of RWAs by 0.5 percent, on average.[147]

6. An exposure to a securities firm or other financial institution should be treated as an exposure to a bank so long as the financial institution is subject to bank prudential standards and supervision.

The Basel framework permits exposures to securities firms and other financial institutions to be treated as exposures to banks if the securities firms or other financial institutions are subject to prudential standards and a level of supervision equivalent to those applied to banks, reflecting the fact that compliance with prudential requirements generally decreases an institution's risk.[148] This aspect of the Basel framework was not reflected in the proposal. Rather, exposures to securities firms and other financial institutions would generally be treated as corporate exposures and subject to the risk weights in Section 111(h).

Absent data or analysis to suggest otherwise (not included in the proposal), an exposure to a broker-dealer, swap dealer or foreign equivalent that is itself directly subject to Basel-based bank capital requirements should be treated as an exposure to a bank, qualifying for the lower risk weights applicable to banks, under both the Expanded Risk-Based Approach and Standardized Approach.[149] First, exposures to UK or EU investment firms subject to the UK or EU bank capital and liquidity requirements should be treated as exposures to banks. Under the rules of those jurisdictions, certain investment firms are subject to the same Basel-based prudential capital and liquidity requirements as banks, and all investment firms are subject to capital requirements in general.[150] Second, non-bank swap dealers that have elected to be subject to the prudential capital framework under Part 217[151] should likewise be treated as exposures to banks because they are directly subject to comprehensive supervision and to bank prudential standards in

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147 This corresponds to the decrease in RWAs resulting from the alignment of short-dated bank exposure risk weights with those of the Basel framework, relative to the RWAs under the Expanded Risk-Based Approach. For a description of the study, including the study population and methodology, *see* Appendix 16.

148 Basel framework, 20.16.

149 In Section IV.A.2, we also recommend that exposures to certain regulated entities should be treated as investment grade exposures, regardless of whether they or their parents have listed securities. The agencies could implement either of these recommendations to improve the risk-sensitivity of the Expanded Risk-Based Approach with respect to such regulated financial entities.

150 *See* European Commission, "Prudential rules for investment firms," (June 24, 2021), *available at* https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/financial-markets/prudential-rules-investment-firms_en; *see also* Prudential Regulation Authority, *Implementation of Basel Standards*, Bank of England (July 2021), *available at* https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/policy-statement/2021/july/ps1721.pdf.

151 *See* 17 C.F.R. § 23.101(a)(1)(i).

the form of capital requirements. Third, exposures to broker-dealers that are subject to bank supervision and prudential requirements by virtue of being subsidiaries of bank holding companies or savings and loan holding companies should be treated as bank exposures. The agencies have in the past recognized that such broker-dealers "generally pose relatively low credit risk" to banks and that this merited a reduction in the risk weight applicable to claims on U.S. broker-dealers from 100 percent to 20 percent.[152] Moreover, U.S. bank holding companies are generally subject to the same capital and liquidity requirements applicable to banks, and, in some cases, are subject to more stringent requirements, such as the SCB and Regulation YY liquidity stress testing and buffer requirements.[153] The risk weights applicable to banks should likewise apply to U.S. bank holding companies.

Reflecting this aspect of the Basel framework in the Expanded Risk-Based Approach and Standardized Approach would improve the risk-sensitivity of the U.S. capital framework by recognizing that these financial institutions pose less credit risk than general corporate exposures as a result of compliance with prudential standards and the supervision to which they are subject. This change would also achieve greater alignment with international standards.

7. <u>High-quality project finance exposures should receive an 80 percent risk weight during the operational phase.</u>

The proposal would introduce a new treatment of project finance exposures, applying a 130 percent risk weight during the pre-operational phase and a 100 percent risk weight during the operational phase. The proposal contains no data to support either risk weight, let alone a heightened risk weight during the pre-operational phase.[154]

Moreover, unlike the Basel standard, the proposal would not provide a lower risk weight for high-quality project finance exposures during the operational phase.[155] Under the Basel framework, a high-quality project finance exposure is an exposure to a project finance entity that is able to meet its financial commitments in a timely manner. This ability must be robust even against adverse changes in the economic cycle and business conditions. In addition, high-quality project finance exposures must meet other conditions, such as certain protections for creditors in case of the project finance entity's default.[156] These conditions provide protection from credit risk that other project finance exposures do not have. The agencies should therefore include an 80 percent risk weight for high-quality project finance exposures during their operational phase. This is supported by default studies that show that investment grade

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152 67 Fed. Reg. 16,971, 16,975 (Apr. 9, 2002).

153 The same is true for U.S. savings and loan holding companies. *See generally* 12 CFR Part 238, subparts N-R.

154 The proposal simply states, in a conclusory manner, that "Relative to the operational phase, the pre-operational phase presents increased uncertainty that the project will be completed in a timely and cost-effective manner, which warrants the application of a higher risk weight. For example, market conditions could change significantly between commencement and completion of the project. In addition, unanticipated supply shortages could disrupt timely completion of the project and the expected timing of the transition to the operational phase. These unanticipated changes could disrupt the completion of the project and delay it becoming operational, and thus impact the ability of the project to generate cash flows as projected and to repay creditors." 88 Fed. Reg. at 64,055. The proposal does not provide data to support either the 100 or 130 percent risk weights.

155 *See* Basel framework, 20.51.

156 *See* Basel framework, 20.52.

project finance exposures demonstrate lower default rates than investment grade corporate infrastructure exposures, excluding utilities.[157] In this context, the 80 percent risk weight would be conservative compared to the 65 percent risk weight applicable to investment grade corporate issuers. This change would improve the risk-sensitivity of the Expanded Risk-Based Approach and also align the U.S. capital framework with international standards.

8. The proposed definition of real estate exposures dependent on cash flows generated by the real estate should be narrowed.

Under the proposal, banks must apply higher risk weights to real estate exposures that are dependent on the cash flows generated by the real estate as compared to real estate exposures that are not. Section 101 of the proposal defines "dependent on the cash flows generated by the real estate" as "for a real estate exposure, for which the underwriting, at the time of origination, includes the cash flows generated by lease, rental, or sale of the real estate securing the loan as a source of repayment." The definition excludes residential real estate exposures secured by the borrower's principal residence. The preamble explains that "[i]f the underwriting process at origination of the real estate exposure considers *any* cash flows generated by the real estate securing the loan, such as from lease or rental payments or from the sale of the real estate as a source of repayment, then the exposure would meet the proposal's definition of dependent on the cash flows generated by the real estate."[158]

The proposal includes no historical data to support this distinction or the higher risk weight in general. It also conflicts with the Basel framework, which applies higher risk weights to real estate exposures that are *materially* dependent on the cash flows generated by the real estate. The Basel framework notes that an exposure is materially dependent on the cash flows of the real estate "when the prospects for servicing the loan materially depend on the cash flows generated by the property securing the loan rather than on the underlying capacity of the borrower to service the debt from other sources."[159] As an example, the Basel framework notes that "a loan may be considered materially dependent if more than 50 percent of the income from the borrower used in the bank's assessment of its ability to service the loan is from cash flows generated by the residential property."[160]

The agencies argue that higher risk weights are appropriate because exposures that are dependent on cash flows from the underlying real estate present higher credit risk because the borrower's ability to repay the loan may be affected by local market conditions. This is not necessarily true for every loan where cash flows generated by the property are considered to some degree as part of the underwriting process. The Basel framework's limitation to exposures that *materially* depend on cash flows from the property would better identify exposures that present this elevated credit risk. For example, a residential real estate loan (not secured by the borrower's personal residence) with respect to which a bank determined during the underwriting process that 10 percent of the borrower's income available to service the loan would come from cash flows generated by the underlying property does not merit the 10 to 35

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157 *See* table 3 in the S&P study "Default, Transition, and Recovery: 2022 Annual Infrastructure Default and Rating Transition Study," S&P Global Ratings (April 20, 2023) *available at* https://www.spglobal.com/ratings/en/research/articles/230420-default-transition-and-recovery-2022-annual-global-structured-finance-default-and-rating-transition-study-12685128.

158 88 Fed. Reg. at 64,046 (emphasis added).

159 Basel framework, 20.79.

160 *Id.* at 20.80.

percentage point higher risk weight (depending on the exposure's LTV ratio) it would receive under the proposal. As compared to the Basel framework, this loan would receive a 30 to 55 percentage point higher risk weight, given the 20 percentage point increase in the proposal's risk weights as compared to those of the Basel framework.[161]

The proposal notes that "[e]valuating whether repayment of the exposure is dependent on cash flows generated from the real estate is a conservative and straightforward approach for differentiating the credit risk of real estate exposures."[162] The proposal adopts an overly conservative approach in this and other respects, presumably because of high losses experienced on real estate loans in the past. However, post-Global Financial Crisis, banks apply more rigorous standards in underwriting and monitoring real estate loans. The Basel framework's method of determining whether an exposure is materially dependent on cash flows from the property (*i.e.*, whether more than 50 percent of the borrower's income used in the underwriting process is from cash flows generated by the residential property) is likewise straightforward and conservative, without being ultra-conservative. However, it is also more risk-sensitive.

In addition, the Basel framework lists several types of real estate exposures that are not considered exposures materially dependent on cash flows from the property: (1) an exposure secured by a property that is the borrower's primary residence; (2) an exposure secured by an income-producing residential housing unit, to an individual who has mortgaged fewer than a certain number of properties or housing units, as specified by national supervisors; (3) an exposure secured by residential real estate property to associations or cooperatives of individuals that are regulated under national law and exist with the only purpose of granting its members the use of a primary residence in the property securing the loans; and (4) an exposure secured by residential real estate property to public housing companies and not-for-profit associations regulated under national law that exist to serve social purposes and to offer tenants long-term housing.[163] The agencies included the first of these exceptions in the proposal,[164] but without explanation excluded the others. In our experience, they are each accurate reflections of risk and therefore should be included.

9. <u>The risk weights for residential real estate exposures are not based on an empirical assessment of risk and significantly overstate risk.</u>

The proposed risk weights for residential real estate exposures, as outlined in Table 5 of Section 111 of the proposed rule, significantly exceed reliable benchmarks based on historical loss experience for this exposure category. They exceed the risk weights from the empirically supported Advanced Approaches calculation by more than double. They are also 20 percentage points above the corresponding risk weights in the Basel framework.[165] According to the Member QIS, this surcharge above the Basel risk

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161 *See* Section IV.A.9 below for our recommendations regarding these proposed risk weights.

162 88 Fed. Reg. at 64,046.

163 Basel framework, 20.81.

164 *See* § __.101.

165 *See* Basel framework, 20.82. As FDIC Director McKernan notes in his statement dissenting from the proposal, the risk weights in the Basel framework are better aligned with the risk posed by residential real estate exposures, as demonstrated in a proposal and analysis submitted by U.S. bank regulators to the Basel Committee when the Basel framework was being developed. *See* Statement by Jonathan McKernan, Member, FDIC Board of Directors, on the Proposed Amendments to the Capital Framework (July 27, 2023),

weights for mortgage exposures alone leads to an unnecessary 1.9 percent over-calibration of RWAs, on average.[166] The proposal offers no analytical foundation for these risk weights and provides no risk-based explanation for the upward deviation from the Basel framework (only noting briefly that higher risk weights for large banks would boost the competitiveness of small banks, which is not the proper purpose of capital requirements).

The proposal also largely neglects the potential impacts of these higher risk weights on the cost and availability of mortgage loans, offering only some broad comments that do not suffice to allay serious concerns about potential impacts on mortgage lending in particular.[167] In particular, the proposal would accelerate the continued migration of mortgage origination to non-banks, which have been found to charge borrowers steeper origination costs.[168] Non-bank activity in the mortgage market has expanded considerably in the post-crisis period. As shown in Figure 18 below, between 1995 and 2007, banks' market share was stable, consistently around 70 percent of all mortgage originations. According to the most recent data on mortgage loans, banks now account for only about 38 percent of all mortgage loan originations for home purchases. With the proposed changes to mortgage risk weights, aggravated by the additional mortgage-associated operational risk charges both under the Expanded Risk-Based Approach and the SCB, this trend would likely further accelerate.

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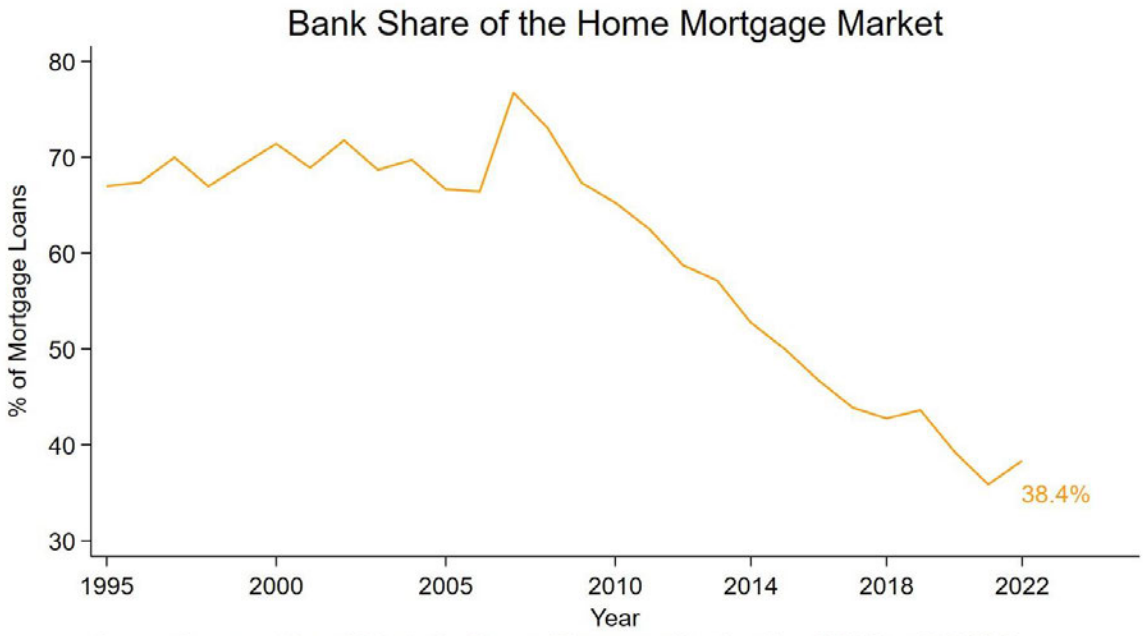
available at https://www.fdic.gov/news/speeches/2023/spjul2723c.html.

166 This corresponds to the decrease in RWAs resulting from the alignment of mortgage risk weights with those of the Basel framework, relative to the RWAs under the Expanded Risk-Based Approach. For a description of the study, including the study population and methodology, *see* Appendix 16.

167 Federal Reserve research studies find evidence that stress testing and capital requirements for mortgage credit risk implemented following the Dodd-Frank Act have significantly affected banks' mortgage loan origination activity. *See* Paul Calem, Ricardo Correa and Seung Jung Lee, *Prudential policies and their impact on credit in the United States*, J. Fin. Intermediation, Vol. 42 (April 1, 2020), *available at* https://doi.org/10.1016/j.jfi.2019.04.002; *see also* Andrew Haughwout, et al., "Nonconforming Preferences: Jumbo Mortgage Lending and Large Bank Stress Tests," Federal Reserve Bank of New York Staff Report no. 1029, (Sept. 1, 2022), *available at* https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1029.pdf?sc_lang=en.

168 *See* Ann Choi, et al., *Borrowers Turned to Nonbank Lenders for Mortgages – And It's Costing Them*, Bloomberg (Dec. 18, 2023), *available at* https://www.bloomberg.com/graphics/2023-nonbank-lender-mortgage-loan-borrower-fee/ ("[n]onbank borrowers paid 22 percent more on average in origination charges than bank borrowers who bought similarly priced homes, received comparable interest rates and had similar incomes, debt loads and creditworthiness").

Figure 18



Source: Consumer Financial Protection Bureau (Mortgage originations from HMDA) and FR Y-9C.

We encourage the agencies to calibrate the risk weights for residential real estate exposures based on empirical analysis of the risk posed by these exposures. We believe this would invariably place them below the Basel framework's risk weights, which itself is already a conservative calibration. Such an approach would be more risk-sensitive and promote better access to credit than the proposed rule, thus mitigating adverse impacts on housing finance and credit availability.

From 2014 to 2022, according to the FFIEC 101 reports,[169] the average risk weight for all first-lien residential loans across U.S. banks using the Advanced Approaches was about 25 percent. The agencies have reviewed and approved banks' internal risk parameter estimates that produced this outcome. They have not demonstrated that this approach produces inaccurate outcomes. By design, the Advanced Approaches risk weights are sufficient to absorb losses during severe downturns. Thus, these risk weights are presumably both reliable and accurate. The proposal does not support its suggestions to the contrary with any empirical analysis. Notably, the Basel framework, as adopted by other jurisdictions, allows banks to utilize the Advanced Approaches, subject to a floor set by the standardized approach.

A study by the Urban Institute further demonstrates that the proposal's mortgage risk weights are significantly overstated in relation to historical loss experience, using data from the mortgage crisis period.[170] Those researchers examine losses on loans guaranteed by GSEs from 2005 to 2008 (the cohort whose default rates prompted the mortgage crisis) by credit score and LTV range to extrapolate the losses to the current bank mortgage loan portfolio that would occur in a similar stress environment. They estimate an average portfolio loss rate of 2.7 percent, given the data they have on the current credit score and LTV distribution of bank portfolios. The Urban Institute researchers conclude that the proposed risk

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169 *See generally* Federal Financial Institutions Examination Council, Reporting Forms 101, *available at* https://www.ffiec.gov/pdf/FFIEC_forms/FFIEC101_202309_f.pdf.

170 *See* Laurie Goodman and Jun Zhu, *supra* note 13.

weights are high relative to the loss rates suggested by the worst period in mortgage history.

When applying the hypothetical loss rates from a high-stress period to a sample of home purchase loans originated in 2022 by banks affected by the proposed rule, BPI estimates a portfolio loss rate of 2.9 percent, close to the estimate obtained by the Urban Institute researchers.

Further confirmation is provided by the Federal Reserve's stress testing loss rates. These vary between 0.7 percent and 3.0 percent (across different FICO ranges) for loans with LTVs below 80 percent, and between 1.8 percent and 6.6 percent for loans with LTVs exceeding 80 percent, which are broadly consistent with BPI's and the Urban Institute's estimates.

Moreover, this historical benchmarking likely overstates future loss rates. Per the Urban Institute, the historical loss rates used as benchmarks "overestimate the potential loss rate for the current bank book of business." Mortgage lending "has become more prudent in ways not directly reflected in FICO scores and LTV ratios."[171] The proposal considers none of these factors.

The proposal's brief rationale for diverging from the Basel framework is that more accurate risk weight for banks subject to the Expanded Risk-Based Approach would give them a competitive advantage over smaller banks not subject to the proposed rules.[172] That rationale is faulty for multiple reasons. First, the agencies' goal in developing a capital framework should be to assign accurate risk weights, not to achieve competitive outcomes.

Second, its premise is clearly false. Applying lower risk weights for mortgages under the Expanded Risk-Based Approach, certainly at the Basel level and even well below, would not put smaller banks at a competitive advantage because larger banks are subject to multiple other capital charges for mortgage lending that smaller banks are not. For example:

- Banks subject to the proposal are subject to the SCB, from which a capital add-on for mortgage lending of about 20 percentage points may reasonably be assumed given the large decline in house prices under stress.[173]

- With the proposed dual-stack framework, larger banks would remain subject to the current Standardized Approach, effectively eliminating banks' ability to benefit from any instance when a particular exposure would have a lower risk weight under the Expanded Risk-Based Approach.

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171 *See* Laurie Goodman and Jun Zhu, *supra* note 13.

172 *See* 88 Fed. Reg. at 64,170 ("In addition, the proposal attempts to mitigate potential competitive effects between U.S. banks by adjusting the U.S. implementation of the Basel III reforms, specifically by raising the risk weights for residential real estate and retail credit exposures. Without the adjustment relative to Basel III risk weights in this proposal, marginal funding costs on residential real estate and retail credit exposures for many large banks could have been substantially lower than for smaller organizations not subject to the proposal. Though the larger organizations would have still been subject to higher overall capital requirements, the lower marginal funding costs could have created a competitive disadvantage for smaller firms.").

173 *See* Calem and Covas, *Mortgage Lending*, *supra* note 12, and attached as Appendix 4 (describing the effect of the SCB on average risk weights for residential real estate loans).

- The superficial mention of competitive considerations in the impact analysis completely fails to recognize that residential real estate lending would factor into banks' business indicators and operational risk capital requirements under the Expanded Risk-Based Approach. Thus, larger banks would be hugely disadvantaged, in relation to smaller banks, in regard to the 25 percent of residential real estate loans sold to the GSEs, which would receive particularly high effective risk weights due to operational risk capital requirements.[174] BPI research estimates that the total effective risk weight for a mortgage with an LTV between 80 and 90 percent that was sold to a GSE could be as high as 140 percent for a bank that sells a large volume of mortgages to the GSEs. This high percentage is attributed to the operational risk capital charges associated with the fee income from selling the loan and the balance sheet charges incurred while the loan remains on the balance sheet before its sale.[175] Again, the proposal ignores this fact.

- Banks subject to the proposal have a variety of additional, non-capital requirements that broadly increase their funding costs relative to the funding costs of smaller banks, including liquidity requirements (the Regulation YY liquidity buffer and, for some banks, liquidity coverage ratio and net stable funding ratio requirements), current or proposed LTD requirements and, for some banks, TLAC requirements.

- The agencies proposed to apply the 20 percentage point add-on to the Basel standard to all real estate lending exposures to address these competitive concerns relating to marginal funding costs, without distinguishing whether the loans are held for investment or held for sale, or analyzing whether varying marginal funding costs for exposures held for sale present different issues from loans held for investment.[176]

Aside from the lack of sufficient justification for the departure from the Basel framework, the unjustifiably high risk weights for residential real estate exposures would have significantly adverse consequences for the cost and availability of mortgage credit, in particular for first-time homebuyers and LMI homebuyers. BPI research demonstrates that, under the proposal, the average risk weight for loans to LMI borrowers originated in 2022 would be 57.5 percent; for loans to non-LMI borrowers, it would be 52.6 percent.[177] The average risk weight of loans to Black borrowers is estimated to be 59.6 percent, and more than half of loans to Black borrowers would receive a risk weight of 70 percent or greater, compared with

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174 *See* Calem and Covas, *Mortgage Lending*, *supra* note 12, and attached as Appendix 4 (finding that operational risk capital charges would add five percentage points to the risk weight of a mortgage loan retained on a bank's balance sheet, on average, and estimating that operational risk capital charges would double the risk weight for a mortgage loan sold to a GSE); *see also* Covas, *supra* note 27, and attached as Appendix 8 (explaining that Vice Chair Barr's and the agencies' cost analyses omit $1 trillion in RWAs due to operational risk and therefore the true estimate of the effect of operational risk on funding costs is up to almost quadruple the agencies' estimate, with a particular impact on mortgage lending costs due to the drastic increase in capital requirements for mortgage lending under the proposal).

175 *See* Calem and Covas, *Mortgage Lending*, *supra* note 12, and attached as Appendix 4.

176 *See id.*

177 *See* Calem and Covas, *Mortgage Lending*, *supra* note 12, and attached as Appendix 4.

less than a quarter of those to white borrowers.[178] Higher capital requirements reduce the economic returns for a particular loan, product or activity and could make the loan, product or activity uneconomic.

FDIC Director McKernan pointed to the proposal's potential harm to LMI homebuyers in his statement dissenting from the proposal, noting that these higher capital requirements could lead to increased interest rates for these borrowers, increasing the obstacles they face on the path to home ownership.[179] The Urban Institute likewise notes that "[r]aising the capital charges on high-LTV loans raises the mortgage interest rates for the remaining borrowers least able to afford the increases."[180] Increasing capital requirements for mortgages for first-time homebuyers and LMI households would be inconsistent with the general public policy of promoting affordable housing and home ownership and other specific federal initiatives such as a more robust Community Reinvestment Act and promotion of special purpose credit programs for underserved borrowers.[181]

In addition, the agencies did not consider the broader impact of the proposal on housing finance and the housing market, including the impact of Category III and IV banks being required to deduct mortgage servicing assets that individually exceed 10 percent of CET1 capital or that exceed 15 percent of CET1 capital in the aggregate, instead of the 25 percent threshold that currently applies.

For these reasons, the agencies should redevelop risk weights for residential mortgage exposures based on a risk-based, empirical analysis. For example, the Advanced Approaches calculation is empirically based. It aggregates empirically estimated, segment-level, long-run default probabilities for banks into a portfolio risk weight based on a mapping that contains an element of stress. The agencies could use the data from the Advanced Approaches to propose revised risk weights that are demonstrably appropriate given that data.

Finally, regardless of where the risk weights for mortgage land for purposes of Basel implementation, the mortgage component of the Federal Reserve's stress test and resulting SCB must be revisited. If Basel risk weights are being calibrated for anything like 2005 – 2008 performance, there is no justification for adding a stress charge on top.

10. <u>The treatment of first-lien and second-lien residential mortgage exposures held by the same bank is arbitrary and inconsistent with sound risk management.</u>

Under the current Standardized Approach, a bank that holds both a first-lien and second-lien residential mortgage exposure on the same property (with no intervening liens) must treat the combined exposures as a single first-lien residential mortgage exposure.[182] This treatment generally provides *favorable* capital treatment to the exposures because the second-lien exposure can benefit from the 50 percent risk weight available to first-lien residential mortgage exposures on owner-occupied properties

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178 *See id.*

179 *See* McKernan, *supra* note 165.

180 *See* Goodman and Zhu, *supra* note 13.

181 *See* Board of Governors of the Federal Reserve, et al., "Interagency Statement on Special Purpose Credit Programs," (Feb. 22, 2022), *available at* https://www.fdic.gov/news/financial-institution-letters/2022/fil22008a.pdf.

182 *See* 12 C.F.R. §§ 3.32(g)(3); 217.32(g)(3); 324.32(g)(3).

that are prudently underwritten.[183]

The proposal would mandate this same treatment for first-lien and second-lien residential exposures held by the same bank on the same property (with no intervening liens) under the Expanded Risk-Based Approach even though this treatment would have the *opposite* effect as under the current Standardized Approach.[184] Specifically, because the risk weight for residential mortgages under the Expanded Risk-Based Approach (unlike the current Standardized Approach) takes into account the LTV ratio, this approach under the proposal would frequently *increase* the risk weight on the first-lien exposure if the same bank provided a second-lien exposure (*e.g.*, a home equity loan or line of credit) on the property, rather than reducing the risk weight on the second-lien exposure. Moreover, because a first-lien mortgage is typically larger than any second-lien on the property, this treatment under the proposal is *more punitive* to the bank holder of the liens than the current Standardized Approach, which would be *favorable* to the same holder. In effect, the second-lien would taint the first-lien under the Expanded Risk-Based Approach.

This anomalous result appears to be a consequence of the agencies' attempt to provide for some consistency between the Expanded Risk-Based Approach and the current Standardized Approach, but the agencies apparently did not fully consider the effects of importing this aspect of the Standardized Approach into the Expanded Risk-Based Approach. The agencies provide no explanation of why the exact same fact pattern should result in *punitive* capital treatment under the proposal while receiving *favorable* capital treatment under the current Standardized Approach. The result under the Standardized Approach recognizes, while the proposed approach fails to, that there are risk management *benefits* when a single bank holds both the first- and second-lien exposures on the same property, such as the bank's ability to coordinate the handling of both liens should the borrower run into financial hardship. The agencies also provide no explanation as to why the punitive capital treatment under the proposal for first- and second-lien residential real estate exposures on the same property would apply only if the same bank holds both liens.[185] This puts the bank holding the first-lien mortgage at a competitive disadvantage to other banks in providing the second-lien loan. Moreover, penalizing those banks that are in the mortgage business and offer both home equity lines of credit ("HELOCs") and mortgage loans will ultimately result in even more of this business being pushed to non-bank lenders.

The agencies should therefore eliminate the requirement to aggregate first- and second-lien exposures if held by the same bank with no intervening liens. Alternatively, the agencies could retain the aggregation requirement but cap the combined RWAs on the two liens at the amount of RWAs that would result if the liens were risk-weighted separately (*i.e.*, the risk weight for the first lien is based only on the LTV for the first lien, and the second lien is risk-weighted as an "other real estate exposure" under Section 111(f)(7), just as it would be if it were held by a different bank).

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183 *See id.* at § 3.32(g)(1).

184 *See* 88 Fed. Reg. at 64045, note 81.

185 The cumulative LTV of the exposures, for example, does not vary based on whether a single bank holds both exposures or the exposures are held by separate banks.

B. The treatment of off-balance sheet commitments does not accurately reflect the risk of those exposures.

1. The CCFs for unconditionally cancellable commitments should be tailored to reflect empirical analysis of how various categories of commitments have performed historically and should in no case be higher than 6.5 percent.

Section 112(b)(1) of the proposal would require banks to calculate the exposure amount of unconditionally cancellable commitments by applying a 10 percent CCF. Under the generally applicable Standardized Approach, unconditionally cancellable commitments are subject to a 0 percent CCF. As noted above, there is no justification for the proposed 10 percent CCF, and available evidence suggests that it should be much lower. For instance, an empirical analysis using data collected by BPI's predecessor organization in 2016 indicates that the implied CCF for credit cards at Advanced Approaches banks was 6.5 percent, and it estimates an aggregate CCF for credit card loans at three percent.[186] In addition, we have conducted a "reverse engineering" of the CCF implicit in the Advanced Approaches risk weight, based on an estimated regression equation, which suggests an implied CCF of about five percent.[187] Based on this risk-based analysis, the CCFs for unconditionally cancellable commitments should be calibrated to reflect empirical analysis of how various categories of these commitments have performed historically, and should in no case be higher than 6.5 percent.

The fact that the 10 percent CCF was a consensus among countries that are parties to the Basel agreement does not mean that the calibration is necessarily appropriate for U.S. banks. There are huge differences across countries in the number of cards people hold, the extent to which consumers use credit cards for payments, the share of card balances that are revolving and other relevant aspects of card utilization, as overviewed by the UK's Financial Conduct Authority in 2015.[188] Moreover, in contrast to what the agencies have proposed for the United States, other countries provide banks the option of using the Advanced Approaches, under which CCFs are calibrated based on banks' internal models, not arbitrarily set at 10 percent.

Unconditionally cancellable commitments generally arise in the context of retail transactions, meaning an unnecessarily high CCF would also harm consumers in various ways. Many credit cards and HELOCs are "unconditionally cancellable" for purposes of the capital rules and are assigned a CCF of 0 percent under the Standardized Approach. The new 10 percent CCF would therefore increase capital requirements for unconditionally cancellable commitments and could lead to banks reducing credit limits on or canceling infrequently used lines. This raises significant concerns about the effects on households

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186 *See* TCH Research Study, *supra* note 117.

187 Using a panel data set of annual (Q4) bank-specific observations from the 2014 through 2022 Q4 FFIEC 101 reports, we regress the ratio of RWAs to current balance against the ratio of total committed line to current balance, with the inclusion of bank-fixed effects. Results indicate that the implicit risk weight for a 100 percent utilized credit line (represented by the estimated intercept term) is at least 20 times larger than that applied to undrawn line amounts (represented by the slope coefficient).

188 *See* Financial Conduct Authority, *Credit Card Market Study Interim Report: Annex 11 – International Comparisons*, (Nov. 2015), *available at* https://www.fca.org.uk/publication/market-studies/ms14-6-2-ccms-annex-11.pdf.

that prefer to maintain unused lines of credit for contingency purposes. This is likely to include many financially vulnerable households that reserve unused line amounts for emergency expenses.[189]

2. The treatment of commitments that provide for automatic cancellation due to deterioration in a borrower's creditworthiness should be revised.

As noted above, the proposal would apply a 10 percent CCF to commitments that are unconditionally cancellable, while commitments that are not unconditionally cancellable would generally have a 40 percent CCF. The current definition of "unconditionally cancellable" (which would apply to both the Expanded Risk-Based Approach and the Standardized Approach) is "with respect to a commitment, that a [bank] may, at any time, with or without cause, refuse to extend credit under the commitment (to the extent permitted under applicable law)."[190] The Basel framework incorporates a broader definition that includes commitments that effectively provide for automatic cancellation due to deterioration in the borrower's creditworthiness.

The treatment in the Basel framework better reflects the actual economic risk of the exposure. These commitments pose only a small amount of credit risk since they automatically terminate when an automatic termination event (*e.g.*, payment default, bankruptcy or insolvency, or a downgrade below investment grade) occurs. Liquidity facilities that provide municipalities with a backstop for publicly issued variable rate debt and commercial paper are often designed in this way. These facilities meet a narrowly defined need, are rarely used in practice and, given their design, do not expose the banks that provide these facilities to appreciable credit risk. Most importantly, they automatically terminate upon the occurrence of an event implicating the borrower's creditworthiness.

The agencies offer no explanation or rationale for this departure from the Basel framework and should provide a more risk-sensitive treatment for these exposures.

3. Proposed Section 112(a)(5) would result in excessive commitment amounts for charge cards and would apply to credit arrangements for which it was not designed or intended and should be revised.

The proposal would include a new approach, in proposed Section 112(a)(5), to determine the notional amount of an off-balance sheet commitment that does not have (i) an express contractual amount that can be drawn, or (ii) a pre-set limit. The approach requires the average amount drawn over the prior eight quarters to be multiplied by 10. The multiplier of 10 would result in excessive commitment amounts both for charge cards (for which the provision was designed) and other credit arrangements (for which it was not designed).

For charge cards, a multiplier of 10 would result in an excessive commitment amount. The proposal indicates that "supervisory experience suggests that obligors similar to those with charge cards have average credit utilization rates equal to approximately 10 percent."[191] However, without the data behind this "supervisory experience," we cannot meaningfully comment on the agencies' method of calculating the multiplier. Assuming "obligors similar to those with charge cards" means credit card

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189 For additional discussion of the harmful effects of the increased CCF and other elements of the proposal on retail borrowers, *see* Calem and Covas, *Retail Lending*, *supra* note 8, and attached as Appendix 2.

190 12 C.F.R. §§ 3.2; 217.2; 324.2.

191 88 Fed. Reg. at 64, 056.

holders, it is inappropriate to assume the same credit utilization rate for charge card holders, as the multiplier of 10 appears to be designed and calibrated on the basis of the 10 percent CCF for unconditionally cancellable commitments. Charge card products differ, but many are structured to have no pre-set credit limit (*i.e.,* they do not offer, communicate or imply a contractual commitment to extend a certain amount of credit to the customer) and are generally required to be paid in full each statement period. There may be other structural differences between charge cards and credit cards too, such as in connection with transaction approval processes. For example, a charge card could be structured so that the bank engages in transaction-by-transaction reviews in which each transaction is separately underwritten at the time of the transaction and approved or denied based upon a variety of non-limit-based factors, in contrast to processes for a credit card which could be structured to center on borrower standing (current versus delinquent) and amounts undrawn on the line. The agencies, however, offer no analysis or discussion as to whether, in light of the differences between credit cards and charge cards, there actually are risks relating to consumer use of charge cards that should be capitalized through a proxy commitment. Given the differences that do exist, a multiplier of 10 would result in an excessive commitment amount for charge cards, and the agencies should develop a treatment for charge cards based on the actual performance of those cards. For example, the agencies should examine changes in charge card balances relative to historical amounts for card holders who become delinquent and default.

In addition, banks may have other credit arrangements, including wholesale lending arrangements, for which there may not be an express contractual maximum amount that can be drawn. These credit arrangements could be subject to the method of calculating a proxy for the undrawn commitment amount in Section 112(a)(5). However, it would be inappropriate to determine a commitment amount for these arrangements through the use of a multiplier designed to determine a proxy commitment amount for a charge card or retail customer transactions in general. Therefore Section 112(a)(5) should exclude credit arrangements, like wholesale lending arrangements, that are outside the retail context, given the agencies' calibration of the requirement appears to be based on experience in the retail lending context.

A revised approach to determining the off-balance sheet commitment amount for a commitment that does not have an express contractual limit, based on the multiplier described above, should also be extended to determine the undrawn commitment amount for transactor exposures. As discussed in further detail below, a transactor exposure is a "regulatory retail exposure that is a credit facility where the balance has been repaid in full at each scheduled repayment date for the previous 12 months or an overdraft facility where there has been no drawdown over the previous 12 months."[192] Transactors therefore represent the highest credit quality customers of a bank. Consequently, they often have credit limits that are much higher than the amounts they actually borrow through the credit facility. However, as described above, under Section 112 of the proposal, a bank would have to determine the amount of an off-balance sheet unconditionally cancellable commitment to a transactor by multiplying the undrawn amount of the commitment by a 10 percent CCF. Such an approach would result in an overstatement of the credit exposure from the commitment given the high credit limits of transactors and the low utilization rates for these exposures. The agencies should therefore provide that the off-balance sheet amount of an unconditionally cancellable commitment exposure to a transactor is the lower of the approach using the CCF applicable to unconditionally cancellable commitments (including our recommendation described in Section IV.B.1) or the approach under Section 112(a)(5) (as modified in accordance with our recommendation above). This would make the Expanded Risk-Based Approach more risk-sensitive as it would more reasonably capture a transactor's actual use of the credit provided under the commitment.

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[192] § __.101.

C. The costs of the retail exposure framework significantly exceed its benefits.

The proposal would define a regulatory retail exposure as a retail exposure that meets three criteria: (1) a product criterion, *i.e.*, the exposure is in the form of a revolving credit or line of credit or term loan or lease,[193] (2) an aggregate limit and (3) a granularity limit. A retail exposure would include an exposure to a natural person or persons and certain exposures to SMEs. A transactor exposure is a regulatory retail exposure that either is a credit facility where the balance has been repaid in full at each scheduled repayment date for the previous 12 months or an overdraft facility where there has been no drawdown over the previous 12 months. Under section 111(g), transactor exposures would be subject to a 55 percent risk weight, regulatory retail exposures that are not transactor exposures would be subject to an 85 percent risk weight and other retail exposures would be subject to a 110 percent risk weight.[194]

1. <u>The aggregate limit in the definition of regulatory retail exposure with respect to natural persons or SMEs should be removed.</u>

In order to qualify as a regulatory retail exposure, the sum of the exposure and all other retail exposures to the obligor and its affiliates would not be permitted to exceed $1 million.[195] In order to comply with this limit, banks would be required to track and aggregate credit exposures to a single natural person or to a single SME and its affiliates across different products. As an initial matter, exposures to natural persons would not typically exceed the $1 million threshold, making the aggregate limit unnecessary. More fundamentally, the aggregate amount of exposure to an obligor does not correlate to the credit risk posed by that obligor. Banks have processes in place for prudent underwriting, which consider the creditworthiness characteristics of the obligor, sources of repayment, pledged collateral and other information relating to credit risk. The aggregate exposure limit therefore does not improve risk-sensitivity and does not justify the substantial costs imposed by requiring banks to aggregate exposures across products to a particular obligor. The agencies should therefore exclude this part of the definition of regulatory retail exposure.

In addition, the aggregate limit for regulatory retail exposures would create a cliff effect for certain loans. For example, a loan for $1 million could qualify as a regulatory retail exposure, receiving a risk weight of 85 percent and resulting in RWAs of $850,000. The same loan for $1,000,001 would not qualify as a regulatory retail exposure and thus would be subject to a risk weight of 100 percent as a corporate exposure. This would result in RWAs increasing by $150,001 for only a $1 increase in loan size. Although this issue is less consequential for natural persons, who rarely borrow over $1 million, it has significant implications for SMEs, which are more likely to have borrowing needs in amounts approaching or exceeding $1 million. The effect would be especially pronounced for larger SMEs that have grown to be able to support such borrowing amounts. To reduce the negative impact of this cliff effect on SMEs, the agencies should include a corporate SME exposure category with a risk weight of 85 percent in the final rule for all exposures to SMEs that do not qualify as retail exposures.

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193 § __.101.

194 *See* Section IV.A.1 above for our recommendation regarding calibrating those risk weights.

195 *See* § __.101.

2. The granularity limit in the definition of regulatory retail exposure should be eliminated.

In addition to the product criterion and the aggregate limit included in the definition of regulatory retail exposure, the proposed rule would impose a granularity limit, whereby the portion of any regulatory retail exposure that exceeds 0.2 percent of the bank's total regulatory retail exposures would not be treated as a regulatory retail exposure. The proposed granularity limit would introduce undue complexity into the capital framework, as well as potential variability in capital requirements for the same exposure from one bank to another and also within the same bank from period to period. If the granularity limit were implemented, two banks with identical exposures to the same obligor could be required to apply different risk weights to their respective exposures based on the overall size of their retail lending portfolios, a factor that has no bearing on the credit risk associated with the particular exposure at issue. Therefore, the granularity limit should be eliminated.

The granularity limit is also unlikely to serve its intended purpose relating to the diversification of regulatory retail exposures.[196] The limit of 0.2 percent is equivalent to 1/500 of a bank's regulatory retail portfolio. If the bank's regulatory retail portfolio is at least $500 million, the granularity limit would never apply, given that the proposal caps any individual exposure at $1 million. The granularity limit adds complexity to the capital framework with almost no corresponding benefit and should therefore be eliminated.

3. The risk-weight multiplier for currency mismatches on residential real estate exposures and retail exposures overstates risk and should be eliminated.

Section 111 of the proposal would include a 1.5 multiplier for a residential mortgage exposure to a borrower that does not have a source of repayment in the currency of the loan equal to at least 90 percent of the annual payment from either income generated through ordinary business activities or from a contract with a financial institution that provides funds denominated in the currency of the loan. The 1.5 multiplier would also apply to any retail exposure in a foreign currency to a borrower that does not have a source of repayment in the foreign currency equal to at least 90 percent of the annual payment amount from either income generated through ordinary business activities or from a contract with a financial institution that provides funds denominated in the foreign currency.

The 1.5 multiplier is not risk-sensitive. Just because a borrower does not have a source of repayment in the currency of the loan does not mean he or she presents 1.5 times more credit risk to the bank. Relatedly, this uniform multiplier completely ignores differences in correlation among price movements in different pairs of currencies. In addition, this aspect of the proposal would impose substantial implementation burdens on banks, especially because the multiplier could apply to any residential mortgage exposure – not just residential mortgage exposures in a foreign currency. They would have to undertake exposure-by-exposure reviews to determine whether the multiplier applies. This aspect of the proposal also has the potential to impose higher capital requirements on banks when there is not an actual currency mismatch. Capital requirements apply on a consolidated basis. Accordingly, subsidiary-level exposures factor into the RWAs of the parent bank. A parent bank could have a subsidiary in a foreign country and that subsidiary could make loans in that country denominated in that country's currency – for example, a UK bank subsidiary making loans denominated in British Pounds. For the UK

196 *See* 88 Fed. Reg. at 64,052 ("The aggregate limit and granularity limit are intended to ensure that the regulatory retail portfolio consists of a set of small exposures to a diversified group of obligors, which would reduce credit risk to the banking organization.").

bank subsidiary, there is no currency mismatch. At the parent bank level, however, because the loan is not denominated in U.S. dollars, it could be subject to the risk-weight multiplier. The proposal includes no data or analysis to support the multiplier, and it should therefore be eliminated.

4. The lookback period should be shortened from 12 to six months in the definition of transactor exposure.

As noted above, a transactor exposure would be a type of regulatory retail exposure that is either a credit facility where the balance has been repaid in full at each scheduled repayment date for the previous 12 months or an overdraft facility where there has been no drawdown over the previous 12 months. A six-month lookback period is sufficient to capture obligors who generally repay their balances in full and present a lower credit risk. Six months rather than 12 also lessens the penalty to the bank if a creditworthy obligor inadvertently does not make a timely payment or overdraws their account one month. In addition, shortening the lookback period would reduce the implementation challenges associated with a 12-month lookback period. Therefore the definition of transactor exposure should provide for a six-month lookback period.

5. The definition of transactor exposure should not exclude exposures for which the balance due is zero or for which no payment is due on a particular payment date that would otherwise apply.

The definition of transactor exposure is intended to capture obligors who routinely repay their balances in full so that exposures to these obligors may be assigned a lower risk weight in accordance with the amount of credit risk they pose. However, banks often run promotions regarding the retail products that may qualify as transactor exposures. During a promotional period, there may be no payments required. In addition, obligors may not use their credit arrangements and establish a balance each and every month. The definition of transactor exposure should be revised to take into account promotional offers and the possibility of a zero balance by providing that an obligor is deemed to have repaid the credit facility in full at a scheduled repayment date if the balance due is zero or there is no payment due on a particular payment date that would otherwise apply (unless the absence of a payment due is the result of a foreclosure granted by the bank).

6. Banks should have the option to opt out of the 55 percent /85 percent /110 percent risk-weight framework for transactor exposures/regulatory retail exposures that are not transactor exposures/other retail exposures and instead apply a 100 percent risk weight to all retail exposures.

In light of the potential implementation burdens associated with applying the “regulatory retail” and “transactor” definitions discussed above, if the agencies do not eliminate the aggregate limit and granularity limit, banks should have the option to “opt out” of the regulatory retail framework and instead apply a 100 percent risk weight to all retail exposures. For firms with smaller retail portfolios, the operational complexity of implementing the 55/85/110 framework could outweigh the benefits of the lower risk weights, with the result that credit becomes more expensive or less available from those banks. This increased cost or contraction of available options could unnecessarily harm consumers. The 100 percent risk weight is consistent with the risk weight retail exposures would receive under the generally applicable Standardized Approach and with the highest possible risk weight under the regulatory retail framework in the Basel framework. This risk weight would be sufficiently conservative to avoid opportunities for a bank to seek to optimize its RWAs by opting out of the retail exposure framework.

D. The proposed definition of defaulted exposures could harm consumers and is not operationally practicable.

1. Certain short-term credit relief and overdrafts should not result in an exposure being considered a defaulted exposure.

The proposal would introduce new and expanded definitions of a defaulted exposure. A defaulted retail exposure would include any distressed restructuring. A distressed restructuring would include postponement of principal, interest or fees and extension of the term of the loan, either of which must be made for credit-related reasons. A defaulted exposure receives a risk weight of 150 percent, compared with the 55 percent, 85 percent or 110 percent risk weight that would be applicable to the retail exposure otherwise. The expansive definition of distressed restructuring for purposes of the defaulted exposure definition would impose unwarranted heightened capital requirements on banks for offering borrowers relief when they experience temporary financial hardship. The proposal provides no data or analysis to support such punitive risk weights.

For example, in the case of auto loans to LMI borrowers and other borrowers who may be experiencing temporary financial hardship, banks may offer a one- or two-month extension to help customers stay current on their loans and avoid default and repossession. In connection with this relief, a bank would assess the customer's willingness and ability to repay before granting the extension. If it cannot establish a customer's willingness and ability to repay, an extension would not be offered. In these circumstances, if an extension is provided, it should not be treated as a "distressed restructuring" resulting in the imposition of a 150 percent risk weight.

The agencies elsewhere have recognized the important role that such short-term relief can play in helping a borrower weather a temporary financial strain. In particular, during the COVID-19 pandemic, banks were broadly encouraged to offer this type of relief to customers adversely impacted by the pandemic and the economic turmoil it created.[197] While not mandated by the CARES Act, banking supervisors felt that such loan modification programs were positive actions to help mitigate the impact of the COVID-19 pandemic.[198] Surprisingly, the proposal includes no loss experience from this period in determining the appropriate risk weight; in fact, recent analysis by the FDIC suggests that, "[i]n contrast with trends in previous recessions, consumer lending continued during the pandemic and consumer loan performance remained strong, helped by government programs that supported individual incomes and forbearance programs."[199] The FDIC found that the share of credit card loans, auto loans and other consumer loans at banks that were noncurrent decreased to below pre-pandemic levels by the fourth quarter of 2021.[200] It is unclear whether the agencies intended to depart from their view during the COVID-19 pandemic that loan modifications can (and did) help consumers endure short-term financial

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197 *See* Board of Governors of the Federal Reserve System, et al., "Interagency Statement on Loan Modifications and Reporting for Financial Institutions: Working with Customers Affected by the Coronavirus," (March 22, 2020), *available at* https://www.fdic.gov/news/press-releases/2020/pr20038a.pdf.

198 *See id.*

199 The Federal Deposit Insurance Corporation, "Consumer Lending Through the Pandemic and the Recovery," FDIC Quarterly Vol. 16 No. 1 (2022), *available at* https://www.fdic.gov/analysis/quarterly-banking-profile/fdic-quarterly/2022-vol16-1/article1.pdf.

200 *See id.*

stress, given the lack of discussion in the proposal regarding the potential effects of the "defaulted exposure" definition on the availability of relief for consumers experiencing temporary financial distress.

To avoid possibly unintended harm to consumers experiencing financial hardship, particularly LMI borrowers, the definition of defaulted exposure should allow for short-term relief after a bank makes an assessment of the obligor's ability and willingness to eventually repay the exposure.

In addition, the agencies should revise the definition of defaulted exposure to exclude overdrafts that banks may allow as part of client activity or for other operational reasons unrelated to financial distress and after an assessment of protections and the obligor's ability and willingness to repay the exposure. While banks generally require that any overdraft be covered by the client, there are instances where a bank may allow overdrafts to age longer than 90 days for a variety of reasons, including failed trade disputes, tax reclaims, relationship exits and account closures. Such circumstances are unrelated to a client's ability to repay the overdraft and overdrafts extended in those circumstances should not be considered defaulted exposures.

2. <u>The definition of defaulted exposure is not operationally practicable.</u>

The new and expanded definitions for certain types of defaulted exposures (non-retail and non-residential real estate) would require banks to conduct ongoing credit monitoring and determine defaulted exposure status based on the obligor's performance on *any* of its credit obligations (not just credit obligations to the bank holding the exposure). Monitoring the status of credit obligations – including *de minimis* obligations – owed to entities other than the bank itself is not operationally practicable and should be removed from the definition of defaulted exposure.

In most cases, banks do not have the type of information that would be required by the proposed rule. For instance, the definition would require banks to consider, among other things, how other creditors account for credit obligations of the obligor. Banks would not have insight into whether, for example, other creditors have placed credit obligations of the borrower in nonaccrual status, sold a credit obligation or taken a charge-off or negative fair value adjustment with respect to a credit obligation of the obligor for credit-related reasons. Further, the definition would require banks to consider the status of *any* credit obligation of an obligor to *any* creditor. Banks would not ordinarily have insight into the status of each and every credit obligation of an obligor, without regard to size or materiality.

In addition, the definition of defaulted exposure conflicts with the definition of defaulted exposure under U.S. GAAP and therefore creates inconsistency across reporting requirements. Under GAAP, impairments or write-downs occur once a creditor determines an exposure is uncollectable; that is, once all commercially reasonable means of collection have been exhausted. If the definition in the proposed rule is left unchanged, the decisions of third-party creditors could require an exposure to be considered defaulted while GAAP reporting would reflect a bank's own assessment of an obligor's likeliness to repay. This could result in the same exposure reported simultaneously as both defaulted and not defaulted across regulatory requirements.

Therefore, the definition of defaulted exposure should be revised to eliminate the requirement that a bank monitor the obligor's performance on "any" of its credit obligations and be limited to material obligations to the bank holding the exposure at issue. The definition should remain principles based, requiring a bank to monitor and determine whether an obligor is unlikely to pay its material credit obligations.

3. The definition of defaulted real estate exposure should exclude previously defaulted exposures that resume performing.

The definition of defaulted exposure includes a distressed restructuring.[201] For defaulted retail exposures, an exposure that underwent a distressed restructuring is no longer a defaulted exposure once the bank "has reasonable assurance of repayment and performance for all contractual principal and interest payments on the exposure as demonstrated by a sustained period of repayment performance."[202] There is no analogous provision for defaulted real estate exposures.

The definition of defaulted real estate exposure should clarify that an exposure that has undergone a distressed restructuring but has resumed performing its payment obligations no longer qualifies as a defaulted real estate exposure. Like re-performing retail exposures, re-performing real estate exposures present less credit risk than truly defaulted exposures and should therefore receive a lower risk weight. Without this change, the proposal would impose a permanent additional cost for a distressed borrower, despite that borrower working hard to become and remain current on their loan.

E. There is no basis for imposing a risk weight in excess of 100 percent for subordinated debt or a covered debt instrument.

Section 111 would assign a 150 percent risk weight to subordinated debt and covered debt instruments.[203] The term "subordinated debt instrument" is defined as "a debt security that is a corporate exposure, a bank exposure or an exposure to a GSE, including a note, bond, debenture, similar instrument, or other debt instrument as determined by the [agency], that is subordinated by its terms, or separate intercreditor agreement, to any creditor of the obligor, or preferred stock that is not an equity exposure."[204] The term "covered debt instrument" generally includes debt to satisfy loss-absorbency requirements, such as the Federal Reserve's LTD and TLAC requirements.[205] This requirement has no data or analytical basis and should be eliminated.

Applying a 150 percent risk weight to all subordinated debt instruments, solely as a result of subordination and without taking into account other factors that affect credit risk (such as overall creditworthiness of the obligor or collateral) would result in capital requirements that are not risk-sensitive, not commensurate with risk and overly stringent. The same is true for applying a 150 percent risk weight to all debt, including senior debt, that is issued to satisfy loss-absorbency requirements. The agencies should therefore remove the separate risk weight category for subordinated debt and covered debt instruments.

Further, the proposed definition is overbroad, which could lead to anomalous results. The definition above explicitly scopes in preferred stock that is not an equity exposure even though such preferred stock may not have the characteristics of subordinated debt, *i.e.*, subordinated "to any creditor

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201 § __.101.

202 *Id.*

203 § __.111(h).

204 § __.101.

205 *See* 12 C.F.R. §§ 3.2; 217.2; 324.2. The proposal notes that "covered debt instrument" includes "TLAC debt instruments." 88 Fed. Reg. at 64,042.

of the obligor." A concrete example is preferred stock issued by certain funds registered under the 1940 Act, in particular those that primarily invest in tax-exempt municipal bonds. The proposal (as well as the current Standardized Approach, under which the effect is less pronounced given that a 100 percent risk weight is applicable) would result in a risk weight for preferred stock issued by these funds that is much higher than the risk weight applicable to investments in the common stock of these funds, which would be treated as equity exposures to investment funds, with risk weights determined under a look-through approach.

As noted above, the proposed definition of "subordinated debt instrument" would include "preferred stock that is not an equity exposure."[206] Preferred stock issued by 1940 Act funds is generally mandatorily redeemable and therefore classified as a debt security under GAAP.[207] For 1940 Act funds that primarily invest in municipal bonds, preferred stock is often the most efficient to structure their balance sheets because they can pass along the tax benefits of the underlying portfolio to investors in the form of exempt-interest dividends.[208] Preferred stock is also intended to effectively serve as the most senior security in such a fund's capital structure, and the preferred stock often includes provisions limiting the fund's ability to issue debt senior to the preferred.[209] In addition, preferred stock is considered a senior security under the 1940 Act[210] and as such should not be classified as a subordinated debt instrument under the capital rules. The securities of a 1940 Act fund, both debt and equity, are subject to regulatory oversight and strict leverage limits, with indebtedness limited to a much larger extent than preferred equity.

Preferred stock issued by a 1940 Act fund that invests in municipal securities would receive a 150 percent risk weight. An equity exposure to the fund would be subject to the look-through approaches in Section 142, with the underlying exposures receiving a risk weight of between 20 percent and 50 percent (depending on the mix of types of municipal bonds). The risk weight for the underlying exposures would then be multiplied by the leverage of the fund. For example, assume a fund has a 40 percent risk weight for its underlying exposures and has a leverage ratio of 40 percent based purely on the preferred stock it has issued. An equity exposure to that fund would therefore receive a risk weight of 67 percent. A preferred stock exposure to the same fund, however, would receive a 150 percent risk weight, despite the fact that the preferred stock is senior to the equity exposure and therefore presents less credit risk.

If the agencies retain the 150 percent risk weight for subordinated debt exposures and covered debt instruments, they should make the following changes to the scope and application of the risk weight. First, the definition of "subordinated debt instrument" should be revised to remove the reference to "preferred stock that is not an equity exposure" and therefore limited to preferred stock that otherwise

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206 *Id.*

207 *See* ASC 320-10-20.

208 *See* 26 U.S.C. § 852(b)(5).

209 In general, senior leverage can only be issued to a limited extent and for limited purposes, (*e.g.*, temporary cash flow needs; debt issued to refinance preferred; Tender Option Bonds, etc.) or with the consent of the preferred holder.

210 715 U.S.C. § 80a – 18(g). Unless otherwise provided, "senior security" means any bond, debenture, note, or similar obligation or instrument constituting a security and evidencing indebtedness, and any stock of a class having priority over any other class as to distribution of assets or payment of dividends; and "senior security representing indebtedness" means any senior security other than stock.

satisfies the definition; *i.e.*, preferred stock that "is subordinated by its terms, or separate intercreditor agreement, to any creditor of the obligor."[211] This would avoid application of the 150 percent risk weight to preferred stock exposures that are the most senior securities of an issuer and therefore are not relevant given the agencies' rationale for this aspect of the proposal.[212] Second, the agencies should cap the risk weight for credit exposures to borrowers the equity exposures to which are subject to the look-through approaches. The agencies should provide that the risk weight for a credit exposure to an investment fund cannot be greater than the risk weight for an equity exposure to that fund determined under the look-through approaches and excluding the leverage generated by those credit exposures (*i.e.*, in the example mentioned above, the risk weight would be capped at 40 percent because the leverage generated by the preferred stock would not be taken into account for purposes of the cap). This change would improve the risk-sensitivity of the Expanded Risk-Based Approach by preventing senior exposures from receiving higher risk weights than junior exposures.

F. A 20 percent risk weight to transactions between IHCs of foreign banks and their foreign bank affiliates should be adopted to prevent unjustified capital charges.

The proposal does not provide a separate risk weight category for the credit exposure of an intermediate holding company ("IHC") of a foreign bank to its foreign bank affiliates. Instead, such an exposure would be treated like any other exposure to a bank and receive a risk weight of 40 percent if the affiliate is a Grade A bank.[213] To avoid imposing undue credit risk capital charges on IHCs, the agencies should provide for a 20 percent risk weight for credit exposures to an IHC's foreign bank affiliates that are Grade A banks.

Other aspects of the regulatory framework treat exposures of IHCs to their foreign affiliates differently. For example, for purposes of determining the category to which an IHC or foreign bank belongs, the cross-jurisdictional activity indicator excludes inter-affiliate claims to the extent secured by financial collateral.[214] The Federal Reserve explained that this approach was justified due to the increased cross-jurisdictional activity of foreign banks: "Foreign banks' U.S. operations often intermediate transactions between U.S. clients and foreign markets, including by facilitating access for foreign clients to U.S. markets, and clearing and settling U.S. dollar-denominated transactions. In addition, they engage in transactions to manage enterprise-wide risks. In these roles, they engage in substantial and regular transactions with non-U.S. affiliates."[215] In addition, in the Federal Reserve's annual stress tests, U.S. IHCs are not required to include any affiliate as a counterparty for the purposes of the counterparty default scenario.[216]

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211 § __.101.

212 88 Fed. Reg. at 64,042 ("The scope of the definition of a subordinated debt instrument is meant to capture the types of entities that issue subordinated debt instruments and for which the level of subordination is a meaningful determinant of the credit risk of the instrument.").

213 *See* § __.111(h).

214 84 Fed. Reg. 59230, 59,238 (Nov. 1, 2019).

215 84 Fed. Reg. 24,296, 24,305 (May 24, 2019).

216 Board of Governors of the Federal Reserve, 2023 Stress Test Scenarios, *supra* note 70.

G. The definition of multilateral development bank should be amended.

The proposal would not revise the existing definition of multilateral development bank ("MDB"). Unlike the definition of MDB in the U.S. capital framework, the Basel framework includes the International Finance Facility for Immunization as eligible for the zero percent risk weight applicable to MDBs.[217] Adding this entity to the list of MDBs in the capital rules would improve risk-sensitivity and achieve greater alignment with international standards.

H. Additional due diligence requirements with respect to the credit risk framework should not be adopted.

Question 12 of the proposal asks whether due diligence requirements should be integrated into the text of the final rule and the advantages and disadvantages of specifying increases in risk weights that would be required to the extent that due diligence requirements are not met, similar to the proposed risk-weight treatment for securitization exposures.

Adding due diligence requirements to the capital rules is unnecessary and would introduce unwarranted complexity into the regulatory framework for banks. The Interagency Guidelines Establishing Standards for Safety and Soundness ("Interagency Guidelines")[218] sufficiently outline expectations for banks' responsibilities with regard to understanding the credit risk to which they are exposed and maintaining the required amounts of capital against that credit risk. In addition, the Basel framework's due diligence requirement is prescriptive as to safe and sound banking practices but does not have any effect on the capital requirement for any particular exposure. The Interagency Guidelines already fulfill this role.

Further, due diligence requirements with respect to credit risk would have to apply in the context of many business lines and products. The Interagency Guidelines already provide general principles that can be applied to particular businesses and products. Implementing a credit risk due diligence requirement would either consist of general principles, which is unnecessary due to the Interagency Guidelines, or be so specific as to be impracticable.

V. The calculation of operational risk RWAs is unsupported and produces unjustifiably high capital requirements.

As discussed in Section III.C. above, fundamental changes to the operational risk elements of the proposed capital framework are necessary to address the proposal's massive over-calibration of operational risk capital. Furthermore, in many instances, the design of the Expanded Risk-Based Approach would result in disproportionate outcomes, operational issues, or compliance burdens incommensurate with the level of risk-sensitivity achieved. In addition to solving the fundamental issue of over-calibration, any final rule should also address these more focused (but nevertheless significant) problems. We provide specific recommendations below.

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[217] Basel framework, 20.14, note 8.

[218] *See* 12 C.F.R. part 30, Appendix A; 12 C.F.R., Appendix D–1 to part 208; 12 C.F.R., Appendix A to part 364.

A. The internal loss multiplier should not be floored at one.

The proposal provides a floor of one for the ILM, which would allow the unfavorable historical experience of a bank to increase the operational risk charge but would not allow favorable historical experience to decrease it. This approach departs from the Basel framework and its implementation in other jurisdictions.

According to the proposal, "[h]igher historical operational losses are associated with higher future operational risk exposure."[219] The agencies further state that "[s]upervisory experience also suggests that operational risk management deficiencies can be persistent, which can often result in operational losses."[220] The agencies produce no data or analysis to support these assertions. Nor do they present any analysis supporting the decision to floor the ILM at one, rather than allowing it to fluctuate symmetrically. Unless and until the agencies can provide relevant data and analysis for public consideration, the agencies should consider setting the ILM to one. As we discuss in further detail below, however, simply setting the ILM equal to one would not address the broad-based over-calibration of the operational risk capital charge, and additional changes would be required. Another alternative would be to let the ILM float symmetrically and reduce the ILM formula multiplier to address the broad-based over-calibration as we discuss in more detail below.

In the UK, the Prudential Regulation Authority ("PRA") gave three reasons for why the ILM, as a "mechanical link" to historical losses, was inappropriate: (1) the ILM is non-linear, with operational risk capital requirements increasing more slowly as historical losses increase; (2) many operational loss events are "low-probability high-impact events," which, given their heterogeneity, "are generally not good predictors of other unlikely events and therefore future losses;" and (3) the ILM is based on data from the previous 10 years, but the "information value of operational risk losses generally diminishes over time as business models and lending activities change."[221] We agree with the PRA's critique of the ILM. Inclusion of the ILM, as proposed, would penalize banks for one-time operational loss events that have limited predictive power. Flooring the ILM at one would impose this penalty without any possibility of a corresponding benefit for favorable operational loss history.

The capital framework already includes strong incentives for a bank to manage its operational risk, and a floating ILM with a floor of one is not necessary to incentive banks' risk management practices. An operational loss has a direct effect on a bank's net income and, therefore, its retained earnings and regulatory capital. The direct relationship between operational losses and a bank's profitability and regulatory capital provide powerful and sufficient incentives for banks to manage and mitigate operational risk.

If the agencies ultimately retain a floating ILM, they should at least remove the floor in order to improve the risk-sensitivity of this aspect of the U.S. capital framework. They should, at the same time, reduce the ILM formula's multiplier from 15, as discussed below. This would appropriately calibrate the ILM in light of the improvements to the services component proposed below in Section V.B, which would result in a more appropriately designed and calibrated BIC. For any given amount of operational losses, a

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219 88 Fed. Reg. at 64,086.

220 *Id.*

221 Prudential Regulation Authority, *CP16/22 – Implementation of the Basel 3.1 Standards*, 8.24 (Nov. 30, 2022), https://www.bankofengland.co.uk/prudential-regulation/publication/2022/november/implementation-of-the-basel-3-1-standards.

lower BIC would mechanically result in a higher ILM. Thus, to retain the ILM's current calibration, the multiplier must be reduced to reflect parallel improvements in the BIC.

B. The services component of the business indicator significantly overstates risk.

Under the proposal, the services component of the BIC would be calculated as the sum of (1) the greater of fee and commission income or fee and commission expense, each based on a three-year rolling average, and (2) the greater of other operating income or other operating expense, again based on a three-year rolling average.

The BIC would impose excessive and unjustifiable operational risk capital requirements on banks whose business mix consists of significant noninterest revenues. Unlike the calculation of the interest component and the financial component of the BIC, the services component does not offset revenues with expenses. There is also no upward limit on the size of the service component; in contrast, for the interest component, there is a cap set at 2.25 percent of interest earning assets. This approach to calculating the operational risk charge for fee-based businesses results in excessive capital requirements that are unjustifiable (in comparison to the other components of the BIC) and unsupportable (in comparison to the historical losses related to those businesses). This flaw of the proposal could be remedied through a variety of approaches, possibly in combination, as discussed in detail below.

The Basel Committee recognized the issue in both its 2014 and 2016 consultations on the operational risk computation in the Basel framework. In 2014, the Basel Committee noted: "A small number of banks that are highly specialised in fee businesses have been identified as facing a disproportionately high capital impact under the [business indicator]. The problem stems from the structure of the [business indicator], which was designed to capture the operational risk profile of a universal bank and does not lend itself to accurate application in the case of banks engaged predominantly in fee-based activities."[222] The 2016 consultation proposed to address this over-capitalization by introducing a cap in the calculation of the services component: "The Committee adjusted the structure of the [business indicator] to address . . . [o]vercapitalisation of banks with high fee revenues and expenses[;] banks with a high fee component in respect to the overall [business indicator] amount have a very high [business indicator] value which results in capital requirements that are too conservative relative to the operational risk faced by these banks."[223] However, the final Basel framework did not include this adjustment, and the commentary accompanying the publication of the Basel framework does not provide a reason for abandoning the 2016 modification or any further discussion regarding banks with high fee revenues and expenses.

The Basel Committee is not alone in identifying this problem with the existing operational risk approach. BPI analysis previously demonstrated that the operational risk capital requirement calculated using the Basel framework's approach for operational risk is significantly higher than operational risk losses in the Federal Reserve's supervisory stress tests for almost all large banks, and that the difference in capital

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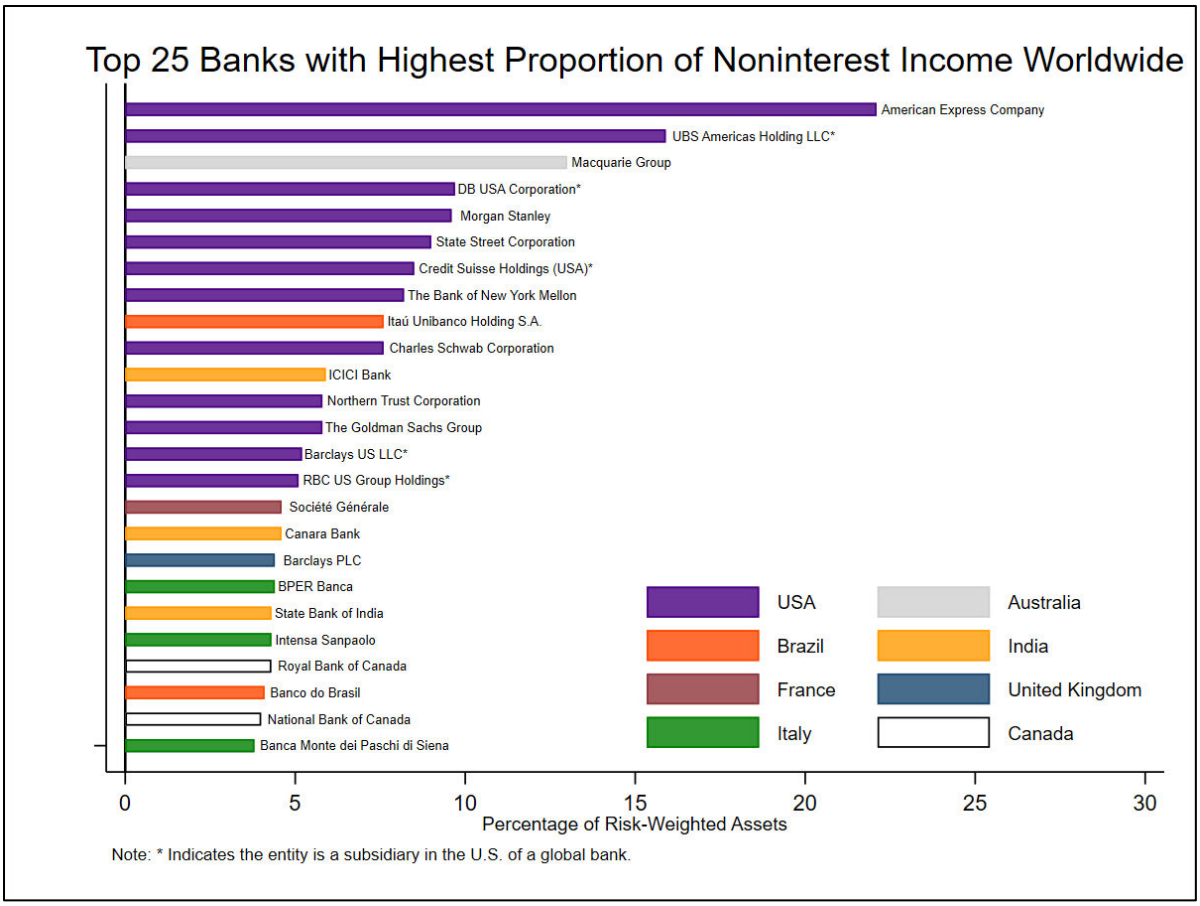
222 Basel Committee on Banking Supervision, *Consultative Document: Operational risk – Revisions to the simpler approaches*, 3 – 4 (Oct. 2014), *available at* https://www.bis.org/publ/bcbs291.pdf.

223 Basel Committee on Banking Supervision, *Consultative Document: Standardised Measurement Approach for operational risk*, 4 (Mar. 2016), *available at* https://www.bis.org/bcbs/publ/d355.pdf.

requirements is especially elevated for banks with proportionately higher fee revenue.[224]

This problem is particularly acute in the U.S. context. The U.S. banking system has a higher proportion of fee-oriented banks than other jurisdictions, especially when including Category III and IV banks and considering the recent trends in the evolution of U.S. banks' fee income. As shown in the chart below, 12 of the 15 banks with the highest noninterest income relative to RWAs are subject to U.S. capital rules.

Figure 19



Failure to adjust the services component would disincentivize banks from diversifying their streams of revenue via custody, wealth management, investment advisory and other fee-generating activities. Governor Bowman explained that, "[d]iversification in revenue streams can enhance the stability and resilience of a bank, and excessive capital charges for these revenue-generating activities could create incentives for banks to roll back the progress they have made to diversify revenues."[225] Furthermore,

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224 *See* Francisco Covas, Katie Collard, Brett Waxman, Gonzalo Fernandez Dionis and Jose Tapia, *A Modification to the Basel Committee's Standardized Approach to Operational Risk*, Bank Policy Institute (May 4, 2022), *available at* https://bpi.com/wp-content/uploads/2022/05/A-Modification-to-the-Basel-Committees-Standardized-Approach-to-Operational-Risk.pdf, and attached as Appendix 17.

225 Board of Governors of the Federal Reserve, "Statement by Governor Michelle W. Bowman," (July 27, 2023), *available at* https://www.federalreserve.gov/newsevents/pressreleases/bowman-statement-20230727.htm.

wealth- and investment-management fee-based revenues have been shown to be durable in times of stress and to provide stable profit margins for banks. Discouraging banks from engaging in such activities therefore works against the safety and soundness of individual banks and the overall banking system by reducing diversification and increasing instability of revenues during times of stress.

A major contributor to the overstatement of services-related operational risk is the failure to net fee-based income with associated expense. The netting approach allows the incorporation of the costs of conducting such fee-based businesses and, as such, directly reduces the overstatement of the operational risk charge as currently proposed. The absence of a netting approach essentially links bank capital requirements to GAAP financial statement presentation requirements in a way that makes capital requirements arbitrary and susceptible to changes for reasons entirely unrelated to the purposes of the bank capital framework. For example, in 2014, the FASB adopted a new revenue recognition standard, which, among other things, revised how fee-related revenues are presented in financial statements. This standard was also amended multiple times prior to implementation. If these changes had been made after the implementation of the Expanded Risk-Based Approach, they would have affected banks' operational capital requirements. Any similar future changes in GAAP could significantly affect operational risk capital requirements for reasons entirely unrelated to the operational risk exposures of banks.

In addition, the proposal fails to recognize that different business lines vary significantly in their operational risk profiles. A properly calibrated rule should examine historical losses (on an industry-wide level) associated with each business line and differentiate the associated risk weight. An alternative would be to simply cap the amount of fee and commission income and expense included in the services component.[226]

The recent ORX study mentioned above also investigated the relative riskiness across level two business lines listed in the Basel Committee's operational risk framework[227] and found significant variations in operational loss rates among them. The chart below illustrates the distribution of operational risk loss as a percentage of income, using bank-level data from the years 2003 to 2022. The median results show that custody services and fund management are less risky compared to global markets and retail banking. Within retail banking, card services appear to be relatively low risk. These findings are generally consistent when examining extreme losses and those at the 90th percentile. Therefore, the assumption that business lines do not markedly differ in risk profile is flawed.

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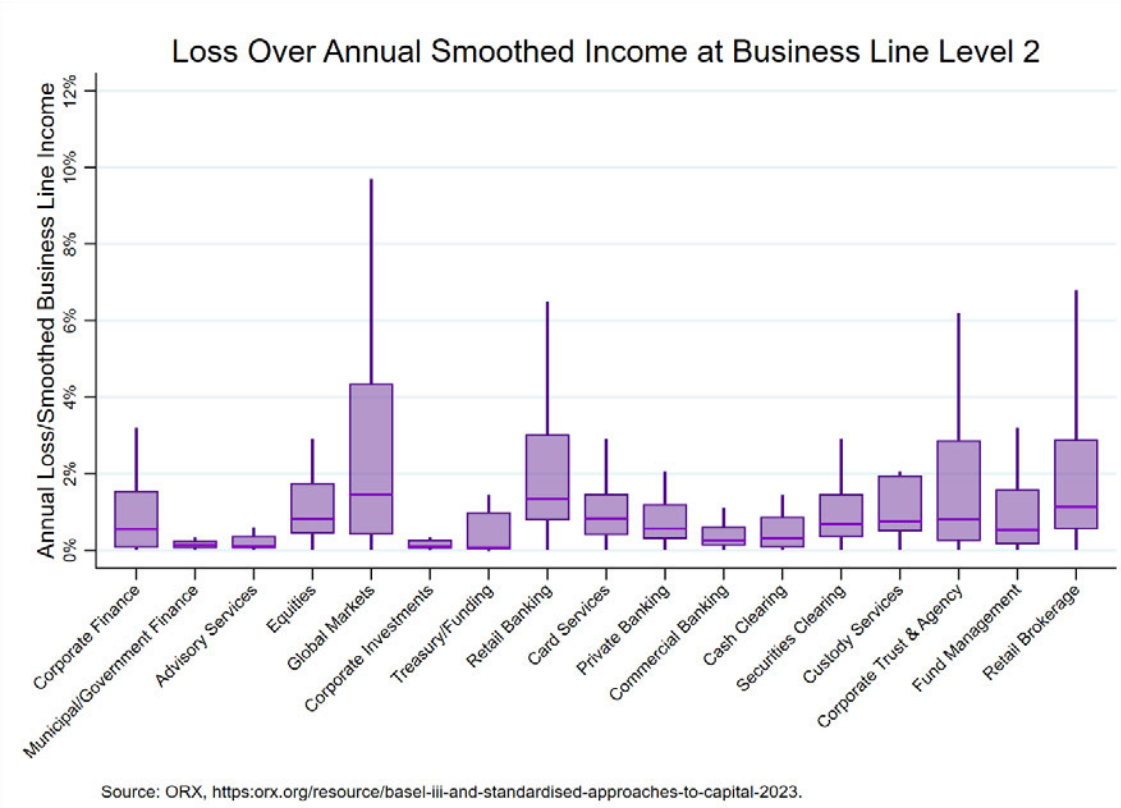
226 Aside from flooring the ILM at one, the agencies' proposed operational risk framework is generally aligned with the Basel framework. In light of the substantial changes needed to arrive at an appropriate calibration of operational risk capital requirements for fee-based income, the agencies should also recommend that the Basel Committee revise its operational risk standard.

227 *See* Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, 146 – 48 (June 2006), *available at* https://www.bis.org/publ/bcbs128.pdf.

Figure 20



Source: ORX, https:orx.org/resource/basel-iii-and-standardised-approaches-to-capital-2023.

Given the importance of the new standardized approach for operational risk and its addition to the Expanded Risk-Based Approach, it is critical that the agencies address these issues in implementing the Basel framework in the United States. In the remainder of this section, we suggest a range of possible modifications to the services component of the proposed standardized approach for operational risk, which could be adopted in combination. These modifications fit into one or more of the following categories: (1) offsetting commission and fee income with expenses; (2) acknowledging that different types of fee income possess distinct risk profiles; and (3) capping the fee income component in a manner akin to the interest, lease and dividend component.

First, commission and fee income could be offset with commission and fee expense, which would be consistent with the interest, lease and dividend and financial components of the business indicator and would mitigate, to some degree, the excessive calibration of operational risk capital requirements for fee-based businesses. The formula for the services component under this approach would be:

$$SC = \left|Avg_{3y}(\text{fee income}) - Avg_{3y}(\text{fee expense})\right| + \left|Avg_{3y}(oth\ oper\ inc) - Avg_{3y}(oth\ oper\ exp)\right|$$

However, the implementation of netting can be difficult if it needs to be done at a granular level, which would be necessary to achieve proportionate reductions across firms with different business models.

Alternatively, instead of using expenses as the netting mechanism, the agencies could apply a

publicly disclosed pre-tax margin percentage (averaged over 12 quarters).[228] Effectively, this would reduce total service revenues to be between 30 percent to 40 percent of gross revenues. There are meaningful expenses that firms incur to generate fee income, but in many cases they are not directly linked as expenses that can be readily identified in a netting formula. While pre-tax margin percentages are firm-wide calculations, and thus do not specifically relate to the services component, they could be viewed as a fair proxy for the general cost of doing business across multiple business lines. While not a prudential regulatory metric, pre-tax margin percentages, defined as the parameter θ, are included in publicly disclosed financials, so thus could be viewed as a reliable metric.[229] Under this approach, the formula for the services component would be as follows, with θ set either on a firm-by-firm or industry-wide basis:

$$SC = \theta \times \left[Avg3y(fee\ income) + Avg_{3y}(oth\ oper\ inc)\right]$$

Second, fee income could be weighted differently depending on its business line and historical losses associated with the business line. The weighting approach would make the operational risk capital framework more risk-sensitive, as different sources of fee income carry different amounts of operational risk. Under this approach, the formula for the services component would be:

$$SC = \sum_{i=1}^{N} \pi_i \times \max\left\{Avg_{3y}(fee\ income_i), Avg_{3y}(\text{fee expense}_i)\right\} + \max\left(Avg_{3y}(oth\ oper\ income), Avg_{3y}(oth\ oper\ expense)\right)$$

In this formula, the index i defines the level two business lines listed in the Basel Committee's operational risk framework.[230] The weight π_i is specific to each business line and would be less than or equal to 100 percent. The table below contains the risk weights obtained by normalizing the highest loss ratio in the ORX analysis to 100 percent and setting the remaining risk weights proportionally.[231]

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228 Pre-tax margin percentage is defined as income before taxes divided by the sum of net interest and noninterest income.

229 Alternatively, applying a (1-efficiency ratio) to the services component could work in a similar way. Efficiency ratios can be easily calculated using publicly available data and are defined as noninterest expense divided by the sum of net interest income and noninterest income.

230 *See* Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, *supra* note 227.

231 Results are similar if the 90th percentile of operational risk losses to revenues is used instead of the median.

Figure 21

Business Line	US Median Loss Ratio (%)	"Risk-Weight"
Corporate Finance	0.55	37%
Municipal/Government Finance	0.13	9%
Advisory Services	0.09	6%
Equities	0.82	56%
Global Markets	1.46	100%
Corporate Investments	0.09	6%
Treasury/Funding	0.06	4%
Retail Banking	1.33	91%
Card Services	0.83	57%
Private Banking	0.56	39%
Commercial Banking	0.26	18%
Cash Clearing	0.30	21%
Securities Clearing	0.69	47%
Custody Services	0.76	52%
Corporate Trust & Agency	0.80	55%
Fund Management	0.53	36%
Retail Brokerage	1.12	77%

Third, the agencies could include a cap on the amount of fees included in the services component calculation, either for all banks or for banks with a relatively large share of fee income. If the cap is applied to all banks, we propose a cap of 25 percent of the unadjusted business indicator to provide a somewhat comparable adjustment to some of the other adjustments discussed herein. The formula for the service component would therefore be:

$$SC = \min(0.25 \times unadj.BI, max(Avg3y(fee\ income), Avg3y(fee\ expense))) + \max\left(Avg_{3y}(oth\ oper\ inc), Avg_{3y}(oth\ oper\ exp)\right)$$

C. Our quantitative impact study examines various possible options to improve the calibration of operational risk RWAs.

BPI staff undertook a quantitative impact study to consider the hypothetical impact on the services component RWAs for operational risk of the various alternatives described above, as well as changes to the ILM as described in Section V.A.[232] The results presented below are based on data provided by 16 of

[232] Appendix 18 provides the template and instructions of the Operational Risk QIS.

the banks subject to the proposal. The sample includes universal banks, high fee income banks and banks with business models focused on lending. Collectively, these banks represent approximately 70 percent of total RWAs for operational risk under the proposal.[233] The QIS collected data on revenues and expenses by lines of business for each bank. The definition of lines of business followed the Basel framework, defined as in OPE 25.16.

The objective of the QIS was to understand possible solutions for both:

- The broad-based over-calibration of the operational risk capital charge; and
- The specific over-calibration related to banks with high fee income.

With respect to solutions for the broad-based over-calibration, the study examined two possibilities: setting the ILM to one (Figure 22) and allowing a symmetrically floating ILM while reducing the 15x loss multiplier (Figure 23). For each of these two options, several solutions to address the over-calibration of the services component were considered. To facilitate the comparison across all approaches, the services component and RWAs for operational risk under the baseline case (*i.e.*, calculation of operational risk as proposed without modification) are indexed at 100.

[233] That is, relative to the $1,950 billion increase in RWAs for operational risk.

Figure 22

QIS on the Services Component	Services Component [1]	Effect on Risk-Weighted Assets		
		Setting the Current ILM Equal to 1[2]	Setting the Projected ILM as of the Implementation Date Contemplated by the Proposal Equal to 1[3]	Setting the Projected ILM as of the Implementation Date Contemplated by the Proposal Equal to 1 and Accounting for 6% Revenue Growth[4]
Baseline - aggregate results	100	79	89	90
First quartile		69	87	88
Median		85	99	100
Third quartile		100	100	100
Netting Fee Income and Expenses				
Offset fee income with fee expenses - aggregate	74	69	78	79
Offset fee income with fee expenses - first quartile	73	60	66	66
Offset fee income with fee expenses - median	81	72	86	86
Offset fee income with fee expenses - third quartile	88	85	90	90
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - aggregate	27	50	56	57
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - first quartile	19	37	42	42
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - median	25	45	46	47
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - third quartile	29	59	65	65
Risk-Weighting Business lines				
ORX Service Component weights at the median - aggregate	62	64	72	73
ORX Service Component weights at the median - first quartile	55	56	59	60
ORX Service Component weights at the median - median	68	59	62	63
ORX Service Component weights at the median - third quartile	76	72	83	84
ORX Service Component weights at the 90th percentile - aggregate	60	62	71	72
ORX Service Component weights at the 90th percentile - first quartile	56	55	61	61
ORX Service Component weights at the 90th percentile - median	62	63	66	66
ORX Service Component weights at the 90th percentile - third quartile	75	71	81	82
Offset fee income with fee expenses & ORX Service Component weights (at the median) - aggregate	46	57	65	66
Offset fee income with fee expenses & ORX Service Component weights (at the median) - first quartile	41	50	54	55
Offset fee income with fee expenses & ORX Service Component weights (at the median) - median	51	56	59	60
Offset fee income with fee expenses & ORX Service Component weights (at the median) - third quartile	56	66	79	79
Capping the Services Component				
Services Component does not exceed 25% of BI - aggregate	51	60	67	68
Services Component does not exceed 25% of BI - first quartile	33	45	49	49
Services Component does not exceed 25% of BI - median	42	52	56	57
Services Component does not exceed 25% of BI - third quartile	58	67	75	75

(1) The services component as defined in the U.S. proposal is normalized to 100.
(2) Effect on operational risk RWA by setting ILM to 1 **and** RWA for operational risk with current ILM and the floor of 1 is set to 100.
(3) Effect on operational risk RWA by setting ILM to 1 **and** RWA for operational risk with *projected* ILM when the rule goes into effect and the floor of 1 is set to 100.
(4) Effect on operational risk RWA by setting ILM to 1 **and** RWA for operational risk with projected ILM when the rule goes into effect, 6% growth in the BIC and the floor of 1 is set to 100. We assume the growth in the BIC only affects the ILM and not the various adjustment to the services component for simplicity.

Figure 22 illustrates the changes in the services component and RWAs from each of the various options previously discussed to address the over-calibration of operational risk for high fee income banks and from setting the ILM to one. Due to variations in bank business models, the table shows the weighted average (aggregate), the median and the first and third quartiles of the distribution of changes in RWAs.

As shown in the first column, the capital charge associated with the services component could be reduced substantially across the three main solutions to address the over-capitalization for operational risk

of high fee income banks. Under the netting-type solutions, offsetting fee income with fee expenses would result in a 26 percent reduction in the services component in the aggregate. It is also important to note that the median bank sees a 19 percent reduction and the weighted average is near the first quartile, showing that this solution would benefit some banks much more than others. The pre-tax margin approach, which would provide a more consistent treatment of netting across business lines, would yield a 73 percent reduction in the services component in the aggregate. As shown in the table above, the aggregate change is about the same as the change for the median bank.

Additionally, assigning risk weights to different business lines using the ORX risk-weights would decrease the services component by 38 and 40 percent, depending on whether median or 90th percentile risk weights are used. Combining netting with a risk-sensitive approach (using median risk weights) for evaluating the services component's riskiness would reduce the services component by nearly 55 percent. Finally, imposing a cap on the services component at 25 percent of the business indicator would lead to a 49 percent reduction in the aggregate.

The next three columns on Figure 22 assess the overall effect of setting the ILM to one on RWAs for operational risk. The second column applies the current ILM, which still includes the large litigation losses banks incurred in 2013 and 2014, whereas the third column reflects each bank's best estimate of what the ILM would be as of July 1, 2025, the implementation date contemplated by the proposal, given the roll-off of those losses. The last column reflects the impact of six percent growth in bank revenues on the ILM.

The RWA reduction benefit from setting the ILM equal to one can be significant when ILMs are high, however, this benefit is likely to be significantly lower on July 1, 2025 than it would be based on current estimates, given that, all else being equal, ILMs would be lower because many of the large operational risk losses associated with the Global Financial Crisis would no longer be included in the 10-year lookback period by July 1, 2025. As such, allowing large litigation and operational losses to roll out of the lookback period provides a more accurate estimate of what the impact of setting the ILM to one would be on the proposed implementation date. For instance, under the baseline scenario, setting ILM equal to one would reduce RWA for operational risk by 21 percent relative to the current ILM, compared to an 11 percent reduction using the estimated ILM as of July 1, 2025. Moreover, the firm-specific impact from setting ILM to one is just one percent of RWAs for the median bank and varies significantly based on each firm's ILM. The first quartile corresponds to a 13 percent reduction, and a bank in the third quartile or higher would experience no benefit. The results in the last column show the effect of a six percent growth in revenues (assuming three percent growth each year), which reduces even further the effect of setting ILM to one.[234] Therefore, simply setting the ILM equal to one would not address the broad-based over-calibration of the operational risk capital charge.

Implementing an ILM of one as of July 1, 2025, combined with no revenue growth and adjustments to the services component, could reduce RWAs for operational risk in the aggregate by 22 percent when offsetting fee income with fee expenses, and as much as 44 percent with the pre-tax margin approach. The outcomes for other approaches for adjusting the services component fall within this specified range in the aggregate.

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[234] The last column in Figure 22 assumes no growth in operational risk losses. This is consistent with the ORX analysis, which shows a three percent increase in revenues and an eight percent decline in operational risk losses between 2012 and 2022. Due to rapid increase in the number of banks in the ORX sample 2003 and 2011, growth rates using data prior to 2012 are not dependable for estimating revenue growth.

As shown above, the RWA reduction from an ILM of one is less when considering the lower ILMs that would be calculated using data in 2025, when the large losses from the global financial crisis will have rolled off. And, of course, for banks that already have an ILM of less than one, setting the ILM equal to one would represent a penalty. Therefore, we also examine QIS results if the agencies allowed the ILM to float symmetrically, without imposing a minimum floor of one, and adjusting the 15x multiplier on the average annual net operational losses. The adjustment to the 15x multiplier is calibrated such that the overall capital impact, on average, across the banks in the sample is largely equivalent between setting the ILM at one or allowing it to float. Since a fixed ILM provides greater visibility and predictability into capital requirements and avoids discontinuous increases in the ILM following a significant operational risk loss, the calibration of the multiplier incorporates a five percent discount in RWA for operational risk versus the impact of calibrating the ILM equal to one.[235]

[235] The five percent discount is meant to provide an example for the cost associated with the lack of predictability of capital requirements.

Figure 23

QIS on the Services Component	Effect on Risk-Weighted Assets		
	15x Average Losses (NPR)	Alternative ILM Calibration	
	ILM Floored at 1 [(1)]	Floating ILM[(2)]	Loss Multiplier where the Capital Impact is Largely Equivalent to setting ILM = 1[(3)]
Baseline - aggregate results	100	84	**9**
First quartile		82	
Median		84	
Third quartile		86	
Netting Fee Income and Expenses			
Offset fee income with fee expenses - aggregate	90	74	**8**
Offset fee income with fee expenses - first quartile	88	69	
Offset fee income with fee expenses - median	93	74	
Offset fee income with fee expenses - third quartile	95	77	
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - aggregate	72	53	**6**
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - first quartile	49	38	
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - median	65	46	
Pre-Tax Margin x Avg 3-Yr Fee & Oth Op Income - third quartile	73	53	
Risk-Weighting Business lines			
ORX Service Component weights at the median - aggregate	86	68	**7**
ORX Service Component weights at the median - first quartile	72	58	
ORX Service Component weights at the median - median	87	67	
ORX Service Component weights at the median - third quartile	92	71	
ORX Service Component weights at the 90th percentile - aggregate	85	67	**7**
ORX Service Component weights at the 90th percentile - first quartile	72	57	
ORX Service Component weights at the 90th percentile - median	86	66	
ORX Service Component weights at the 90th percentile - third quartile	89	70	
Offset fee income with fee expenses & ORX Service Component weights (at the median) - aggregate	79	61	**6**
Offset fee income with fee expenses & ORX Service Component weights (at the median) - first quartile	65	49	
Offset fee income with fee expenses & ORX Service Component weights (at the median) - median	76	58	
Offset fee income with fee expenses & ORX Service Component weights (at the median) - third quartile	85	66	
Capping the Services Component			
Services Component does not exceed 25% of BI - aggregate	82	64	**7**
Services Component does not exceed 25% of BI - first quartile	56	43	
Services Component does not exceed 25% of BI - median	75	56	
Services Component does not exceed 25% of BI - third quartile	83	63	

(1) RWA for operational risk with ILM floored at 1 as of the implementation date contemplated by the proposal is set to 100.
(2) Each number represents a ratio where the numerator represents RWA for operational risk, calculated using a lower ILM multiple, without the floor of 1, and the BIC adjusted according to various changes to the services component. The lower ILM multiplier matches RWA for operational risk with ILM set to 1 with a 5 percent discount. The denominator is the RWA for operational risk as of the implementation date, using the 15x multiplier, the ILM floored at 1, and the BIC as per the baseline/proposal scenario.
(3) The multiple inside the ILM is the same across all banks.

The first column under 'ILM floored at 1' displays the results with a floating ILM and the 15x multiplier included in the proposal. At the aggregate level, the adjustments to the service component would reduce RWAs for operational risk by 10 percent when offsetting fee income with fee expenses, and as much as 28 percent with the pre-tax margin approach. The outcomes for other approaches for adjusting the services component fall within this specified range. As anticipated, the reductions in RWAs are much lower compared with setting the ILM at one. This effect is exacerbated by the fact that adjustments to the services component lead to a higher ILM, assuming all other factors remain constant.

Setting a loss multiplier that would make the capital impact, on average, largely equivalent between setting the ILM equal to one and a floating ILM would require the multiplier to be set to 9x under the baseline case. Additionally, the multiplier would fluctuate between 6x and 8x under the different methods used to adjust the services component. All other factors being equal, a lower calibration of the services component would decrease the BIC, which would, in turn, result in a higher ILM. Consequently, the more substantial the decrease in the services component, the greater the required reduction in the multiplier. As shown in the table, the various adjustments could reduce RWA for operational risk by 26 percent when offsetting fee income with fee expenses, and as much as 47 percent with the pre-tax margin approach. As before, the outcomes for other approaches for adjusting the services component fall within this specified range.

When evaluating the results of this QIS analysis, it is important to recognize that the impacts will vary significantly for individual banks, depending on their business model as well as the relative severity and timing of historical operational losses. Ultimately, any adjustment to the calibration of operational risk RWA must address both the general over-calibration of the operational risk capital charge and the specific over-calibration relating to banks with a high proportion of services fee income.

D. The coefficients of the BIC should also be adjusted.

The Basel framework's approach to calculating operational risk capital, and therefore the approach adopted by the agencies, has been acknowledged both by the Basel Committee itself and others to result in disproportionately high capital requirements for banks with a substantial proportion of fee-based business. A significant number of such banks are subject to the U.S. capital rules. The agencies should therefore implement one of the revised approaches described above to improve the risk-sensitivity of the approach, avoid penalizing banks for their fee-based business models and encourage diversification of revenue streams.

However, merely addressing issues with the services component will not address the more general over-calibration of operational risk capital requirements discussed in Sections III.C and V.A and B above. Given the current state of over-capitalization for operational risk – particularly in light of the additional capital requirements imposed by stress tests – we suggest a reduction in the coefficients of the BIC to further decrease the RWAs for operational risk and an adjustment to the business indicator ranges to account for economic growth and inflation relative to 2017. Alternatively, the Federal Reserve could also remove operational risk losses in the stress test (from peak to trough) from the BIC or reduce the size of operational risk losses in the stress tests. Either of these changes would help address the massive over-calibration of operational risk capital at the aggregate level, as discussed in Section III.C above; however, adjusting the BIC coefficients has the advantage of more appropriately reducing the over-calibration across individual banks.

E. The definitions of "other operating income" and "other operating expenses" should exclude items that belong under interest income/expense and items that are not associated with financial services.

Proposed Section 101 includes relatively brief definitions of "other operating income" and "other operating expense," although additional guidance is provided in the footnotes to the preamble of the proposal. According to the preamble, other operating income includes "all other income items not currently itemized in the regulatory reports, which are not included in other business indicator items and are not specifically excluded from the business indicator."[236] Other operating expense includes "expenses associated with financial services not included in other elements of the business indicator," as well as expenses associated with operational loss events.[237] This approach misstates risk because it is over-inclusive in that it includes income and expense items that present operational risk more similar to that posed by interest income and expense and includes income and expense items that do not specifically relate to financial services.

Thus, the definition should be amended to (1) specify that income and expense associated with certain financial products be included in interest income and expense rather than other operating income and expense; (2) explicitly exclude certain items in regulatory reports that are not associated with financial services from other operating expense; and (3) modify the definition of "other operating income" to encompass only income associated with financial services, consistent with the definition of "other operating expense."

First, the agencies should specify that the income and expense associated with certain financial products that are currently included in noninterest income/expense would be included in interest income/expense instead for purposes of calculating the interest, lease and dividend component of the operational risk charge. This would improve the risk-calibration of the operational risk framework because the operational risk from these items is more similar to that of other items of income/expense included in interest income/expense than that of items included in other operating income/expense. For example, interchange fees are the primary revenue stream for charge cards; therefore, these fees are more akin to interest on a loan and should be included in the interest, lease and dividend component. The same logic applies to all transactor cards; *i.e.*, the financial feasibility of the cards is driven by the core revenue from interchange fees. In addition, fee income and expenses from "operating leases," fee income from "loan commitments" and noninterest income from the sale, securitization and servicing of 1 – 4 family residential mortgage loans should be included in interest income/expense rather than other operating income/expense.

Second, there are some expenses included in FR Y-9C, Schedule HI, Line 7d and Call Report, Schedule RI, Line 7d that are not explicitly excluded from the business indicator, but that are also not associated with "financial services." Examples include marketing and business development expenses, audit fees and legal fees. These expenses should be expressly excluded from other operating expenses.

Third, the definition of "other operating expense" specifies that only expenses associated with financial services are included. This limitation is appropriate given that the services component is meant to capture the operational risk to a bank from the provision of financial services. The definition of "other operating income," however, includes no such limitation. This gap inappropriately results in excessive

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236 88 Fed. Reg. at 64,084, note 186.

237 *Id.* at 64,084.

operational risk capital requirements for the IHCs of foreign banks, which would have to include income received from affiliates in connection with corporate or shared services, such as those relating to information technology or human resources. To improve consistency within the rule and avoid undue operational risk capital charges for IHCs, the definition of "other operating income" should provide that it is limited to income items associated with financial services.

F. In addition to the generally applicable threshold for operational loss events, there should be a separate, higher "materiality" threshold for an accounting restatement/correction to be treated as an operational loss event.

As noted above, the ILM is based on a ratio of a bank's historical operational losses to its BIC. Only material operational loss events, *i.e.*, those that resulted in a net loss of $20,000 or more, are required to be included in the bank's calculation of historical operational losses.[238] Section 101 would define "operational loss event" to include, among other things, restatements or corrections of financial statements that result in a reduction of capital relative to amounts previously reported. Because accounting restatements or corrections do not generally indicate increased operational risk, there should be a separate materiality threshold (in addition to that generally applicable to operational loss events) for an accounting restatement or correction to be treated as an operational loss event. This threshold should be set at the firm's "error threshold" for making accounting adjustments. A firm's auditors set this threshold based on the materiality of the change to the firm's financial statements. Accounting restatements or corrections below this threshold likely do not rise to the level of increasing a firm's operational risk.

In addition, certain types of restatements of financial statements should not qualify as operational loss events because they do not indicate any increase in operational risk. Specifically, the following types of changes to a bank's financial statements should not constitute operational loss events even if the changes result in a reduction of capital relative to amounts previously reported:

- Retrospective application of a change in accounting principle;
- Retrospective reclassification due to a discontinued operation; and
- Restatements as a result of an acquisition or business combination of entities under common control.

These restatements do not result from any failure of a firm's internal controls that could be an indicator that the firm is exposed to more serious operational risk, but rather are a result of subsequent events that merit a reframing of the firm's financial statements. We note that, for purposes of its rule regarding recovery of incentive-based compensation in the event of erroneously reported financial information, the SEC has advised that a retrospective application for a change in accounting principle, a retrospective reclassification due to a discontinued operation and a retrospective application of a change in reporting entity, such as from a reorganization of entities under common control, "do not represent error corrections."[239]

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238 *See* § __.150(e)(2).

239 *See* Securities and Exchange Commission, 87 Fed. Reg. 73,076, 73,086 – 87 (Nov. 28, 2022).

These changes would improve the proposal's risk-sensitivity by avoiding increases in a bank's capital requirements in connection with accounting restatements or corrections that have no bearing on operational risk.

G. The BIC thresholds of $1 billion and $30 billion and the materiality threshold for operational risk events of $20,000 should be periodically updated for economic growth and inflation and other changes.

The BIC would scale up with the business indicator based on thresholds of $1 billion and $30 billion. As described above, only operational risk loss events of $20,000 or more would be required to be included in the ILM calculation. These thresholds would be static. This would result in operational risk capital charges increasing with economic growth and inflation. The thresholds should be indexed to economic growth and inflation, subject to automatic adjustment every five years, and periodically reviewed to determine whether other adjustments are appropriate. This would reduce the likelihood that the thresholds become improperly calibrated as a result of inflation or other changes in the banking sector.

H. For purposes of collecting information regarding the drivers of operational loss events, the materiality threshold should be higher than $20,000.

The proposal would require banks to collect descriptive information regarding the drivers of operational risk loss events with a net impact of $20,000 or more.[240] This requirement would pose a substantial operational burden on firms without a corresponding benefit. Operational loss events with an impact of $20,000 are largely immaterial to banks with $100 billion or more in assets. The threshold for collecting descriptive information regarding the drivers of operational risk loss events should be at least $100,000.

I. How banks should account for acquisitions or purchases of assets or portfolios in the BIC is unclear.

An entity acquired or merged with a bank would need to be reflected in the business indicator and ILM components of the operational risk framework.[241] If a bank does not have complete operational loss event data or balance sheet or revenue data from a merged or acquired business, a formula would determine the business's contribution to operational losses.[242] However, the proposal does not address how banks should account for non-legal entity acquisitions or purchases (*e.g.*, a portfolio or asset purchase) or the purchase of legal entities where certain assets may be excluded (*i.e.*, "carved out") from the purchase.

Consistent with the implementation in certain other jurisdictions, such as Canada,[243] the Expanded Risk-Based Approach should provide that the acquired portfolio's loss and other data arising pre-

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240 § __.150(f)(2)(i)(C).

241 *See* § __.150(d)(4) and (f)(2)(ii)(b).

242 § __.150(e)(2)(vi).

243 *See* Office of the Superintendent of Financial Institutions, "Basel Capital Adequacy Reporting (BCAR) 2023," (Oct. 2022), *available at* https://www.osfi-bsif.gc.ca/Eng/fi-if/rtn-rlv/fr-rf/dti-id/Pages/BCAR21_BA.aspx; *see also* Office of the Superintendent of Financial Institutions, "Update on Basel III Implementation ahead of final rules release in January 2022," (Nov. 29, 2021) *available at* https://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gl-ld/Pages/omni22_updt.aspx.

acquisition are excluded because the acquisition is not of an entire legal entity and the bank is not integrating a company's business operations into its own; rather, it is executing an arrangement whereby a certain predefined set of assets will belong to the bank. Only post-acquisition loss and other data for purchased assets should be included in the calculation.

J. Only significant acquisitions of non-banking entities should be included in the business indicator.

Proposed Section 150(f)(2)(i)(B) would require banks to have operational loss event data collection processes that would produce operational loss event data relating to entities that have been acquired by or merged with a bank for 10 full years, including for any period prior to the acquisition or merger during the 10-year period. When a bank acquires a non-banking entity or a bank not subject to the Expanded Risk-Based Approach, collecting data for the calculation of the business indicator could present significant challenges. Non-banking entities are not subject to the agencies' regulatory reporting requirements and therefore may have incomplete data. The same is true for a smaller bank that is not subject to the Expanded Risk-Based Approach. The agencies should provide for a materiality threshold before data from acquired entities not subject to the Expanded Risk-Based Approach needs to be included in the business indicator.

In addition, there should be no requirement to capture pre-acquisition loss data from acquired companies regardless of materiality. Collection of such data presents the operational challenges discussed above and is not necessary given that the proposed rule provides a workable alternative for determining an acquired company's contribution to operational losses when such data is not available.[244]

K. The revised FFIEC 101 report should provide for operational loss results to be reported on a two-month lag.

The preamble states that the agencies are planning to separately propose modifications to the FFIEC 101 report so that all inputs to the business indicator and total net operational losses would be publicly reported as separate inputs to the applicable calculations.[245] Operational loss data should be reported on a two-month lag, given the various operational requirements for reporting.

This lag would enable banks to properly collect, review and validate the data regarding of operational losses. The verification and attestation processes many banks employ to validate their general ledgers could result in significant amounts of data not being properly validated prior to its reporting. Given the importance of the accuracy of this data, a two-month lag would be essential to complete and accurate reporting.

L. The operational loss data requirements of any final rule should be forward-looking.

The proposal requires certain operational loss data to be collected for prior periods. For example, the ILM is calculated based on operational loss data from the prior 10 years.[246] To account for circumstances in which firms previously collected data based on a different materiality threshold than

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244 *See id.*

245 88 Fed. Reg. at 64,083.

246 *Id.* at 64,086.

would apply under a final rule, the operational loss data requirements should only apply prospectively.

VI. The calculation of equity RWAs under the Expanded Risk-Based Approach requires significant changes to improve risk-sensitivity and eliminate excessive and incorrectly calibrated capital requirements.

A. The proposal should (i) retain the existing treatment of non-significant equity exposures, (ii) expand the 100 percent risk weight category for equity exposures pursuant to a national legislated program and (iii) make a technical change to the treatment of exposures to small business investment companies.

Under the current simple risk weight approach for equity exposures, the 100 percent risk weight category consists of (i) community development exposures, (ii) the effective portions of hedge pairs[247] and (iii) non-significant equity exposures, which are equity exposures (excluding significant investments in the capital of unconsolidated financial institutions in the form of common stock and equity exposures to leveraged investment firms not treated as a traditional securitization) the aggregate adjusted carrying value of which does not exceed 10 percent of the bank's total capital.[248] The proposal would restrict the 100 percent risk weight category to (i) community development exposures and (ii) exposures to or held through small business investment companies.[249] As proposed, non-significant equity exposures would therefore be subject to a 250 percent risk weight if publicly traded and a 400 percent risk weight if not publicly traded.

The agencies have not presented any evidence that the current treatment of non-significant equity exposures results in those exposures being undercapitalized, nor have they presented an analysis of the effect of the elimination of the non-significant equity exposures treatment on investments that currently receive a 100 percent risk weight. These investments support important public policy and other similar objectives, and imposing higher capital requirements for those investments would undermine those goals. The agencies should therefore retain the existing treatment for non-significant equity exposures. For similar reasons, the 100 percent risk weight category for community development and small business investment company exposures should be revised to also include equity investments in projects that qualify for tax credits or that are part of programs established under the Internal Revenue Code, such as those for low-income housing, renewable energy investments or historic preservation/rehabilitation, whether or not they qualify as community development investments under Section 24 (Eleventh) of the National Bank Act.

1. Equity exposures pursuant to a national legislated program should receive a 100 percent risk weight.

The 100 percent risk weight category in the proposal should be revised to include equity exposures pursuant to all national legislated programs, including those that qualify for tax credits or qualify as participation in specific programs established under the Internal Revenue Code. Limiting the 100 percent risk weight category to exposures that qualify as community development investments under Section 24 (Eleventh) of the National Bank Act, as proposed, is insufficiently responsive to the full range of programs established by Congress in support of national public policy goals. Rather, any exposures pursuant to a

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247 *See* Section VI.E below for our recommendation to retain hedge pair treatment.

248 12 C.F.R. §§ 3.52(b)(3); 217.52(b)(3); 324.52(b)(3).

249 § __.141(b)(3).

nationally legislated program, whether a community development investment qualifying under the National Bank Act or an investment eligible for tax credits or participation in specific programs under the Internal Revenue Code should qualify for a 100 percent risk weight. According to the Member QIS, applying the 100 percent risk weight to all equity investments made pursuant to national legislated programs as defined under the Basel framework would reduce the over-calibration of RWAs by 1.0 percent, on average.[250] This would help support bank investments, such as those for low-income housing, renewable energy or rehabilitation/historic preservation, that promote important social objectives that might otherwise be constrained in their ability to obtain long-term funding.

The proposal notes that community development investments would receive a 100 percent risk weight because they "generally receive favorable tax treatment and/or investment subsidies that make their risk and return characteristics different than equity investments in general" and are important "to promoting important public welfare goals."[251] These considerations apply equally to other national legislated programs, such as those that support low-income housing, renewable energy, or rehabilitation/historic preservation, that likewise present less credit risk than other equity investments and should therefore receive a 100 percent risk weight.

The existence of national legislated programs like tax credits or other programs established under the Internal Revenue Code reflect Congress's deliberate policy choice to encourage these investments by providing financial incentives to make them. The proposal would do the opposite by imposing much higher capital requirements that would, in most cases, make the investments uneconomic for banks. Furthermore, tax equity investments present less credit risk than other equity investments and more closely resemble loans. In a typical tax equity investment, the project sponsor will set up a limited liability company to conduct the activities eligible for tax credits. The tax credits the project is eligible for usually are greater than the sponsor's tax liabilities, so the sponsor sells passive interests to tax equity investors. Those investors generally receive a pre-determined rate of return that is almost entirely based on the value of the tax benefits, leading to limited credit risk.[252] In recognition of the importance of tax equity financing and its similarities to lending, in 2021, the OCC streamlined the process for banks to participate in tax equity financing transactions that are the "functional equivalent of a loan."[253] As the agencies recognize with respect to community development investments and investments in small business investment companies, tax equity investments also "generally receive favorable tax treatment and/or investment subsidies that make their risk and return characteristics different than equity investments in general"[254] and should therefore be treated consistently by providing a 100 percent risk weight for such exposures.

Equity exposures that support public policy goals, particularly those relating to supporting local communities and entrepreneurs, should also continue to receive a 100 percent risk weight along with

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250 This corresponds to the decrease in RWAs resulting from applying a 100 percent risk weight for all national legislated programs, relative to the RWAs under the Expanded Risk-Based Approach. For a description of the study, including the study population and methodology, *see* Appendix 16.

251 88 Fed. Reg. at 64,077.

252 *See* American Council on Renewable Energy, et al., *Letter to Dr. Lael Brainerd* (Aug. 22, 2023), *available at* https://acore.org/wp-content/uploads/2023/08/ACORE-Letter-on-the-Impact-of-Proposed-Bank-Regulatory-Capital-Requirements-on-Tax-Equity-Investment-in-Clean-Energy.pdf.

253 *See* 12 C.F.R. § 7.1025.

254 88 Fed. Reg. at 64,077.

community development investments and small business investment companies under the proposal. This includes investments in community development financial institutions and minority depository institutions, which play a significant role in supporting local communities. Community development financial institutions receive the same treatment as community development investments and small business investment companies under the current capital rules as it relates to paragraph (7) of the definition of financial institution; yet under the proposal they are excluded from the types of equity exposures that would continue to receive a 100 percent risk weight.

2. The existing treatment of non-significant equity exposures should be retained.

Because the proposal does not include a separate risk weight for non-significant equity exposures, certain investment activities, including asset management-related seeding activities in funds that would not be capitalized under the market risk framework in the proposal, as well as investments in financial market infrastructure and venture capital investments, would be subject to the 400 percent risk weight. These investments promote diversification of banks' revenue sources, support the maintenance and operation of financial market infrastructure, and promote other public policy objectives. The treatment of non-significant equity exposures should be retained to avoid disincentivizing banks from making these and other similar investments and in recognition of the fact that banks have developed business models and made investments based on the current treatment of non-significant equity exposures. According to the Member QIS, failing to retain the treatment for non-significant equity exposures will lead to an unnecessary 1.8 percent increase in RWAs, on average.[255]

Asset management activities include seed investments in funds that would not be subject to the trading book rules under the proposal.[256] These seed investments are used to support evolving client investment needs by establishing a performance track record. They are not entered into for trading purposes and are not designed to take balance sheet risk. These asset management activities provide a variety of benefits to banks, including by allowing banks to diversify their sources of revenue. In her statement regarding the proposal, Governor Bowman observed that "[d]iversification in revenue streams can enhance the stability and resilience of a bank."[257] Furthermore, the impact of the proposal on bank asset management activities undermines the existing policy framework established by the Dodd-Frank Act and Volcker Rule, which reflect deliberate policy choices about the extent to which banks are permitted to make certain investments in funds. Senator Chris Dodd described the choices reflected in the Volcker Rule as being intended to "eliminate excessive risk-taking activities by banks and their affiliates *while at the same time preserving safe, sound investment activities that serve the public interest*."[258] A potentially

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255 This corresponds to the standalone impact, assuming, for example, that the implementation of a 100 percent risk weight for all national legislated programs does not occur. Also, the effect is relative to RWA under the Expanded Risk-Based Approach. For a description of the study, including the study population and methodology, *see* Appendix 16.

256 The proposed rule's definition of "market risk covered position" excludes "an exposure to a fund that has material exposure to" a specified list of non-covered position exposures. Accordingly, in these cases, applicable risk weights for seed investments in such funds would be determined under the credit risk framework rather than market risk framework.

257 *See* Board of Governors of the Federal Reserve, Statement by Governor Michelle W. Bowman, *supra* note 225.

258 156 Cong. Rec. S5905 (daily ed. July 15, 2010) (emphasis added).

fourfold increase in the risk weights applicable to these equity investments resulting from asset management activities, coupled with the impacts of the services component of operational risk discussed above in Section V.B, would, contrary to existing policy, strongly disincentivize the diversification of revenue streams away from lending and deposit taking to, for example, asset management activities. [259]

In raising this concern, we emphasize that the risk weight applicable to these seed investments is a distinct technical issue from the risk weight applicable to seed investments in funds that would be captured by the market risk framework under the proposal. While both types of seed capital investments have historically been eligible for inclusion in the 100 percent non-significant equity exposure bucket, under the proposal the elimination of the bucket uniquely impacts seed capital investments that remain in the credit risk framework. Specifically, 400 percent risk weight treatment would apply to non-market risk covered position seed capital investments in investment funds (*e.g.*, those holding non-publicly traded equity positions), as well as other funds having substantially all non-financial assets, such as real estate or infrastructure funds. Such a significant increase in risk weights would have meaningful impacts on banks' ability to provide seed capital to these funds, which are already subject to quantitative limitations by the Volcker Rule.

Investments that support the maintenance of critical financial market infrastructure would be subject to an increased risk weight as compared with their current inclusion in the non-significant equity exposure bucket. These investments include those in designated financial market utilities,[260] qualifying central counterparties,[261] and exchanges and trading venues. Strategic investments in financial infrastructure are minority, non-controlling interests in companies that are principally engaged in financial or related activities. They are generally long-term investments and are not intended for speculative purposes. Rather, they are made to support the functioning financial markets, which is consistent with regulatory objectives across jurisdictions and asset classes. In addition, membership in certain financial market utilities, such as the Depository Trust & Clearing Corporation, often requires banks to become shareholders of the entity, with the size of the stake generally determined by relative usage. These investments do not present heightened risks to banks, but rather are necessary to a bank's participation in the financial markets. The proposal's 400 percent risk weight for these investments is not appropriate in light of their characteristics and the importance of the investments to the stability of financial market infrastructure.

The elimination of the non-significant equity exposure bucket would also result in higher capital charges for (i) investments that play significant roles in supporting entrepreneurs, including qualifying

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259 If, as we recommend in Section VI.D, the agencies provide banks the option to risk-weight seed investments that would be in the trading book under the proposal under either the trading book or banking book rules (provided the bank can demonstrate and document its lack of trading intent), those seed investments would also be subject to higher risk weights in the banking book as a result of the elimination of the non-significant equity exposures bucket. The same rational for retaining the current non-significant equity exposure treatment would also apply to those seed investments. We support the recommendation in the letter submitted by ISDA and SIFMA that banks should have the option to treat these types of seed investments in funds under either the banking book or trading book rules, provided the bank can demonstrate and document its lack of trading intent.

260 *See* 12 U.S.C. § 5461 *et seq.*

261 12 C.F.R. §§ 3.2; 217.2; 324.2.

venture capital funds[262] and others[263] and (ii) investments in financial technology providers. The application of the 400 percent risk weight to qualifying venture capital investments would be inconsistent with the policy rationale underlying the 2020 amendments to the Volcker Rule that provided an exclusion for these types of investments. In the preamble to the 2020 amendments, the agencies explained that they believed the exclusion for qualifying venture capital funds would "support capital formation, job creation, and economic growth, particularly with respect to small businesses and start-up companies."[264] Preserving the non-significant equity exposures bucket is also justified by other federal programs supporting access to credit for small businesses and startups, such as the Equity/Venture Capital Programs of the State Small Business Credit Initiative,[265] which "provide capital in the form of equity investments to underserved startups and investors,"[266] including to venture capital funds in which banks have also invested, and the Capital Challenge program of the U.S. Economic Development Administration, which "seeks to increase access to capital where there is a limited supply of equity-based funding" and provides operational support for "the formation, launch, or scale of investment funds that seek to invest their capital in scalable startups."[267]

Likewise, investments in emerging financial technology providers drive innovation and enhances competition, resulting in lower transaction costs, expedited workflows and greater liquidity for various asset classes. Such strategic investment initiatives have helped provide a framework for robust financial markets.

In addition, banks may not have to deduct defined benefit pension fund net assets held by a depository institution to the extent the depository institution holding company has unrestricted and unfettered access to the assets of the fund based on existing section 22(a)(5). Currently, such assets may be subject to the 100 percent risk weight given that they would be part of the non-significant equity portfolio. Under the Expanded Risk-Based Approach, the risk weight would likely go up to 250 percent given that the equities are generally publicly traded. Given the prudent investment style associated with pension fund assets in general, this increase is unwarranted and provides yet more support for the retention of the 100 percent risk weight non-significant equity investment bucket.

3. <u>An exposure to a small business investment company should continue to be treated as such if the small business investment company has voluntarily surrendered its license.</u>

The proposed treatment of small business investment company exposures should be revised so that an exposure to a small business investment company continues to be treated as such if a small

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262 17 C.F.R. § 275.203(l) – 1.

263 *See* 12 C.F.R. § 248.10(c)(11)(iii) (rural business investment companies) and (iv) (qualified opportunity funds).

264 85 Fed. Reg. 46,422, 46,444 (July 31, 2020).

265 U.S. Department of the Treasury, "State Small Business Credit Initiative," *available at* https://home.treasury.gov/policy-issues/small-business-programs/state-small-business-credit-initiative-ssbci, was reauthorized and expanded under the American Rescue Plan Act of 2021.

266 U.S. Department of the Treasury, "State Small Business Credit Initiative: Fact Sheet," (June 2023), *available at* https://home.treasury.gov/system/files/256/State-Small-Business-Credit-Initiative-SSBCI-Fact-Sheet.pdf.

267 U.S. Economic Development Administration, "Capital Challenge," *available at* https://www.eda.gov/funding/programs/build-to-scale/capital-challenge.

business investment company has voluntarily surrendered its license under the Small Business Investment Act in connection with its decision to wind down.

Under the proposal, only equity exposures to an unconsolidated small business investment company or held through a consolidated small business investment company described in Section 302 of the Small Business Investment Act would receive a 100 percent risk weight. If a small business investment company decided to wind down and, in connection with that decision, voluntarily surrendered its license, the entity would no longer be a small business investment company as described in Section 302 of the Small Business Investment Act. As a consequence, the 100 percent risk weight would cease to apply. There is no supervisory or policy reason for a heightened risk weight to apply in these circumstances.

B. The agencies should revise the proposed look-through approaches for equity exposures to investment funds to improve risk-sensitivity.

The proposal would implement modified versions of the full look-through approach and alternative modified look-through approach, and also eliminate the simple modified look-through approach.[268] If a bank could not apply either the full or alternative modified look-through approach, a 1,250 percent risk weight would apply to the exposure.[269] The look-through approaches would take into account the on-balance sheet, off-balance sheet, and derivatives-related exposures of the fund, as well as any leverage.[270] The proposal would also have new, prescriptive requirements for the treatment of exposures to "funds of funds" and investment funds with underlying securitization exposures.[271]

1. The agencies should revise the proposed rule to provide that use of the full look-through approach is permissive rather than mandatory with respect to a fund for which a bank has adequate information.

Under Section 142(a)(1) of the proposal, if a bank has information from an investment fund that is verified on at least a quarterly basis by an independent third party and that is sufficient to calculate the RWA amount for each underlying exposure as if each exposure were held directly by the bank, the bank *must* use the full look-through approach, rather than the alternative modified look-through approach. Under the current rules, banks with sufficient information to calculate the RWA amounts of underlying exposures may use the full look-through approach, the simple modified look-through approach, or the alternative modified look-through approach. Banks should be able to choose to use either the full look-through approach or the alternative modified look-through approach, including with respect to Bank Owned Life Insurance/Corporate Owned Life Insurance ("BOLI/COLI") separate accounts.[272] Use of the full-look through approach should be permissive, rather than mandatory, just as it is under the generally applicable Standardized Approach.

The full look-through approach requires banks to gather information and calculate risk weights for individual securities that are not directly owned by the bank. In some cases, application of the full look-

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268 *See* § __.142.

269 § __.142(a)(3).

270 *See* § __.142.

271 *See* § __.142(d) and (e).

272 According to proposed Section 140(a)(2), these investments must be treated as equity exposures in investment funds under Section 142.

through approach would not be an efficient use of a bank's resources. For example, some investment funds have thousands of individual positions, but they may all be similar positions. Further, the utility of the full look-through approach, other than to calculate capital requirements, is limited. The full look-through approach output is produced on a lag and is therefore of little value to portfolio or risk management. With respect to BOLI/COLI specifically, policyholders are prohibited from using data provided to direct specific investments in the funds.

Making use of the full look-through approach optional would give banks a choice between the more conservative but less burdensome alternative modified look-through approach or the more risk-sensitive but also more burdensome full look-through approach. The alternative modified look-through approach is sufficiently conservative in design and calibration that this option would not permit a bank to reduce its RWAs by opting to apply the alternative modified look-through approach if it has the data to apply the full look-through approach.

In addition, in response to Question 70 in the proposal, banks should be able to use the full look-through approach when they receive from a third party the information necessary to calculate the risk weight associated with the equity exposure to the fund, consistent with the Basel framework and its proposed implementation in the UK.[273] Also consistent with the UK implementation, the risk weight resulting from third-party information should not be subjected to a scalar as the use of third-party information has no bearing on the risk associated with the equity exposure.

2. The requirement that a fund's financial information be verified by a third party on a quarterly basis to use the full look-through approach for exposures to that fund is unnecessary and should not be adopted.

Under the proposal, in order to use the full look-through approach with respect to a given fund, the fund's financial information must be verified on at least a quarterly basis by an independent third party, such as a custodian bank or management fund. This requirement would limit the number of investment funds eligible for the full look-through approach. This requirement is unnecessary to achieve any objective relating to the accuracy of the data used in the full look-through approach because banks conduct their own confirmations of the data provided by the funds in which they invest. The agencies should therefore remove this requirement to allow more funds to qualify for the full look-through approach, thereby improving risk-sensitivity. Alternatively, the agencies could revise the eligibility criteria for the full look-through approach to provide that a third party must audit the fund's financial statements or verify its holdings at least annually, which would similarly expand the number of funds eligible for the full look-through approach. This revised requirement would limit the availability to the full look-through approach to investment funds subject to a third-party review at least once a year, while avoiding the potential constraints on application of the full look-through approach if the requirement were that quarterly data be verified.

3. The upward adjustment based on CVA risk for derivative exposures held by an investment fund has no basis and should not be adopted.

Under the proposal's full look-through approach, the formula to calculate the exposure amount for derivative exposures held by an investment fund would include an upward adjustment if at least one of the

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[273] Basel framework, CRE 60.5; Prudential Regulation Authority, *CP16/22 – Implementation of the Basel 3.1 standards: Market risk* 6.51 (Nov. 30, 2022), *available at* https://www.bankofengland.co.uk/prudential-regulation/publication/2022/november/implementation-of-the-basel-3-1-standards/market-risk.

derivative contracts in the netting set is a CVA risk covered position or if the bank cannot determine whether one or more of the derivative contracts within the netting set is a CVA risk covered position. The agencies provide no analysis for the calibration of the proposed 1.5x adjustment and do not address whether a 50 percent increase in the exposure amount for a netting set, including if a bank simply cannot determine whether one or more derivative contracts in the netting set is a CVA risk covered position, reflects the actual CVA risk to investment funds, taking into account the clearing[274] and margin requirements[275] that would often apply to derivative transactions with investment funds. The proposed 1.5x adjustment has no basis and should not be adopted.

4. The alternative modified look-through approach should allow banks to calculate the RWA amount of (i) derivatives and (ii) securitizations based on the actual volume of these exposures held by the investment fund.

The proposal requires banks calculating the RWA amount for their equity exposures in investment funds using the alternative modified look-through approach to calculate the RWA amount of derivative exposures under the assumption that the fund has invested in the maximum volume of derivative contracts permitted under its investment limits. Likewise, in calculating the RWA amount of on-balance sheet exposures under the alternative modified look-through approach, banks are required to assume that the fund has invested in the maximum amount of each exposure type, including securitizations, permitted under the fund's investment limits. The agencies should allow banks to base these calculations on the actual volume of derivative contracts and securitizations in which the fund has invested.

The assumptions in the alternative modified look-through approach regarding the volume of derivatives and securitizations held by an investment fund are overly conservative. Funds often include provisions that, read literally and in the most expansive language, could allow for investments in derivatives and securitizations, but neither of these types of investment is generally a substantial proportion of a fund's assets. Using the actual volume of derivatives and securitizations would therefore be more accurate and risk-sensitive.

5. The agencies should include thresholds before banks are required to use the look-through approaches to calculate securitization exposures, derivatives exposures and "fund of funds" exposures.

Both the full look-through approach and the alternative modified look-through approach require banks to take into account the investment fund's securitization and derivatives exposures. The proposal would also require banks to use the hierarchy of look-through approaches, based on the information available to the bank, to calculate investment funds' equity exposures to other investment funds. The agencies should provide that securitization exposures and derivatives exposures need only be calculated (under either approach) if the amount of exposures of the relevant exposure category exceeds 10 percent of the investment fund's assets. The agencies should likewise limit the requirement to use the look-through approaches for "fund of fund" exposures by, for example, limiting the look-through to one level, applying a percentage of assets materiality threshold or limiting the look-through only to those funds that

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274 *See generally* 7 U.S.C. § 2(h); 17 C.F.R. Part 50.

275 *See generally* 7 U.S.C. § 6s(e); 12 C.F.R. Part 45; 12 C.F.R. Part 237; 12 C.F.R. Part 349; 17 C.F.R. Part 23, Subpart E; 17 C.F.R. § 240.18a-3.

have an explicit mandate to invest in other funds. These changes would reduce the operational burden on banks while still capturing risk from significant exposures.

The proposal's calculation of securitization and derivative exposures would present significant operational challenges as the amount of new data banks would have to collect would increase substantially. Further, as noted above, securitization exposures and derivative exposures rarely make up a significant proportion of funds' assets. The treatment of "fund of funds" exposures would likewise be operationally burdensome for banks that might have to look through several layers of funds' investments in other funds.

Limiting the application of the look-through approaches to securitization exposures, derivatives exposures, and "fund of funds" exposures would reduce the operational burden on banks while still capturing the risk from the most significant of these exposures.

6. The agencies should recalibrate the proxies for replacement cost and potential future exposure for derivative contracts held by investment funds when there is insufficient information to calculate these values.

Under either the alternative modified look-through approach or the full look-through approach, if there is not enough information to determine the replacement cost or potential future exposure ("PFE") of a derivative contract, the proposal would require banks to use the notional amount as a proxy for the replacement cost and 15 percent of the notional amount as a proxy for the PFE.

The proxies proposed by the agencies could result in excessively high measures of exposure amounts, particularly for interest rate, foreign exchange and investment grade credit derivatives. Figure 24 below shows the standalone PFE add-on amounts under the SA-CCR for unmargined derivative transactions and derivative transactions with a margin period of risk ("MPOR") of 10 business days:

Figure 24

	30Y IR	FX	7 Year IG SN	7 Year Speculative SN	7 Year Sub Speculative SN	Equity SN	Energy	Other Commodity
Margined	2 3%	1 2%	0 8%	2 3%	10.6%	9.6%	12 0%	5.4%
Unmargined	7 8%	4 0%	2.7%	7.7%	35.4%	32 0%	40 0%	18 0%

As Figure 24 shows, only unmargined equity, commodity and sub speculative credit derivatives would result in higher standalone add-ons than proposed. In light of that fact and the substantial variation in PFE add-on amounts, the agencies should use the following as the PFE add-on amounts:

- 2 percent, to the extent the bank determines the fund has margined interest rate, currency or credit derivatives.
- 10 percent, to the extent the bank determines the fund has margined equity or commodity derivatives.
- 7 percent, to the extent the bank determines the fund has unmargined interest rate, currency or credit derivative.
- 15 percent, to the extent the bank cannot determine the asset class of the fund's derivatives or whether the fund's derivatives are margined.

In relation to the replacement cost, if the bank knows that the derivatives of the fund are daily margined, the replacement cost should be zero. Otherwise, the replacement cost should be recalibrated. In this context it is helpful to review the derivative statistics provided by the Basel Committee. Figure 25 below shows the average ratio of gross market value and notional between the second half of 2021 and first half of 2023:

Figure 25

Asset Class	2021-S2	2022-S1	2022-S2	2023-S1	Average
FX	2.4%	4.3%	4.5%	3.6%	3.7%
IR	1.8%	2.3%	3.0%	2.5%	2.4%
Equity	9.0%	8.5%	7.3%	7.3%	8.0%
Comm	17.6%	31.1%	22.3%	13.4%	21.1%
Credit	2.3%	2.6%	1.9%	2.0%	2.2%

For foreign exchange, interest rate and credit derivatives, the replacement cost should be set at five percent of the notional amount, while for equity derivatives it should be 10 percent, and for commodity derivatives it should be 30 percent. If the bank does not know the composition of the fund's holdings, the replacement cost should be set at 30 percent.

7. Banks should be able to use the collateral haircut approach to determine exposure RWAs for equity exposures to funds, including money market mutual funds, with repo-style transactions.

Many funds, in particular money market mutual funds, have repo-style transactions. If a bank applies the full look-through approach, the bank should be permitted to apply the collateral haircut approach to determine the exposure amount of the investment fund's repo-style transaction. This would be consistent with the general principle underlying the full look-through approach – that the bank calculates the exposure and RWA amounts as though the bank held the investment fund's exposures directly.

8. The denominator of the risk weight formulae in the look-through approaches should be "total exposure" rather than "total assets."

Under section 142, the formulae in the full look-through and modified look-through approaches calculate the RWAs for an equity exposure to an investment fund using a denominator of "total assets," which are "the balance sheet total assets of the investment fund." However, the numerator of the formulae takes into account the fund's off-balance sheet exposures. To account for off-balance sheet exposures in the denominator as well, the formulae should use the fund's "total exposure" as the denominator.

C. The agencies should revise the definition of "investment fund" and eliminate the separate risk weight for equity exposures to leveraged investment firms because the proposed look-through approach captures the leverage of an investment fund.

1. The "no material liabilities" aspect of the definition of "investment fund" should be removed.

An "investment fund" is defined and would continue to be defined as a company (1) where all or substantially all its assets are financial assets and (2) that has no material liabilities.[276] This definition may have been appropriate when it was introduced in 2007; however, given that the capital framework has been updated to take into account the leverage of investment funds, the second clause of the definition is no longer necessary. An investment fund should be defined as a company (as defined in Section 2 of the current capital rules) that is not an operating company (also as defined in Section 2 of the current capital rules) and all or substantially all of the assets of which are financial assets.

When the agencies adopted the current definition of "investment fund" in connection with the implementation of Basel II, they noted that "[i]nvestment vehicles with material liabilities provide a leveraged exposure to the underlying financial assets and have a risk profile that may not be appropriately captured by a look-through approach."[277] The agencies provided this explanation in the context of discussing comments on the proposed definition that "objected to the exclusion of investment funds with material liabilities from [the look-through] treatment, observing that it would exclude equity exposures to hedge funds," as well as others that "suggested that investment funds with material liabilities should be eligible for the look-through approaches."[278]

Though the look-through approach introduced in 2007 did not capture all the risk of leveraged investment funds, the proposal and the current full look-through approach do.[279] Under the proposal, banks would be required to multiply the average risk weight for equity exposure to an investment fund by the ratio of the total assets of the investment fund to the total equity of the investment fund. This adjustment is designed to capture the risk from an investment fund's leverage by proportionately increasing the average risk weight of a bank's equity exposure to the investment fund.

However, the proposal does not discuss to what extent a company could have leverage (and therefore liabilities) while remaining an investment fund – that is, the proposal does not address the extent to which leverage would not constitute "material liabilities" for purposes of the definition of investment fund. The agencies have not otherwise provided formal commentary, such as interagency FAQs or preamble discussions in rulemakings, on the definition of "investment fund." Clause (2) of the definition of investment fund is not just unnecessary, it also introduces ambiguity into the capital framework and detracts from the overall coherence of the framework.

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276 12 C.F.R. §§ 3.2; 217.2; 324.2.

277 Risk-Based Capital Standards: Advanced Capital Adequacy Framework – Basel II; Final Rule, 72 Fed. Reg. 69288, 69381 (Dec. 7, 2007).

278 *Id*.

279 *See* 88 Fed. Reg. at 64,079 – 80; note 166. The full look-through approach introduced in 2007 is the same as the current full look-through approach under the generally applicable Standardized Approach, which the agencies indicate implicitly captures an investment firm's leverage.

In light of the fact that the current full look-through approach and the proposed look-through approaches are designed to capture a fund's leverage, as well as the fact that it is unclear to what extent a company could have leverage and still remain an investment fund, the agencies should revise the definition of investment fund so that a fund with material liabilities may be considered an investment fund.[280] The revision would make the capital rules clearer, more coherent, more risk-sensitive and simpler.

2. The separate risk weighting for equity exposures to leveraged investment firms serves no purpose and should not be adopted.

The proposal would assign a 1,250 percent risk weight to an equity exposure to a leveraged investment firm that is excluded from the definition of traditional securitization pursuant to paragraph (8) of that definition. Under the Standardized Approach, a 600 percent risk weight applies to these exposures. The agencies should eliminate the separate risk weighting for equity exposures to leveraged investment firms.

The rationales for our recommendation in Section VI.C.1 above apply here. The current full look-through approach and the proposed full and alternative modified look-through approaches are designed to capture the leverage of investment funds, making a separate risk weight category for leveraged investment firms unnecessary. It is also unclear what amount of leverage constitutes "greater than immaterial leverage," causing an exposure to an investment firm to fall under this separate risk weight category. In addition, neither the Basel standard, the UK nor the EU have this separate category of risk weighting.

The agencies have provided no evidence that a heightened risk weight is justified, whether it be the proposed 1,250 percent risk weight or the current 600 percent risk weight. The separate risk weight category for exposures to leveraged investment firms is unnecessary and should be eliminated. This would improve the clarity and coherence of the capital rules, while also making them more risk-sensitive and simpler.

D. Any final rule should clarify that BOLI/COLI separate accounts are not market risk covered positions and provide banks flexibility to treat certain equity exposures to investment funds as banking book exposures.[281]

BOLI/COLI products are life insurance policy contracts that protect banks against the loss of certain employees. If they are managed as separate accounts the capital rules require them to be treated as investments in investment funds. Banks have no intent to trade these policies; in fact, selling them would have adverse tax consequences. BOLI/COLI separate accounts are used to fund employee benefits and are therefore similar to the proposal's specific exclusions from the scope of market risk covered position for equity positions arising from deferred compensation plans, employee stock ownership plans and

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280 Clause 10(i) of the definition of traditional securitization should exclude an equity exposure to an investment fund or any exposure to a company where all or substantially all its assets are financial assets and that has no material liabilities. This would keep equity exposures to investment funds out of the securitization framework, and it would also keep non-equity exposures to non-leveraged funds out of the securitization framework, consistent with the current boundaries of the various approaches in the capital rules.

281 The comment letter on the proposal submitted by the International Swaps and Derivatives Association, Inc. and the Securities Industry and Financial Markets Association likewise addresses these points with respect to BOLI/COLI and equity exposures to investment funds, and we urge the agencies to consider the recommendations therein.

retirement plans.[282] Under the proposal, Section 140(a)(2) (which corresponds to Section 51(a)(2) of the current Standardized Approach) would require a bank to treat a separate account *as if it were* an equity exposure in an investment fund for purposes of the RWA framework for equity exposures. There is no corresponding provision in the market risk capital requirements in proposed Subpart F. Neither the proposed definition of market risk covered position nor any other aspect of Subpart F would address separate accounts or would require that they be treated like investment funds for purposes of calculating market RWAs. This aspect of the proposal correctly reflects that BOLI/COLI separate accounts, which are held without trading intent, should not be covered positions both due to the lack of trading intent and because a bank's ability to apply the look-through approaches to BOLI/COLI separate accounts under the banking book rules does not mean it would be able to apply the look-through approach under the trading book rules, given the more stringent requirements to use the trading book's look-through approach. The proposed rules text is not, however, without some ambiguity. Proposed Section 140(a)(2) treats separate accounts as investment funds for purposes of calculating equity RWAs, and the proposed definition of market risk covered position generally includes equity positions in investment funds unless excluded. To eliminate any ambiguity, BOLI/COLI separate accounts should be expressly excluded from the definition of market risk covered position.

With respect to seed capital investments, including those in regulated investment funds undertaken as a normal part of the asset management function of banks, the proposal includes in the definition of market risk covered position, without regard to whether they are trading positions, exposures to investment funds with respect to which the bank has access to the prospectus, partnership agreement or similar contracts defining its permissible investments and investment limits and is able to use the look-through approach for market risk capital or obtains daily price quotes for the investment fund.[283] Seed capital investments undertaken by bank asset management groups are not held for trading purposes. Seed capital investments are made to support new investment fund products for clients and are of a limited size and duration. Banks should therefore have the option, provided they can demonstrate and document a lack of trading intent, to calculate their exposure to seed capital investments using banking book rules, including equity RWAs under proposed Sections 140 and 142, instead of the trading book rules in Subpart F.

E. Hedge pair treatment should be retained in the Expanded Risk-Based Approach.

Under the current simple risk weight approach, the effective portion of a hedge pair receives a 100 percent risk weight. The Expanded Risk-Based Approach does not include this treatment. A 100 percent risk weight for the effective portion of a hedge pair would align the capital framework with risk, underlying economics and effective risk management practices and avoid undue increases in the costs of hedging activities.

The preamble to the proposal notes that the agencies removed the hedge pair treatment because most exposures eligible for the treatment would be addressed under the market risk capital framework.[284] Although the proposal would expand the scope of "covered positions" subject to market risk capital requirements and therefore affect the extent to which publicly traded equity exposures are subject to risk weighting under the simple risk weight approach, banks would continue to have banking book equity

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282 *See* § __.202(b).

283 § __.202(b).

284 *See* 88 Fed. Reg. at 64,077.

exposures that are either publicly traded or have returns that are primarily based on a publicly traded equity exposure.

For example, Visa B shares are held by many banks.[285] These shares are not publicly traded and are generally not considered market risk covered positions. Visa A shares, however, are publicly traded, and many banks hedge Visa B shares with Visa A shares, which generally eliminates the market risk associated with the positions. Visa B shares are fully convertible into Visa A shares at the ultimately published ratio. Therefore, a stock hedge plus conversion ratio swap protection for any future ratio changes fully eliminates the equity market risk associated with the positions. Removing the current hedge pair treatment would significantly increase the RWAs for Visa B shares in a manner that is inconsistent with the actual risk exposure associated with these positions and associated hedges.[286]

Another example relates to equity positions that arise from employee compensation plans, such as deferred compensation programs. Banks often hedge those obligations to their employees with exposures designed to provide returns that mirror the obligations that are owed to the employees. Per the market risk covered position definition under Section 202, the exposures arising from deferred compensation plans are not considered market risk covered positions and therefore would be subject to the equity exposure calculation in the banking book. However, the hedges generally would reference publicly traded equity positions and therefore could be interpreted to qualify as market risk covered positions. As with other exposures to investment funds described above, banks should have the option to calculate their exposure on equity positions that arise from employee compensation plans, including any associated hedges, using banking book rules or trading book rules.[287]

The agencies justify removal of hedge pair treatment by claiming that it is not necessary, but these examples demonstrate otherwise. The absence of recognition of hedge pairs does not align with risk, underlying economics or effective risk management practices and increases the cost of risk-mitigating hedging activities. The agencies should therefore implement the hedge pair treatment in the Expanded Risk-Based Approach.

VII. The credit risk mitigation framework under the Expanded Risk-Based Approach does not appropriately account for the risk reduction achieved through various risk-mitigating transactions and structures and should be revised.

A number of aspects of the proposal would have the effect of making hedging against credit risk

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285 In 2007 in connection with its initial public offering, Visa issued Class B common stock (so-called Visa B shares) to mostly U.S. financial institution clients of Visa. The purpose of the Visa B shares was to protect other common stockholders of Visa from certain litigation. The Visa B shares cannot be sold until that litigation is resolved. *See* Visa, *Information on Visa's potential exchange offer program* (Sept. 13, 2023), *available at* https://usa.visa.com/visa-everywhere/blog/bdp/2023/09/12/information-on-visas-1694546403362.html.

286 More specifically, the proposal's increased risk weights and removal of the hedge-pair treatment would increase capital requirements by at least 5.5 times, through the 400 percent risk weight assigned to the Visa B shares and the 250 percent risk weight assigned to the Visa A hedge.

287 We support the recommendation in the letter submitted by ISDA and SIFMA that banks should have the option to treat equity positions arising from employee compensation plans, along with their hedges, as market risk covered positions.

more costly and difficult for banks than under the current rules:

- The increase in the risk weights applicable to exposures to other banks as compared to the Standardized Approach would make protection from another bank less beneficial.[288]

- Collateral in the form of GSE and PSE securities would be subject to the same market price volatility haircuts and minimum haircut floors as general corporate securities despite the fact that they pose significantly less credit risk than corporate securities and serve important public functions.

- A corporate debt security would only be recognized as financial collateral if its issuer (or its parent) has a publicly traded security outstanding. This would significantly reduce the number of issuers whose debt securities could be recognized as financial collateral.

- Increasing the *p* parameter from 0.5 to one would increase the RWA amount for synthetic securitizations, which are important credit risk mitigation tools.

- The traditional and synthetic securitization frameworks prevent recognition of valuable credit risk mitigants, such as securitizations in which the underlying exposures are legally isolated from the bank though not de-recognized for accounting purposes, as well as credit-linked notes.

- The elimination of hedge pair treatment for equity exposures would likewise increase the RWA amount for the equity exposures and related hedges.[289]

These aspects of the proposal increase the costs of hedging by increasing the RWA amounts associated with certain hedging activities or decreasing the benefits from hedging as in certain instances hedges would not be recognized as credit risk mitigants. As a policy matter, the bank capital framework should reflect the risk mitigating benefits of hedging.

Throughout this letter, we have provided recommendations to better align the capital framework with the risk mitigation effects of hedging. In addition, the comment letter on the proposal submitted by the International Swaps and Derivatives Association, Inc. ("ISDA") and the Securities Industry and Financial Markets Association ("SIFMA") and the comment letter submitted by the Structured Finance Association ("SFA") address these and other aspects of the credit risk mitigation framework. We support the recommendations from ISDA, SIFMA and SFA on that framework and urge the agencies to implement our recommendations and those in the ISDA/SIFMA and SFA letters to appropriately recognize risk mitigation activities in the capital framework.

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288 *See* Sections IV.A.4 and IV.A.5 for our recommendations regarding the risk weights applicable to exposures to banks.

289 *See* Section VI.E for our recommendation to retain hedge pair treatment in the Expanded Risk-Based Approach.

A. Cash proceeds and cash collateral that are not technically "cash on deposit" should be recognized as financial collateral.

Under both the Standardized Approach and the proposed Expanded Risk-Based Approach, "financial collateral" would not include cash proceeds or cash collateral that is not "cash on deposit."[290]

Cash proceeds and collateral warrant inclusion in the definition of "financial collateral" based on risk. For example, with respect to the cash proceeds of credit-linked notes and the cash proceeds of a pre-funded guarantee, the protection provider gives the bank the cash proceeds at the beginning of the transaction. Because the bank owns the cash proceeds outright, and the protection provider fully performs its payment obligations at the inception of the transaction, cash proceeds are no less effective as a credit risk mitigant than an arrangement involving a pledge of collateral. If a bank receives cash upfront, the bank has no exposure to a potential failure of the protection provider to perform on its obligations.

The Federal Reserve has recognized that cash proceeds from credit-linked notes serve the same purpose as "financial collateral."[291] Allowing recognition of the credit risk mitigation benefits of cash proceeds would make the capital framework more risk-sensitive. The treatment of credit-linked notes would also align with the Basel framework[292] and implementation in other jurisdictions. The proposal provides no analysis to support its contrary approach.

B. Consistent with the current Advanced Approaches, an eligible guarantee or eligible credit derivative should be recognized even if not issued by an eligible guarantor.

For eligible guarantees and eligible credit derivatives, the proposal would only allow banks to substitute the risk weight of eligible guarantors for the risk weight applicable to the hedged exposure.[293] Under the current Advanced Approaches, an eligible guarantee need not be issued by an eligible guarantor in order to be recognized except in the context of the securitization framework.[294]

Guarantees and credit derivatives provided by persons or entities other than those that meet the definition of "eligible guarantor" still provide credit risk mitigation benefits. Limiting eligible guarantees to those provided by eligible guarantors would fail to recognize those benefits. The current Advanced Approaches do not require an eligible guarantee to be provided by an eligible guarantor other than in the case of securitization exposures. Indeed, in 2014 the agencies revised the definition of "eligible guarantee" to remove the eligible guarantor requirement for all guarantees other than securitizations under the Advanced Approaches. In the proposal for the revised definition, the agencies noted that the eligible guarantor requirement had "inadvertently limited the recognition of guarantees of wholesale exposures under the Advanced Approaches and that these guarantees should continue to qualify as credit risk

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290 *See* 12 C.F.R. §§ 3.2; 217.2; 324.2.

291 *See, e.g.*, Board of Governors of the Federal Reserve, "Letter from Ann Misback to Luigi L. DeGhenghi, Esq.," (Sept. 29, 2023) (approving treatment of credit-linked notes as a synthetic securitization where the only criterion to be treated as such that was not met was "the credit protection [was] pre-funded rather than backed by collateral"), *available at* https://www.federalreserve.gov/supervisionreg/legalinterpretations/bhc_changeincontrol20230929.pdf.

292 *See* Basel framework, 22.34, note 3.

293 *See* 88 Fed. Reg. at 64,059, note 116.

294 *Id.*

mitigants for purposes of the Advanced Approaches because they provide credit enhancement."[295] The agencies have not explained why departing from this position in the Expanded Risk-Based Approach (which replaces the Advanced Approaches) would improve the risk-sensitivity of the capital framework.

Under the current Standardized Approach, an eligible guarantee must be made by an eligible guarantor and an eligible credit derivative must also be from an eligible guarantor.[296] However, the Standardized Approach, unlike the current Advanced Approaches and the proposed Expanded Risk-Based Approach, does not provide for variation in risk weights for counterparties that are not eligible guarantors. This variation in risk weights allows for appropriate risk-sensitivity without the eligible guarantor requirement. Consistent with the current Advanced Approaches, the "eligible guarantor" requirement in the context of the Expanded Risk-Based Approach should not be adopted.

Further, the eligible guarantor requirement would restrict the ability of banks to recognize the credit risk mitigation benefits of guarantees and other risk-mitigating transactions with insurance and reinsurance companies, in particular as compared to foreign banks that are subject to capital rules that have no such restriction. There is no discussion in the proposal analyzing the risk mitigation benefits of transactions involving insurance or reinsurance companies or the competitive effects of applying the eligible guarantor requirement in the context of the Expanded Risk-Based Approach. In addition, the eligible guarantor requirement would also unnecessarily restrict banks' ability to recognize guarantees and credit derivatives fully collateralized by financial collateral if provided by an eligible guarantor. In these cases, the identity of the guarantor is irrelevant so long as the collateral is sufficient to cover the guarantee or credit derivative.

C. For purposes of both the Standardized and Expanded Risk-Based Approaches, the simple approach should recognize the risk-mitigating benefits of collateral when the bank may exercise its rights to the collateral in a timely manner, even if potentially subject to a stay.

Consistent with the simple approach in the Standardized Approach,[297] in order to apply the simple approach, Section 121(b)(1)(ii)(A) would require collateral to be subject to a "collateral agreement" for the life of the exposure. An agreement cannot qualify as a "collateral agreement" if a bank's exercise of rights under the agreement may be stayed or avoided under applicable law, including insolvency law (subject to exceptions for stays under special resolution regimes).[298] Consistent with the Basel framework,[299] banks should be allowed to recognize the risk mitigation benefits of collateral when they may exercise their rights to the collateral in a timely manner, even if potentially subject to a stay.

This aspect of the definition applying to the simple approach and, as proposed, the Expanded Risk-Based Approach appears to be an unintended aspect of the current rules. The definition of "collateral agreement" was first used in connection with the implementation of Basel II with respect to the internal

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295 Regulatory Capital Rules: Advanced Approaches Risk-Based Capital Rule, Proposed Revisions to the Definition of Eligible Guarantee, 79 Fed. Reg. 24,618, 24,620 (May 1, 2014).

296 *See* "eligible guarantee" and "eligible credit derivative" in 12 C.F.R. §§ 3.2; 217.2; 324.2.

297 *See* 12 C.F.R. §§ 3.37(b)(1)(ii)(A); 217.37(b)(1)(ii)(A); 324.37(b)(1)(ii)(A).

298 *See* 12 C.F.R. §§ 3.2; 217.2; 324.2.

299 *See* Basel framework, 22.26.

models methodology for determining capital requirements relating to collateralized, over-the-counter derivatives, repo-style transactions and eligible margin loans.[300] The 2012 proposal of the current Standardized Approach used the undefined (for purposes of the simple approach) term "collateral agreement" and did not discuss any technical aspect of the definition.[301] The alternative to the simple approach, the collateral haircut approach, applies only to financial collateral securing over-the-counter derivatives, repo-style transactions and eligible margin loans, each of which would typically be a qualified financial contract ("QFC") or otherwise eligible for various safe harbors under applicable insolvency law, such as those providing for exemptions from potential stays. The simple approach was meant to be an alternative to the collateral haircut approach, applying to financial collateral securing "any exposure."[302] In 2012, the Basel III proposal moved the pre-existing definition of collateral agreement, designed for the internal models methodology, to Section 2 of the current rules, thereby applying it to the simple approach, even though it seems contrary to the purpose of the simple approach – to provide an alternative when the collateral haircut approach does not apply – and there is no evidence that it was intended to apply to the simple approach or that the implications were considered.[303]

Because of this potentially unintended extension of the definition and the broad application of stays under insolvency law, such as the U.S. Bankruptcy Code, the Federal Deposit Insurance Act ("FDIA") and Title II of the Dodd-Frank Act, banks generally cannot recognize collateral securing loans, even if a bank has a first-priority, perfected security interest in collateral, unless the transactions qualify for specified exclusions and safe harbors. As a general matter, only certain specified types of financial contracts, such as commodity contracts, forward contracts, securities contracts, swap agreements and repurchase/reverse repurchase agreements, could qualify as "collateral agreements" in practice.

The possibility that a stay might delay a bank's ability to exercise its rights with regard to collateral does not mean that the collateral provides no risk mitigation benefits. The Basel framework recognizes this and permits recognition of collateral where the collateral agreement provides that "the bank has the right to liquidate or take legal possession of [the collateral], in a timely manner, in the event of the default, insolvency or bankruptcy . . . of the counterparty."[304] The credit risk mitigation benefits of collateral should be recognized when a bank may exercise its rights to the collateral in a timely manner, even if it might be subject to a stay. This would improve the risk-sensitivity of the capital rules, consistent with the stated goal of the proposal.[305]

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300 *See* 72 Fed. Reg. 69,288, 69,349 (Dec. 7, 2007).

301 *See* Regulatory Capital Rules: Standardized Approach for Risk-Weighted Assets; Market Discipline and Disclosure Requirements; Proposed Rule, 77 Fed. Reg. 52,888, 52,909 (Aug. 30, 2012).

302 *See id.* at 52,958.

303 *See* 77 Fed. Reg. 52,792, 52,797 (Aug. 30, 2012) ("Under the revised structure, each agency's capital regulations would include definitions in subpart A.").

304 Basel framework, 22.26.

305 88 Fed. Reg. at 64,028 ("The revisions set forth in the proposal would improve the calculation of risk-based capital requirements to better reflect the risks of these banks' exposures.").

D. The simple approach should allow for the recognition of the risk mitigation benefits of collateral with a maturity or currency mismatch, subject to an adjustment.

The proposed simple approach would not allow recognition of the risk mitigation benefits of financial collateral that has a maturity or currency mismatch with the collateralized exposure.[306] The proposed rule would allow recognition of the risk mitigation benefits of eligible guarantees and eligible credit derivatives with maturity or currency mismatches, adjusting for the mismatch.[307] Like guarantees and credit derivatives with a maturity or currency mismatch, collateral with such mismatches still provides credit mitigation benefits, and those benefits should be recognized.

In addition, the Basel framework allows for recognition of the credit risk mitigation benefits of financial collateral with a currency mismatch under all approaches and allows for recognition of the risk mitigation benefits of financial collateral with a maturity mismatch under approaches other than the simple approach.[308] The agencies have provided no analysis or justification for this departure. Allowing for the recognition of the risk mitigation benefits of collateral with a maturity or currency mismatch, adjusting for such mismatch, would improve the proposal's risk-sensitivity and alignment with international standards.

The most consistent way to apply the adjustment for such a currency mismatch would be to align with the approach provided for currency mismatches related to eligible credit derivatives and guarantees under existing Section 36(f) and proposed Section 120(f). In the context of the simple approach this would mean that in the case of a currency mismatch between the collateral and the exposure, the fair value of the financial collateral that would be eligible to change the risk weight of the exposure would be reduced by the following haircut:

$$H_{FX} = 8\% \sqrt{\frac{T_M}{10}}$$

T_M equals the greater of 10 and the number of days between revaluation, which would be capped at 125 days, given the requirement under the simple approach that the collateral would have to be revalued at least every six months.

E. When an eligible guarantee, eligible credit derivative or a credit risk mitigant covers multiple hedged exposures, the average residual maturity of the hedged exposures should be used as the residual maturity of all the hedged exposures in calculating the maturity mismatch adjustment.

Under proposed Section 134(b), when an eligible guarantee, eligible credit derivative or credit risk mitigant covers a netting set with hedged exposures that have different residual maturities, the proposal would require banks to use the longest residual maturity of any of the hedged exposures as the residual maturity of all the hedged exposures in making the adjustment for a maturity mismatch. Consistent with the approach in the proposed CVA framework,[309] when an eligible guarantee, eligible credit derivative or

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306 *See* § __.121(b)(1)(ii).

307 *See* § __.120(d) and (f).

308 *See* Basel framework, 22.11; 22.12; 22.15.

309 *See* § __.222(a)(2)(iii)(C).

credit risk mitigant covers multiple hedged exposures, the average residual maturity of the hedged exposures should be used as the residual maturity of all the hedged exposures in calculating the maturity mismatch adjustment.

F. The requirement that a qualifying master netting agreement not contain a walkaway clause should be read consistently with the FDIA and the Dodd-Frank Act.

The proposal would revise the definition of "Qualifying Master Netting Agreement" ("QMNA") in the Federal Reserve's and OCC's capital rules to require that the agreement not contain a "walkaway clause," which the proposed rule would describe as "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 the defaulter, even if the defaulter or the estate of the defaulter is a net creditor under the agreement."[310] The agencies explain that this would correct an error when the Federal Reserve's and OCC's capital rules were amended to reflect the QFC stay rule.[311] The prohibition on walkway clauses was first introduced in the capital framework in 1994, following a change to the Basel framework to recognize netting.[312] The Federal Reserve explained at the time that the prohibition on walkaway clauses reflected its view that "walkaway clauses do not reduce credit risk."

U.S. insolvency law also addresses walkaway clauses. Specifically, the conservatorship and receivership provisions of the FDIA and Title II (the orderly liquidation authority for covered financial companies) of the Dodd-Frank Act address the unenforceability of these clauses against the FDIC (as receiver or conservatory), such that a counterparty cannot terminate a contract or otherwise excuse or modify its obligation to perform under a contract solely by virtue of the bank's entry into receivership/conservatorship.

The description of "walkaway clause" in the proposal does not, however, match the statutory definition of "walkaway clause" in the FDIA and Title II of the Dodd-Frank Act, which contain provisions relating to the treatment of contracts, including QFCs, entered into before the appointment of the FDIC as conservator or receiver.[313] The FDIA provides that no walkaway clause in a QFC of an insured depository institution in default is enforceable. "Walkaway clause" is defined as:

> any provision in a qualified financial contract that suspends, conditions, or extinguishes a payment obligation of a party, in whole or in part, or does not create a payment obligation of a party that would otherwise exist, solely because of such party's status as a nondefaulting party in connection with the insolvency of an insured depository institution that is a party to the contract or the appointment of or exercise of rights by a conservator or receiver of such depository institution, and not as a result of a party's exercise of any right to offset, setoff, or net obligations that exist

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310 88 Fed. Reg. at 64,296.

311 *See* 88 Fed. Reg. at 64,172, 64,296 and 64,311 (Sept. 18, 2023). The proposal would not revise the FDIC's capital rules because the definition of QMNA in the FDIC's rules currently includes a corresponding provision. *See* 12 C.F.R. § 324.2.

312 *See* Capital; Capital Adequacy Guidelines, 59 Fed. Reg. 62,987 (Dec. 7, 1994).

313 12 U.S.C. § 1821(e)(8)(G)(iii); *see also* 12 U.S.C. § 5390(c)(8)(F)(iii) (substantively identical definition of "walkaway clause" in Title II of the Dodd-Frank Act).

under the contract, any other contract between these parties, or applicable law.[314]

This provision of the FDIA and the nearly identical provision in Title II of the Dodd Frank Act applicable to covered financial companies thus protect an insured depository institution or covered financial company from the enforceability of a walkaway clause in a QFC with a counterparty in the event the insured depository institution or covered financial company becomes insolvent or enters into receivership or conservatorship under the FDIA or Title II.

The provision relating to walkaway clauses that the agencies propose to reinsert in the definition of QMNA in the Federal Reserve's and OCC's capital rules, by contrast, would, absent clarification, operate as a prohibition on the inclusion of such a clause in a contract that a bank seeks to recognize as a QMNA, regardless of whether it would be the bank itself that seeks to enforce it against a counterparty and regardless of whether the laws applicable to the transaction make such walkaway clauses enforceable or unenforceable. In the regulatory capital context, it is unclear what policy objective would be served if a bank could not include a walkaway clause in a QMNA, where the bank (rather than the counterparty) can invoke the clause (*i.e.*, a one-way walkaway clause in favor of a bank) or where the counterparty or the bank can invoke the clause for reasons of default other than insolvency (*i.e.*, a two-way walkaway clause applicable only if a party fails to perform its obligations). In the first instance, the bank would be advantaged contractually by such a one-way walkaway clause. In the second instance, since the two-way walkaway clause could not be invoked in the event of the bank's entry into insolvency proceedings, and since the inclusion of a walkaway clause in favor of the bank's counterparty would not be enforceable against the bank under an FDIA or Title II receivership or conservatorship proceeding anyway, there would be no reason for an outright prohibition on such a walkaway clause.[315] The FDIA and Title II define walkaway clause in a manner that is designed to protect banks, and the FDIA and Title II definition should apply in the context of the capital rules.

A complete prohibition on two-way walkaway clauses would impair the ability of many utility providers and municipalities to hedge risks associated with electrical power generation and transmission. In 2001, when Enron failed, many utility providers were unable to exit their contracts when Enron failed to deliver electricity. Enron had long-dated contracts to supply electricity to municipal power suppliers. These trades were in the money for Enron as the high prices at which they sold the electricity had come down significantly. When Enron filed for bankruptcy in December of 2001, many of these supply contracts automatically terminated as they had ISDA-style automatic early termination provisions ("AETs"). These provisions immediately crystallized a payable from the utility to Enron which the utility, lacking access to revolving or other credit facilities, could not pay immediately. Even where AETs did not apply, utilities were reluctant to terminate the agreements and crystalize an immediate payable given their liquidity constraints. Under the agreements, utilities had to pay termination damages not only for delivered but as yet unpaid for power *but also* for the mark-to-market pricing on *future* deliveries. During the bankruptcy

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314 12 U.S.C. § 1821(e)(8)(G)(iii) (emphasis added).

315 The ability of a bank to recognize the benefits of netting under a QMNA for purposes of the capital rules is subject to the operational criteria for the recognition of QMNAs, which require a bank to conduct a sufficient legal review to be able to conclude with a well-founded basis that (i) the agreement meets the relevant definitional requirements of a QMNA, and (ii) in the event of a legal challenge (including one resulting from a default or from a 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 (which would necessarily include the laws of the jurisdiction governing the counterparty's insolvency proceedings). *See* 12 C.F.R. §§ 3.3(d); 217.3(d); 324.3(d).

proceedings, Enron invoked AETs and attempted to collect damages for electrical power it never delivered. As a result, a number of utility providers also went bankrupt.[316] Post-Enron, utility providers have generally amended their agreements to allow them to walk away when a counterparty fails to deliver electricity without having to pay the crystalized value of the contract. Without these clauses, these providers would be subject to the same risks they faced with Enron, and the communities to whom they provide electricity would also be subject to costly charges for power or a lack of power. A broad prohibition on walkaway clauses could effectively prohibit large banks from helping utility providers hedge their risks due to the substantial increase in capital requirements if the banks cannot net contracts with utility providers. Utility providers would face increased costs of hedging, which would affect the costs of electrical power generation and ultimately the price consumers and business pay for power.

The agencies should clarify that the prohibition on walkaway clauses in the definition of QMNA would align with the statutory definition of walkaway clause in the FDIA and the Dodd-Frank Act and would permit both: (i) a one-way walkaway clause that only the bank could invoke against the counterparty and (ii) a two-way walkaway clause which, in the case of the bank's counterparty, can only be invoked by the counterparty in the event the bank fails to perform provisions under the agreement that are entirely within its control – such as failure to deliver a physical commodity – and which cannot be invoked by the counterparty in the event the bank enters into bankruptcy, receivership or similar proceedings. These walkaway clauses would not implicate the benefits, in mitigating credit risk, of a netting agreement and they would be consistent with the FDIA, the Dodd-Frank Act Title II provisions, and thus should not inhibit the bank's ability to satisfy the operational requirements for the recognition of QMNAs.

VIII. The securitization framework under the Expanded Risk-Based Approach requires significant revision to appropriately reflect the risks associated with securitization exposures.

The proposed securitization framework does not adequately reflect the risks associated with securitization exposures. For example, the operational criteria for traditional securitizations are not appropriately tied to the transfer of credit risk. In addition, the securitization standardized approach misstates risk in a number of ways, including the unjustified increase in the *p* factor from 0.5 to 1, which is particularly inappropriate with respect to those securitizations that meet certain criteria that indicate they pose less complex credit risk concerns.

The comment letter submitted by the SFA addresses the breadth of issues posed by the securitization framework in detail. We support SFA's recommendations and urge the agencies to adopt them.

IX. The agencies should retain the 25 percent simplified deduction framework for Category III and IV banks.

The proposal would remove the 25 percent simplified deduction framework for Category III and IV banks and require them to apply the 10 percent/15 percent deduction thresholds currently applicable to

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316 *See, e.g.*, Kurt Eichenwald, "Enron seeks millions for Power Never Delivered to Sierra Pacific," The New York Times (Oct. 6, 2003); Hal Bernton, "No easy escape from Enron; BPA may be stuck with costly contract," The Seattle Times (Feb. 8, 2002) (entered into the Congressional Record by Sen. Peter Fitzgerald, Senate Hearing 107-1138, Subcommittee On Consumer Affairs, Foreign Commerce and Tourism of the Committee On Commerce, Science, and Transportation, Examining Enron: Electricity Market Manipulation and the Effect on the Western States, April 11, 2002).

Category I and II banks with respect to, among other things, mortgage servicing assets, net of associated deferred tax liabilities; temporary difference DTAs, net of any related valuation allowances and net of deferred tax liabilities; and significant investments in the capital of unconsolidated financial institutions in the forms of common stock, net of associated deferred tax liabilities.[317] The current 25 percent deduction threshold was established by the agencies' recent capital simplification rule, which was the product of a multi-year review pursuant to the Economic Growth and Regulatory Paperwork Reduction Act of 1996 and an extensive notice-and-comment rulemaking process.[318] The agencies should not simply abandon the 25 percent deduction threshold and revert to the more complex and burdensome framework for Category III and IV banks without reasonable explanation. As explained below, the proposed 10 percent/15 percent deduction thresholds, particularly with respect to temporary difference DTAs (*i.e.*, DTAs arising from temporary differences that a bank could not realize through net operating loss carrybacks ("NOL CB") but could only realize through future taxable income as of the regulatory capital calculation date),[319] is overly punitive and not justified. Therefore, we urge the agencies to retain the 25 percent deduction threshold for Category III and IV banks.

As a result of the adoption of the CECL framework, banks have higher allowances for credit losses.[320] Higher allowances for credit losses, in turn, increase temporary difference DTAs. The 10 percent/15 percent deduction thresholds were designed and calibrated prior to the implementation of CECL, when banks applied the incurred-loss methodology. Unrealized losses on AFS debt securities also increase DTAs. As a result, due to changes in accounting standards and prevailing market conditions, banks currently face significantly higher DTAs than when the 10 percent/15 percent deduction thresholds were calibrated. As a consequence, the 10 percent/15 percent deduction thresholds are overly conservative in light of current accounting standards and market conditions.[321] These impacts are particularly large for banks with significant consumer financing and credit card businesses, and the capital strain caused by the proposed changes could reduce their ability to provide credit, especially during periods of stress.

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317 Category I and II banks must deduct from CET1 capital amounts of mortgage servicing assets, temporary difference DTAs and significant investments in the capital of unconsolidated financial institutions in the form of common stock that individually exceed 10 percent of the bank's CET1 capital minus certain deductions and adjustments. *See id*. at 64,036. Category I and II banks must also deduct from CET1 capital the aggregate amount of threshold items not deducted under the 10 percent deduction but that nevertheless exceeds 15 percent of the bank's CET1 capital minus certain deductions and adjustments. *See id*. at 64,037.

318 *See* Regulatory Capital Rule: Simplifications to the Capital Rule Pursuant to the Economic Growth and Regulatory Paperwork Reduction Act of 1996, 84 Fed. Reg. 35,234 (July 22, 2019).

319 Following the enactment of a tax law on December 22, 2017, the agencies explained that DTAs are generally temporary difference DTAs subject to deduction thresholds because, for tax years beginning on or after January 1, 2018, the law generally removed the ability to use NOL CBs to recover taxes paid in prior tax years. *See* Board of Governors of the Federal Reserve, et al., "Interagency Statement on Accounting and Reporting Implications of the New Tax Law," (Jan. 18, 2018), *available at* https://www.federalreserve.gov/supervisionreg/srletters/sr1802a1.pdf.

320 *See, e.g.*, Bert Loudis, et al., "New Accounting Framework Faces Its First Test: CECL During the Pandemic," FEDS Notes (Dec. 3, 2021), *available at* https://www.federalreserve.gov/econres/notes/feds-notes/new-accounting-framework-faces-its-first-test-cecl-during-the-pandemic-20211203.html (finding that the adoption of CECL "resulted in an immediate 37 percent increase in adopters' allowances" on Jan. 1, 2020).

321 This is particularly true with respect to many Category III and IV banks that have business models with fewer activities to offset DTAs than Category I and II banks already subject to the lower threshold.

Moreover, overly conservative treatment of DTAs has unnecessarily procyclical impacts that would threaten, rather than strengthen, safety and soundness. DTAs typically increase during actual stress conditions when a bank realizes significant loan losses. Those stress conditions would also lead to significant increase in allowances for credit losses (and associated DTAs), which would, in turn, create additional stress on the bank's capital levels. This procyclicality arises not only in an actual downturn, but as a practical matter impacts capital levels at banks during normal economic times through the stress testing and SCB calculations. As noted above, the implementation of CECL exacerbates this concern. We recognize the agencies historically have been concerned with the ability of banks to realize DTAs against future taxable income, in particular the concern that a bank may not be able to realize the value of the DTAs under adverse financial conditions. We note, however, that the capital rules are premised upon banks as going concerns, not failed entities, and therefore the concern that future taxable income would not exist against which DTAs could be used or realized should not be a driving consideration, particularly with respect to DTAs arising from timing differences. In addition, DTAs on a bank's balance sheet are already subject to a "more-likely-than-not" to be realized valuation standard under GAAP with DTAs that are less than "more-likely-than-not" to be realized charged off to equity via a valuation allowance. Accordingly, any deduction of the DTAs from regulatory capital is already conservative, and further expanding the scope of deductions for Category III and IV banks by lowering the deduction threshold from 25 percent to 10 percent would be unwarranted and overly punitive.

Another driver of the increase of DTAs for Category III and IV banks is the proposed removal of the AOCI opt-out. Lowering the DTA deduction threshold concurrently with removing the AOCI opt-out would significantly and unjustifiably increase capital requirements for Category III and IV banks.

In light of the considerations above, the agencies should maintain, for Category III and IV banks, the current 25 percent deduction threshold for temporary difference DTAs. The agencies have previously recognized that a bank's ability to realize its temporary difference DTAs is "dependent on future taxable income" and, accordingly, the 25 percent deduction threshold, together with a 250 percent risk weight for non-deducted temporary difference DTAs, will "protect bank capital against the possibility that the bank would need to establish or increase valuation allowances for DTAs during periods of financial stress."[322] Recent events have not changed the realizability of temporary difference DTAs. During stress scenarios, the Federal Reserve already deducts from capital net operating losses and tax credit carryforwards and should not adjust the treatment of temporary difference DTAs. As an alternative to maintaining the 25 percent deduction threshold for temporary difference DTAs for Category III and IV banks, the agencies could allow ACL DTAs to be excluded from the regulatory capital deduction limitation. ACL DTAs are recoverable DTAs, and recognition of ACL DTAs occurs over a multi-year period, even during stress scenarios. During this multi-year period, ACL DTAs are recovered and more than offset by the associated loan interest income and fees of the portfolio. The implementation of CECL and changes to the U.S. tax code support a more favorable capital treatment for these exposures.

In addition, in the context of supervisory stress testing, the Federal Reserve should also allow the assumption of a two-year NOL CB for temporary difference DTAs (excluding NOLs and credit carryforwards) for U.S. federal tax purposes under stress scenarios. Congress frequently uses a NOL CB – either by reinstating it and/or expanding its carryback period – during stress scenarios as an anti-recessionary tax

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322 84 Fed. Reg. at 35,239. The agencies also recognized that the 25 percent deduction threshold may also "mitigate the adverse effects of potential increases in temporary difference DTAs stemming from CECL or from changes to the tax code." *Id*.

policy in order to provide liquidity to businesses during stress scenarios, which mirror the Federal Reserve's hypothetical stress scenarios under DFAST. For example, in response to the COVID-19 pandemic, Congress enacted the CARES Act, which, among other things, allowed firms to carry back losses in tax years covering 2018, 2019 and 2020 for up to five years and provided that NOL CBs could offset 100 percent of taxable income (*i.e.*, rather than 80 percent).[323]

If the agencies do not maintain the 25 percent deduction threshold for temporary difference DTAs for Category III and IV banks, they should (i) increase the aggregate 15 percent deduction threshold and (ii) separately apply the 10 percent deduction threshold to temporary DTAs related to the ACL and other temporary difference DTAs.

X. Further changes to the definition of capital would cause unnecessary market disruptions and should not be adopted.

Under the proposal, the definition of capital for Category III and IV banks would be aligned with the definition currently applicable for Category I and II banks. In addition to applying the capital deductions and minority interest treatment currently applicable to Category I and II banks, the proposal would, among other things, require Category III and IV banks to (i) recognize most elements of AOCI in regulatory capital and (ii) apply TLAC holdings deduction treatments. We provide recommendations with respect to these firms in Sections III.E, IX and X.A. To avoid significant and unnecessary market disruptions, the agencies should maintain the AOCI opt-out election for banks with less than $100 billion in total assets and should not change the regulatory capital treatment of unrealized gains/losses on held-to-maturity ("HTM") securities that are not recorded in AOCI.

A. The AOCI opt-out election for banks with less than $100 billion in total assets should be maintained.

The proposal would require Category III and IV banks to recognize unrealized gains/losses on AFS debt securities and most other elements of AOCI in regulatory capital, subject to a phase-in period, as discussed below. The proposal would not change the existing regulatory capital treatment of AOCI for Category I and II banks or for banks with less than $100 billion in total assets. We support the proposed maintenance of the existing regulatory capital treatment for banks with less than $100 billion in total assets.

When the agencies adopted their Basel III capital rules in 2013, they provided non-Advanced Approaches banks the ability to opt out of the requirement to recognize AOCI in regulatory capital because the volatility in regulatory capital that could result from the requirement to recognize most elements of AOCI in regulatory capital "could lead to significant difficulties in capital planning and asset-liability management."[324] The agencies also observed that the "tools used by larger, more complex banks for managing interest rate risk are not necessarily readily available for all banks."[325] The rationales for providing the AOCI opt-out election to non-Advanced Approaches banks continue to apply to banks with

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323 *See* Coronavirus Aid, Relief, and Economic Security Act, Pub. L. No. 116-136, 134 Stat. 281 (Mar. 27, 2020).

324 Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62,018, 62,060 (Oct. 11, 2013).

325 *Id*.

less than $100 billion in total assets. Removing the AOCI opt-out election for these banks would (i) create inaccurate depictions of actual capital strength due to what are typically temporary changes in market interest rates; (ii) introduce volatility in capital ratios; and (iii) negatively affect banks' ability to hedge interest rate risk on their liabilities effectively and economically due to the costs of holding investment securities with longer maturities.

B. The regulatory capital treatment of unrealized gains/losses on HTM securities that are not recorded in AOCI should remain unchanged.

The proposal would not change the regulatory capital treatment of unrealized gains/losses on HTM securities that are not recorded in AOCI, but asks what "complementary measures" the agencies should consider regarding the regulatory capital treatment for securities held as HTM rather than AFS.[326] We strongly oppose including changes in the fair values of HTM securities within regulatory capital. We agree with the position expressed in the interagency letter to the Financial Accounting Standards Board ("FASB") related to its 2010 proposal to reflect all financial instruments on the balance sheet at fair value.[327] Including fair value changes would: (i) create a fundamental and unwarranted break between GAAP and shareholders' equity and regulatory capital; (ii) be inconsistent with the economic exposure of a bank, as HTM classification reflects that a bank has the ability and intent to hold the security to maturity (any credit-related losses would be recognized in the ACL and therefore in regulatory capital under current accounting standards); (iii) have the paradoxical effect of providing a capital benefit for unrealized gains that are highly unlikely to be realized and that would generally be illusory; (iv) introduce unwarranted volatility in capital requirements, in particular during times of stress when there may be short-term market conditions that may result in large but temporary fluctuations in market value; (v) compel banks to shorten the duration of their debt securities portfolios; and (vi) create significant asymmetry in the treatment of loans and securities because changes in value for loans held for investment would not affect regulatory capital.[328] Such a requirement would also unnecessarily fragment interest rate risk management practices, which are typically performed on a holistic basis by financial institutions. Greater fragmentation would likely result in greater interest rate risk being transferred to the borrowers of loans. In addition, it is impractical for banks to hedge HTM securities because current accounting rules bar hedge accounting

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326 88 Fed. Reg. at 64,036.

327 *See* Letter from Ben. S. Bernanke, Chairman, Board of Governors of the Federal Reserve System, Sheila C. Bair, Chairman, Federal Deposit Insurance Corporation, Debbie Matz, Chairman, National Credit Union Administration, John Walsh, Acting Comptroller, Office of the Comptroller of the Currency and John E. Bowman, Acting Director, Office of Thrift Supervision, to Russell G. Golden, Technical Director, FASB (Sept. 30, 2010), *available at* https://www.fasb.org/Page/ShowPdf?path=1402-%201810-100%20FRS%20FDIC%20NCUA%20OCC%20OTS%20BEN%20S.%20BERNANKE.pdf.

328 The existing accounting treatment of loans is appropriate because it accurately reflects the business of banking, as the 2010 interagency letter to FASB recognized. *See id*. at 3 ("Fair value measurement may be appropriate for an institution employing a business strategy that seeks to profit from short-term price movements. However, the primary business strategy for the vast majority of financial institutions that we supervise is a long-term strategy for financial intermediation that is based on maturity transformation. This largely involves funding long-term loans with deposits backed by deposit insurance protection, and earning an interest margin on the difference between the interest income generated and the associated funding costs. Fair value measurement would not faithfully reflect these institutions' financial position because their business strategies are not predicated on the sale or transfer of these instruments, but rather the collection and payment of contractual cash flows.").

treatment for interest rate hedging of HTM securities.

Historically, interest rate risk, including on HTM debt securities, has been addressed through supervision rather than regulation. To the extent the agencies would like to address interest rate risk through regulation, they should develop a framework that does so in an appropriate and coherent manner that provides benefits that outweigh the costs on banks and the broader economy.

XI. The Federal Reserve should address the impacts of the proposal on the single-counterparty credit limits ("SCCL") framework by providing a transition period for the SCCL rule and revising the SCCL rule to provide that minimum haircuts do not apply under that framework.

The proposal would require all covered banks to use the standardized approach for counterparty credit risk to calculate their SCCL, which the agencies estimate would "generally result in higher derivative exposures than the internal models method."[329] A transition period for purposes of the SCCL rule and revising the SCCL rule to provide that any minimum haircuts do not apply under that framework would mitigate the impact of this change on covered banks.

A. The Federal Reserve should provide a transition period for purposes of the SCCL rule to avoid potential disruptive effects on financial markets.

Under the proposal, banks would not be able to use internal models-based approaches for credit risk, which would affect the SCCL rule. As proposed, the change for SCCL purposes would be immediate upon the effectiveness of a final rule. To avoid potential disruptive effects on financial markets as a result of abrupt changes in the measurement of counterparty credit exposures under the SCCL rule, the Federal Reserve should provide a transition period for purposes of the SCCL rule.

There are two potential ways to implement a transition period. First, the Federal Reserve could permit banks that currently use internal models-based approaches for SCCL purposes to continue to do so during a two-year transition period following the effective date of a final rule. Alternatively, the same factors that apply for determining RWAs under the Expanded Risk-Based Approach could apply for purposes of calculating credit exposure under the SCCL rule if a bank must transition from using internal models to a standardized approach that would apply for purposes of determining RWAs under the Expanded Risk-Based Approach. For example, if a bank were required to use a standardized approach instead of an internal models-based approach for valuing a securities financing transaction or derivative, from July 1, 2025 through June 30, 2026, credit exposure for the SCCL rule would be the amount calculated using the applicable standardized approach, multiplied by the same factor applicable under the transition provisions for calculating RWAs under the Expanded Risk-Based Approach (*i.e.*, 80 percent in the proposal).

B. The Federal Reserve should revise the SCCL rule to provide that any minimum haircuts do not apply under that framework.

The Federal Reserve should revise the SCCL rule to provide that any minimum haircuts do not apply because the SCCL framework is designed for a different regulatory purpose than the proposed minimum haircuts.

Currently, a bank subject to the SCCL rules can use any method the bank is authorized to use under

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329 *Id*. at 64,171.

either Subpart D or the current models-based Subpart E of the capital rules for purposes of calculating its gross credit exposure in respect of an SFT or derivative transactions under the SCCL.[330] Under the proposal, a bank could no longer use Subpart D. Rather, the bank would be required to calculate its gross credit exposure for SFTs and derivative transactions for purposes of the SCCL using the methods set forth in the Expanded Risk-Based Approach.[331] The Federal Reserve should revise the SCCL rules to expressly provide that SFTs should be valued using the method specified in proposed Section 121(c) (which includes the revised collateral haircut method under the Expanded Risk-Based Approach), and that proposed Section 121(d) (the minimum haircut floors), if implemented, are not applicable in the context of SCCL calculations. This revision would reflect that the proposed minimum haircut floors were not intended to apply when a bank determines the valuation of an SFT for SCCL purposes.

The SCCL is unrelated to the stated purpose of the minimum haircut floors. The SCCL is intended to "limit the risks that the failure of any individual firm could pose to [large U.S. and foreign banking holding companies and nonbank financial companies]."[332] By contrast, the proposed minimum haircuts are "intended to limit the build-up of excessive leverage outside the banking system and reduce the cyclicality of such leverage, thereby limiting risk to the lending bank and the banking system."[333] The SCCL framework provides a methodology that must be used to calculate gross credit exposure on SFTs, and the SCCL serves separate and distinct policy purposes from the stated objective for the proposed minimum haircut floors.

XII. Reasonable transition periods that allow banks to phase in the new requirements should be adopted.

The agencies should make the following changes that would allow banks to phase in the complex new requirements in a manner that minimizes operational disruptions.

A. The proposed three-year transition periods for the recognition of AOCI in regulatory capital and the calculation of RWAs under the Expanded Risk-Based Approach should be extended.

The proposal would establish three-year transition periods for (i) the requirement that Category III and IV banks recognize most elements of AOCI in regulatory capital, and (ii) the calculation of RWAs under the Expanded Risk-Based Approach,[334] and all other aspects would apply in full on the effective date of a final rule. The phase-in period relating to the recognition of AOCI in regulatory capital should be extended over a longer period, and the phase-in period relating to the calculation of RWAs under the Expanded Risk-Based Approach should be less compressed, starting with a lower transitional factor.

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330 *See* 12 C.F.R. §§ 252.73(a)(4), 252.73(a)(7); 252.173(a)(4), 252.173(a)(7).

331 *See* 88 Fed. Reg. at 64,031, 64,326 and 64,327.

332 Single-Counterparty Credit Limits for Bank Holding Companies and Foreign Banking Organizations, 83 Fed. Reg. 38,460, 38,492 (Aug. 6, 2018).

333 88 Fed. Reg. at 64, 063.

334 88 Fed. Reg. at 64,166. The recognition of AOCI would be phased in on a 25 percent, 50 percent, 75 percent and 100 percent schedule, and the calculation of RWAs under the Expanded Risk-Based Approach would be phased in on an 80 percent, 85 percent, 90 percent and 100 percent schedule. *See id*.

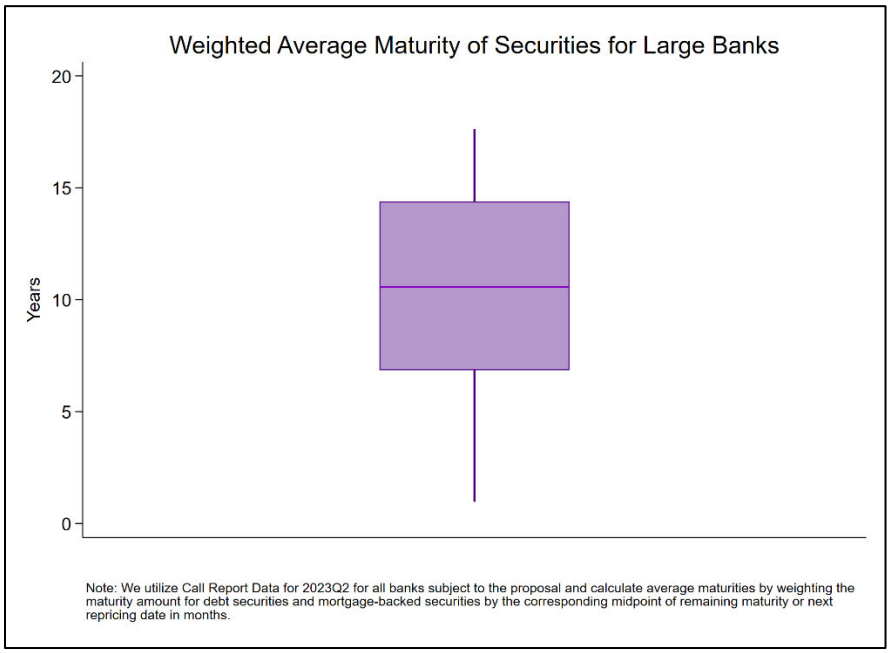
1. A longer phase-in period for Category III and IV banks to recognize most elements of AOCI in regulatory capital should be established.

A longer phase-in period for the recognition of AOCI in regulatory capital would reduce volatility in regulatory capital calculations attributable to legacy positions in AFS debt securities with unrealized losses, as those securities ultimately mature over time. As the agencies have previously recognized, including unrealized losses on AFS debt securities in regulatory capital calculations "could introduce substantial volatility in a bank's regulatory capital ratios" and, among other things, "could mean that fluctuations in a benchmark interest rate could lead to changes in their [prompt corrective action] categories from quarter to quarter."[335] In light of the typical duration of investment securities portfolios, and in order to enable banks to better manage this volatility, the phase-in period should be over five years. Specifically, we analyzed the weighted-average repricing/maturity period (in years) of securities held by banks subject to the proposal.[336] Our findings indicate that the weighted average maturity of U.S. Treasury securities and Agency MBS is about 10.6 years. As shown in the chart below, the median weighted average maturities across all banks subject to the proposal is 10.6 years, with the first quartile at 6.9 years and the third quartile at 14.4 years.

335 78 Fed. Reg. at 62,058.

336 Banks report maturity and repricing data for securities in memoranda items on Call Report Schedule RC-B. For example, U.S. Treasury securities reported on the Call Report as having a remaining maturity or next repricing date of more than three months but less than or equal to 12 months were assumed to have a repricing/maturity period of 7.5 months, the midpoint of the (3, 12) interval. Securities reported with remaining maturity or next repricing date of three months or less were assumed to have a repricing/maturity period of two months; securities reported with remaining maturity or next repricing date of over one year through three years were assumed to have a repricing/maturity of period of two years; securities reported with remaining maturity or next repricing date of over three years through five years were assumed to have a repricing/maturity of period of four years; securities reported with remaining maturity or next repricing date of over five years and less than or equal to 15 years were assumed to have a repricing/maturity period of 10 years; securities reported as having remaining maturity or next repricing date of over 15 years were assumed to have a repricing/maturity period of 20 years.

Figure 26



The phase-in schedule should be more back-weighted, instead of ratable, so that the transition period is more reflective of anticipated cash flows on investment securities. As securities approach their stated maturities, all else equal, the market price will trend toward par – a phenomenon commonly referred to as the pull to par. For example, with a five-year phase-in period, the agencies could establish a schedule of 10 percent, 20 percent, 35 percent, 50 percent, 70 percent and 100 percent. In addition, the phase-in period for the recognition of AOCI in regulatory capital should be available for a bank that moves into Category II as a result of the proposed changes to the measurement of cross-jurisdictional activity under the Federal Reserve's notice of proposed rulemaking to amend the GSIB surcharge methodology.[337]

2. <u>The agencies should establish a less compressed phase-in period for the calculation of RWAs under the Expanded Risk-Based Approach.</u>

A less compressed phase-in schedule for the calculation of RWAs under the Expanded Risk-Based Approach – such as 70 percent, 80 percent, 90 percent and 100 percent – would facilitate the ability of banks to adjust to the higher capital requirements under the Expanded Risk-Based Approach and also better mitigate the potential adverse impact of the proposal on the cost and availability of credit and their ability to provide liquidity to market participants. A lower initial starting point for the phase-in schedule would also recognize the significant systems build required for banks to manage their balance sheets under the Expanded Risk-Based Approach.

B. A transition period for the inclusion of market RWAs under the Standardized Approach should be provided.

The proposal would not provide a transition period for the inclusion of market RWAs using the

337 *See* Regulatory Capital Rule: Risk-Based Capital Surcharges for Global Systemically Important Bank Holding Companies; Systemic Risk Report (FR Y–15), 88 Fed. Reg. 60,385, 60,394 (Sept. 1, 2023).

FRTB-based market risk capital rule under the Standardized Approach. The agencies acknowledge that capital requirements determined by the new market risk capital rule are expected to "increase substantially."[338] A transition period for the calculation of market RWAs as a component of the Standardized Approach would serve similar policy objectives as the transition period for the calculation of RWAs under the Expanded Risk-Based Approach: providing banks sufficient time to adjust to the new requirements while minimizing the potential impact that the proposal could have on the ability of banks to facilitate their customers' hedging activities and to provide liquidity to market participants.

C. The agencies should, to the extent they do not retain the 25 percent simplified capital deduction framework for Category III and IV banks, provide a transition period to apply the revised capital deductions.

The proposal would require Category III and IV banks to apply the capital deductions and minority interest treatments that are currently applicable only to Category I and II banks but does not include a transition period. As discussed above, we urge the agencies to retain the current 25 percent simplified capital deduction framework for Category III and IV banks. To the extent the agencies do not retain the 25 percent simplified capital deduction framework for Category III and IV banks, they should provide a transition period for Category III and IV banks to apply these capital deductions and minority interest treatments. The agencies should also provide a transition period for a bank that would move into Category II as a result of the proposed changes to the measurement of cross-jurisdictional activity under the Federal Reserve's notice of proposed rulemaking to amend the GSIB surcharge methodology. A transition period for capital deductions would serve the same policy objective as the other proposed transition periods. Absent a transition period, many Category III and IV banks would experience abrupt and significant increases in deductions, in particular deductions attributable to DTAs. According to the Member QIS, the proposed changes to the capital deduction framework would reduce Category III and IV firms' CET1 capital ratios by 2.3 percentage points. The changes to deduction thresholds alone, largely attributable to DTAs, would lead to a 0.4 percentage point decrease for these same firms. The elimination of the AOCI filter accounts for the remaining 1.9 percentage point decline in the aggregate CET1 capital ratio of those banks.[339]

The transition period for capital deductions should be structured so that, during each year of the transition period, a bank would be required to recognize only a specified portion of the deduction that would otherwise result from the application of the 10 percent/15 percent deduction thresholds instead of the 25 percent deduction threshold currently applicable. The agencies should adopt a phase-in schedule of 20 percent, 40 percent, 60 percent, 80 percent and 100 percent, such that during year one, a Category III or IV bank – or a bank that moves into Category II as a result of the proposed amendments to the measurement of cross-jurisdictional activity[340] – would recognize 100 percent of the amount in excess of the 25 percent deduction threshold, plus 20 percent of the amount that would be deducted under the 10 percent/15 percent deduction thresholds, but not the 25 percent threshold, and so on. At the beginning of

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338 88 Fed. Reg. at 64,167.

339 This corresponds to the decreases in regulatory capital resulting from the changes to the definition of capital for Category III and IV firms without factoring in the changes to RWAs in the proposal (with the exception of items that were previously risk-weighted but are now deducted from regulatory capital as a result of changes to the definition of capital). For a description of the study, including the study population and methodology, *see* Appendix 16.

340 If the agencies do not apply the same transition period to banks that move into Category II as a result of this change, they should nonetheless provide some transition period for these banks.

year five, the bank would apply the 10 percent/15 percent deduction thresholds without any adjustment.

D. The agencies should provide a transition period for a bank that crosses the $100 billion asset threshold and becomes subject to the Expanded Risk-Based Approach as a result of an acquisition.

Under the proposal, the Expanded Risk-Based Approach would apply to all Category I through IV banks and would not include a transition period for a bank upon first crossing the $100 billion asset threshold and becoming subject to the capital framework. The absence of such a transition period could present implementation challenges, particularly in the context of an acquisition that would result in a bank with less than $100 billion in assets crossing the threshold. Several members of Congress and other stakeholders have raised concerns that the proposal would "push the U.S. banking system further toward a 'barbell' banking system,"[341] and Vice Chair for Supervision Barr has addressed these concerns in part by noting that the agencies "want to make sure that regulation encourages [the] continued diversification of the financial system."[342]

A transition period would mitigate these concerns by smoothing the implementation burdens for banks that grow through acquisitions and facilitating the ability of smaller banks to grow, including through acquisitions.

E. Expectations regarding how current Advanced Approaches banks should phase out the use of their advanced systems should be clarified.

Banks subject to the Advanced Approaches have devoted substantial resources to developing, implementing and maintaining their advanced systems for purposes of current Subpart E. The proposal would eliminate the models-based approaches in Subpart E with respect to credit risk, operational risk and CVA risk, but it does not provide guidance on how the agencies expect banks to phase out these advanced systems. Rather, the proposal vaguely states: "[l]arge banks should employ internal modeling capabilities as appropriate for the complexity of their activities."[343]

The expectations for Advanced Approaches banks are unclear. For example, the agencies should explain whether banks could commence the phase-out process upon issuance of a final rule in advance of the effective date of the Expanded Risk-Based Approach. Permitting the commencement of a phase-out process upon issuance of a final rule would allow these banks to allocate resources otherwise used to maintain the advanced systems to implementation of the Expanded Risk-Based Approach and other compliance or risk-management purposes.

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341 *See* Letter from House Financial Services Committee Chairman Patrick McHenry to Michael S. Barr, Vice Chairman for Supervision, Board of Governors of the Federal Reserve System, Martin J. Gruenberg, Chairman, Federal Deposit Insurance Corporation, and Michael J. Hsu, Acting Comptroller of the Currency (Sept. 13, 2023), *available at* https://financialservices.house.gov/uploadedfiles/2023-09-13_fsc_gop_letter_to_bank_regulators.pdf.

342 Kyle Campbell, "Fed's top regulator calls for discount window readiness by banks," Am. Banker (Oct. 2, 2023, 4:47 PM), *available at* https://www.americanbanker.com/news/feds-top-regulator-calls-for-discount-window-readiness-by-banks.

343 88 Fed. Reg. at 64,032.

The Bank Policy Institute and the American Bankers Association appreciate the opportunity to comment on the proposal. 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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January 16, 2024

Appendices

Appendix 1

ABA/BPI Member Survey

Survey Description

ABA and BPI conducted a survey of their members concerning their expectations of the impact on their customers, their product offerings, and the U.S. economy of the rules if implemented as proposed.

The survey solicited qualitative responses from institutions that included banks in each of the Categories I through IV, as well as from institutions that might soon fall under these definitions. The respondents are involved in a diverse range of business lines, allowing the survey to capture a range of informed opinions on the proposal's potential impact.

In the results discussed below, the terms "net percentage" and "net share" describe the overall balance of responses between contrasting expectations or outcomes. The "net percentage" is derived by subtracting the percentage of respondents expecting the proposal to result in a decrease in a particular area (*i.e.*, risk management, benefits, or abilities) from the percentage expecting an increase in the same area and then taking its absolute value. The resulting absolute net value represents the predominant expectation between contrasting outcomes, including improved vs. worsened conditions, benefits vs. costs and increased vs. decreased ability.

For this summary, when a net share is described as:

- "neutral" or "basically unchanged," it means the net percentage of responses is less than or equal to five percent;
- "modest," it means the net percentage is greater than five and less than or equal to 10 percent;
- "moderate," it means the net percentage is greater than 10 and less than or equal to 20 percent;
- "significant," it means the net percentage is greater than 20 and less than 50 percent; or
- "major," it means the net percentage is greater than or equal to 50 percent.

For all questions, except the "Reasons for Credit Standards, Terms and Customer Cost Changes," the term "respondents" means those who gave relevant answers to a question. For the "Reasons for Credit Standards, Terms and Customer Cost Changes" section, a lack of response was assumed to mean "not significant," and this was communicated to survey participants in the questionnaire. For all other questions, those who did not respond to a question or indicated that the question was not relevant to their bank were excluded from the analysis for that question. Questions with less than four pertinent responses have been excluded from the analysis.

General Questions

Regarding expectations about the proposal's general impact, a major net share of respondents expects the proposal to be a net cost to the U.S. economy; in fact, no respondent expects the proposal to be a net benefit to the U.S. economy. Furthermore, a major net share of respondents expects the proposal to decrease the amount of credit their bank can provide, decrease the number and variety of customers they can serve and increase their customers' cost of credit.

A major net share of respondents expects the proposal to increase their bank's capital and a significant net share expect the proposal to decrease their bank's risk level. Although there was no net agreement on the proposal's impact on risk management, the majority of respondents expect risk

management to remain about unchanged.

Major net shares of respondents expect the proposal to decrease their bank's revenue and increase their bank's expenses. Moreover, a major net share of respondents expects that the proposal would decrease their bank's ability to compete with non-bank financial institutions and non-U.S. financial institutions. Most respondents expect that the proposal would require changing their bank's business model and strategic direction.

Loan Category Questions

Originate, Hold and Service Types of Loans

The survey asked about participants' expectations regarding the proposal's impact on their ability to originate, hold and service certain categories of loans.[1] Net shares of respondents expect a decrease in their ability to originate, hold and service the majority of the loan categories asked about, with no respondent expecting an increase in their bank's ability to hold, originate or service a particular category.

Major net shares of respondents expect the proposal to decrease their ability to originate, hold and service residential real estate loans, consumer loans and loans to other banks. Moreover, a major net share of respondents expects the proposal to decrease their ability to originate and hold acquisition financing for M&A loans, while a significant net share of respondents expects a decreased ability to service M&A loans.

A significant net share of respondents expects the proposal to decrease their ability to hold and service CRE and C&I loans, while a moderate net share of respondents expects the proposal to decrease their ability to originate CRE and C&I loans.

A moderate net share of respondents expects the proposal to decrease their ability to originate, hold and service state and political loans.

Respondents did not expect the proposal to affect their ability to originate, hold and service agricultural production and farmland loans.

Conditions of credit standard and terms of loans you interact with

The survey asked about participants' expectations regarding the proposal's impact on the standards and terms of loans they offer. Net shares of respondents expect to tighten the standards and

[1] The loan categories asked about were:

- Commercial and industrial loans or credit lines;
- Commercial real estate loans such as multi-family, office, retail, and residential development loans;
- Residential real estate loans such as GSE eligible, jumbo, home equity loans, and subprime loans;
- Consumer loans including auto, credit card, and student loans;
- State and political loans;
- Foreign government loans;
- Loans to other banks;
- Merger and acquisition loans; and
- Agricultural production and farmland loans.

terms of loans across most categories, with no respondent expecting to loosen loan standards for any category.

Major net shares of respondents expect the proposal to result in a tightening of loan standards for residential real estate loans, consumer loans, CRE loans, C&I loans and M&A loans. Furthermore, a significant net share of respondents expects a tightening of standards for loans to other banks, while respondents remained neutral with respect to the loan standards for state and political loans.

Change in Cost for Borrowers

The survey asked about participants' expectations regarding the proposal's impact on costs for borrowers, with major net shares of respondents expecting costs to increase for residential real estate loans, consumer loans, CRE loans, C&I loans, M&A loans, loans to other banks and state and political loans.

Competition

The survey asked about participants' expectations regarding the proposal's impact on their ability to compete with non-bank financial institutions and non-U.S. financial institutions for the various loan categories. Major net shares of respondents expect the proposal to decrease their ability to compete with these entities for residential real estate loans, consumer loans, CRE loans, C&I loans, M&A loans and loans to other banks. Concerning state and political loans, a significant net share of respondents expects the proposal to reduce their ability to compete with non-U.S. financial institutions, with expectations regarding their ability to compete with non-banks remaining mostly neutral.

Sales and Trading

The survey asked about participants' expectations regarding the proposal's impact on their ability to provide liquidity and make markets in several categories. Net shares of respondents expect a decreased ability to provide liquidity and make markets for all categories with a sufficient response rate. Major net shares of respondents expect decreased market making abilities in cash equities, FX and commodities, as well as vanilla derivatives in FX, fixed income and credit and commodities. A significant net share of respondents expects a decrease in market making abilities for vanilla and bespoke equity derivatives and cash fixed income and credit instruments.

When asked about how they expect the proposal to impact their ability to cost-effectively hedge various risks, major net shares of respondents expect a decrease in their ability to hedge for general interest rate, credit spread and equity risks. Significant net shares of respondents expect a decrease in ability to hedge commodity and FX risk.

When asked about participants' expectations regarding their bank's ability to meet the needs of customers and counterparties in their sales, trading and investment banking operations, major net shares of respondents expect a decrease in ability to meet the needs of large and small businesses, existing and new customers, large and midsized banks and highly regulated investment funds. A significant net share of respondents expects a decrease in their ability to meet the needs of community banks.

Other Business Lines

On net, respondents strongly conveyed that the proposal would have detrimental effects on various important business lines in terms of their ability to offer the services, the cost to customers, and

their ability to compete with non-banks and non-U.S. financial institutions.[2]

The survey asked for participants' expectations regarding the proposal's impact on their ability to offer various services. Major net shares of respondents expect less ability to offer commercial banking deposit services and other commercial services (*i.e.*, treasury, advisory and merchant banking services). Major net shares of respondents also expect a decreased ability to offer investment banks and insurance services, with significant net shares of respondents expecting a decrease in their ability to offer retail banking deposit services and wealth management services.

When asked about the proposal's impact on the cost of the same services, major net shares of respondents expect an increase in cost for their customers in retail banking deposit services, wealth management services, investment banking services and commercial services (*i.e.*, treasury, advisory and merchant banking services). A significant net share of respondents expects costs to increase for commercial deposit services.

The survey asked about the proposal's expected impact on participants' ability to compete with non-banks and non-U.S. financial institutions. Major net shares of respondents expect a decrease in ability to compete with both types of entities for retail banking deposit services[3], commercial banking deposit services, other commercial services (*i.e.,* treasury, advisory and merchant banking services) and wealth management services. For investment banking services, a major net share of respondents expects a decrease in ability to compete with non-banks, with a significant net share of respondents expecting a decrease in ability to compete with non-U.S. financial institutions.

Entity and Project Types

Respondents consistently expected the proposal to have negative effects with respect to their bank's ability to offer credit to various entity types and for a variety of project types, as well as the cost of credit for these entities and project types and the increased likelihood for these entities to engage with less regulated non-banks.[4]

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[2] The business lines asked about were:

- Retail banking deposit services such as CDs, checking accounts and savings accounts;
- Commercial banking deposit services;
- Commercial banking services like treasury, advisory and merchant services;
- Wealth management services such as investment accounts, retirement accounts, financial planning, trust and estate services;
- Investment banking services such as M&A advisory and securities underwriting services; and
- Insurance services such as life insurance, property and casualty insurance.

[3] "Deposit banking services" include payments services and the provision of cash management products, among other banking services.

[4] The entity and project types asked about were:

- Subprime borrowers;
- Consumers with little-to-no credit history;
- Middle-class consumers;

Major net shares of respondents expect the proposal to decrease their ability to offer credit and services to consumers with little-to-no credit history, subprime borrowers, low and moderate-income consumers, minority and women-owned businesses, middle-class consumers, small businesses, existing customers, new customers, renewable energy projects and firms, U.S. manufacturing projects, large banks, mid-sized banks, community banks, mutual funds, highly regulated investment funds, start-ups, private equity and hedge funds.

Significant net shares of respondents expect a decreased ability to offer credit and services to large and middle-market firms, nonprofits and not-for profit organizations and infrastructure projects.

Major net shares of respondents expect the proposal to increase the costs of credit and services for all the entity and project types queried. Furthermore, major net shares of respondents expect the proposal to increase the likelihood for all these entities and project types to do business with less regulated non-bank financial institutions.

Reasons for Credit Standards, Terms and Customer Cost Changes

The survey asked participants to identify the significance of various reasons for tightening or easing expectations **for credit standards, loan terms and customer cost changes** as (i) not significant, (ii) somewhat significant or (iii) very significant.[5]

A majority of respondents identified the following categories as key reasons for tightening, listed in descending order based on the frequency of mentions:

- changes in your bank's current or expected capital position;
- the inclusion of risk weights for operational risk;

- Existing customers;
- New customers;
- Large banks;
- Mid-sized banks;
- Community banks;
- Mutual funds;
- Private equity;
- Small businesses;
- Hedge funds;
- Highly regulated investment fund;
- Start-ups;
- Minority and women-owned businesses;
- Renewable energy projects and firms;
- U.S. manufacturing projects;
- Low and moderate-income consumers;
- Large and middle-market firms;
- Nonprofits and not-for profit organizations; and
- Infrastructure projects.

[5] For the questions in this section, participants were advised that not submitting a response for a reason would be interpreted as "Not significant."

- changes in the charges for operational risk;
- increasing or decreasing compliance costs required for systems;
- expectations about the effects of legislative changes, supervisory actions or changes in accounting standards;
- increasing or decreasing compliance costs required for employees;
- duplicative capital charges for risks;
- regulatory requirements proposed by agencies that differ from the Basel III standards agreed to in 2017;
- new advantages or disadvantages for your bank when compared to competitor non-banks;
- the public listing requirements for applicability of the preferential risk weight for investment grade obligors;
- increasing or decreasing compliance personnel costs;
- changes in the charges for credit risk;
- granularity in the proposed risk weights;
- aspects of phase-in implementation;
- aspects of phase-in timing;
- changes in tailoring; and
- new advantages or disadvantages for your bank when compared to non-U.S. financial institutions.

A significant share of respondents, listed in descending order based on the frequency of mentions, cited:

- changes in your bank's economic outlook;
- changes in your bank's tolerance for risk;
- changes in the liquidity in the secondary market for loans;
- changes in your bank's current or expected liquidity position;
- new advantages or disadvantages for your bank when compared to banks with other characteristics;
- regulatory requirements from the Basel III standards agreed to in 2017;
- changes in the netting of risk for the purpose of capital;
- changes in the charges for market risk; and
- changes in the ability to use internal models.

A moderate share of respondents cited changes in the consideration for other loss absorbing capital (*i.e.*, private mortgage insurance) as an important reason for tightening.

When asked about the significance of the same list of reasons with respect to potential loosening of credit standards, loan terms and customer cost changes, a significant share of respondents cited the granularity in the proposed risk weights and changes in the netting of risk for the purpose of capital.

Appendix 2

BANK POLICY INSTITUTE

The Basel Proposal: What It Means for Retail Lending

Paul Calem and Francisco Covas | Nov. 8, 2023

This note is one in a series that will focus on how the capital rule proposed by the U.S. federal banking agencies in July 2023 would affect particular markets.

The federal banking agencies' proposed capital rule includes risk weights for the credit risk of consumer cards and other consumer credit products. These risk weights are based on the standardized approach for credit risk agreed upon by agency staff at the Basel Committee on Banking Supervision, yet they have been calibrated to levels that exceed those agreed upon in Basel. More significantly, while the Basel agreement allows banks to use their own internal default loss data for assigning risk weights to consumer credit exposures—provided the results do not fall below a specified range of the standardized approach—the version proposed by the U.S. agencies discards this option.[1] Finally, the proposed rule would apply a separate operational risk capital charge for consumer loans.

On top of the regulatory capital charges for credit and operational risk applied under this rule, consumer cards and other consumer credit products would continue to incur capital charges determined by the Federal Reserve's stress test. This double charge would be unique to the United States, as a stress test capital charge has not been adopted in any other jurisdiction.

In summary, the findings presented here indicate that the proposed rule lacks empirical support and is unduly punitive to U.S. consumers. We estimate that the all-in credit risk capital charge for credit cards amounts to a risk weight of 174 percent. This risk weight far exceeds the applicable risk weight under the Basel agreement and what historical loss data would support. Furthermore, the proposed credit risk capital charge for other consumer loans, as well as the treatment of operational risk for cards and other consumer loans, are also higher than what would be deemed reasonable.

- The risk weight for the credit risk of consumer cards would increase from the current 100 percent to 111 percent, due to the new capital charge for unused credit lines.[2] The addition from the stress test would contribute another 63 percentage points to these risk weights, elevating the cumulative risk weight to 174 percent.

[1] In contrast, this option has been exercised in the European Union and United Kingdom. There appears to be no major jurisdiction that intends to follow U.S. proposed practice in this regard.
[2] All effective risk weights calculated in the note are defined as percentages of on balance sheet amounts to facilitate comparison with the current standardized approach.

- We estimate the combined risk weight (inclusive of stress testing) for the credit risk of other consumer loans would be 100 percent, 25 percentage points above the standardized approaches risk weight under the Basel agreement and about double the advanced approaches risk weight.
- The newly introduced risk weight for credit card operational risk is estimated to vary between 20 percent to over 100 percent. This variation largely hinges on whether card revenues are reported as gross amounts or whether the operational risk charge calculation permits the netting of credit card-related expenses, which is arbitrary. Combined, the capital requirements for operational and credit risk of consumer cards can range between about 200 percent and 250 percent.
- The combined, excessive capital charge for consumer cards is likely to make credit cards less affordable or less available. As such, the proposal would primarily harm more financially vulnerable households, including those needing to build or repair their credit histories through use of a credit card, and low- to middle-income households that depend on unused card credit for meeting unexpected cash shortfalls.
- The higher capital requirement for credit cards incorporates a 10 percent "credit conversion factor" (or CCF, which assumes that 10 percent of the undrawn line will become drawn), which is above what can be rationalized based on historical experience. This could lead to banks reducing credit limits on or canceling infrequently used lines and raises significant concerns about effects on households that prefer to maintain substantial unused amounts. The latter are likely to include many financially more vulnerable households that reserve unused line amounts for emergency expenses.
- The inappropriately high capital charges for other consumer loans would likely constrain banks' loan growth in important retail segments. In particular, it may harm their efforts to provide small-dollar loans to financially vulnerable consumers as a safe alternative to high-cost credit from nonbanks. Moreover, banks' share of the auto loan market has been trending down over the past decade, likely due in part to increased regulatory costs, and excessive capital charges will exacerbate this trend, which harms competition and consumer choice.

Introduction

Currently, credit card balances and other consumer credit exposures are subject to a standardized 100-percent risk weight (the current standardized approach), a legacy from the original Basel I international capital agreement dating back to 1988. One objective of the 2017 Basel agreement was to enhance the risk sensitivity of the standardized approach. For credit cards in particular, this was done by recognizing that non-revolving balances (people who transact with their card but repay in full each month) pose significantly less risk of loss compared to revolving balances. Moreover, it recognized that even the undrawn segment of a line, though unconditionally cancellable by the lender, still presents some level of risk to the bank.

The Proposed Rule. For credit risk, the agencies propose to use the same risk segments as Basel but would add 10 percentage points to the agreed-upon Basel risk weights. (The proposal includes no data to support this add-on.) This means that for cards, the proposal would apply a risk weight of 55 percent to the balances of those who pay the full balance due each month (transactors) and 85 percent to

revolving balances, that is, the balances that incur interest charges because they are not paid in full each month. For most consumer loans and leases, the proposed risk weight also is 85 percent.

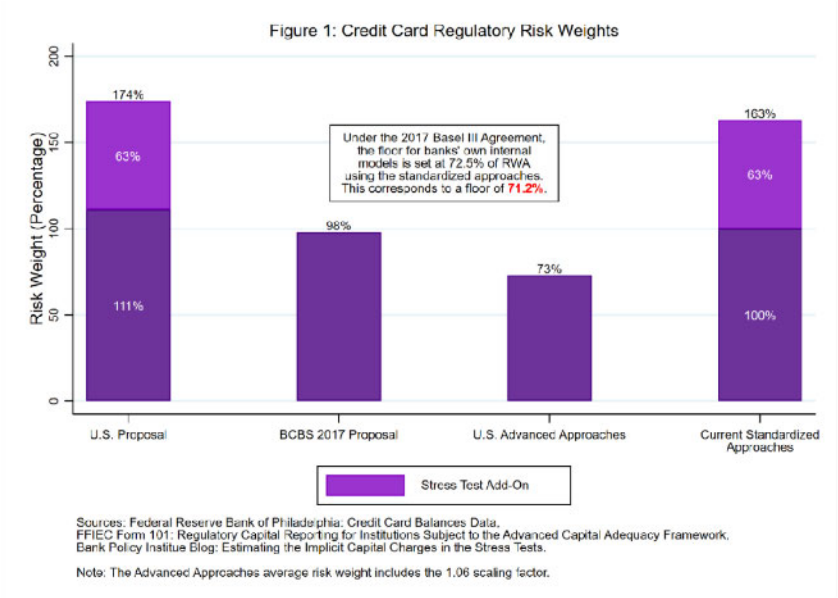
Consistent with Basel, the proposal by the U.S. agencies also applies a risk weight to 10 percent of the undrawn portions of credit card lines. Technically speaking, the proposal applies a CCF of 10 percent to the undrawn portion of the credit line for risk quantification purposes.

In addition, banks would face a substantial stress capital buffer charge for all credit card exposures, given the large rise in unemployment rates assumed in the stress tests. Our prior work has shown that the implicit capital charges in the stress tests for credit cards, commercial real estate and commercial and industrial loans are substantially higher than the minimum, 2.5-percent Basel capital conservation buffer requirement and therefore that large banks face substantially higher capital requirement on these types of loans than smaller banks not subject to the stress tests.

Finally, banks operating in the United States would not be allowed to use internally modeled approaches to determine risk-weighted assets provided that the aggregate result does not fall below 72.5 percent of the outcome produced by the standardized approach. Thus, U.S. banks uniquely face a situation where they cannot avoid the stringent standardized approach charges, regardless of whether these are demonstrably excessive in relation to historical losses.

Detailed Explanation of Credit Risk Charges for Credit Cards

Figure 1 compares the aggregate risk weight under the agencies' proposal, calculated as the ratio of RWA to outstanding balance, to that obtained under the BCBS calibration, for credit card accounts at U.S. banks currently using internal (advanced approaches) models. The dark purple portion of the first bar indicates the risk-weighted asset from the agencies' proposed standardized approach calculation, without the stress-test add-on, while the lighter purple portion is the estimated stress test add-on.



The calculation of the standardized approach portion relies on quarterly data from the Federal Reserve Bank of Philadelphia on average credit card usage over the period 2015 through 2022 for banks subject to Dodd-Frank stress testing. These data are used to determine the percentage of card balances that are non-revolving (transactor), for which the applicable risk weight is 55 percent under the agencies' proposal and 45 percent under the BCBS calibration. The remaining, revolving portion receives a risk weight of 85 percent under the agencies' proposal and 75 percent under the BCBS calibration. In addition, the data are used to determine the percentage of total available line that is unused, 10 percent of which would be subject to the same risk weight schedule as the balance sheet portion.[3] For comparability, each of the risk weights shown in Figure 1 are expressed ratios of risk-weighted exposure amounts to total balances.[4]

To estimate the implicit risk weight in the stress tests we follow the methodology proposed by Grenwood et al (2017). This method increases the capital charge for each asset with its net loss rate in the stress tests. The net loss rate is calculated using the projected losses for credit card losses, offset by pre-provision net revenue from those same loans. Following this approach, we estimated a stress capital buffer of 7.5 percent for credit card loans, which is 5 percentage points above the standard capital

[3] These data are based on the Y-14 regulatory data submissions of Advanced Approaches banks. The average utilization ratio (balance as a percent of committed line amount) is 19 percent; the average ratio of revolving to total balances is 71 percent. The calculation applies to these shares the risk weights specified under the agencies' proposal and under the BCBS calibration, respectively.

[4] The advanced approaches framework incorporates an estimated CCF parameter, whereby for defaulted accounts the exposure at default (EAD) amount on average exceeds the current balance due to additional draws prior to default. The estimated CCF is then, along with the probability of default and loss given default, an input into the derived risk weight.

conservation buffer. To convert the stress capital buffer estimate into a risk weight, we multiply 5 by 12.5, resulting in a 63 percent risk-weight add-on during the stress tests.

In total, under the agencies' version of the standardized approach, the aggregate risk weight for credit card exposures is 111 percent. This is significantly higher than the 98 percent risk weight under the BCBS standardized approach being adopted in other countries, and it greatly exceeds the average risk weight for U.S. banks using the advanced approaches, which is about 72.9 percent, according to these banks' FFIEC 101 reports from 2014 through 2022.[5] The advanced approaches calculation is empirically based: banks use their own empirically estimated segment-level risk parameters (expected default and loss rates under downturn conditions) in calculating a portfolio risk weight, overseen by agency examiners.

In other jurisdictions, banks are allowed to use the advanced approaches. They only use the standardized approach to set a floor for the advanced approaches RWA, such that the latter cannot go below 72.5 percent of standardized approach RWA. If the United States were to follow the same rules, the 98-percent risk weight under the standardized approach would be equivalent to a 71.2 percent floor (i.e., 98 percent × 72.5 percent) for the advanced approaches.

The advanced approaches risk weight reflects banks' historical loss and default experience, including the peak losses in 2009-10 triggered by the global financial crisis of 2008-09. Banks have long maintained accurate and reliable credit card data suitable for estimating the advanced approaches risk parameters, and there is no reason to believe that the resulting risk weight is inadequate. The agencies' proposed, 111 percent risk weight from application of the standardized approach is more than 50 percent larger than the advanced approaches risk weight. The stress test add-on itself would offset the effects of a severely adverse scenario on bank capital, so that the combined, effective risk weight is clearly excessive.

The Operational Risk Add-on

Additionally, the U.S. agencies' proposal aims to incorporate the Basel rule's operational risk capital charge into the capital requirements for credit cards, which would further raise the cost of card borrowing or reduce availability of card credit. This additional charge appears arbitrary given that the existing stress testing framework for large banks already adequately accounts for exposure to operational risk from credit card lending.

To understand the impact of the proposal on banks' costs of extending card credit, we examine two scenarios: (1) where banks report credit card revenues netted of related expenses (such as rewards) and (2) where banks report gross card revenues and card-related expenses are reported separately. For example, most banks report certain expenses (e.g., rewards) as "contra revenues" to their card services fee income, which reduces revenues and thereby the operational risk charge. By contrast, there is at least one bank subject to the proposal that reports the income from credit cards on a gross basis. As shown in the table below, these differences translate to very sizable differences in the operational risk charge for credit card loans.

[5] We have adjusted the advanced approaches risk weight using the 1.06 scalar as required under U.S. regulatory capital rules.

Table 1: Basel Proposal's Effect on Banks' Costs of Extending Card Credit

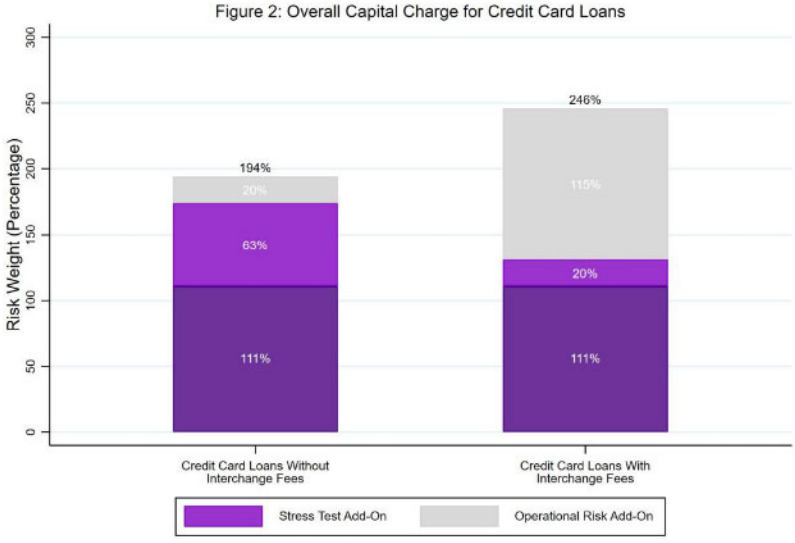
	Credit Card Loans Revolver (GAAP-Driven Netting)	Credit Card Loans Revolver (Grossing of Card Revenues)
Operational Risk Add-On	Assume the bank holds $100bn in revoving CC balances and receives a $5bn in credit card fees (GAAP-netting). 12.5 x 1.2 x 0.18 x (0.025 x $100 + $5) = $20.3bn or a **20% risk weight add-on for operational risk**	Assume the bank holds $100bn in revoving CC balances and receives a $40bn in credit card fees (includes both interchange fees and other card fees and no netting). 12.5 x 1.2 x 0.18 x (0.025 x $100 + $40) = $115bn or a **115% risk weight add-on for operational risk**

In the table above, if a bank is permitted to report certain credit card expenses as contra revenues, a bank holding $100 billion in credit card loans would record annual credit card fees of $5 billion. This results in a capital charge for operational risk of $20.3 billion, which is roughly equivalent to a 20 percent risk weight for operational risk.[6] In a second scenario, the bank itemizes expenses related to credit card loans and consequently reports $40 billion in annual fees and interchange fees, without subtracting the rewards it distributes on its credit card loans. In this case, the unadjusted representation of credit card fees equates to a capital charge for operational risk of $115 billion or an added risk weight of 115 percent.

In sum, when combining the operational risk charges with credit risk, the capital requirements for credit cards can range between about 200 percent and 250 percent. These capital requirements for credit card loans are excessive because banks are not allowed to use internal models for credit risk subject to the standardized floor. In addition, the combination of both the new standardized approach operational risk and the stress test capital charge for operational risk overstates the appropriate capital requirement for operational risk. Also, the grossing of fee revenues reduces the implicit capital charge in the stress tests. For that reason, we have lowered the stress capital charge when banks report card revenues in gross amounts.

[6] The example assumes a 1.2 internal loss multiplier and that the bank reports over $30 billion in total annual revenues, thereby making the 18 percent applicable (see Table 8, page 64086 in the Basel Proposal). The multiplication by 12.5 is needed to convert the capital charge into risk-weighted assets.

Figure 2: Overall Capital Charge for Credit Card Loans



Sources: Federal Reserve Board and BPI Calculations.

Higher Capital Charges for Credit Cards May Harm Financial Inclusion

The capital proposal released by the U.S. banking agencies in July 2023 for implementing the final phase of the Basel III agreement significantly increases the effective risk weight for retail credit card exposures, well beyond what can be rationalized based on historical loss experience. The resulting, excessive regulatory capital requirement likely would increase the cost of card borrowing and reduce the affordability and availability of card credit. In particular, it would likely be more difficult for those with limited or no credit record and those with impaired credit histories to qualify for affordably priced cards.

Consequently, the excessively large capital requirement for card credit may entail significant social costs. It is important that policymakers consider these social costs in deliberating on new capital rules.

A credit card arguably is the most important building block of financial inclusion for American households after a bank account. This is primarily because it is most often the first credit product to appear on the credit report of those who previously lacked a credit history (so-called "credit invisibles"). This is not necessarily the case in other countries that are parties to the Basel agreement.[7]

For instance, a 2017 study from the Consumer Financial Protection Bureau (Brevoort and Kambara 2017) found that credit cards by far are the most common avenue for initiating a consumer credit record. As shown in Table 2, for 37.6 percent of credit-visible individuals initiated their credit record by obtaining a

[7] In Germany, for example, individuals often gain access to credit or generate a credit score via a savings account history, non-credit-related information such as length at current residence, and bill payment records. See https://www.schufa.de/ for details on credit scores in Germany.

credit card, more than double the percentage who began with a student loan (15.8 percent) and three times the percentage whose first item of record (unfortunately) was a debt collection (12 percent).

Table 2: Distribution of Earliest Credit Report Item by Age Group

Age Range	Auto (%)	Credit Cards (%)	Mortgages (%)	Personal (%)	Retail (%)	Student (%)	Collections (%)	Other (%)
Under 25	9.0	35.6	0.5	5.3	13.7	19.9	12.4	2.6
25-29	9.1	47.0	1.7	4.9	13.4	2.5	11.3	3.6
30-34	8.6	46.7	2.2	4.8	14.6	1.3	10.4	3.9
35-39	8.5	44.7	2.9	5.1	15.4	1.2	10.3	4.4
40-44	8.4	43.8	3.5	5.7	15.4	1.2	10.2	4.3
45-49	8.2	41.6	3.5	6.0	15.9	1.5	10.7	4.6
50-54	7.9	40.4	4.0	6.0	15.9	1.3	9.8	4.9
55-59	7.5	38.7	4.1	6.0	16.7	1.1	9.7	4.5
60-64	7.6	35.5	4.2	7.2	20.6	0.7	8.4	4.2
65-69	7.2	33.7	4.5	7.0	22.5	0.6	8.1	4.7
Total	**8.9**	**37.6**	**1.0**	**5.3**	**14.1**	**15.8**	**12.0**	**3.0**

Source: Brevoort and Kambara (2017)

Individuals who lack a credit record, and who therefore cannot access traditional bank credit, may have to rely on high-cost credit from auto or consumer finance companies or on payday loans, making them vulnerable to further financial difficulties. Logically, it follows that credit invisibility might be particularly harmful to lower-income individuals, who are more vulnerable to financial stresses. This may be one reason why Brevoort and Kambara (2017) find that individuals residing in lower-income areas are more likely to have their first credit record be a collection item or other derogatory item compared to those in middle or higher-income areas.

Moreover, credit cards, particularly secured cards, facilitate restoration of access to affordable credit for households with impaired credit histories that are impeding such access. The CFPB recommends obtaining and responsibly using secured credit cards in particular as an effective strategy for rebuilding credit.[8]

A final point to consider is that the broader regulatory and macroeconomic context encompassing the agencies' capital proposal can be aptly described as a "perfect storm" harming the affordability of credit cards for low- to middle income households. Inflation and the resulting rise in interest rates have saddled these households with larger card balances and monthly minimum payments. The proposed reduction in allowable late fees recently announced by the Consumer Financial Protection Bureau is likely to lead to offsetting increases in card interest rates, particularly for individuals with lower credit scores. The Federal Reserve's proposed lowering of regulatory caps on debit card interchange fees, while not directly affecting credit cards, could lead to offsetting increases in fees charged to consumers for use of debit cards, which might spill over into credit card pricing, based on standard arguments regarding prices of goods and services that are economic substitutes.

In sum, the proposed, unduly high capital requirements for card credit lines would likely have adverse consequences for financial inclusion. If credit cards become more difficult or costly to obtain, it will

[8] See How to rebuild your credit (consumerfinance.gov)

become more challenging for many young or immigrant households and other so-called "credit invisibles" to build a credit history, and for households with impaired credit to restore their good standing. This in turn could have further adverse consequences for the financial health of such households.

Potential Harms to Household Financial Well-Being from Reduced or Eliminated Credit Lines

The agencies' proposed rule adopts without modification the element of the Basel agreement that applies a capital charge to 10 percent of undrawn amounts (a 10 percent CCF). In the United States, the unused portion of credit card lines sums to about 81 percent of the total committed lines, and this average available line amount has been near constant over time, according to FFIEC 101 submissions. The additional risk weighting applied to this unused portion comprises about one third of the 111 percent average risk weight for credit cards under the proposed rule.

Consequently, banks will find it significantly more costly to provide credit lines that are infrequently or never used, or that have a large unused portion. They may be compelled to close infrequently used accounts and to reduce credit limits on low utilization accounts. This could, in turn, have materially adverse implications for the financial health of many households, especially lower income households.

The 10 percent CCF is excessive based on empirical loss experience. Even without considering the potential harm to consumers from increasing banks' cost of providing low-utilization credit lines, there is little reason to believe that the proposed 10 percent CCF is justified—the banking agencies have not provided data or analysis to confirm that this is the appropriate CCF for U.S. banks. Available evidence suggests that the CCF should be lower. For instance, an empirical analysis using data collected by BPI in in 2016 indicates that the implied CCF for credit cards at Advanced Approaches banks was 6.5 percent, and it estimates an aggregate CCF for credit card loans at 3 percent. In addition, we have conducted a "reverse engineering" of the CCF implicit in the advanced approaches risk weight, based on an estimated regression equation, which suggests an implied CCF of about 5 percent.[9]

The fact that the 10 percent CCF was a consensus among countries that are parties to the Basel agreement does not mean that the calibration is necessarily appropriate for U.S. banks. There are huge differences across countries in the number of cards people hold, the extent to which consumers use credit cards for payments, the share of card balances that are revolving, and other relevant aspects of card utilization, as overviewed in Financial Conduct Authority (2015). Moreover, in contrast to what the agencies have proposed for the U.S., other countries provide to banks the option of using the advanced approaches, under which CCFs are calibrated based on banks' internal models, not arbitrarily set at 10 percent.

[9] Using a panel data set of annual (Q4) bank-specific observations from the 2014 through 2022 Q4 FFIEC 101 reports, we regress the ratio of risk-weighted assets to current balance against the ratio of total committed line to current balance, with inclusion of bank fixed effects. Results indicate that the implicit risk weight for a 100 percent utilized credit line (represented by the estimated intercept term) is at least 20 times larger than that applied to undrawn line amounts (represented by the slope coefficient).

Potential adverse consequences for consumer financial health.

Federal Reserve survey data on household financial well-being indicate that credit cards are the first line of defense for those facing an unanticipated cash shortfall, absent which they would have to fall behind on a payment obligation or utilize the services of a payday lender or other high-cost alternative.[10] It follows that the large increases in capital requirements for unused lines are likely to reduce the amount of line available to consumers to meet unanticipated or emergency expenses. Such a concern seems particularly relevant in light of a recent CFPB study on the effects on consumers of credit card line decreases.[11]

Another financial benefit to consumers from holding at least one, low-utilization credit card line is to minimize interest costs. Simple economic logic dictates that if a household can pay off some but not all of their total balance due in a given month, they can lower their monthly interest costs by splitting their expenditures between two cards, using one as a transactor and reserving the other for revolving balances.[12]

For instance, a household may only need the second card for short-term borrowing for occasional, large purchases, so that most of the time the second card would have zero or low utilization. Should banks become more hesitant to provide low-utilization credit lines, the consumer will lose this important benefit provided by the second card.

A final, important benefit to consumers from holding multiple cards, some of which may be infrequently utilized, is that this can facilitate household budgeting and expenditure management. For instance, Gelman and Roussanov (2023) demonstrate that "associating and grouping expenses by card can be a helpful tool for mitigating the complexity of tracking various expenditures and optimizing consumption decisions at the level of the entire household budget."

Potential impacts on credit scores from reduced credit lines.

Consumers who are closer to their overall credit limit based on summing across all of their credit lines will have lower credit scores, all else equal, based on how credit scoring models in the U.S. generally are constructed. Utilization rates on each individual card a consumer holds matter as well. For example, as described by Black (2023):

"According to simulations published by FICO, a consumer with a 26% utilization rate, who lowered it all the way down to 1%, might expect to boost their FICO Score by up to 20 points… the biggest impact was for consumers with high FICO Scores that maxed out their credit cards. The simulations showed that a consumer who saw their utilization rate jump from 12% all the way to 100% might see their score drop by nearly 130 points."

Therefore, to the extent that the proposal compels banks to cut back on credit limits or close low-utilization accounts, credit scores will immediately decline for the affected consumers, harming their access to credit. More generally, the accuracy and reliability of credit scoring models would suffer. Over

[10] Survey respondents indicate their most common approach to confront major unexpected expense sis to "use a credit card and then carry a balance. See Board of Governors of the Federal Reserve System (2023).
[11] See Herman et. al (2022).
[12] The increased interest expense derives from the fact that they will lose the grace period for ongoing expenditures once they no longer pay in full each month, even if they continue to pay more than the minimum payment amount.

time, as the models get re-estimated and updated, these effects would be reversed. But that could take years, due to the time needed to accumulate the necessary data, re-estimate models, and adapt loan origination processes and risk management systems to the new models.

Consequences of the Proposed Rule for Other Retail Exposures

Aside from residential mortgages and credit cards, the agencies' proposed rule will apply an 85 percent risk weight to most consumer credit exposures, including auto loans and leases and personal loans. While this is below the 100 percent risk weight applied under the current Standardized Approach, it adds 10 percentage points to the BCBS version of the Standardized Approach, which specifies a 75 percent risk weight.

The agencies' proposal further diverges from the BCBS version by ruling out use of the Advanced Approaches risk weights for these other retail categories, which are calibrated based on historical loss experience for these categories. Using data from the FFIEC 101 reports of Advanced Approaches banks from 2014 through 2022, we calculate an average risk weight of about 50 percent, below the floor determined by the BCBS version, which is 0.725 times 75 percent, or 53.4 percent, implying that the floor will typically be binding.

Not only is the proposed 85 percent risk weight higher than that agreed upon by the BCBS and apparently much larger than appropriate based on historical loss experience, but it appears to have little merit given that the annual stress tests help ensure that banks hold sufficient capital to absorb extreme downturn losses. Following the same methodology as for credit card loans, we estimate a 13-percentage points risk weight add-on for other retail loans.

The likely consequence of imposing such an excessive capital charge on the other retail categories will be to constrain the growth of bank lending. Banks' share of the auto loan market has been trending down over the past decade, likely due in part to increased regulatory costs, and excessive capital charges will exacerbate this trend that harms competition and consumer choice.[13] Particularly in the case of smaller dollar, personal loans, which the agencies have encouraged as a substitute for high cost consumer credit from nonbanks, the higher capital charges will be a significant impediment. Banks have been expanding their offering of such products, and unnecessarily high capital requirements may derail this positive development.[14]

In general, the operational risk charge for the other retail categories seems modest, as the interest component of this charge cannot surpass a small percentage (2.25 percent) of the loan amount. However, an exception is the operational risk charge for operating lease revenues, essentially loans to auto companies. Since this revenue is reported as fee income and is not capped, it could lead to an additional increase of 20 percentage points in the operational risk add-on. This unwelcome development will likely have an adverse effect on affordability of auto lease credit and curtail the credit options available to consumers when purchasing a new car.

[13] Between 2011 and 2018, banks lost substantial market share to credit unions; see Calem, Ramasamy, and Wang (2020). More recently, there has been a shift in market share from banks to finance company subsidiaries of auto manufacturers; see Zabritski (2023)
[14] For discussion of the benefits of bank-provided small-dollar loan programs, see Calem and Covas (2020).

Conclusion

The proposed rule has significantly adverse implications for a bank's cost of providing credit cards and other consumer loans, with consequent adverse effects on all consumers but particularly on financially vulnerable households. Most importantly, the agencies provide no foundation—no supporting data or analysis—for the high risk weights specified in the proposed rule. To the contrary, these risk weights run counter to historical experience and the calibration planned in all other countries.

Arguably of greatest concern is the potential for adverse effects on financial inclusion that are likely to result from driving up the cost of card borrowing and reducing the affordability of card credit. In particular, individuals with limited or no credit record may find it more difficult to obtain affordably priced cards, which for many is the first step toward building a credit history.

The proposed rule's introduction of a capital charge on the unused portion of credit card lines likewise is potentially harmful for the financial health of at-risk households. Banks may be compelled to close infrequently used accounts and to reduce credit limits on low utilization accounts, harming lower income or other financially vulnerable households that require access to these lines should the face an unanticipated cash shortfall. Reduced credit limits or closing of low-utilization accounts will also cause credit scores to drop for the affected consumers, harming their access to credit. The increased capital charges also are likely to constrain banks' ability to compete in the auto market and discourage them from offering safe, affordable, small-dollar loan alternatives to financially vulnerable consumers.

Disclaimer: The views expressed do not necessarily reflect those of the Bank Policy Institute's member banks, and are not intended to be, and should not be construed as, legal advice of any kind.

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Appendix 3

BANK POLICY INSTITUTE

Staff Working Paper 2022-1

Consistency in Risk Weights for Corporate Exposures Under the Standardized Approach

Francisco Covas and Barbora Stepankova
January 2022

Consistency in Risk Weights for Corporate Exposures Under the Standardized Approach

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Jan. 10, 2022

Executive Summary

In December 2017, the Basel Committee published the final elements of the revised Basel III capital framework, which included important enhancements to the risk sensitivity of the standardized approach.[3] For corporate exposures in jurisdictions that allow the use of external ratings, banks can assign risk weights that vary with the external rating of the exposure and are generally lower than 100 percent. Corporate exposures that are not externally rated will continue to receive a 100-percent risk weight. For jurisdictions that do not allow the use of external ratings, banks can assign a 65-percent risk weight for corporate exposures classified as investment grade using banks' own internal models. However, the revised Basel standardized approach only allows a bank to categorize a corporate as investment grade if the entity (or its parent company) has securities outstanding on a recognized securities exchange (the "securities-listing requirement").

Recently, some jurisdictions that permit the use of external ratings—most notably the European Union—are allowing banks to assign a risk weight of 65 percent to unrated corporates with an internal rating equivalent to an investment-grade rating, and without requiring the securities listing requirement. This research note examines the consistency of risk weights to the same exposure across

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[3] Basel Committee, *Basel III: Finalising Post-Crisis Reforms* at 1 (December 2017), available at https://www.bis.org/bcbs/publ/d424.pdf

banks that lend to firms incorporated in the United States and examines the impact of requiring the corporate entity to have securities listed on a recognized exchange. The securities-listing requirement significantly reduces the number of high-quality corporates that can qualify as investment grade and therefore receive a lower 65-percent risk weight. This is a particularly important issue for exposures to mutual funds and pension funds that do not need to be publicly listed, as well as for private corporate entities.

We use data on estimates of corporate entities' probability of default from 12 large banks to assess the relevance and impact of the securities-listing requirement (proxied as entities with equity listed on a recognized stock exchange) and the assigned risk weighting. We assess the accuracy of risk weights using more than 36,000 observations of probability of default for 12,342 unique entities. Based on banks' determinations of the probability of default of each entity and Credit Benchmark's (CB) 21-point scale, we find that banks' investment-grade rating assignments to the same entity are generally consistent.[4] This is true regardless of whether the corporate entity meets the securities listing requirement using the proxy approach noted above. Specifically, the difference in average risk weights on corporate exposures between the most and least conservative banks is 7 percent for publicly traded firms and 5 percent for privately held ones. Although there is more disagreement for firms that are publicly listed, the 2-percentage-point difference is not statistically different from zero at standard significance levels. Furthermore, these differences are largely driven by a few outlier banks and are much lower when comparing banks at the top and bottom of the interquartile range.

In summary, we show that using banks' own internal ratings to distinguish between investment-grade and non-investment-grade obligors without the securities-listing requirement would significantly

[4] The determination of whether an entity qualifies for the investment grade rating is similar to the approach adopted in a recent proposal published by the European Union. More precisely, based on Credit Benchmark's 21-point scale corporate entities with a PD no higher than 48 basis points are assigned a 65 percent risk weight. The EU proposal sets the investment grade PD to be no higher than 50 basis points. The EU's banking package is available at https://ec.europa.eu/info/publications/211027-banking-package_en.

expand and enhance the risk sensitivity of the standardized approach for corporate entities. It would also result in little variation in risk weights across banks for the same entity.

Key words: Capital requirements, Basel III, bank lending, public-private firms.
JEL classifications: G18, G21, G28.

Introduction

Risk-weighted assets became a key component of banks' regulatory capital ratios since the introduction of the Basel I Accord in 1988. In the United States, six of the eight capital requirements measure the adequacy of bank capital relative to risk-weighted assets.[5] The total common equity tier 1 capital requirement of large banks, the most loss-absorbing form of capital, ranges between 7 and 13.6 percent of risk-weighted assets, depending on the performance of banks in the stress tests and their systemic footprint.[6] Importantly, for the banks subject to the stress tests (roughly those with more than $100 billion in total assets), risk-weighted assets calculated under the standardized approach result in the most binding risk-based capital requirement.[7] Therefore, the calculation of risk-weighted assets under the standardized approach often results in the most binding capital requirement for the largest U.S. banks.

Currently, corporate exposures receive a risk weight of 100 percent under the standardized approach in the United States. The recently finalized Basel III standardized approach includes several important changes to the internationally agreed-upon capital framework, including an enhancement of the risk-sensitivity of the standardized approach that will be taking effect in January 2023. More precisely, the revised capital framework allows banks to prescribe risk weights based on the intrinsic risk of the asset and allows for some flexibility in terms of permissible approaches.

For jurisdictions that do not allow the use of external ratings for regulatory purposes, banks will be able to assign a risk weight of 65 percent for investment-grade exposures that have securities outstanding on a recognized securities exchange. For all other corporate exposures, the risk weight

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[5] The six risk-based requirements include the common equity tier 1 capital, tier 1 capital, and total capital requirements under both the standardized and advanced approaches. The two non-risk-based requirements are the tier 1 capital and the supplementary leverage ratio.

[6] See "Federal Reserve Board announces individual large bank capital requirements, which will be effective on October 1" (August 10, 2020), available at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200810a.htm.

[7] Some of the very largest banks are bound by the enhanced supplementary leverage ratio but we expect this situation is temporary given the large size of the Federal Reserve's balance sheet.

remains at 100 percent. For jurisdictions that allow the use of external ratings, exposures to corporates are assigned a risk weight that varies with the external rating of the borrower and across five distinct risk-weight buckets ranging from 20 percent to 150 percent. Unrated exposures would be assigned a risk weight of 100 percent.

Our objective in the note is to assess the variability of risk weights under the Basel III revised standardized approach using data on banks' own PD and CB's mapping between PDs and a common 21-point rating scale. Using banks' own internal ratings to prescribe a risk weight to a corporate exposure has the advantage of expanding the additional risk-sensitivity of the standardized approach to the entire corporate portfolio, and not restricting the assessment to entities with a public rating.

We follow the approaches suggested by Firestone and Rezende (2016) and Plosser and Santos (2014) to assess the consistency of banks' own internal ratings for the same borrower. These papers analyze the variability of PD estimates for the same borrower across banks. Our analysis directly assesses the variability in risk weights for the same borrower across banks. This is more direct and answers the question of what the more granular approach would imply in terms of variability of risk-weighted assets across banks. The first step of the analysis is to map the PD of each bank to a rating grade using CB's rating scale. Next, we assign a risk weight to the rating grade following the Basel III revisions to the standardized approach risk weights. We then use linear regressions to determine how much of the variation in the resulting assigned risk weights is systematic (a bank's assessment of all of its obligors) relative to idiosyncratic (a bank's assessment of just an individual obligor).

And finally, CB also provides a "Credit Consensus Rating" (CCR) for each entity in their sample using the obligor-level data on the PD from banks. In brief, CB calculates an average probability of default from each bank for the same entity and maps the average PD using CB's own 21-point scale. The credit consensus rating developed by CB could also be useful in adopting the revisions to the Basel IV standardized approach, because it would allow banks and supervisors to examine where each bank's

own internal rating ranks relative to the consensus rating. The CCR could also be used as a fallback for banks that are still developing their own internal rating systems.

Description of the Sample

This empirical analysis uses obligor-level data from CB. The sample includes banks headquartered in the United States or with a significant exposure to U.S. firms and is current as of April 2021. The unit of observation in the analysis is a bank-entity pair, and the 12 banks and 12,342 unique entities result in a sample with more than 36,000 observations. [8]

CB's dataset includes the PD of each entity and a mapping between the PD and a 21-point scale. PDs subject to a guarantee or PD substitutions are excluded from the sample. CB's 21-point rating scale and the corresponding ranges for the probability of default are presented in columns 1 through 3 of Exhibit 1. For example, an entity with a PD of 20 basis points would be assigned a "bbb+" rating score. The risk weights assigned to each rating category based on the revised standardized approach to determine risk weights are also shown in Exhibit 1. Column 4 reports the risk weights using the investment-grade split (for jurisdictions that do not allow the use of external ratings).

[8] Significant exposure is defined as banks with more than 1,000 U.S. entities in April 2021. The 12 banks include 2 Category I banks, 6 Category III banks, and 4 Category IV banks. A prior version of this analysis also included banks below Category IV. We have excluded those banks in this draft because it is unlikely the Basel III end-game revisions will apply to them in the U.S.

Exhibit 1: Mapping of PDs to Credit Benchmark's Rating Categories

Category	Probability of Default Basis Points per Year		
CBC-21	Lower Bound*	Upper Bound	Risk weights
aaa	0.00	1.25	65%
aa+	1.25	2.25	
aa	2.25	3.25	
aa-	3.25	5.00	
a+	5.00	6.75	
a	6.75	10.00	
a-	10	15	
bbb+	15	22	
bbb	22	33	
bbb-	33	48	
bb+	48	78	100%
bb	78	130	
bb-	130	255	
b+	255	400	
b	400	650	
b-	650	1,000	
ccc+	1,000	1,700	
ccc	1,700	2,500	
ccc-	2,500	3,700	
cc	3,700	7,000	
c	7,000	10,000	
d	10,000	10,000	

* PD estimates above this value are assigned to the row CBC category.

The empirical analysis includes two types of entities in banks' wholesale portfolios: corporates and funds (i.e., loans to obligors that are mutual or investment funds). As shown in Exhibit 2, corporates account for 27 percent of the sample, while funds account for 73 percent. The shares are little changed when each bank-entity pair counts as a separate observation as reported in the last column of Exhibit 2. About 26 percent of corporate entities are publicly traded; however, almost none of the funds in the sample are publicly traded and therefore those exposures would likely not benefit from the lower risk weight prescribed to investment-grade exposures in the Basel III end-game package.

Exhibit 2: Percentage of Bank-Entity Pairs That Are Public

	Entity Count	Percentage Entities	Public Entity Count	Percentage Public	Bank-Entity Count
Corporates	3,349	27%	868	26%	10,377
Funds	8,993	73%	3	0%	26,281
All	12,342		871		36,658

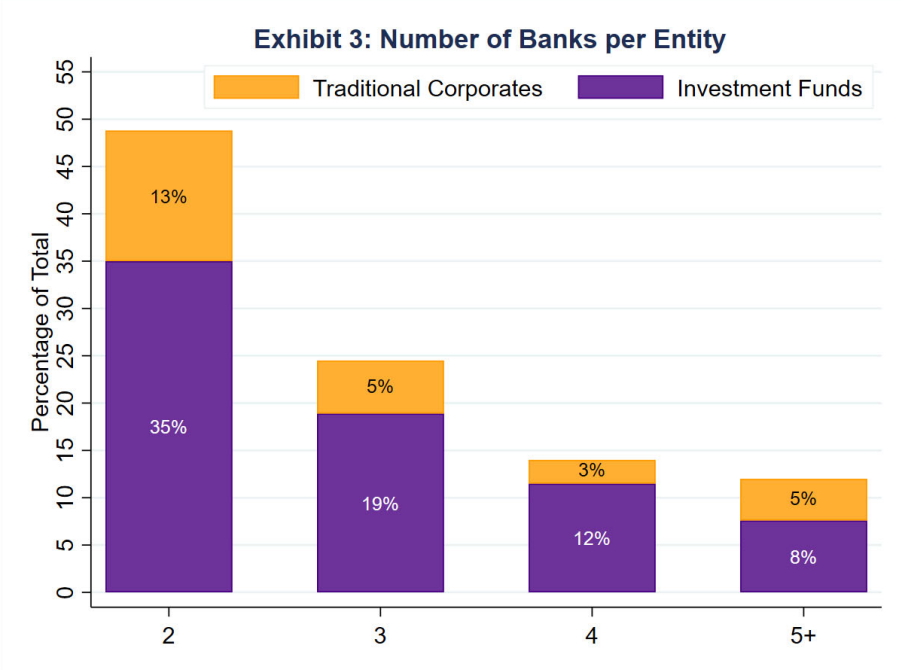


Exhibit 3 shows the distribution of the number of banks that report data for the same entity. CB's CCR covers entities with at least 3 contributing banks ("Consensus") and entities with 2 contributing banks ("Implied"). For the latter, CB combines the PD of each entity with additional information based on the industry, region, and credit risk bucket to further refine the implied rating. On average, the sample has 3 banks reporting the PD of each entity. About 13 percent of the sample includes entities with 5 or more banks contributing the data. Nearly 50 percent of the sample included entities with only 2 contributors.

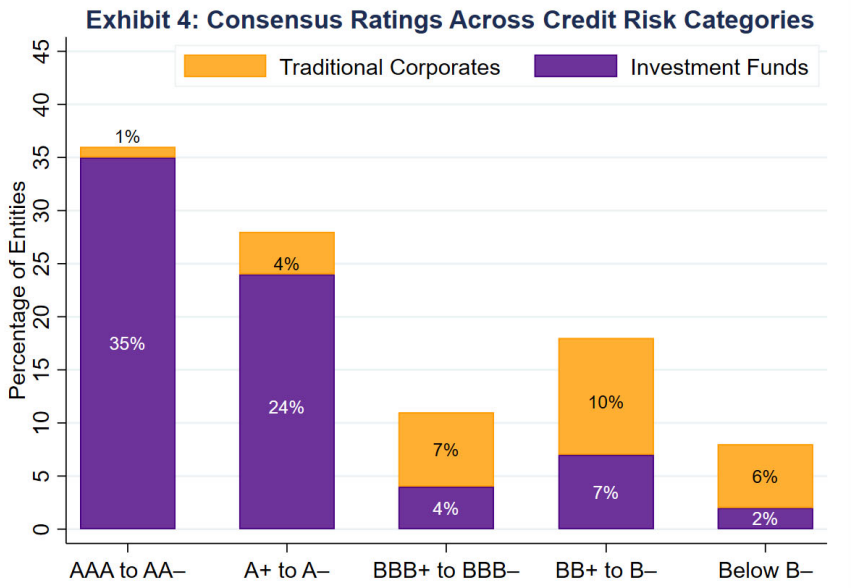


Exhibit 4 reports the distribution of entities across credit ratings using CB's mapping between each entity's probability of default and the corresponding credit rating. The ratings buckets in Exhibit 4 are segmented, following the more granular analysis proposed by the revised Basel III standardized approach for jurisdictions that permit the use of external credit ratings. About 75 percent of the entities in our sample are investment grade, as represented by the sum of the three leftmost bars. In addition, nearly 87 percent of funds are investment grade, compared to only 42 percent of corporate entities.

An implicit assumption of the empirical analysis is that the mapping between PDs to credit risk scales is quite similar across banks and closely approximates the CB mapping. In practice, that will not be the case. Most banks calibrate their own internal scales that map PD estimates to credit risk categories. However, individual scales and their granularity are limited by portfolios managed by the banks. The CB scale used in this analysis is derived from the scales of individual banks and offers a flexible mapping to exactly 21 categories, following the industry standard. CB's analysis of banks' internal scales finds a close

alignment in the two approaches of mapping PD estimates to credit risk categories. We do not expect the resulting differences in risk weights to be material.

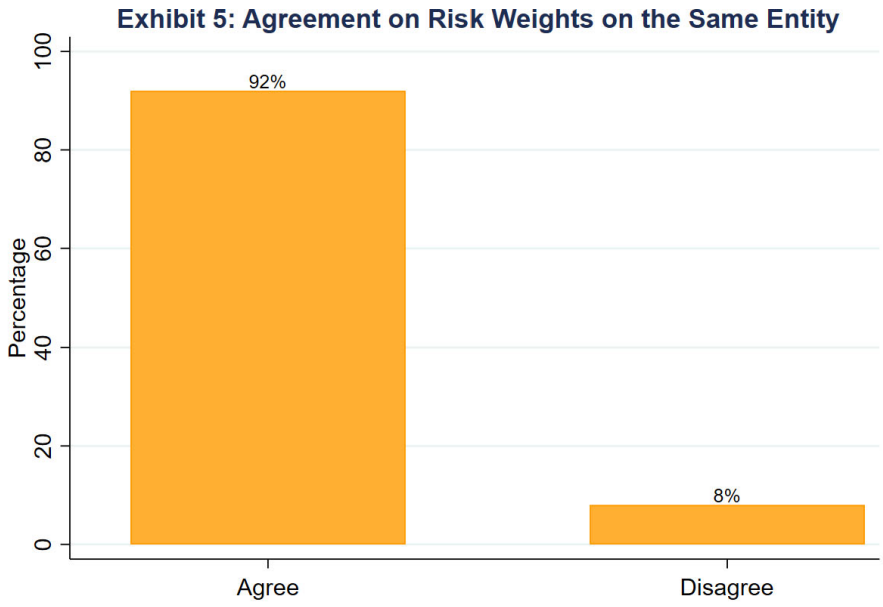
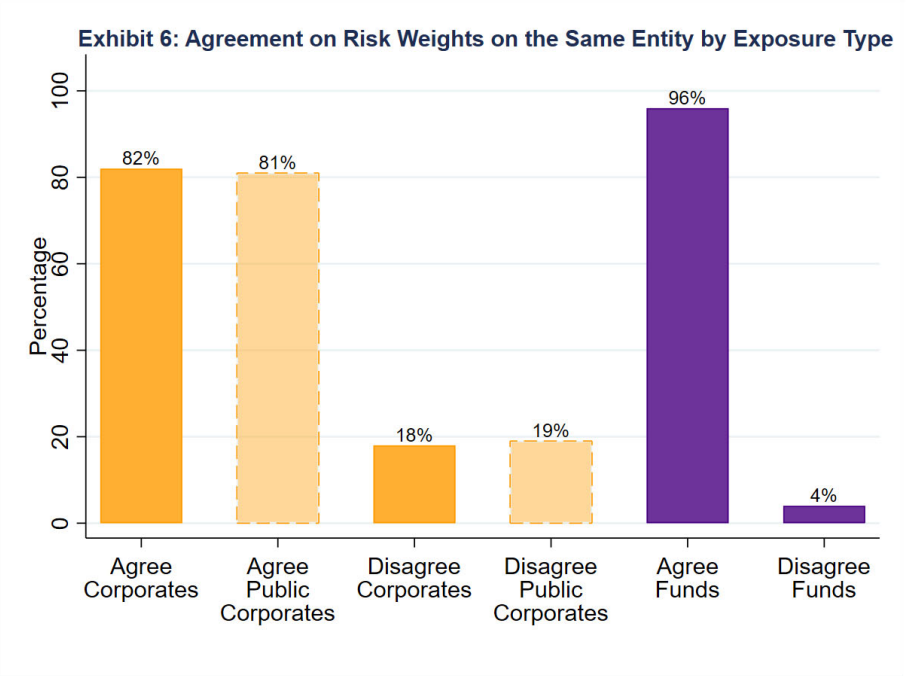


Exhibit 5 summarizes the difference in ratings across entity types using a pairwise comparison. More precisely, we calculate the agreement between each pairwise combination of banks to a given entity. For example, an entity with six banks contributing a PD generates 15 pairwise contributions. We define each pairwise combination as "agree" if both banks assign an investment grade rating and "disagree" otherwise. To avoid overweighting entities with a larger number of banks, we first calculate the average agreement level across banks for the same entity, and then we average those results across all entities.[9]

[9] Alternatively, we could define "agree" as when *all banks lending to a given entity* assign the same rating above or below investment grade. In that case, the percentage of banks that "agree" on the rating for the same entity declines from 92 percent to 86 percent.



In our sample, banks agree with the attribution of the investment-grade rating for 92 percent of observations. That is, for the 8 percent of bank-entity pairs with a disagreement, the difference in the risk weight would be 35 percent. (The only possible difference is when a loan is rated investment grade by one bank and so gets a risk weight of 65 percent, and below-investment grade by another bank and so gets a risk weight of 100 percent.) Exhibit 6 splits the difference in assigned risk weights across traditional corporates and investment funds. The banks in our sample agree with the attribution of the credit rating above or below investment grade for 82 percent of traditional corporate exposures. The share of agreement is little changed when only publicly traded corporates are included. There is even greater agreement with the attribution of the risk weight to investment fund-exposures across banks, as it increases to 96 percent. In the next section, we investigate to what extent differences in risk weights are systematic versus idiosyncratic.

Empirical Strategy

Our analysis has discussed the differences in rating assignments across banks at the entity level. As shown in the Exhibits 5 and 6 above, there would be some differences in the assignment of risk weights across banks if banks are allowed to use their own investment grade ratings irrespective of whether the securities listing requirement is imposed or not. However, most of the reported differences in risk weight to the same entity across banks are probably idiosyncratic (a bank's assessment of an individual entity) and may cancel themselves out at the aggregate level when a bank assesses all its obligors.

To help discern between systematic and idiosyncratic differences, this section outlines an empirical strategy to assess systematic differences in risk weights across entities. We consider two sets of empirical specifications. The first regresses the level of risk weight attached to each entity on a set of bank dummy variables to estimate the systematic variation in risk weights across banks. The second specification investigates the deviation of each bank's risk weight relative to the one obtained using the consensus rating. The level regressions are our baseline and follow the Federal Reserve Board's methodology used by Firestone and Rezende (2016). The second approach demonstrates that the results are similar using CB's consensus rating.

Level Specification

To assess systemic differences in bank risk weights, we follow the approach used by Firestone and Rezende (2016) and regress the hypothetical risk weight assigned by each bank on a set of entity and bank dummy variables:

$$y_{ij} = \gamma_i + \delta_j + \epsilon_{ij}, \tag{1}$$

where y_{ij} is the hypothetical risk weight of entity i by bank j, γ_i and δ_j are entity and bank dummy variables, and ϵ_{ij} represents the unobserved error term. We then run two sets of regressions. In one

case, the dependent variable takes the value of either 65 percent or 100 percent, which corresponds to the risk weights of corporate exposures when the use of external ratings is not allowed. The second regression uses a more granular set of risk weights (five instead of two) following the jurisdictions that permit the use of external ratings. The regression analysis does not control for bank-specific characteristics besides the bank dummy variables. The objective of the analysis is to measure the variability in risk-weighted assets when banks use their own internal ratings to determine the risk weight of their exposures under the standardized approach.

The regression analysis includes entity-specific characteristics, represented with a dummy variable for each entity. We will also report results for relevant subsamples of the data, namely across the various portfolios included in the wholesale portfolio, and separately for publicly traded and privately held entities. We estimate robust standard errors and cluster observations at the entity level.

The focus of the analysis is on the coefficients on the bank dummies, represented by the vector δ_j. The estimated coefficients capture the systematic difference in bank j's risk weight assigned to each entity under the revised Basel III standardized approach. The data contain observations from 12 banks, and the vector δ_j is therefore composed of 11 dummy variables. (The bank with the median dummy coefficient represents the reference bank, and the value of the dummy variable is set to zero.) Moreover, the regression analysis includes 12,342 entity dummy variables represented by the vector γ_i, which ensures the individual contributions are adjusted for each entity's average risk weight.

And finally, the dependent variable can only take two values. However, we are interested in the average systematic bias across banks, which can be a fraction of the risk weight and is therefore a continuous variable. For this reason, we still use a linear regression for estimating the model. The results are then ordered based on the value of coefficients. The order of banks' dummy coefficient estimates can differ between specifications, so Bank 1 can be a different bank across the various specifications. This protects the confidentiality of the contributing banks.

Distance to Consensus Credit Rating Specification

The second regression specification analyzes the difference in the risk weight assigned to each entity relative to the risk weight obtained using the consensus credit rating. The problem can be reformulated as distance from mean, as presented by Berg and Koziol (2017), who use the following regression:[10]

$$\tilde{y}_{ij} = \delta_j + \epsilon_{ij}, \tag{2}$$

where $\tilde{y}_{ij}$ is defined as the difference in the risk weight assigned to entity i by bank j relative to the consensus rating of entity i: $\tilde{y}_{ij} = y_{ij} - \overline{y_i}$. This measures systematic differences from the consensus rating and offers a different perspective on the results. This specification also gives a direct way to assess the variability of risk weights relative to the risk weight that corresponds to the consensus credit rating.

Before delving into the results, let's look at how the regression analysis presents a way to distinguish between systematic and idiosyncratic variation in risk weights. For example, a case of systematic variation would be to assume Bank 1 assigns a risk weight of 65 percent for two entities, while Bank 2 assigns a risk weight of 100 percent to the same two entities. In addition, the consensus rating for each of the two entities would correspond to a risk weight of 65 percent. This means that the distance to consensus for both entities is zero for Bank 1 and 35 percent for Bank 2. The fixed effect of Bank 1 would then be zero, the fixed effect of Bank 2 would equal 35 percent, and the error term of the regression would be zero across all bank-entity pairs.

[10] See Stepankova, Barbora (2020), "Consistency of Banks' Internal Probability of Default Estimates," *IES Working Papers* 44/2020, IES FSV, Charles University. Available at http://ies.fsv.cuni.cz/sci/publication/show/id/6356/lang/en

By contrast, a case of idiosyncratic variation would be to assume Bank 1 assigns a risk weight of 65 percent to the first entity and 100 percent to the second entity, while Bank 2 does the reverse. The risk weight that corresponds to the consensus rating would still be equal to 65 percent. In this case, the fixed effects of Banks 1 and 2 would be the same and equal to 17.5, and the error term would be equal to –17.5 and 17.5 for Bank 1 and 17.5 and –17.5 for Bank 2. The regression results discussed in the next section generalize this intuition to the 18 contribution banks. Therefore, the difference between the highest and the lowest fixed effect is a measure of the degree in systematic variation in risk weights. Idiosyncratic differences in risk weights are less important, because those do not result in material differences in capital requirements since they cancel out across loans.

Results

We present two sets of results, one for each regression model (see Exhibits 8 and 9 in the Appendix). Exhibit 8 shows the estimated bank dummy variables when the dependent variable is the hypothetical risk weight of an entity that has a relationship with more than one bank in our sample. Column 1 shows the results using the full sample. Six of the 11 bank dummies are statistically different from zero at the 5-percent level. The size of the differences ranges between –2.1 percent and 3.5 percent. Therefore, the difference in average risk weights between the most pessimistic and the most optimistic banks is 5.6 percentage points. The difference in risk weight falls to 1.0 percent when comparing the third-lowest and the ninth-highest banks (interquartile range). The R-squared of the regression is 3.0 percent, which is relatively small.[11] As a result, almost all the variation in risk weights appears to be driven by idiosyncratic factors.

The remaining columns in Exhibit 8 report the changes in the results across different subsamples. For corporate entities, the average risk weight is 85 percent. Six of the 11 bank dummies are statistically different from zero at the 5-percent level. The difference in average risk weights varies

[11] This includes the variation explained by the dummy variable assigned to each obligor.

between –1.8 percent and 3.5 percent. The R-squared of the regression is 4.1 percent—still small, but slightly higher relative to the overall sample. The average difference in risk weights is the highest for funds, ranging from –3.5 percent to 6.7 percent. However, only one of the 11 bank dummies is statistically different from zero. The R-squared of the regression is 4.4 percent.

The last two columns in Exhibit 8 show the variation in the differences in risk weights when the entity is either a public or a private corporation. This is related to the requirement that for a bank to use its own investment-grade rating, the borrower must also have outstanding securities on a recognizable exchange. Column 4 shows the results for publicly traded firms and column 5 for private firms. As shown in Exhibit 7, the difference in average risk weights between the most conservative and the most optimistic banks is 7.3 and 5.2 percentage points for public and private entities, respectively. The results indicate that there is actually more disagreement across publicly traded firms, contrary to the logic of requiring firms to be publicly listed to qualify for the lower risk weight. However, a test of the difference in the two coefficients indicates the two values are not statistically different from each other at the 5-percent level. Therefore, whether a firm is public or private does not appear to be an important driver of systematic differences in risk weights. The difference in risk weight of public (private) corporates falls to 4.5 (2.1) percent when comparing the third-lowest and the ninth-highest banks (interquartile range).

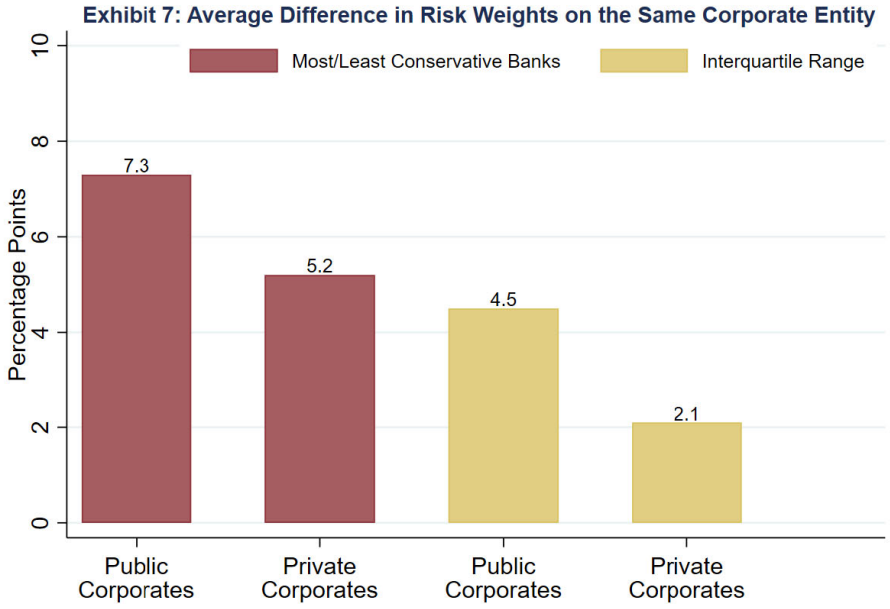


Exhibit 8 reports the systematic variation in the distance to the consensus credit rating. The degree of systematic variation in risk weights is lower in this case, since the difference in the average risk weights between the most optimistic and pessimistic banks drops from 5.6 percent to 4.2 percent in the full sample. There is also almost no difference between the results for corporate entities. However, the sample with public corporates shows higher variability in average risk weights relative to the sample that includes only private corporates. And finally, the difference in average risk weights for funds between the most conservative and the most optimistic banks drops from 10.2 to 4.7 percent. Overall, across the two model specifications, the systematic variation in risk weights appears to be modest.

Conclusion

In this note, we have shown that the systematic variation in risk weights under the revised standardized approach for corporate exposures (including investment funds) would be modest. This is particularly true where banks can use their own internal ratings to distinguish between investment-grade and non-investment-grade entities. The systematic variation in risk weights for publicly traded

exposures is also not statistically different from the one observed for privately held entities. Therefore, the requirement that investment-grade exposures also need to have securities traded on a recognized exchange is unnecessary.

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Appendix

Exhibit 8: Accuracy of Banks' Own Internal Ratings Using the Level Specification

This table presents the results of estimating Equation 1 using ordinary least squares. The dependent variable equals the risk weight of 65 or 100 percent. Bank dummy variables are ordered from lowest to highest, and the order is not consistent across specifications. The reported standard errors (in brackets) are clustered at entity level. ***, **, * denote two-tailed statistical significance at the 1-, 5-, and 10-percent levels.

Variables	Full Sample	Corporates	Funds	Public Corporations	Private Corporations
Bank 1	–0.021***	–0.018***	–0.035	–0.030***	–0.015**
	(0.002)	(0.005)	(0.067)	(0.008)	(0.007)
Bank 2	–0.008***	–0.017***	–0.028**	–0.025*	–0.011
	(0.003)	(0.006)	(0.013)	(0.014)	(0.008)
Bank 3	–0.004	–0.011**	–0.008	–0.024***	–0.009
	(0.005)	(0.005)	(0.013)	(0.006)	(0.007)
Bank 4	–0.003	–0.009	–0.008	–0.017***	–0.002
	(0.007)	(0.008)	(0.013)	(0.006)	(0.008)
Bank 5	–0.002	–0.006	–0.007	–0.015*	–0.002
	(0.001)	(0.006)	(0.017)	(0.009)	(0.010)
Bank 6	–0.002	–0.001	–0.005	–0.001	–0.001**
	(0.001)	(0.005)	(0.013)	(0.008)	(0.007)
Bank 7	0.002	0.006	0.001	0.001	0.006
	(0.005)	(0.006)	(0.013)	(0.007)	(0.010)
Bank 8	0.004**	0.009	0.002	0.020	0.008
	(0.002)	(0.008)	(0.013)	(0.016)	(0.009)
Bank 9	0.006***	0.030***	0.008	0.028***	0.024
	(0.002)	(0.005)	(0.042)	(0.007)	(0.009)
Bank 10	0.028***	0.035***	0.020	0.032***	0.030
	(0.002)	(0.006)	(0.013)	(0.007)	(0.008)
Bank 11	0.035***	0.035***	0.067*	0.044***	0.037**
	(0.004)	(0.006)	(0.040)	(0.008)	(0.009)
# Obs.	36,658	10,377	26,281	3,469	6,908
# Obligors	12,342	3,349	8,993	868	2,481
R-Squared	0.030	0.041	0.044	0.063	0.032

Exhibit 9: Accuracy of Banks' Own Internal Ratings Using the Distance to Consensus Specification:

This table presents the results of estimating Equation 2 using ordinary least squares. The dependent variable equals the risk weight of 65 or 100 percent less the risk weight associated with the consensus rating. Bank dummy variables are ordered from lowest to highest, and the order is not consistent across specifications. The reported standard errors (in brackets) are clustered at entity level. ***, **, * denote two-tailed statistical significance at the 1-, 5-, and 10-percent levels.

Variables	Full Sample	Corporates	Funds	Public Corporations	Private Corporations
Bank 1	–0.026***	–0.026***	–0.027***	–0.033**	–0.023***
	(0.002)	(0.006)	(0.002)	(0.013)	(0.007)
Bank 2	–0.024***	–0.024***	–0.021	–0.030***	–0.022***
	(0.006)	(0.003)	(0.021)	(0.005)	(0.003)
Bank 3	–0.016***	–0.017***	–0.011	–0.029***	–0.015***
	(0.002)	(0.004)	(0.010)	(0.008)	(0.003)
Bank 4	–0.013***	–0.016***	–0.007***	–0.021***	–0.013***
	(0.004)	(0.002)	(0.001)	(0.005)	(0.003)
Bank 5	–0.012***	–0.014***	–0.005***	–0.019**	–0.013***
	(0.001)	(0.004)	(0.001)	(0.008)	(0.004)
Bank 6	–0.008**	–0.012***	–0.004***	–0.011***	–0.011
	(0.004)	(0.002)	(0.001)	(0.004)	(0.005)
Bank 7	–0.006***	–0.009***	–0.003***	–0.010*	–0.010
	(0.001)	(0.003)	(0.001)	(0.006)	(0.004)
Bank 8	–0.006***	–0.008*	0.000	–0.007	–0.006
	(0.001)	(0.004)	(0.000)	(0.006)	(0.006)
Bank 9	–0.003***	0.000	0.000	0.014	–0.003
	(0.001)	(0.004)	(0.000)	(0.014)	(0.003)
Bank 10	0.000	0.012***	0.000	0.019***	0.001
	(0.001)	(0.003)	(0.000)	(0.004)	(0.005)
Bank 11	0.010	0.012	0.007	0.023	0.009
	(0.002)	(0.004)	(0.002)	(0.006)	(0.004)
Bank 12	0.016***	0.017***	0.019	0.025***	0.010
	(0.004)	(0.004)	(0.019)	(0.006)	(0.005)
# Obs.	36,658	10,377	26,281	3,469	6,908
# Obligors	12,342	3,349	8,993	868	2,481
R-Squared	0.015	0.017	0.021	0.036	0.010

Appendix 4

BANK POLICY INSTITUTE

The Basel Proposal: What it Means for Mortgage Lending

Paul Calem and Francisco Covas | Sept. 30, 2023

This note is the first in a series that will focus on how the capital rule proposed by the U.S. federal banking agencies in July 2023 would affect particular markets.

The capital rule proposed by the federal banking agencies establishes risk weights for residential mortgages that exceed both those negotiated by agency staff at the Basel Committee on Banking Supervision and, more importantly, what empirical historical analysis demonstrates is appropriate for the U.S. mortgage market. Furthermore, while the Basel agreement allows banks to use their own internal loss data to assign risk weights to mortgages, the proposed rule would make the United States the only country to reject that option and rely solely on a one-size-fits-all government formula to assess mortgage risk.

U.S. mortgage loans would also incur an additional charge for operational risk and continue to incur a stress capital charge determined by the Federal Reserve's stress test. Both charges would be unique to the United States, as the operational risk charge would be in large part driven by sales of mortgage loans to the U.S. government-sponsored enterprises (GSEs) that have no foreign parallel, and the stress test add-on has not been adopted in any other jurisdiction.

The likely consequences of overstating risk for residential mortgages would be disturbing. As described in detail below:

- The credit risk weight for balance-sheet mortgages would increase from 50 percent currently to as high as 90 percent. The add-ons for operational risk and the stress test would contribute an additional 25 percentage points to those risk weights, raising the total, all-in risk weight from 65 percent to 115 percent.

- Furthermore, the risk weight for loans sold to the GSEs could increase to over twice their present values, largely due to the handling of fee income within the operational risk framework. This would disincentivize banks from originating mortgages for sale to the GSEs, harming households, including many low- and moderate-income households, that prefer the services of a bank, and making the mortgage origination market less competitive.

- The effects of these increases would be felt predominantly by low- and moderate-income homebuyers as well as minority homebuyers.

- The findings from our analysis are consistent with those from a newly released study from the Urban Institute, which demonstrates that the loss rates presumed in the proposed rule exceed even those experienced during the Global Financial Crisis. It also warns of potentially serious adverse consequences for affordability of home mortgages to lower-income or lower-wealth households.[1]

[1] See Goodman, Laurie, and Jun Zhu, "Bank Capital Notice of Proposed Rulemaking—A Look at the Provisions Affecting Mortgage Loans in Bank Portfolios." Housing Finance Policy Center, The Urban Institute, September 2023.

- The proposed risk weights are unsupported by any data or analysis, and the proposed rule does not include a cost-benefit analysis.

Executive Summary

Currently, residential mortgages are subject to a standardized 50-percent risk weight, a relic of the original Basel I international capital agreement dating back to 1988. A goal of the 2017 Basel agreement was to introduce greater risk sensitivity to the standardized approach and recognize that for many mortgage loans, the risk of loss is significantly lower than a 50-percent risk weight would imply.

The Proposed Rule

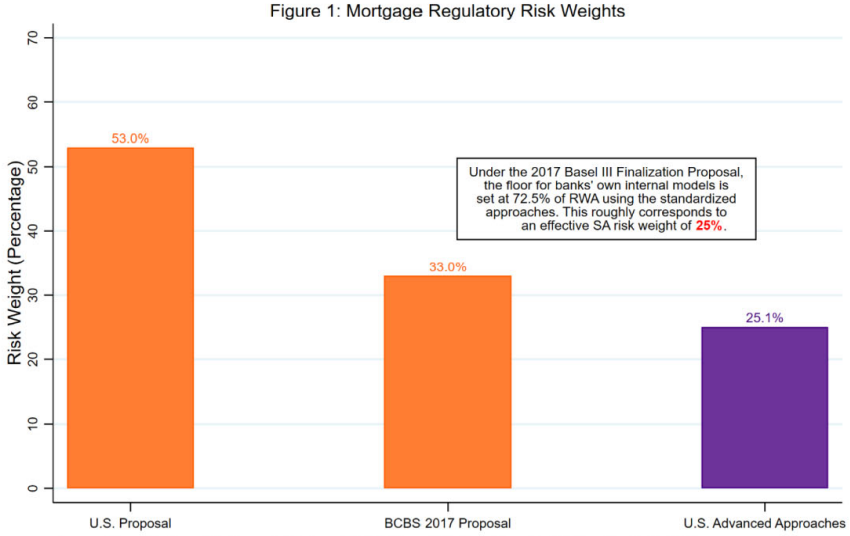
The U.S. agencies' proposed rule sets capital requirements for mortgage loans using a standardized approach that is empirically unsupported and demonstrably punitive to U.S. mortgage borrowers. For credit risk, the agencies propose to use the same risk segments as Basel but would arbitrarily add 20 percentage points to each risk segment. This means the proposal would increase the risk weight for high loan-to-value (LTV), first-lien mortgages (with LTVs over 80 percent) well beyond the 50-percent risk weight applicable under the current standardized approach.

Banks would also encounter another capital charge for operational risk. This would significantly elevate the total risk weight for mortgages sold to the GSEs, as we outline below.

Moreover, banks would face a substantial stress capital buffer charge for all mortgage exposures, given the large fall in home prices assumed in the stress tests and the inclusion of the stress tests' operational risk losses on top of the existing standard operational risk charge.

Finally, banks operating in the United States are not allowed to use internally modeled approaches for determining risk-weighted assets, which are permitted in other jurisdictions subject to a floor of 72.5 percent of risk-weighted assets under the standardized approach. So, uniquely for U.S. banks, there would be no escape from punitive standardized charges, regardless of demonstrably better loss experience.

Figure 1: Mortgage Regulatory Risk Weights



Source: Home Mortgage Disclosure Act Data and FFIEC Form 101, Regulatory Capital Reporting for Institutions Subject to the Advanced Capital Adequacy Framework.

Note: The Advanced Approaches average risk weight includes the 1.06 scaling factor.

Figure 1 shows the aggregate risk weight for credit risk, under the agencies' proposal, for first-lien conventional home purchase loans originated in 2022 by banks subject to the proposed rule. (This is based on a data sample described below.) Figure 1 compares those risk weights with (1) the aggregate risk weight under the 2017 BCBS standardized approach; and (2) the average aggregate risk weight for first-lien residential mortgages under the U.S. Advanced Approaches, based on the quarterly FFIEC 101 reports of U.S. Advanced Approaches banks since 2014. The Advanced Approaches calculation is empirically based: banks use their own empirically estimated segment-level risk parameters (expected default and loss rates under downturn conditions) in calculating a portfolio risk weight, overseen by agency examiners.

These comparisons demonstrate the proposal's punitive aspect. Under the U.S. agencies' proposal, aggregate risk weights for first-lien conventional home purchase loans would be 53 percent. This is significantly higher than the 33-percent risk weight under the BCBS standardized approach being adopted in other countries. In other jurisdictions, banks are allowed to use the advanced approaches. They only use the standardized approach to make sure the risk weights under the advanced approaches do not go below the 72.5-percent floor. If the United States were to follow the same rules, the 33-percent risk weight under the standardized approach would be equivalent to a 25-percent floor (i.e., 33% × 72.5%) for the advanced approaches. From 2014 to 2022, the average risk weight for U.S. banks using the advanced approaches was about 25 percent, according to the FFIEC 101 reports.[2]

The study recently released by the Urban Institute yields similar results.[3] Those researchers used a different data set: losses on loans originated by the GSEs from 2005 to 2008 (those associated with the mortgage and foreclosure

[2] We have adjusted the advanced approaches risk weight using the 1.06 scalar as required under U.S. regulatory capital rules.
[3] See op. cit. Goodman and J Zhu.

crisis) by credit score and LTV range, to extrapolate the losses that would occur in a similar stress environment, given the data they have on the current credit score and LTV distribution of bank portfolios. They conclude that the proposed risk weights are extremely excessive relative to the capital a bank should have to hold against these losses. Applying the same extrapolative approach to our sample of home purchase loans originated in 2022 by banks affected by the proposed rule, we calculate a portfolio loss rate of 2.9 percent.[4] This is close to the 2.7-percent rate that the Urban Institute researchers infer using their data, confirming that the proposed risk weights are excessive.

Moreover, this historical benchmarking itself is conservative, understating the degree to which the proposed loss rates are excessive. As pointed out by the Urban Institute researchers, the historical loss rates used as benchmarks "overestimate the potential loss rate for the current bank book of business." Mortgage lending "has become more prudent in ways not directly reflected in FICO scores and LTV ratios."[5]

Furthermore, the largest banks are subject to capital add-ons as needed based on the outcome of stress tests, which typically assumes a more than 35-percent decline nationwide in home prices.

In other words, the agencies have proposed risk weights for U.S. mortgages more than double those that would apply under the advanced approach being adopted by other Basel members. These risk weights far exceed what can be justified based on experience in the U.S. mortgage market. This is particularly true given the extra layer of protection afforded by stress testing, and they have offered no data or analysis to explain why.

Consequences of the Proposed Rule

Our analysis finds that banks subject to the proposed rule originate a large percentage of high-LTV mortgages. Low- or moderate-income (LMI) or minority borrowers are disproportionately the people who rely on those mortgages. These households tend to be more wealth- and credit-constrained and less able to afford the increase in mortgage costs from increased capital requirements.

Under the agencies' proposal, 38 percent of the loans to LMI borrowers would receive a risk weight of 70 percent or greater, compared with 17 percent of the loans to non-LMI borrowers. In addition, more than half (52 percent) of loans to Black borrowers would receive a risk weight of 70 percent or more, compared with just 22 percent among white borrowers.

The analysis also finds that mortgage loans to LMI borrowers are a significant share of those originated by large banks for sale to the GSEs. Because of the agencies' operational risk charge, the increase in risk weights under the standardized approach is most pronounced for these loans, as described below.

In summary, our analysis of HMDA data validates concerns that the relatively high capital charges in the proposed U.S. implementation of Basel III will make affordable mortgages less available to households already facing significant barriers to homeownership, even while evidence strongly suggests that the charges are excessive given the risk they present.

Analysis of the Proposed Revisions to Capital Requirements for Mortgages

The U.S. banking agencies' proposed rule applies to institutions with at least $100 billion in total assets and assigns risk weights to mortgages held on the balance sheet based on their LTV as a proxy for their credit risk, which translates into a risk-weighted capital charge. The agencies' proposal also imposes an operational risk capital

[4] For the purpose of calculating this loss rate, we assume that the dollar share of loans held on balance sheet while awaiting sale to the GSEs is 0.1233, corresponding to an average life of 45 days on the balance sheet, and the effective expected loss on these loans while on the balance sheet is zero.
[5] Ibid, p. 6.

charge against all mortgage loans originated by the bank. This extra charge would be applicable even if the loans were intended for sale and only temporarily held on a bank's balance sheet. Finally, bank mortgage loans would continue to accrue capital charges as components of the Federal Reserve's stress capital buffer derived from its annual stress test. These charges would be added to the charge for credit risk based on risk-weighted assets and the charge for operational risk.

To understand the potential impact of the proposal on banks' mortgage loan costs, we will examine two scenarios outlined in the following example boxes: (1) a mortgage loan held on a bank's balance sheet; and (2) a mortgage loan sold to a GSE. For both scenarios, we assume that the mortgage loan has an LTV of between 80 and 90 percent.

Retained Mortgages

Mortgage loans made to first-time homebuyers and to lower-income and minority borrowers and retained by banks often feature higher LTVs in the range assumed by our scenario. Under the U.S. proposal, these would be assigned a 60-percent risk weight. This is higher than both the current U.S. standardized risk weight of 50 percent and the 40-percent risk weight in the Basel agreement. In addition, U.S. banks subject to the proposal would also have to include a substantial stress capital buffer charge, based on the large nationwide home price decline (typically 35 percent) assumed in the stress tests and the stress tests' large operational risk losses (driven in large part by mortgage litigation losses). Our estimate is that the effective risk weight for such a buffer charge would be about 20 percentage points, raising the total risk weight to approximately 80 percent. Finally, the U.S. proposal includes an operational risk charge that would add 5 percentage points to the risk weight, on average.[6] Consequently, the total risk weight for a mortgage with an LTV in the greater than 80- to 90-percent LTV range would be 85 percent.

Again, the risk weight under the 2017 BCBS standardized approach is 40 percent. The additional capital charge under the U.S. proposed implementation would likely be passed on to U.S. consumers through higher mortgage rates—whether by banks charging significantly more, or by nonbanks charging significantly more if banks leave this market. This would make it even more challenging for first-time homebuyers and people from disadvantaged communities to achieve homeownership. And it would do so based on no analysis, and contrary to considerable evidence that those challenges are unwarranted by an objective assessment of risk.

[6] This charge is driven by the interest, lease and dividend component of the business indicator and assumes an internal loss multiplier of 1.2 (since the United States has not followed other jurisdictions in proposing to set this multiplier to 1).

	Retained Mortgage Loans Mortgage loan retained on balance sheet with LTV greater than 80 percent and less than or equal to 90 percent	**Mortgage Loans Sold to the GSEs** Mortgage loan originated by bank, sold to a GSE in 30 to 60 days; LTV also greater than 80 percent and less than or equal to 90 percent
Current SA Risk Weight	50%	50% (while on balance sheet)
Stress Test Add-On	20%	20%
Current Risk Weight	**70%**	**70%**
BCBS Proposed SA Risk Weight	40% (@ 72.5% floor, the risk weight is 29%)	40% (@ 72.5% floor, the risk weight is 29%)
U.S. Proposal Risk Weight	60%	60%
Stress Test Add-On	20%	20%
Operational Risk Add-On	5%	Assume the bank sells $30bn in mortgages to the GSEs per quarter (2.5% revenue per quarter, 10% over 1 year), and they stay 45 days on average on the balance sheet, representing an on-balance sheet exposure of $15bn. $12.5 \times 1.2 \times 0.18 \times (0.0225 \times \$15+\$3) = \$9$bn, or 60% risk-weight add-on for operational risk.
Overall Risk Weight	**85%**	**140%**

Mortgages Sold to GSEs

The impact of the U.S.-proposed rule would be even greater for mortgages sold to the GSEs, which include most loans targeted to first-time homebuyers. The proposal includes an uncapped operational risk capital charge against fee income. Typically, banks sell newly underwritten mortgages to GSEs within 30 to 60 days of funding and receive a fee known as mortgage banking income. These mortgage sales to the GSEs would draw high operational risk capital charges under the proposal.

Those charges would include not only a charge for the interest income generated by the mortgages but also from the fees earned by selling them to a GSE. Because the fee income component is based on an annual average, each new batch of loans sold to GSEs each quarter generates incrementally higher operational risk capital charges. The operational risk line in the example boxes shows the risk weight of mortgage loans sold to the GSEs increasing

from 70 percent under the current standardized approach to 140 percent.[7] In addition, the stress tests include their own operational risk capital charge. Banks would be charged twice on the revenue side for selling a mortgage, both through the stress capital buffer and the operational risk charge. Our best estimate is that this charge would double the total effective risk weight of loans sold to the GSEs.

Finally, if a bank services the GSE mortgage, another operational risk charge applies to the mortgage servicing income. This acts as another charge based on fee income and comes on top of an already high starting risk weight of 250 percent for mortgage servicing rights. It is more challenging to estimate the operational risk charge for servicing income, because the regulatory reports only include servicing income net of expenses and the proposal setting the operational risk is calculated using gross revenues. Therefore, this note doesn't try to gauge the impact of the proposed rule on servicing, but we anticipate that it would significantly affect that business.

Most banks will likely allocate part of the operational risk charge from loan sales and servicing to retained loans as well. In practice, this means the higher risk weight applied to loan sales will also affect the business line that retains mortgage loans.

Clearly, higher capital requirements for loans both retained on the balance sheet and sold to the GSEs will lead to higher interest rates on bank-originated mortgages and a reduction in bank mortgage originations.[8] This will further shift market share to nonbanks. Quantifying these effects is complex, and outside the scope of our discussion, as the effects depend on multiple factors. One such factor is the cost to a bank of raising the additional required capital. Others include the extent to which the required increase in capital requirements affects types of loans and borrowers that cannot be as well served by nonbanks, and the degree to which banks are currently able to offer lower rates or fees to their borrowers compared to nonbanks.

Brief Description of the 2022 HMDA Data Sample

For our analysis of the potential effects of the proposed increases in required capital for the credit risk of balance sheet mortgages by borrower income and demographic segment, we rely on recently released 2022 HMDA data. HMDA is an annual regulatory data submission that is mandatory for mortgage lending institutions exceeding specified minimum volume requirements.

Our data sample is restricted to conventional first-lien mortgages financing home purchases originated by banking institutions that would be subject to the new rules—those with more than $100 billion in assets.[9] We include both mortgages that banks originate and hold on their balance sheets and those originated and then sold or securitized. Although only the former are subject to capital requirements for credit risk, the proposed new requirement for operational risk could lead banks to expand the share of originations that they retain, so that restricting attention to what banks currently retain does not seem appropriate. Moreover, HMDA data do not provide a fully reliable indicator of which loans are sold; in particular, the data only record loans as sold if the transaction is completed before the end of the year, and even loans originated for sale are subject to credit risk capital requirements while

[7] For a clearer understanding of the standardized approach for operational risk, refer to pages 64082-64089 in the U.S. Basel proposal. Alternatively, see BPI's previous note on this topic, available here. Furthermore, line item 5 in Schedule HC-P of the FR Y-9C report includes "noninterest income for the quarter for the sale, securitization, and servicing of 1-4 family residential mortgage loans." It also provides information on loan originations intended for sale to the GSEs. We utilized this data to calibrate the figures presented in our illustrative example.

[8] Goodman and Zhu, op. cit. page 7, offer an illustrative calculation, assuming a direct passthrough of a 12 percent cost of capital, demonstrating that the effect on cost of borrowing could be hundreds of dollars per year on a modest, $200,000 mortgage.

[9] The restriction to the conventional mortgage segment excludes loans that are government-insured—that is, FHA and VA loan products. Nonbank mortgage lenders originate up to 90 percent of government-insured home purchase loans, and a comparatively large share of these loans are made to Black and Hispanic households (see The Urban Institute, Housing Finance Chartbook (urban.org), August 2023, p. 19). We also restrict the sample to loans financing single- or two-family properties; very few owner-occupied homes incorporate more than two housing units. We focus on home purchase because rising interest rates in 2022 were not conducive to refinancing of existing mortgages.

awaiting sale.[10] That said, very similar results are obtained if the sample is restricted to loans identified in HMDA as retained.

Another important distinction, in addition to sold versus retained, is loan size. Mortgages are eligible for sale to the GSEs only if the loan balance is within the conforming loan size limit set by the Federal Housing Finance Agency. In 2022, the applicable limit for most of the United States was $647,200.

Because there is not much of a secondary market for jumbo mortgages (those above the dollar threshold at which the GSEs can purchase), depository institutions are the dominant originators of these loans, and they rarely securitize them.[11] Naturally, most conforming-size loans originated by banks are sold to the GSEs.[12] Nevertheless, a material share of retained loans are within the conforming limit, reflecting the fact that banks sometimes offer better terms to borrowers when originating loans for their own portfolio rather than for sale.[13] The conforming-size loans that banks choose to retain may have unique circumstances affecting the borrower or property, or may be associated with targeted community reinvestment initiatives.

Table 1 summarizes the number and dollar volume of conventional first-lien home purchase loans in our data sample, separately for each of the three categories just described (jumbo, conforming-size and sold, and conforming-size and retained). The banks subject to the proposed increases in capital requirements originated more than 320,000 home-purchase loans totaling nearly $200 billion in 2022.

Table 1: 2022 Home-Purchase Lending by Banks with ≥$100 Billion in Assets

		Conforming Size	Jumbo	Unknown	Total
Sold					
	Number of loans	157,086	155		157,241
	Dollar volume	$49,078,590,000	$188,725,000		$49,267,315,000
Retained					
	Number of loans	84,808	78,763	4	163,571
	Dollar volume	$39,198,380,000	$109,261,385,000	$3,120,000	$148,462,885,000
All					
	Number of loans	241,894	78,918	4	320,816
	Dollar volume	$88,276,970,000	$109,450,110,000	$3,120,000	$197,730,200,000

Source: 2022 HMDA data.

[10] In other words, HMDA data overstate the percentage of retained loans if loans originated in the last quarter that are intended for sale are not actually sold before year's end.
[11] According to an FDIC study, as of 2017, more than 80 percent of jumbo mortgages were originated by banking institutions. "Trends in Mortgage Origination and Servicing: Non-Banks in the Post-Crisis Period," *FDIC Quarterly,* 2019, *13*(4): 51–69.
[12] Nonbank firms that specialize in origination and servicing of mortgages dominate the market for mortgages sold to the GSEs, although banks and other depository institutions still originate about 25 percent of conventional home purchase loans sold to the GSEs. See The Urban Institute, Housing Finance Chartbook (urban.org), August 2023, page 12.
[13] For instance, banks sometimes may have other information enabling them to offer borrowers better terms than those implied by secondary market underwriting and pricing standards.

About half of the loans originated by these banks were reported as sold, while the remaining half were retained. However, because about half of the retained loans were jumbos and nearly all of the sold loans were of conforming size, the dollar volume of retained loans was roughly twice that of sold loans.

The actual percentage of loans retained among those originated in a given year will be lower than what is reported in the HMDA data. This is because, as noted above, the data only record loans as sold if the transaction is completed before the end of the year.[14]

Adverse Effects of Proposed Capital Charges for High-LTV Mortgages

The proposed rule's treatment of high-LTV mortgages could be expected to make home purchase loans less affordable for households with more limited incomes and less wealth. In this section, we conduct a set of risk-weight calculations that demonstrate that the burden of higher risk weights for the credit risk of loans on bank balance sheets would fall disproportionately on lower-income and minority borrowers.

Risk Weights by Borrower Segment

We begin by calculating balance-weighted average risk weights by borrower segment in our sample based on the proposed schedule of risk weights for the credit risk of balance sheet loans. This simulates the risk weights that would have been applicable in 2022 had the proposal been in place.

The calculated segment-level risk weights, shown in Figure 2, demonstrate that, while the proposal would increase risk weights across all income and demographic segments of borrowers, groups that, on average, will be less able to afford the resulting increases in borrowing costs will be most affected. For instance, the average risk weight for an LMI borrower is 57.5 percent, whereas for non-LMI borrowers it is 52.6 percent. Black borrowers as a group would be the most severely affected, with an average risk weight of 59.6 percent. As will be made clear shortly, these increased average risk weights reflect increases as large as 20 percentage points for significant segments of individual borrowers.

Share of Households in High Risk-Weight Categories

Average risk weights tell only part of the story. We get a fuller picture by observing the degree to which individual households would be placed into higher risk-weight categories based on LTV at origination. We next calculate by borrower segment the share of loans slotted to the 70-percent-or-greater category (Figure 3).

[14] In other words, HMDA data overstate the percentage of retained loans if loans originated in the last quarter that are intended for sale are not actually sold before year's end.

Figure 2: Balance-Weighted Average Risk Weights by Group

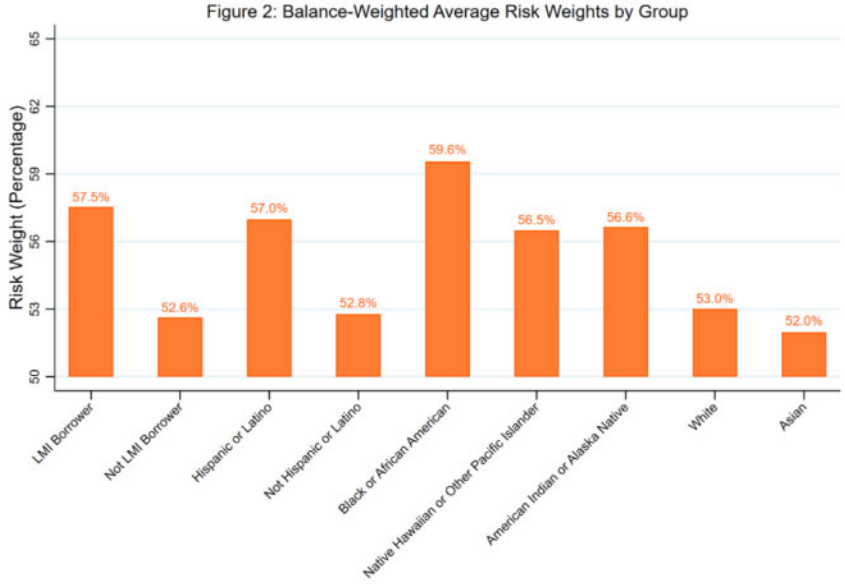
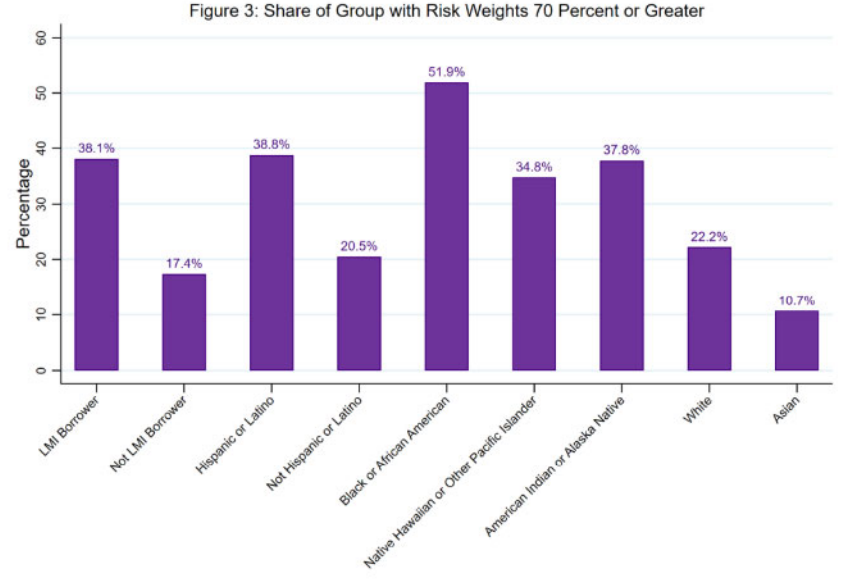


Figure 3: Share of Group with Risk Weights 70 Percent or Greater



The differences across borrower segments are quite striking. Figure 3 shows that the share of LMI borrowers receiving a risk weight of 70 percent or greater is more than double the share among non-LMI borrowers (38.1 versus 17.4 percent). More than half of loans to Black borrowers would receive a risk weight of 70 percent or greater, compared with less than a quarter of those to white borrowers.

As the Urban Institute researchers observed, "There is a lot at stake here. Bank portfolios provide a home for loans that do not fit neatly into the credit boxes underwritten by the government-sponsored enterprises, the Federal Housing Administration, or the Veterans Administration. High-LTV mortgages are particularly important for first-time buyers, especially LMI borrowers and borrowers of color. Raising the capital charges on high-LTV loans raises the mortgage interest rates for the remaining borrowers least able to afford the increases."[15]

Adverse Effects of the Proposed Operational Risk Capital Charge

The increase in the operational risk capital charge for sold loans would affect a bank's costs of originating mortgages for sale to the GSEs. A large share of these sold loans can be expected to be modest, financing home purchases by LMI and minority households or in LMI and predominantly minority neighborhoods.

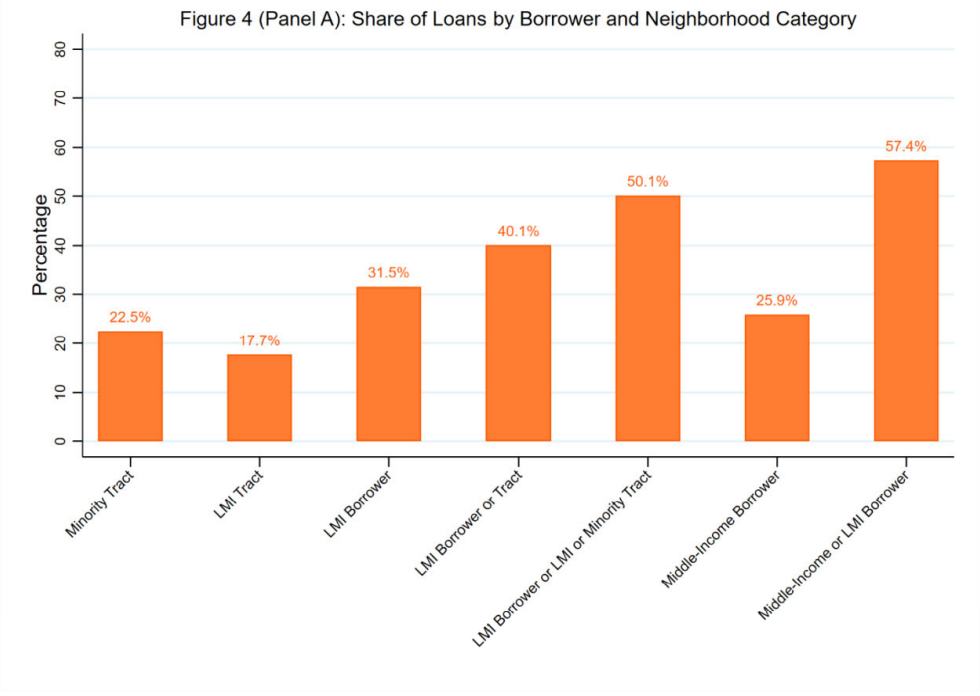
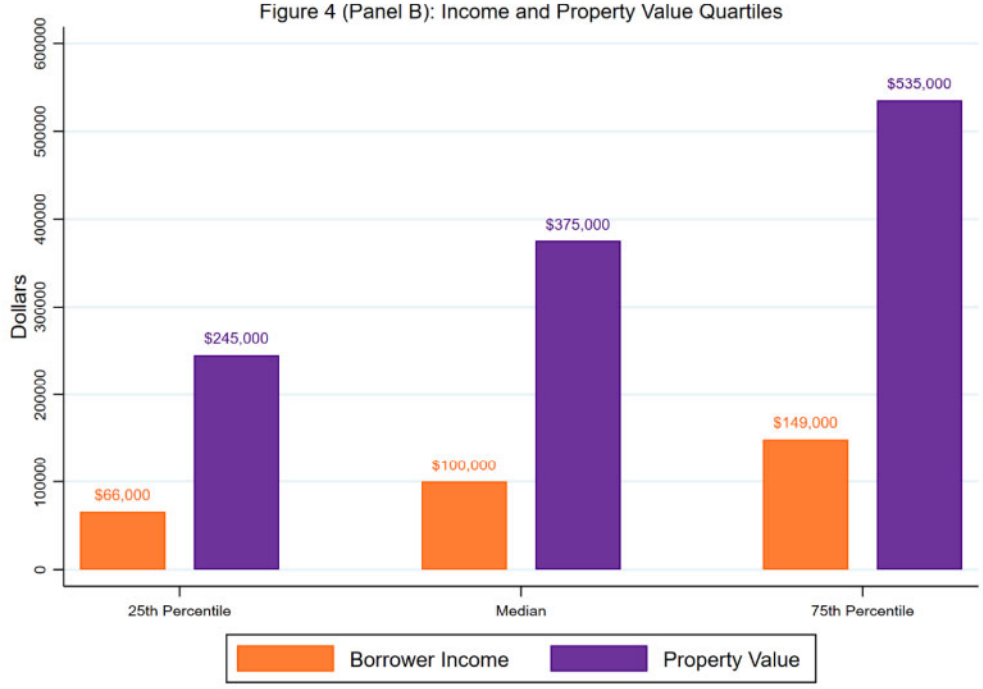


Figure 4 summarizes the household composition for the sold loan category in our analysis sample, confirming these characteristics. As shown in Panel A, most of the borrowers are low- to middle-income (defined as having incomes not exceeding 120 percent of the area median income), and nearly a third are low- to moderate-income.

[15] Goodman and Zhu, page 1.

Half of the borrowers are either low- or moderate-income or are purchasing a home in an LMI or predominantly minority U.S. Census tract, while 40 percent are either low- or moderate-income or purchasing a home in an LMI tract. Panel B reveals that median income among borrowers is $100,000, and their median property value is $375,000. A quarter of the borrowers have incomes not exceeding $66,000, and a quarter of the financed home purchases are of properties priced at $245,000 or less.

Figure 4 (Panel B): Income and Property Value Quartiles



As a result, the proposed new capital charge on large banks' originations of loans sold to the GSEs will likely make mortgages less affordable and harder to obtain for low- to middle-income households buying modestly priced homes. In turn, homeownership will become even more out of reach for many American households.

Conclusion

The proposed rule would significantly increase a bank's cost of originating, holding and servicing mortgages, with adverse effects on all homebuyers but particularly LMI and minority borrowers. Most importantly, the significant increase in cost has no foundation—no supporting data or analysis—in the proposed rule and runs counter to historical experience and the calibration planned in all other countries.

Moreover, these increased capital charges are likely to further shift market share of mortgage origination and servicing to nonbanks (compounding the shift that has already occurred due to regulatory burdens imposed on banks by the Dodd-Frank Act). This shift is widely considered problematic, not only because many borrowers may prefer bank-offered products and services and because the market becomes less competitive, but also because nonbank lending tends to be more procyclical (since nonbanks are less able to obtain funding during an economic downturn).[16] Evidence also strongly suggests that nonbanks are less willing or able to offer foreclosure alternatives to borrowers facing financial difficulties.[17]

Disclaimer: The views expressed do not necessarily reflect those of the Bank Policy Institute's member banks, and are not intended to be, and should not be construed as, legal advice of any kind.

[16] See Aldasoro, Iñaki, Sebastian Doerr, and Haonan Zhou; "Non-Bank Lending during Crises," *BIS Working Papers* No. 1074, 16 February 2023. Using data from the global syndicated loan market, the authors find that during crises, nonbanks cut their syndicated credit significantly more than banks. Also see Fleckenstein, Quirin, Manasa Gopal, German Gallardo, and Sebastian Hillenbrand, "Nonbank Lending and Credit Cyclicality," NYU Stern School of Business, June 2021. The authors find that nonbank lending is more than twice as cyclical as bank lending. Declines in nonbank lending explain most of the declines in syndicated lending during the Great Recession and COVID-19 crisis. Regarding the role of nonbank mortgage lenders and servicers in particular, see Kim, You Suk, Steven M. Laufer, Richard Stanton, Nancy Wallace, and Karen Pence, "Mapping the boom in nonbank mortgage lending—and understanding the risks | Brookings." *Brookings Institution Commentary*, 10 September 2018; Kim, You Suk, Steven M. Laufer, Karen Pence, Richard Stanton, and Nancy Wallace, "Liquidity Crises in the Mortgage Market," *Brookings Papers on Economic Activity*, 2018(1): 347–428. The authors argue that the short-term credit they depend on for financing can become more expensive or dry up entirely when financial market conditions tighten. Revenue from mortgage origination activity may drop sharply when interest rates rise, and they can face liquidity shortfalls when defaults rise during housing market downturns. For multiple reasons that will not necessarily recur in future downturns, nonbank mortgage servicers maintained their financial strength during the COVID-19 downturn; see Loewenstein, Lara, "Why Wasn't there a Nonbank Mortgage Servicer Liquidity Crisis?" Federal Reserve Bank of Cleveland, *Economic Commentary* 2021-15.

[17] See Kim, You Suk, Donghoon Lee, Tess Scharlemann, and James Vickery, "Intermediation Frictions in Debt Relief: Evidence from CARES Act Forbearance," *Federal Reserve Bank of New York Staff Reports*, no. 1035, October 2022; Hamdi, Naser, Erica Xuewei Jiang, Brittany Lewis, Manisha Padi, and Avantika Pal, "The Rise of Non-Banks in Servicing Household Debt" (March 22, 2023), *Olin Business School Center for Finance & Accounting Research Paper.* Available at SSRN: https://ssrn.com/abstract=4550175.

Appendix 5

The New Profit and Loss Attribution Tests: Not Ready for Prime Time

Greg Hopper | Dec. 14, 2023

Introduction

The market risk capital framework in the Basel proposal[1] includes new statistical tests designed to measure how effectively a bank's risk management models capture the same risks as the bank's trading desk models. The motivation for these tests is the observation that banks' risk management models, which are used for capital calculations, often differ from the trading desk models. A bank's risk management model may use slightly different data, fewer risk factors or different pricing models than the desk models. The reason for these differences is pragmatic: bank risk models generally must do significantly more computation compared to desk models and so must be faster and more efficient. Some differences between risk management and trading desk models would be expected, but if the differences are excessive, a bank's risk management models may fail to capture its risks adequately. To help validate banks' risk models, the Basel proposal introduced two new Profit and Loss Attribution (PLA) tests that are designed to measure the consistency of trading desk and risk management model Profit and Loss (P&L) estimates. If the risk models fail either test, the bank must stop using its risk management models for capital calculations and instead use the standardized approach.

The proposal's discussion of the PLA tests is difficult for non-technical readers to follow, since it is filled with forbiddingly arcane, highly technical language. The purpose of this note is to explain to a reader not steeped in statistics how these PLA tests work and to assess whether they are fit for purpose. In this note, we will explain the tests using some simple examples. The PLA tests, when stripped of their technical baggage, are conceptually intuitive. As will become apparent, unfortunately, these tests suffer from a fatal flaw that should prevent them from being used as proposed: *the more effectively a bank hedges its market risks, the more the tests will tend to fail*. More troubling, these test failures often cannot be fixed even if a bank rectifies the problems that led to the test failures in the first place.

When the tests fail, banks are required to use the standardized approach for capital calculations, resulting in highly overestimated capital charges, especially for hedged portfolios. To measure the risk of hedged portfolios accurately, it is very important to use the correct correlations between the risk factors. However, the standardized approach requires the use of pre-defined correlations that may not represent the actual correlations. The PLA tests thus create extremely perverse incentives for banks. To avoid punitive capital penalties under the proposal, banks would be better off hedging less effectively. Random test failures that do not necessarily have any material significance can cause capital treatment to flip back and forth between the standardized and advanced approaches, a problem that gets worse as hedging gets better.

In light of these fundamental issues, the PLA tests are not ready for prime time and should not be used to validate banks' internal risk models or determine eligibility for models-based approaches. Instead, the agencies should

[1] "Regulatory capital rule: Amendments applicable to large banking organizations and to banking organizations with significant trading activity," available at https://www.govinfo.gov/content/pkg/FR-2023-09-18/pdf/2023-19200.pdf

repurpose the tests to be for reporting and monitoring purposes only. The agencies could also consider eliminating the Spearman correlation test entirely, as it is the more problematic of the two tests.

The New PLA Tests

The proposal introduces two new statistical tests that are designed to compare the trading desk model's daily P&L to the risk model's daily P&L. The first PLA test, the Spearman correlation test, assesses whether the risk model's P&L is highly correlated with the desk model's P&L. If the correlation is too low, the risk model will fail the test. The second PLA test, the Kolmogorov-Smirnov (KS) test, checks whether the relative frequency of daily P&L values produced by the desk and risk models are sufficiently similar. If not, the risk model will fail the test.
The PLA tests use a red-amber-green traffic light system. If the risk model fails either PLA test, it falls into the red zone. When a risk model is in the red zone, a bank must use the standardized approach. If the bank's risk model passes both tests, the model will fall into the green zone and can be used for capital calculations. If the bank's models fail to be in the green zone for at least one test but are not in the red zone on any test, they are in the amber zone. In that case, the bank can continue to use its internal risk management models but must pay a capital penalty that is a fraction of the difference between the standardized and internal model's capital requirement. A bank can return to the green zone by subsequently passing both PLA tests as well as backtesting. Each PLA test is conducted quarterly and requires that the previous 250 trading days of daily P&L be used.

PLA Test 1: The Spearman Correlation

To understand how the Spearman correlation is calculated, we will work through a simple example using just 10 days rather than 250 days of hypothetical P&Ls. The calculations would work the same way for 250 days. Table 1 shows an example of 10 days of hypothetical P&Ls produced by the desk and risk management models.

Table 1

Day	Desk P&L ($mil)	Risk P&L ($mil)
1	-71	-64
2	32	0
3	26	23
4	104	183
5	-52	-6
6	-102	-51
7	-59	-78
8	-81	-53
9	-21	-43
10	-128	-102

Table 1 depicts a typical situation in which the desk and risk model P&Ls differ from day to day but are in the same ballpark. To perform the Spearman test, we must first rank the desk and risk P&Ls. The lowest P&L would have a

rank of 1, the next lowest would have a rank of 2, etc. Table 2 displays both P&L series ranked from smallest to largest.

Table 2

Desk P&L ($mil)	Day	Rank	Risk P&L ($mil)	Day	Rank
-128	10	1	-102	10	1
-102	6	2	178	7	2
81	8	3	-64	1	3
-71	1	4	-53	8	4
-59	7	5	-51	6	5
-52	5	6	-43	9	6
-21	9	7	-6	5	7
26	3	8	0	2	8
32	2	9	23	3	9
104	4	10	183	4	10

In table 2, we simply sorted the desk P&L and risk P&Ls from lowest to highest daily value, and then assigned ranks.

The next step is to find the correlation between the daily ranks under the two models (not between the actual P&L values). The idea behind the Spearman test is that if two P&L series are consistent, their daily P&L ranks should be highly correlated. When models are perfectly correlated, the rank of each day would be the same under both models, even if the P&L values themselves differ. The PLA test the proposal specifies is the Spearman correlation metric, which calculates the correlation between the ranks of two data sets. We can find the Spearman correlation coefficient r_s, which measures the correlation of the ranks, using the following formula[2]

$$r_s = 1 - \frac{6\sum_{i=1}^{n} d_i^2}{n(n^2-1)}$$

where d_i is the difference in the ranks on each day and n is the number of data points. This formula makes intuitive sense. If the ranks of the risk and desk P&L were exactly the same on each day, then the difference of the ranks would be zero on each day: $\sum_{i=1}^{n} d_i^2 = 0$ and $r_s = 1$, i.e., perfect correlation. When the ranks are mostly the same on each day but a few are a little different, then the second term would subtract from 1 and the correlation would go down from 1. As the P&L series become less correlated, the daily ranks would become more different from each other, and the second term would subtract more from 1, producing a lower correlation. At the extreme when the P&Ls are negatively correlated, the risk P&L with the highest rank would be paired with the desk P&L of

[2] The Basel proposal states that the r_s should be computed as $\frac{Cov(Rank_{desk}, Rank_{risk})}{\sigma(Rank_{desk})\sigma(Rank_{risk})}$ where cov() is the covariance of the ranks and $\sigma()$ is the standard deviation of the ranks. The formula in the text above is equivalent if there are no ties in the ranking process. We use the formula in the text rather than the formula in the proposal because it is simpler to show example calculations.

the lowest rank, the risk P&L with the second highest rank would be paired with the desk P&L of the second lowest rank, etc. In that case, r_s would approach -1 as n gets large.[3]

For the example above, Table 3 shows how to calculate $\sum_{i=1}^{n} d_i^2$ in the formula:

Table 3

Day	Desk P&L ($mil)	Rank	Risk P&L ($mil)	Rank	Difference in ranks	Squared
1	-71	4	-64	3	1	1
2	32	9	0	8	1	1
3	26	8	23	9	-1	1
4	104	10	183	10	0	0
5	-52	6	-6	7	-1	1
6	-102	2	-51	5	-3	9
7	-59	5	-78	2	3	9
8	-81	3	-53	4	-1	1
9	-21	7	-43	6	1	1
10	-128	1	-102	1	0	0
					sum	24

Using the formula, $r_s = 1 - \frac{6*24}{10(10^2-1)} = 0.85$, which is the Spearman correlation coefficient for this series of data. The last step is to consult the table given in the Basel proposal[4] to see in which zone the Spearman correlation metric lies:

Table 4

PLA test zone	Spearman correlation metric
Green zone	$r_S > 0.80$
Amber zone	$0.70 \leq r_S \leq 0.80$
Red zone	$r_S < 0.70$

Since r_s was calculated to be 0.85, we are in the green zone and have passed the test. As can be seen in Table 4, the intuitive idea behind the Spearman test is that if the ranks of the risk and desk P&Ls are highly correlated, then that is evidence that the risk models are not too far off from the desk models. One major problem with this test,

[3] The mathematically-minded reader can verify this assertion by noting that for even n and perfect negative correlation, $\sum_{i=1}^{n} d_i^2 = \frac{1}{3}(n-1)^3 + (n-1)^2 + \frac{2}{3}(n-1), so\ r_s \to -1\ as\ n \to \infty$

[4] Basel Proposal at 64270

which will be discussed in more detail later, is that it is not clear how to set the traffic light thresholds in an objective manner.

PLA Test 2: The Kolmogorov-Smirnov Test

The Kolmogorov-Smirnov (KS) test assesses the similarity of the frequency of daily P&Ls over a 250-day period. Since the KS calculations are straightforward but tedious, we will illustrate how the test works using a chart of the full 250 days of hypothetical P&L data.

Chart 1

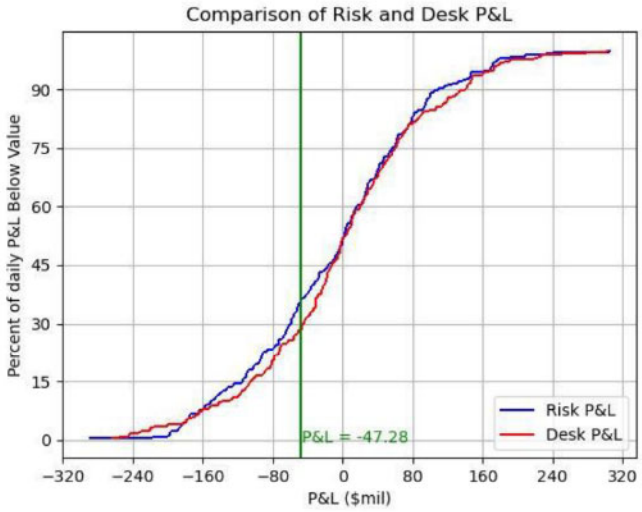


Chart 1 depicts 250 days of hypothetical P&Ls produced by the risk and desk models. To perform the KS test, we sorted and graphed the data so that for each P&L on the x-axis, the percentage of P&L values below that value is recorded on the y-axis. For example, at a P&L of zero, about 52 percent of both the desk and risk P&Ls are lower than zero and about 48 percent are higher than zero. At a P&L of $120 million, about 87 percent of the desk P&Ls are lower than $120 million whereas about 92 percent of the risk P&Ls are lower.

The KS test statistic measures the maximum difference between the two empirical frequency distributions of P&Ls, depicted by the green line on the graph. The maximum difference occurs at -$47.3 million P&L. In this case, about 28 percent of the desk P&L is lower while about 35.6 percent of risk P&L is lower. The KS statistic for this series of data is the difference: 35.6 percent – 28 percent = 7.6 percent. We then use the table provided in the proposal[5] to determine the zone in which the KS statistic falls. Table 5 shows the KS thresholds.

[5] Basel proposal at 64270

Table 5

PLA test zone	Kolmogorov-Smirnov (KS) metric
Green zone	$K_S < 0.09$ (pvalue = 0.264)
Amber zone	$0.09 \leq K_S \leq 0.12$
Red zone	$K_S > 0.12$ (pvalue-0.055)

Since the KS statistic in this example is less than .09, or 9 percent, we would pass the test.

It is interesting to note that if we applied the Spearman test to the P&L data in Chart 1, we would get a Spearman correlation coefficient of only 0.07, implying a 7 percent correlation between the ranks of the two P&L distributions. This large Spearman test failure would put us in the red zone under Table 4 above. The tests disagree because they test different properties of the P&Ls. The hypothetical P&L data for the KS example was generated using two identical uncorrelated frequency distributions. Since the frequency distributions were the same, the KS test passed. The Spearman test failed since it tests whether the P&L distributions are highly correlated; however, the P&L distributions were constructed to be uncorrelated in this example.

What Can Go Wrong With These Tests?

For unhedged portfolios, the PLA tests can be effective. However, the intrinsic flaw in the PLA tests is that when portfolios are hedged, as is typical for market-making banks, the tests can easily fail for spurious statistical reasons. In contrast to the unhedged example in Table 1, a hedged portfolio's P&L fluctuates randomly around a small or zero value from day to day. Hedged desk and risk P&Ls can therefore look like minimally correlated random processes to the tests. The random fluctuations of the desk and risk P&Ls will not necessarily be highly correlated nor will they necessarily be the same, causing the tests to fail.

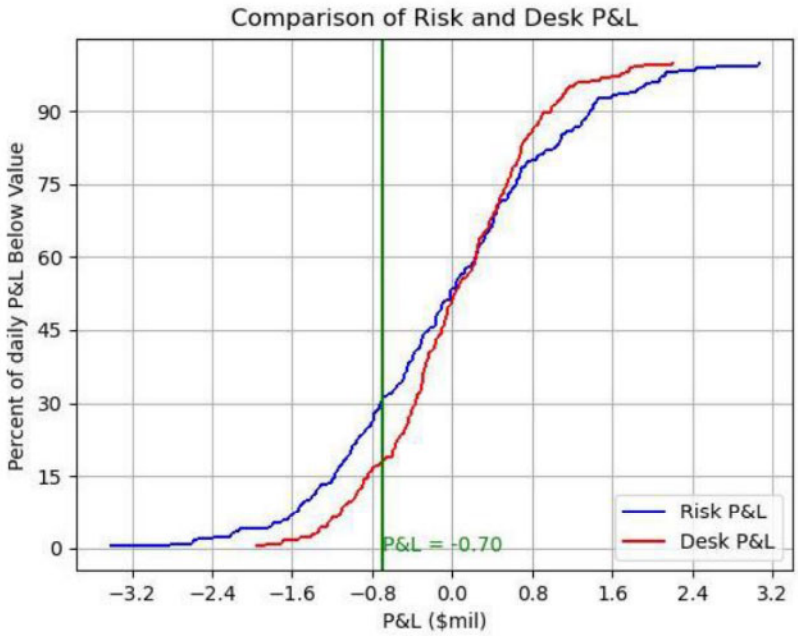
For example, risk departments might use vendor data for better consistency of coverage across desks, whereas trading desks might use their own trading observations, a source of random P&L variation. Data errors can also create additional randomness in the risk P&L. Sometimes, risk departments may collect data that has a different naming convention than those used by desk systems. Importantly, risk departments for practical reasons often may use a smaller number of risk factors or computationally less-intensive pricing models, since they need to get the entire daily risk calculation done in one day. The need to complete an enormous amount of computation within a 24-hour period can sometimes require risk models to price trades earlier in the day than desk models, implying that input market risk factors the risk models use are observed earlier as well. Each of these factors may by themselves be small in magnitude, but when added to a hedged P&L that is small or zero on average, it may make the risk and desk P&L distributions appear to a statistical test to be poorly correlated random processes. Not surprisingly, the Spearman test will often fail under these circumstances. Perversely, the better a bank hedges its market risk, the more likely it will be for the Spearman test to fail.

Although not as obvious, the KS test suffers from a related difficulty produced by hedged portfolios. Given all the factors introducing random variation in the hedged P&Ls, there is no reason the random variation should be exactly same for the risk and desk models. Since the KS test measures whether the P&L frequency distributions of the risk and desk models are identical, even small differences can cause the KS test to fail. For example, suppose we create hypothetical P&Ls distributions in which the desk model has slightly smaller random variations in its hedged P&L than the does the hedged risk P&L.[6] For this example, we assume the typical P&L variation in the risk

[6] We create the hypothetical P&L distributions by assuming they are drawn from a normal distribution with a mean of zero. The desk P&L standard deviation is $750K while the risk P&L standard deviation is $1 million.

model is $1 million while the typical variation in the desk model is $750K. Chart 2 shows that the KS test fails with a statistic of 13.2 percent, the maximum difference having occurred at a P&L of -$700K.

Chart 2



It is very important to observe that it only required a very small difference between the two P&L frequency distributions to produce a KS test failure. When portfolios are hedged, even slightly more randomness in the risk P&Ls can get amplified into distributions that are different enough for the KS test to fail, even if the differences on an absolute basis are not economically material. In a real-world setting, the effective false positive rate is too high.

Statistical tests, such as the KS test, also have a false negative rate. If the false negative rate is too high, especially when the test is distinguishing differences that are not economically material, then a statistical test can treat banks with the same underlying risks differently. To see this problem in the context of the KS test, if we simulate 1,000 desk and risk P&Ls with the hypothetical frequency distribution above, we find that the KS test fails 43 percent of the time, implying the KS test is falsely negative 57 percent of the time. The underlying risk and desk P&L distributions in this experiment were statistically different but the differences were not economically material. Thus, whether the KS test fails because of small differences between the desk and risk P&L distributions is just the luck of the draw. Bank A and Bank B could have the same fundamental desk and risk P&L distributions. Bank A could have bad luck, fail the KS test and be forced to pay the standardized capital penalty. Bank B, on the other hand, could have good luck, pass the KS test and be allowed to continue to use its internal models.

Can't Banks Fix These Problems By Getting Better Data and Model Alignment Between Risk and Desk Models?

It might be argued that the tests are doing what they are supposed to be doing in these examples. The tests should fail when data or models are misaligned. The higher capital that results from the test failures will serve as a powerful incentive for banks to fix their problems.

However, this objection misunderstands the inherent problem in PLA tests. The tests do not account for the magnitudes of the random variations of a hedged portfolio around zero. The tests only look at the nature of the randomness of the P&L series. A bank could spend significant time and expense reducing data discrepancies between the desk and risk models, aligning pricing models, and reducing basis risks, but as long as some random variation remains, as it always will, the tests will fail in exactly the same way. Furthermore, these efforts would do nothing to reduce the actual risk faced by the bank, and therefore should not influence the bank's ultimate capital charge, even if they were successful in improving performance under the P&L tests. Indeed, these efforts could increase the risks of banks by diverting resources and attention away from more significant risks.

To see how this could happen, suppose we take the KS example discussed previously but assume the bank conducted a massive overhaul of data and models, reducing data and model discrepancies significantly so that now the random differences from the average zero P&Ls are one tenth of the size assumed in the previous example.[7] Will the KS test now pass?

Chart 3

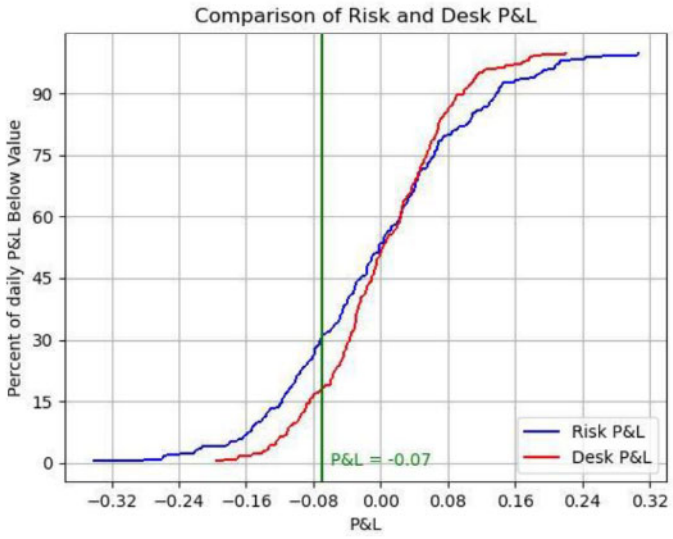


Chart 3 shows that the KS test would produce the same result as in chart 2, a KS statistic of 13.2 percent. A

[7] The hypothetical overhauled P&L distributions would be drawn from a normal distribution with a mean of zero. The desk P&L standard deviation would be $75K while the risk P&L standard deviation would be $100K. To create an apples-to apples-comparison, we scale the previous hypothetical P&Ls by 1/10 rather than simulate new P&L distributions.

comparison of charts 2 and 3 reveals that they are the same chart; the only difference is that chart 3's numbers are scaled down by a factor of 10. The KS test still fails because it does not consider the absolute magnitudes of the P&Ls but rather measures the relationship between the relative frequencies of the P&Ls, which have not changed.

The same phenomenon holds true for the Spearman test. Reducing the magnitudes of the desk and risk P&L random variation by getting better data and model alignment will not necessarily change the relative rankings of the P&Ls in the Spearman test. As long as the random variation in the risk and desk P&Ls continue to look minimally correlated, the Spearman test will fail, regardless of any improvements a bank might make.

Where Do the Test Thresholds Come From?

Table 6 puts together the proposed traffic light thresholds for the Spearman and KS tests into one table for easy comparison.

Table 6

PLA test zone	Spearman correlation metric	Kolmogorov-Smirnov (KS) metric
Green zone	$r_S > 0.80$	$K_S < 0.09$ (pvalue = 0.264)
Amber zone	$0.7 \leq r_S \leq 0.80$	$0.09 \leq K_S \leq 0.12$
Red zone	$r_S < 0.70$	$K_S > 0.12$ (pvalue = 0.055)

One essential difference between the KS and Spearman tests is that the KS metric is a statistical test of an underlying hypothesis that the two P&L distributions are the same.[8] Using a KS threshold of 0.12 means that if we did an experiment in which we simulated identical risk and desk P&L distributions over and over, checking if the KS test each time was greater than 0.12, we would find that the KS statistic was greater than 0.12 about 5.5 percent of the time. Thus, we would falsely conclude the P&L distributions were different 5.5 percent of the time when they were in fact identical. The p-value in the table can thus be thought of as a false positive rate. Intuitively, if the KS statistic is greater than 12 percent, we have good statistical evidence that the P&L distributions really are different.

In the academic literature, a near rejection of a hypothesis is often taken to be 10 percent while full rejection is defined to be 5 percent. In contrast with Table 6, a KS traffic light table consistent with the typical standards in the academic literature would have been

Table 7

PLA test zone	Kolmogorov-Smirnov (KS) metric
Green zone	$K_S < 0.1094$ (pvalue = 0.10)
Amber zone	$0.1094 \leq K_S \leq 0.125$
Red zone	$K_S > 0.1215$ (pvalue = 0.05)

[8] A K_S statistic greater than 0.12 formally rejects the hypothesis that the risk and desk P&Ls come from the same distribution at the 5.5 percent confidence level (p-value).

The proposal's motivation is unclear for using a p-value of 26.4 percent rather than 10 percent to separate the green zone from the amber zone. One way to select the thresholds would be to balance the false positive and false negative rates of the KS test on realistic hedged and unhedged P&L distributions that would be encountered in practice. The proposal provides no indication that such a calibration exercise was attempted, and it may not even be possible: as we saw earlier, a well-hedged portfolio could easily create a fairly large false negative rate, producing inconsistent capital treatment of banks. Whatever the reasons for the choice of the oddly precise p-value of 26.4 percent, one motivation seems to have been to produce simple thresholds. A p-value of 26.4 percent results in a threshold of 0.0899989 or approximately 9 percent. Similarly, a p-value of 5.5 percent results in a threshold of 0.11989 or approximately 12 percent. If the proposal had used the standard 5 percent p-value, the threshold would have been 0.1215 or 12.15 percent, not as concise a number.

The Spearman test statistic, in contrast, does not represent a statistical hypothesis. It is thus not clear how to set the thresholds in such a test. From a statistical point of view, the chosen thresholds for the various zones in the Spearman test appear to be intrinsically arbitrary. The KS test does have the essential advantage that a statistical interpretation can be attached to the thresholds, unlike the Spearman test, and so in principle the KS test threshold calibration might be supportable. However, as presented in the proposal, no such calibration was used to justify the thresholds for the KS test, which appear to be defined arbitrarily as well.

Conclusion

To summarize, the problems with the PLA tests are:

- The PLA tests tend to fail more frequently when a bank improves its market risk management by hedging more effectively
- Misleading PLA test failures on hedged portfolios cannot be fixed by banks better aligning data and models
- PLA test failures can be caused by economically small changes in P&L distributions
- PLA test failures can occur randomly, implying that banks with the same risks do not necessarily get the same capital treatment
- The proposed PLA test thresholds are arbitrary, although the KS thresholds have the benefit of a statistical interpretation, allowing non-arbitrary threshold calibration in principle

As proposed, the PLA tests suffer from very significant deficiencies in the validation of risk models for hedged portfolios that market-making financial institutions typically hold. The tests produce perverse incentives for banks to reduce their hedging, since the tests fail more frequently the better a bank hedges, penalizing better market risk management with higher capital charges. As a result, the tests should not be used to validate internal bank risk models for capital purposes. Nonetheless, PLA tests should not be dropped either because they may have some value to detect problems in banks' risk models if portfolio risk is directional. To use PLA tests more effectively, the agencies should dispense with the traffic light system and repurpose the tests to serve as additional reporting and diagnostic tools that could be used to assess the effectiveness of bank risk models. Because it is unclear how to calibrate the Spearman thresholds for diagnostic purposes, the agencies could also consider eliminating that test.

Appendix 6

Capital proposal: Endgame for a robust U.S. derivatives market?

ON NOVEMBER 13, 2023 COMPLIANCE AND RISK, ECONOMY, POLICY

By disregarding previous analysis of the impact capital reforms can have on the derivatives market, the authors argue federal banking regulators will harm businesses' ability to hedge risk.

By David Murphy and Sayee Srinivasan
ABA Viewpoint

ABA VIEWPOINT

The so-called "Basel III endgame" proposal would dramatically increase capital requirements for banking organizations with total consolidated assets of $100 billion or more. While ABA analysis has examined the broad effects of the proposal on financial stability and overall economic growth, one of the most affected areas will be access to the markets businesses use to hedge risk — derivatives markets. Banks provide their clients with access to these markets; under the proposal, this access will become more expensive. In some cases, end users may be unable to hedge at all.

What are hedging markets?

Derivatives markets allow hedgers to shift unwanted risks from themselves to other market participants who are willing to take them on. For example, farmers producing corn might guarantee the price at which they can sell their product once it has been harvested by selling corn futures. By doing this, they can concentrate on farming without having to worry about whether corn prices are rising or falling while their crop is growing. On the other side of this trade might be a cereal producer who wants to lock in the price at which they buy corn in the future. Hedging is important

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because it allows individuals and businesses to operate more efficiently by reducing uncertainty. Simply put, it supports the economy and allows it to grow more quickly.

Banks provide access to hedging markets in three ways. For exchange-traded markets, such as those for futures, they or their affiliates act as clearing members, allowing their clients to buy and sell hedging and investment products on the exchange. For some cleared over-the-counter markets, such as the interest rate swap market used to hedge interest rate risk, they perform a similar function in facilitating and submitting trades to a clearing house. Finally, banks trade more bespoke derivatives directly with their clients, often hedging themselves on an exchange.

This market access business is typically very low-risk. Clients must settle their profits and losses at least daily. In addition, they must post additional collateral, which is sized to cover nearly all possible losses on their positions. A market access provider will only suffer a loss if the client defaults and their positions lose more than the value of the collateral posted before being closed out.

The second category of transactions — client cleared OTC derivatives — is particularly important because regulators imposed a set of rules after 2008 that require all financial institutions and many nonbanks to clear standardized OTC derivatives transactions. This "clearing mandate" means that clearing houses now play a key role in hedging markets. Cleared over-the-counter derivatives are highly liquid, and both financial institutions and their clients require access to them if they want to hedge efficiently.

Why do these markets matter?

Risk transfer markets have their roots in agriculture, where farmers use exchange-traded futures to protect the price of their harvest. Food and commodity producers and consumers also rely on these markets for price signals to determine what crops to grow. These markets bring together a wide range of participants whose collective activity facilitates efficient price discovery as well as a cost-effective means of hedging risk for farmers. Absent access to these markets, both producers and consumers will be exposed to more boom-and-bust volatility, and the average U.S. household will pay more for its daily groceries, fuel and goods.

What is the role of bank capital requirements in shaping banks' businesses?

Regulatory capital requirements are binding constraints on many large banks. These constraints include minimum common equity tier 1 capital requirements, an additional stress capital buffer determined from stress tests carried out by supervisors, and a further surcharge if the bank has been defined as a global systemically important bank. Banks actively manage their businesses to meet the multiple constraints imposed by capital regulation. This management typically involves calculating the total contribution of each business line to the bank's various capital requirements and comparing that contribution to the business lines' profitability. Areas that do not provide a sufficient return on capital are often restructured or eliminated. This means that if the capital required to support a business line rises significantly, the bank will charge more or less of that business will be conducted. The bank may even stop providing the affected set of services completely.

Several parts of the endgame proposals will, if finalized, substantially increase capital requirements for providing market access. The agencies propose to revise how capital add-ons for the eight largest U.S. banks — the GSIB surcharges — are calculated. The changes will allocate a higher charge for the provision of client clearing services. The capital required for the risk that client credit quality will decrease, or "CVA risk," as it is known, will also increase. Finally, regulators propose the widespread adoption of an indicator of counterparty credit risk — the standardized approach to

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counterparty credit risk, or SA-CCR — which overstates risk compared to the already-prudent methods used by clearing houses. Box 1 sets out some more details of these proposals.

The effect of the endgame proposals on the economy

When mandatory central clearing requirements were implemented, it would have been reasonable to expect that there would be an increase in the number of firms offering client clearing services. Unfortunately, we have seen a steady drop in the number of clearing firms; worse, there has been a concentration of clearing activity among the largest firms. This is especially the case in the U.S. as all six of the largest six providers of client clearing are large U.S. banks. The market for these services is already concentrated. The proposals will make this worse.

It is highly likely that banks will react to these proposals, if finalized, by increasing fees for providing market access, reducing the amount of risk that they allow clients to transfer, and refusing to provide access at all to the least profitable clients. As a result, the proposed rules will have a profound impact on the ability of businesses to hedge their risks. At the margin, less hedging will occur, exposing companies to more risk. In what one can only hope is an unintended consequence, smaller banks looking to hedge their interest rate risks will find it increasingly difficult to access these markets. The failure of Silicon Valley Bank demonstrates that the consequences of this can be dire. As end users exit from the markets, the quality of price discovery will deteriorate, which in turn will negatively impact the broader market as many commercial contracts are priced with reference to derivatives market prices.

These effects have already been predicted by authorities

Regulatory bodies have already analyzed the impact of capital reforms on risk transfer markets. In 2017, the Financial Stability Board commissioned an international team, including representatives from the Federal Reserve, to analyze the impact of the post-2008 reforms on derivatives markets. (We were the co-chairs of this Derivatives Assessment Team.) The DAT report highlighted concentration in client clearing service provision and concerns that capital reforms were not supporting the authorities' goal of facilitating centrally cleared derivatives markets. It provided evidence that, as capital requirements become binding, banks will ration the provisions of services, including risk transfer and credit, to their clients. Further, end users "are often more likely to hold directional positions than dealers, so the level of market risk associated with client cleared positions can often be higher than implied by relative notional levels." The capital required to support these trades will be higher than clients who trade actively. As regulatory capital requirements increase, the cost of servicing end user clients will

Details of the impact of the proposed Basel 3 endgame rules on risk transfer businesses

GSIB. The GSIB surcharge is an additional amount of capital that the largest banks are required to hold based on their systemic importance. The surcharge calculation is based on six indicators. The agencies propose including all client clearing of OTC derivatives into the interconnectedness and complexity indicators and adding OTC derivatives exposures into the cross-jurisdictional activity indicator. There are two models of client clearing: in the principal-to-principal model, the client faces the bank/clearing member, and the bank faces the clearing house, while in the agency model, the bank guarantees the client's performance at the clearing house. Principal-to-principal model clearing is already included in the GSIB calculation. Partly as a result, the vast majority of client clearing now takes place under the agency model. The GSIB surcharge proposals would include agency model client clearing in the GSIB complexity and interconnectedness indicators. This would dramatically increase the contribution of client clearing to GSIB surcharges.

CVA risk. The authorities propose eliminating the current risk-based approach

increase, disincentivizing banks from providing derivatives markets access to them.

The DAT report also highlighted that, while many large clients with active trading operations access markets through multiple clearing firms, the average client — which will be the typical smaller hedger — has just one clearing member. The proposal will serve as a binding constraint for all banks offering clearing services. If any of these banks decides to offboard an existing client, the client will likely have a tougher time finding another bank to accept it as a client. Worse, if a bank decides to exit the client clearing business, none of the other banks will be able to accept all of its clients.

The DAT report recommended a revision to bank capital rules in order to ensure that banks were not disincentivized from providing clearing services. This revision was subsequently enacted in the Basel standards — an area where U.S. regulators are diverging from the Basel standards to the detriment of U.S. banks and markets — reflecting international bank supervisors' understanding of the importance of access to cleared derivatives markets. The U.S. proposal will upset this effective, carefully designed framework, which allows banks to support the economy while being prudently capitalized.

The endgame proposals have not been justified

The authorities' failure to justify their proposals does not just extend to ignoring the DAT report. They have provided no analysis to support the need for higher minimum capital for derivatives intermediation. Indeed, as we noted above, what research there has been points to the importance of incentivizing the provision of risk transfer services. The authorities' lack of justification is concerning because, under the Administrative Procedure Act, agencies "must explain the assumptions and methodology" underlying a proposed rule "and, if the methodology is challenged, must provide a complete analytic defense.

It is also disquieting that what overall rationale the agencies have provided for their proposed rules is, at best, disingenuous. Federal Vice Chair of Supervision Michael Barr recently justified higher capital requirements by saying that, when a bank suffers a loss, "capital is able to help absorb the resulting loss and, if sufficient, allow the bank to keep serving its critical role in the economy." This is true, but it does not justify higher minimum capital requirements. A capital requirement must be met at all times: failure to do so results in supervisory intervention and will certainly cause a loss of confidence in the bank. Thus, the bank capital required to support minimum capital requirements is not loss absorbing on a going-concern basis.

to calculating CVA risk and instead requiring that banks with over $100 billion of assets use less sophisticated measures. These new measures would unnecessarily increase capital requirements. At the moment, recognizing the fact that margin is designed to cover clients' exposure to their clearing members, there is no charge for client-cleared positions. Indeed, European regulators go further, exempting banks' exposures to non-financial counterparties from the charges. The Basel III endgame proposals have no such exemption, putting U.S. banks at a disadvantage compared to their European competitors.

SA-CCR. Currently, the largest banks are permitted, with regulatory approval, to use risk-sensitive approaches to counterparty credit risk. Smaller banks (Category III and IV banks, in the Fed's terminology (roughly, banks with $100-250 billion in assets) use a standardized approach developed around 20 years ago. The endgame proposals eliminate both of these approaches, replacing them with a new standardized approach, the SA-CCR. The safety of clearing houses relies on the prudence of their estimation of counterparty credit risk, and regulators carefully review the models that they use for this. The SA-CCR's estimates of counterparty credit risk are significantly higher than those of clearing houses, indicating that it

substantially overcharges for risk.

Belatedly, the authorities have announced a Quantitative Impact Study on the effect of the endgame proposals. However, this study will simply examine the additional capital burdens the proposals will impose. It will not examine whether these burdens are justified, given the risks being run, or how banks will react. Nor will it study how banks will restructure their businesses in response, or the effect of that on their customers and, consequently, the real economy.

An alternative path

Barr himself, in a 2006 paper he wrote with New York University's Geoffrey Miller, suggests the answer to these issues. He comments on the openness of the international bank capital rulemaking process to comments and suggests that its legitimacy was supported by its responsiveness "to suggestions made during the notice and comment process." This is an instance where the agencies should be similarly responsive. They should commission a more comprehensive study that examines not just the capital impact of their proposals but the costs and benefits of it for the whole economy, including its effects on derivatives, hedging and their use for risk management by businesses and banks. The DAT report demonstrates that it is possible to examine not just regulatory requirements, but also their impact, on the cost and structure of risk transfer.

The need for higher minimum capital requirements and higher GSIB surcharges remains unproven. Before imposing any increase, the agencies should demonstrate that they are justified. Then, if they are, the charges should be allocated so as to create the least damage to the economy. The likely result of this would be a withdrawal of the proposed changes to the GSIB surcharges, elimination of the CVA risk charges on client-cleared positions and a recalibration of the SA-CCR.

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ABA Viewpoint | Basel III endgame | Derivatives | Regulatory capital | Risk management

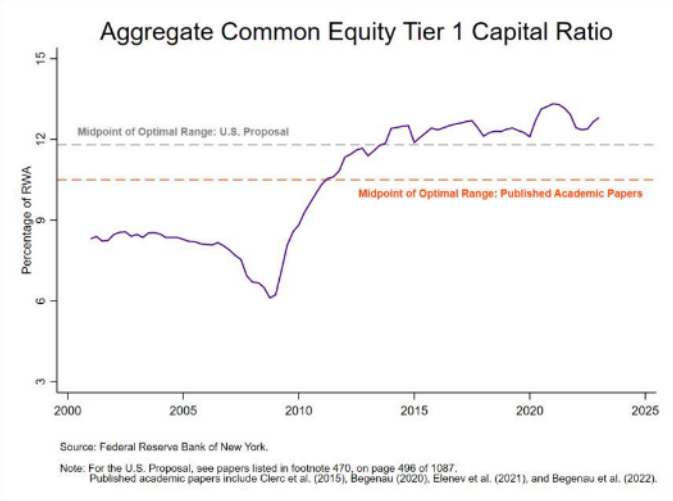
Appendix 7

U.S. Bank Capital Levels: Aligning With or Exceeding Midpoint Estimates of Optimal

Francisco Covas & Bill Nelson | Sept. 18, 2023

The recently released proposal by the Fed OCC, and FDIC would substantially revise the capital requirements for large banks in ways that would result in significant increases in those requirements. As a partial justification for this change, the agencies stated that "current capital requirements in the United States are toward the low end of the range of optimal capital levels described in the existing literature."[1] Although this statement is frequently repeated, it is false.

Current bank capital levels actually fall in the middle of the range of optimal estimates cited by the banking agencies and are even closer to the upper end of recent academic estimates. As of the end of the second quarter of 2023, the ratio of common equity tier 1 capital to risk-weighted assets (or "CET1 capital ratio"), the best regulatory measure of loss-absorbing capacity on a going-concern basis, stood at 12.8 percent for all U.S. bank holding companies and for the largest ones as well.[2] The banking agencies cite a range of optimal estimates between 6 and 17.5 percent, with a midpoint of 11.8 percent. Moreover, recent academic papers provide estimates that range from 6 to 14.5 percent, with a midpoint of 10.3 percent.



[1] https://www.federalreserve.gov/aboutthefed/boardmeetings/frn-basel-iii-20230727.pdf, p. 496.
[2] The data on banks' common equity tier 1 capital ratios is available at:
https://www.newyorkfed.org/research/banking_research/quarterly_trends

In this note, we first present some background information and then discuss the estimates of optimal levels of capital that the banking agencies cited in their request for comment. We then delve into greater detail regarding the two types of estimates. The older literature identifies the optimal level of bank capital as the level at which the net public benefit is maximized. In this context, the benefit of higher capital is a reduced probability of financial crises; the cost is more expensive bank credit, which in turn leads to a lower level of GDP.

More recent academic literature determines the optimal level of capital using quantitative macroeconomic models, calibrated to match various data features, both in terms of macroeconomic quantities and prices. In these models, the optimal level of bank capital is the one that maximizes lifetime consumption for households in the economy. The primary benefit of higher bank capital is a reduced probability of bank failure and attendant reduction in GDP from bankruptcy costs. However, the main cost is a smaller banking sector, resulting in decreased business borrowing and investment, along with a decline in GDP.

A key question we aim to answer in this post concerns the credibility and reliability of estimates from existing literature. Our analysis indicates that recent academic papers deserve more attention from policymakers, as they have undergone rigorous peer review and have been published in top academic journals. These papers also employ more stringent calibration methods, thereby reducing the authors' ability to arbitrarily adjust underlying assumptions to achieve estimates that match the researchers' priors about the optimal level of capital. By contrast, quantitative macroeconomic models subject to peer review must match many features of the data.

But one limitation of the academic literature is that these models often omit important specifics, such as variations in types of regulatory capital or the impact of post-crisis reforms. For example, they may not account for new liquidity and long-term debt requirements when estimating optimal levels of regulatory capital. This drawback would lead to an overestimation of the optimal capital levels, all else being equal.

Background

As we noted, the older literature on optimal level of bank capital estimates both the public benefit and the public cost of capital, identifying the optimal level where net social benefit is maximized—that is, where marginal social benefit from increasing capital equals marginal social cost. The public benefit of increasing bank capital is estimated as the reduction in the probability of a financial crisis multiplied by the present value of the GDP cost of such a crisis. The public cost of increasing capital is calculated as the increased cost of bank business loans and the consequent reduction in GDP.

Typically, in the older literature, the estimated net public benefit functions plateau at the maximum.[3] As a result, these estimates are imprecise—because the net benefit does not change significantly with material changes in the amount of capital at the estimated optimum, there is considerable uncertainty about where the exact optimum level is. Researchers rarely provide confidence intervals—the range within which they are confident the true estimate lies—but these ranges are unquestionably wide.

The estimates of optimal capital are also highly sensitive to underlying assumptions. For example, economists at the Sveriges Riksbank conclude that the optimum CET1 capital ratio for large Swedish banks lies between 25 and 60 percent, also depending on assumptions (Almenberg et al (2017)). In most other branches of economic analysis, the main result's *insensitivity* to assumptions is cited as evidence of that result's robustness. If an estimate varies widely across reasonable assumptions, it is evidence that the correct answer is not known with any confidence.

[3] See, for example, graph 4, "Long-run expected annual net benefits of increases in capital and liquidity," Basel Committee on Banking Supervision (2010), p. 30.

However, in papers on the estimates of optimal capital, authors cite the range of estimates under different assumptions as an indication of the range within which the true optimum likely resides.

We can't emphasize enough that the ranges cited in the literature are not confidence intervals; rather, they are illustrations showing how estimates change when various assumptions are altered. These illustrations reflect poorly on the precision of the analysis. Generally, those arguing that capital is at the low end of the optimal range cite high estimates that result from certain combination of assumptions, such as the Riksbank's estimate of a 60 percent optimal CET1 capital ratio. In an important departure from this practice, for each study we select either the baseline estimate of optimal capital or the midpoint of the range if a range is provided.

In addition, the unit of the capital ratio varies across studies. For example, the BCBS (2010) study finds that optimal capital is 13 percent. However, this estimate uses pre-Basel III units. After adjusting for Basel III's changes in the definition of capital and risk weights, subsequent BIS analysis by Fender and Lewrick (2016) concludes that 1 percent pre-Basel III equals 0.78 percent post-Basel III. Therefore, in current CET1 capital units, the BCBS study estimates optimal CET1 is 10.1 percent. As another example, the IMF (2016) study focuses on loss absorbency, so it is about total loss absorbency capacity (which includes loss-absorbing long-term debt) rather than capital.[4] So, while its estimate of a 15- to 23-percent requirement necessary to prevent most banking crises is above the average U.S. large bank capital level of 12.8 percent, when long-term debt is included, the largest U.S. banks currently maintain a total loss absorbing capacity ratio of 30 percent, which is well above the upper end of the estimated range.

Finally, there is often ambiguity about whether the estimates refer to the optimal amount of bank capital or the optimal capital requirement. Banks fund themselves with more capital than required because it is extremely costly to fall below requirements and because banks are subject to multiple requirements, all of which influence their capital choice because each could bind in the future with some probability. Since the empirical analyses underlying these estimates use actual capital, not required capital, the conclusions should be taken to be about actual capital.

ESTIMATES OF OPTIMAL CAPITAL IN STUDIES CITED BY U.S. BANKING AGENCIES

There are many estimates of the optimal level of bank capital. In the older literature, these estimates can vary widely when the assumptions are changed, precisely because the estimates themselves are imprecise. As noted, in each case, we either identify the baseline estimate or take the midpoint of a range if only a range is given. In the more recent literature, just one optimal level of capital requirements maximizes the welfare of households.

The banking agencies cite seven papers in a footnote to support their statement that bank capital is at the bottom of the optimal range. Among the large numbers of papers that estimate optimal levels of capital, the agencies select five that state that capital should be higher than the current level of U.S. capital requirements, and two that suggest that it should be lower. We will discuss each of these papers in turn.

Studies listed as finding that U.S. bank capital levels should be higher

The first paper that finds capital levels should be higher is Miles, Yang, and Marcheggiano (2013). They find that the ratio of tier 1 capital to risk-weighted assets should fall within a range of 16 to 20 percent, which has a midpoint of 18 percent. The average risk-based tier 1 capital ratio for U.S. banks is 14.1 percent and 14.5 percent for large banks. Thus, for all large banks, the average tier 1 ratio exceeds the CET1 capital ratio by 1.5 percentage points. Subtracting this difference from the study's estimate of optimal yields an optimal CET1 capital ratio of 16.5 percent.

[4] See, Dagher, Dell'Ariccia, Laeven, Ratnovski, and Tong (2016)

The second is an IMF working paper by Dagher, Dell'Ariccia, Laeven, Ratnovski, and Tong (2016). The authors find that total loss-absorbing capital should be in a 15- to 23-percent range, which has a midpoint of 19 percent. They conclude that the range is "consistent with the recent Federal Reserve's proposal of a total loss-absorbing capacity amount of the greater of 18 percent of risk-weighted assets and 9.5 percent of total leverage exposure for global systemically important banks (Board of Governors of the Federal Reserve System, 2015)." The TLAC ("total loss-absorbing capacity," which includes equity and long-term debt) of large U.S. bank holding companies is 30 percent of RWA. So the study, by its own admission, does not in fact conclude that U.S. bank capital levels should be higher.

The third paper, published in a St. Louis Fed publication by Firestone, Lorenc, and Ranish in 2019, argues that the optimal range for Tier 1 capital to risk-weighted assets is 13 to 25 percent, with a midpoint of 19 percent which maps to a CET1 ratio of 17.5 percent. This midpoint is 4.7 percentage points higher than the current bank capital level.

The fourth paper is by Begenau and Landvoigt, published in *The Review of Economic Studies* in 2022. The authors conclude that the optimal level of capital is 16 percent. In academic papers, the units of capital are often unclear. We assume that the paper refers to the risk-based tier 1 capital ratio, given that this is the capital ratio utilized in a closely related paper by Begenau (2020). To convert to a CET1 capital ratio, we reduce the estimate of optimal by 1.5 percentage points since that is the difference in tier 1 and CET1 minimum capital requirements. The optimal estimate is nearly 2 percentage points higher than current bank capital.

The fifth paper is a Federal Reserve staff paper by Van den Heuvel, published in 2022. The paper does not offer an estimate of optimal capital because it only estimates the costs, not the benefits, or raising capital requirements. Instead, it notes that the social benefit calculated in the BCBS (2010) study of increasing capital from 7 to 15 percent exceeds the social cost that the author calculates for the same range. However, these BCBS estimates are in pre-Basel III units, equivalent to raising CET1 capital from 5.5 to 11.7 percent. Consequently, the costs and benefits are not comparable so no optimal level can be inferred.

Studies listed as finding that U.S. bank capital levels should be lower

The first paper that finds capital should be lower is by the Basel Committee on Banking Supervision, published in 2010. This foundational paper, titled "An assessment of the long-term economic impact of stronger capital and liquidity requirements" is generally referred to as the LEI. In their baseline scenario, assuming liquidity requirements are met, they find that a 13 percent capital requirement maximizes net benefits. However, this estimate is based on pre-Basel III metrics. As noted, later research by BIS economists shows that 1 percentage point of CET1 ratio equates to 0.78 percent of this earlier metric, suggesting that welfare is optimized at a CET1 capital ratio of 10.1 percent.

The second paper that finds capital should be lower is by Elenev, Landvoigt, van Nieuwerburgh, published in *Econometrica* in 2021. The authors find that the welfare of households is maximized at a 6-percent equity requirement. The discussion is unclear on whether the requirement is set in terms of CET1 capital or tier 1 capital.

Elsewhere in the U.S. Basel proposal, the banking agencies reference other studies on optimal capital. An OECD Economics Department working paper by Slovik and Cournède, published in 2011, finds that their cost estimates for higher capital requirements align with those of BCBS (2010), which concluded that a 10.1 percent CET1 capital ratio is optimal. A 2015 Bank of England working paper by Brooke and colleagues suggests that the tier 1 capital ratio should range between 10 and 14 percent. Notably, U.S. banks currently have a tier 1 capital ratio of 14.1 percent, which exceeds the range estimated in this paper.

List of Optimal Capital Papers Covered in the Analysis

Paper	Type	Published in an Academic Journal?	Regulatory Capital Ratio	Midpoint/ Estimate (%)	Adj. to CET1 Capital Ratio
Panel A: Papers Cited in Footnote 470 in the U.S. Proposal that Report Optimal Capital in CET1 Capital or Tier 1 Capital terms					
BCBS (2010)	LEI	No	Tangible Common Equity*	13.0	10.1
Miles et al. (2013)	LEI	**Yes**	Tier 1 Capital Ratio	18.0	16.5
Firestone et al. (2019)	LEI	No	Tier 1 Capital Ratio	19.0	17.5
Begenau and Landvoigt (2022)	DSGE	**Yes**	Tier 1 Capital Ratio	16.0	14.5
Elenev et al. (2021)	DSGE	**Yes**	CET1 Capital Ratio**	6.0	6.0
Midpoint					**11.8**
Average					**12.9**
Panel B: Published Academic Papers Using Calibrated Macroeconomic Models					
Clerc et al. (2015)	DSGE	**Yes**	CET1 Capital Ratio	10.5	10.5
Begenau (2020)	DSGE	**Yes**	Tier 1 Capital Ratio	12.4	10.9
Elenev et al. (2021)	DSGE	**Yes**	CET1 Capital Ratio**	6.0	6.0
Begenau and Landvoigt (2022)	DSGE	**Yes**	Tier 1 Capital Ratio	16.0	14.5
Midpoint					**10.3**
Average					**10.5**
Panel C: Other Often Cited Papers					
Brooke et al. (2015)	LEI	No	Tier 1 Capital Ratio	12.0	10.5
Nguyen (2015)	DSGE	No	Tier 1 Capital Ratio	8.0	6.5

Notes: (*) The BCBS (2010) estimate is in terms of pre-Basel III definition of capital and risk weighted assets and has been multiplied by 0.78 to transform to CET1 capital as recommended by Fender and Lewrick (2016). (**) The paper is unclear about whether the requirement is set in terms of CET1 capital or Tier 1 Capital and assume the former. In our analysis, we discuss the results by assuming the optimal is set in terms of common equity tier 1 capital and reduce those set in Tier 1 capital terms by 1.5 p.p.

ESTIMATES OF OPTIMAL CAPITAL AKIN TO THE LEI

As we noted, many of the earlier estimates of the optimal amount of capital use the approach started by the LEI. In these studies, the benefit of higher capital is the reduction in the probability of a financial crisis, and the cost of higher capital is a reduced supply of bank credit. The cost and benefit are each expressed in terms of GDP. For benefit, the analyses incorporate estimates of the GDP lost as a result of a financial crisis. The estimated reduction in GDP—which occurs during and after a crisis—is expressed in present-value terms. The reduction in the

probability of a crisis each year is then combined with the present value of the lost GDP that would result from a financial crisis starting that year, to derive the benefit in terms of current GDP. For cost, the analyses estimate how much higher bank lending rates will be higher as a consequence of the higher capital requirement. Lending rates go up because capital is more expensive than deposits or other funding, but the rise is offset by a reduction in the cost of capital and debt owing to the reduced likelihood the bank will fail. The classic result derived by Modigliani and Miller (1958) is that in a world free of taxes and information asymmetries, the offset is complete, and the total financing cost of a firm is independent of its capital structure. Each study chooses a M-M offset that is some fraction below 1. The higher lending rate is then translated into a reduction in GDP using a standard large-scale model of the macroeconomy, such as the Fed's FRB-US model.

Researchers have to make several assumptions that have profound effects on the results. For one, the studies have to choose whether and how to adjust the analysis for other changes in bank regulations that have also occurred since the financial crises used as inputs to the analysis. For example, an impact study of the TLAC rule by the FSB in 2015 concluded that the rule reduced the probability of bank defaults by 30 percent and reduced the cost of the failures by 10 percent. Drawing in part on the FSB analysis, Firestone and colleagues (2019) estimate that liquidity and TLAC requirements have cut the annual probability of a crisis by about 30 percent (table 3 in Firestone et al., 2019). By way of comparison, that is a larger reduction in probability than the authors calculate results from an increase in the tier 1 ratio from 11 to 14 percent if the results are not adjusted for the other regulations.

Another critical assumption is which estimate of the cost of a crisis to use. Estimates vary widely, and the choice shifts the estimate of optimal capital by a large amount. The present value of the GDP cost depends materially on whether a financial crisis is assumed to result in a permanent reduction in GDP. For example, the LEI reports estimates using no permanent effects, using moderate permanent effects, and using large permanent effects. Under no permanent effect, the estimated GDP cost of a crisis is 19 percent of GDP; under moderate permanent effect, it is 63 percent; and under large permanent effect, it is 158 percent. With no permanent effect, if we take the benefit of liquidity regulations into account, the estimated optimal CET1 ratio for the banking system is 7 percent.[5] With moderate permanent effect (the LEI baseline assumption), the optimal CET1 ratio is 10.1 percent. With large permanent effect, the net benefits keep increasing for the range shown, although the range only goes up to 11.7 percent. As a reminder, the average CET1 capital ratio of U.S. bank holding companies (all banks and large banks) is currently 12.8 percent.

More broadly, these estimates of optimal capital based on the LEI framework have serious conceptual shortcomings that have become particularly evident in recent years:

First, during the mid-to-late 2010s, economies were experiencing a prolonged phase of sluggish growth, leading many to speculate that the GFC had caused a permanent reduction in economic potential. However, the economy has since returned to trend growth, calling into question the assumption that financial crisis effects are permanent, the assumption used in many estimates of optimal capital levels.

Second, banks fund themselves with capital largely so that they don't fail whenever they make a loss, which avoids bankruptcy costs and preserves franchise value. Even though these are private benefits, they need to be considered when estimating optimal capital; taking these costs into account would result in higher estimates of optimal. Similarly, banks don't just make business loans; they also make loans to households, take deposits, and support capital market intermediation; taking these estimates into account would result in lower estimates of optimal.

[5] The estimates are taken from BCBS (2010), table 8, p. 29. Capital ratios in the table are adjusted using the Fender and Lewrick adjustment of 0.78 to express them in CET1 terms.

Third, many analysts have revised up their estimate of the level that interest rates are likely to average over time. This change reduces the estimated present value calculations for future crises, reducing the resulting estimates of optimal capital.

And **fourth**, current financial stability analysis has focused on the possibility that financial crises may be triggered by a lack of dealer capacity resulting in part from higher capital requirements.[6] Not only do models based on the LEI approach not only fail to account for this risk, the possibility reverses the assumed consequences of higher capital requirements on the probability of a financial crisis.

We next turn to more recent estimates that consider benefits and costs more comprehensively.

ESTIMATES OF OPTIMAL CAPITAL BASED ON QUANTITATIVE GENERAL EQUILIBRIUM MODELS

Recent academic literature on optimal capital relies on dynamic quantitative general equilibrium models to assess the optimal level of capital of banks.[7] With advancements in solution techniques and computational power, the academic literature on this topic has been expanding rapidly. The advantage of quantitative macroeconomic models is that all decisions made by households, firms, banks and nonbanks are fully endogenous and have a direct impact on the cost of bank debt and equity and the economy's growth rate. Moreover, the calibration of these models is subject to a high degree of rigor. This rigor leaves little room for altering the assumptions without first demonstrating that the new calibration matches key features of the data, both in terms of macroeconomic indicators and the level and volatility of important asset price variables, such as credit spreads. In addition, these models often include heterogenous banks and match the distribution of U.S. bank capital.

The quantitative general equilibrium models used in the various academic papers are based on a common setup in which banks make loans to firms. These loans enable firms to invest in products and to pay wages and a return on capital. Banks finance these loans with both debt and equity. The Modigliani-Miller theorem, which implies that the total financing cost of a firm is independent of its capital structure, does not hold in these models for two main reasons. First, the investments that firms make are risky; and if they fail, the firm can default, leading to deadweight bankruptcy costs.[8] Second, households value deposits because they allow them to benefit from a convenience yield, namely the ability to make payments for goods and services. Therefore, the cost of deposits to banks is lower than if they had to fully remunerate depositors for default risk. In some of these models, deposit insurance may lower the cost of deposits for banks further.

In these quantitative general equilibrium models, if capital requirements are set too low, banks will make too many loans, resulting in too many firm defaults and bank losses in equilibrium. This leads to either too many bank failures or to government interventions to avoid large declines in output. In contrast, if capital requirements are set too high, banks will shrink and make fewer loans, which depresses investment and output. In equilibrium, these papers find the optimal level of capital by maximizing the welfare of households, which corresponds to their lifetime consumption.

Several papers use quantitative models (also known as DSGE models) that include banks to analyze the optimal level of capital, two of which were cited in the Basel proposal. Academic papers focus on different aspects of the economy, and for that reason, they vary in the optimal capital estimates they offer. As noted earlier, one of the

[6] See, for example, Duffie (2023).

[7] Dynamic quantitative general equilibrium models use modern macroeconomic theory to simulate an economy that is built up from individual components including households, firms, and financial institutions calibrated to match observed economic behavior. They are the leading tool for making assessment about the effects of changes in policy in an open and transparent manner (see Christiano et al. (2018)).

[8] Banks face costs associated with services rendered by professionals like lawyers and accountants during bankruptcy proceedings. These expenses can be particularly steep in the case of complex resolutions. Such direct costs diminish a firm's value below its intrinsic worth, creating a "deadweight loss." Additionally, bankruptcy incurs indirect costs, including the depreciation of assets tied up in the process.

cited papers is by Elenev and colleagues (2021). A key innovation of this paper is the introduction of a financial section in an otherwise standard model of the macroeconomy. This model can generate infrequent but large financial crises.[9] The authors find that the welfare of households is maximized with a capital requirement equal to 6 percent. As we noted earlier, the paper is unclear whether the requirement is set in terms of CET1 capital or tier 1 capital.[10]

The second paper cited in the Basel proposal is by Begenau and Landvoigt (2022). Before we describe the differences in this paper, it would be helpful to discuss an earlier paper by Begenau (2020). This earlier work was also published in an academic journal and places greater emphasis on households' preferences for holding deposits. So, relative to the paper by Elenev et al. (2021), households have a large demand for the provision of liquidity from banks, driven by a strong preference for holding deposits. In equilibrium, there is a significant scarcity of deposits, and increases in capital requirements can further lower the cost of deposits for banks. This results in more lending. Under these assumptions, Begenau (2020) shows that the optimal level of tier 1 capital ratio is 12.4 percent.

The key difference in the paper by Begenau and Landvoigt (2022) compared with Begenau (2020) is the introduction of a nonbank sector that competes with banks in offering credit to businesses. In the 2022 paper, banks hold insured deposits and pay a fee to the government for deposit insurance. Banks are also subject to capital requirements. In contrast, nonbanks hold uninsured and risky deposits and are susceptible to bank runs. According to the authors' calculations, if capital requirements for banks are increased, the banking sector shrinks. However, the nonbank sector expands, picking up some of the lending activities formerly handled by banks. This offsets the impact of increased capital requirements on both investment and economic output. Consequently, their analysis suggests that the optimal capital requirement rises to 16 percent. Given that Begenau (2020) focused on the tier 1 capital ratio, we infer that the 2022 paper does as well, translating to an optimal 14.5 percent in CET1 capital ratio terms.

Across these three papers that rely on quantitative general equilibrium models, the range of the optimal CET1 capital ratio is between 6 and 14.5 percent, with a midpoint of 10.3 percent. This suggests that the current level of U.S. banks is closer to the upper end of the range than to the midpoint of the range of optimal capital levels. In addition, the optimal levels of capital found in the quantitative general equilibrium models do not consider the introduction of long-term debt requirements that reduce bank incentives to take on risk and the costs of a financial crisis. The main reason is that the quantitative models of bank regulation are already quite complicated. Adding these features makes it more difficult to calculate the optimal behavior of households, banks, nonbanks, businesses and the government.

[9] The authors achieve this by modeling banks as making long-term loans to firms and allowing for endogenous (or strategic) defaults by firms. The model also employs innovative numerical methods that track the endogeneity of the wealth distribution among households.
[10] We assume the optimal is being set in terms of common equity tier 1 capital.

Conclusion

The need to estimate optimal capital levels after the GFC gave rise to a body of literature that evaluates the tradeoffs between the costs and benefits of higher capital requirements. In this note, we examined the evolution of these papers, beginning with BCBS's seminal work on this important topic. However, estimates of optimal capital based on the LEI framework have notable conceptual shortcomings that have become increasingly apparent in recent years. For instance, the crises in March and April 2020 were triggered by a lack of dealer capacity in financial markets, a risk not accounted for in LEI-based studies.

More recent academic literature considers these costs and benefits more comprehensively and merits greater attention from policymakers. Current bank capital levels are above the midpoint of the range of optimal estimates cited by banking agencies and are close to the upper end of recent academic estimates. Therefore, the partial justification given by the banking agencies to substantially revise the capital requirements for large banks, stating that "current capital requirements in the United States are toward the low end of the range of optimal capital levels described in the existing literature," is false.

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Appendix 8

BANK POLICY INSTITUTE

The Trillion-Dollar Omission in Vice Chair Barr's Cost Analysis

Francisco Covas | Oct. 12, 2023

In a speech on Oct. 9, the Federal Reserve Board's Vice Chair of Supervision downplayed concerns about the potential effects of proposed capital increases on lending activity. Michael S. Barr stated that the "estimated increase in capital required for lending activities on average" would be only 3 basis points, or 0.03 percent, and he said that estimate accounts for both credit risk and operational risk charges. However, as we show in this post, Vice Chair Barr's estimate fails to account for $1 trillion in risk-weighted assets that the proposal creates to estimate operational risks closely associated with lending activities. Correcting for that error would nearly quadruple the effect of the proposal on bank funding costs for lending activities.

The Vice Chair's estimate originates from an analysis conducted by the banking agencies that was referenced in the agencies' proposed capital rule.[1] That analysis estimates the economic impact that the proposal would have on *lending activities* by considering its effects on credit risk-weighted assets and the component of operational risk related to interest income (notably it excludes the component of operational risk related to non-interest, or fee, income). This amounts to an increase of $380 billion in risk-weighted assets, corresponding to a 3.5 percent hike in risk weighted assets or a 30-basis-point rise in the required risk-based capital ratio. In his speech, Vice Chair Barr explained the 3-basis-points effect on funding by assuming a cost of equity about 10 percent higher than the cost of debt.

The proposal makes a similar calculation to determine the economic impact on *trading activities*. It estimates an increase of $880 billion in risk-weighted assets related to trading activities, encompassing market risk, derivatives counterparty risk and the component of operational risk related to trading activities. Given that the projected increase in the market risk component stands at $420 billion and the new charge for derivatives counterparty risk is $288 billion, the assumed operational risk charge pertaining to trading activities amounts to $172 billion (calculated as $880 billion – $420 billion – $288 billion).

The sum of the two operational risk charges (lending and trading activities) therefore amounts to $952 billion. But this figure is considerably less than the estimated $1,950 billion in risk-weighted assets for operational risk reported in the Basel proposal. **As a result, Vice Chair Barr's speech and the agencies' economic impact analysis both exclude $1 trillion in risk-weighted assets for operational risk unallocated to either lending or trading activities.** That is a very material amount of risk-weighted assets to go missing.

The sources of those calculations are shown in Table 1. The estimates either come directly from the Basel proposal or are arithmetically derived from those figures.

[1] A discussion of this analysis starts on page 64167 of the Federal Register version of the proposed capital rule available here.

Table 1: Risk-weighted Assets by Risk Stripe

	Current Stdz. RWA ($ Billions)	B3E NPR RWA ($ Billions)	B3E NPR vs. Stdz ($ Billions)	B3E NPR vs. Stdz. (%)	Inc. in Capital Req'd (% Total RWA)
Credit Risk	10,900	10,500	(400)	-3.7%	
Market Risk	560	980	420	75.0%	
Operational Risk		1,950	1,950	—	
CVA Risk		288	288	—	
Total*	**11,600**	**13,800**	**2,200**	**19.0%**	
Memo: Lending and Trading Activity Details Impacts					
Lending Activity Including Related Op. Risk	**10,900**	**11,280**	380	**3.5%**	**0.30%**
Credit Risk	10,900	10,500	(400)		
Operational Risk		780	780		
Trading Activity Including CVA and Related Op. Risk	**560**	**1,440**	880	**157.1%**	0.67%
Market Risk	560	980	420		
CVA Risk		288	288		
Operational Risk		172	172		
Other (Not Included in Lending or Trading Activity Impacts)		**998**	**998**		
Operational Risk		998	998		

*Totals do not sum up due to rounding.

**Numbers in blue are provided directly in the NPR; other numbers are derived arithmetically.

The operational risk services component includes non-interest income, and much of this revenue is linked to lending activities. Examples include income from the issuance and usage of credit cards; earnings from the sale and servicing of mortgage loans; fees from syndicated lending; and revenue from operating leases on auto loans, to name just a few. Other fees and commissions correlate with various services that banks offer on behalf of their lending clients, such as custody and fiduciary activities or the underwriting of equity or market debt.

For instance, in a recent post, we used FR Y-9C data to estimate that banks typically selling mortgages they originate to government-sponsored enterprises could see their capital requirement for mortgages more than double from the operational risk add-on.

Similarly, banks that originate credit-card loans and receive both interchange and credit-card fees might easily exceed a 100-percent risk weight solely from the associated operational risk charge. For other banks, the credit-card fees would translate to at least a 20-percent add-on for operational risk, solely from the fee income portion of their credit-card business.[2]

Assuming that the entire services component for operational risk—equivalent to another $1 trillion in risk-weighted assets—is closely associated with lending activities, this would lead to an estimated increase in funding costs for lending activities of 11 basis points on average. This is nearly quadruple the estimate cited in this week's speech by Vice Chair Barr. We must acknowledge that not all fee income is associated with lending activities for all banks. However, regardless of the proper allocation between the two categories, there is no basis for failing to allocate $1 trillion of risk-weighted assets to one or the other.

Another important concern is that the banking agencies' analysis and Vice Chair Barr's speech put too much emphasis on averages. Banks frequently use a risk-adjusted performance measure to evaluate the profitability of individual business units.[3] These units are reviewed at a much more granular level than merely considering total credit or market risk RWA, as presented in the agencies' analysis of economic costs of the Basel proposal. Banks will typically calculate return on capital for particular business units and decide whether to expand or reduce financing based on capital-adjusted profitability. As a result, the rise in funding costs would disproportionately affect activities projected to face steeper increases in capital requirements. Among these are mortgage loans to low- and moderate-income borrowers, credit-card borrowers and below-investment-grade nonfinancial borrowers, which include most small businesses.

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[2] This result will be explained in a forthcoming blog post.
[3] See John Hull, "Risk Management and Financial Institutions," Wiley Finance, Chapter 26 (2018).

Appendix 9

A Better Way to Assess the Economic Impact of the Basel Proposal

Francisco Covas, Paul Calem, Laura Suhr Plassman & Benjamin Gross | Jan. 9, 2024

The Federal Reserve's Vice Chair for Supervision, Michael Barr, has indicated that under the U.S. banking agencies' Basel proposal, the average loan would see a cost increase of a mere 3 basis points. As a result, the Vice Chair contends that the proposal's impact on borrowing costs will be negligible, and its benefits for financial stability will outweigh the costs.

This assessment is incomplete, because it relies solely on a simple average of the proposed changes in capital charges. Furthermore, the economic impact analysis in the proposal omits half of the $2 trillion increase in risk-weighted assets for operational risk. This omitted half, tied to fee income, is known as the services component of the operational risk capital charge.[1] A share of this services component is tied to lending-related business lines or functions; another share to trading activity; and the remainder to other sources of noninterest income that are part of financial intermediation from banks, and therefore cannot be excluded from any analysis of the proposal's costs and benefits. A comprehensive evaluation of the capital proposal requires careful examination of each significant component of the proposal and its potential effects on each of a bank's various business lines and intermediation functions, across lending, trading and other important financial intermediation activities.

In this note, we recommend ways the agencies can more comprehensively evaluate the Basel proposal's impact on bank lending, trading and other financial intermediation activities, including by accounting for the omitted $1 trillion services component and by drilling down by business line. Not only banks' lending but their trading and other financial intermediation activities are crucial to support economic growth and broader financial market liquidity. Moreover, the banking industry believes that the proposal will likely result in significant increases in costs for certain business lines, financial intermediation functions and borrower segments. These increases will particularly affect borrowers with limited ability to absorb them.

In other words, the current estimate of a 3-basis-point aggregate impact on lending rates has three major shortcomings, which a more comprehensive assessment must address. First, the estimate of lending impact needs to consider the lending related share of the missing $1 trillion RWA from the services component of the operational-risk capital-charge calculation ("op risk services component" for brevity). Second, the overall impact assessment needs to consider RWA effects on banks' trading and other financial intermediation activities. Third, reporting only an aggregated impact masks key distinctions across business lines and intermediation functions, as well as across institutions.

BPI's analysis, using publicly available data, indicates that about one-third of the RWA generated from the op risk services component is linked to lending-related business lines and functions. This includes revenues from credit cards, leases and loan commitment fees. The remaining two-thirds are related to trading activities and nonbanking services, such as asset management, securities underwriting and fees and commissions from securities brokerage and fiduciary activities. Although the large capital charge associated with the latter two-thirds of the services

[1] *See* Francisco Covas, "The Trillion Dollar Omission in Vice Chair Barr's Cost Analysis," Bank Policy Institute (October 12, 2023), available at https://bpi.com/the-trillion-dollar-omission-in-vice-chair-barrs-cost-analysis/

component may not directly affect lending, it could discourage banks from diversifying beyond pure lending services. Ultimately, the higher capital charge would still affect consumers because they would bear the increased costs of financial intermediation services.

Within the services component, the proportion of banking and non-banking services driven by differences in banks' business models varies widely. For example, the lending-related share of the op risk services component will be close to 100 percent at banks specializing in credit card and auto lending. As a result, the proposed rule's capital impact on lending at these institutions will be relatively large. With other banks that specialize in asset management, payments and custody services, customers will also feel the impact of the new rules driven by the increase in each bank's cost of providing those services.

The economic impact analysis needs to follow the business practice of banks, where capital is allocated specifically to different business lines. If a bank's return on equity for a particular business line fails to exceed its cost of capital (considering all changes in capital requirements), the bank may either pass the higher funding cost on to borrowers or reduce those exposures. This will result in the bank redirecting capital to other business lines or returning it to its shareholders.

Publicly available data offer only a basic method for categorizing fee income across business lines. This limits the ability of BPI or others relying on public data to accurately allocate the op risk services component among lending-related activity, trading and other nonbanking services. However, the agencies can leverage information from the Federal Reserve's quarterly FR Y-14 regulatory reports to assess the impact of the RWA generated from the op risk services component, and we recommend they do so.

The FR Y-14 data collection gathers data on noninterest income by line of business. These data would allow the agencies to allocate the $1 trillion of RWA in the services component to the different business lines—mortgages, credit cards, small business lending, commercial lending, asset management, investment banking, custody services and sales and trading, and so on. The FR Y-14 data would therefore enable more accurate allocation of the op risk services component among lending-related activity, trading and other nonbanking services, allowing for more accurate assessment of the overall impact of the proposal on those activities.

Finally, it is important to emphasize that the agencies should consider reducing the risk weightings for certain business lines. Currently, some of these lines may be subject to excessively stringent capital requirements, especially when compared with their historical loss experiences. A comprehensive assessment of the proposal's benefits and costs should acknowledge that a capital-neutral approach is inappropriate for business lines like mortgages, retail loans, small business lending and trading activities. These business lines often face disproportionately high capital charges once the impacts of operational risk and stress testing are considered, as detailed in previous BPI posts.[2]

The Proposal's Economic Analysis Excludes a Key Component

The agencies have estimated the proposal's effect on the lending and trading activities of covered banks. They did so by allocating the share of risk-weighted assets across lending and trading activities. The proposal includes changes to the calculation of capital requirements for four risk stripes: credit risk, market risk, operational risk and credit valuation adjustment (CVA) risk. Credit risk and a portion of operational risk were allocated to lending activities; market risk, CVA risk and a portion of operational risk were assigned to trading activities. However, as

[2] See Paul Calem and Francisco Covas, *The Basel Proposal: What It Means for Retail Lending*, Bank Policy Institute (Nov. 8, 2023), available at https://bpi.com/the-basel-proposal-what-it-means-for-retail-lending/; and Paul Calem and Francisco Covas, *The Basel Proposal: What It Means for Mortgage Lending*, Bank Policy Institute (Sep. 30, 2023), available at https://bpi.com/the-basel-proposal-what-it-means-for-mortgage-lending/.

we explain in this section, the agencies did not allocate the $1 trillion increase in RWA from the services component to either lending or trading activities. This $1 trillion accounts for nearly 50 percent of the increase in aggregate RWA for all banks subject to the proposal, so it is obviously a highly material exclusion.

Although the agencies' analysis is not fully transparent, we estimated how much of the proposed operational risk charge is tied to lending activities and how much to trading activities. The proposal states:

> The agencies estimate risk-weighted assets associated with banking organizations' lending activities would increase by $380 billion.[3] (page 64,169)

Since the agencies have estimated a $400 billion decline in risk-weighted assets for credit risk, we can implicitly estimate that the lending portion of operational risk is $780 billion. The $380 billion increase in risk-weighted assets represents a 3.5-percent rise, or a 0.3-percent increase in required capital. If we assume that the cost of equity is 10 percentage points higher than the cost of debt, this leads to a 3-basis-point increase in lending costs.

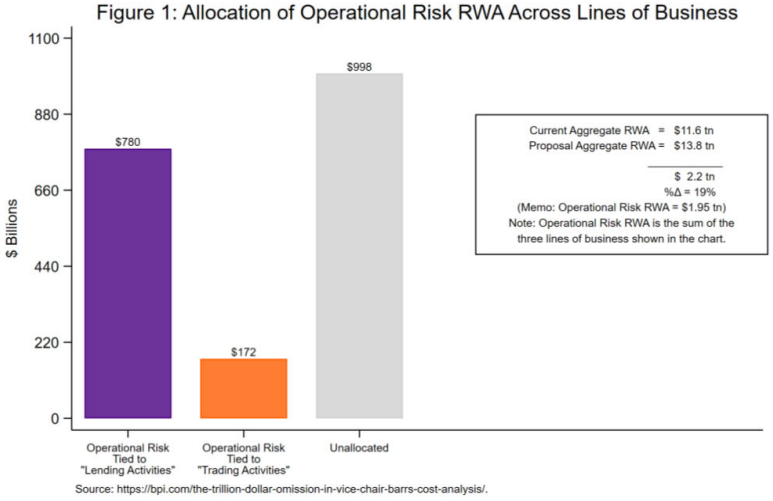
With respect to the impact of the proposal on trading activity, the proposal states:

> The agencies estimate that the increase in RWA associated with trading activity (market risk RWA, CVA risk RWA, and attributable operational risk RWA) would be around $880 billion for large holding companies.[4] (page 64,170)

Applying a similar approach to trading as to lending, we can implicitly estimate that the trading-activity portion of operational risk is $172 billion. The results are summarized in Figure 1.

[3] See Federal Register, *Regulatory Capital Rule: Large Banking Organizations and Banking Organizations With Significant Trading Activity*, Vol. 88, No. 179 (September 18, 2023), available at https://www.govinfo.gov/content/pkg/FR-2023-09-18/pdf/2023-19200.pdf.
[4] See note 3.

Figure 1: Allocation of Operational Risk RWA Across Lines of Business



Source: https://bpi.com/the-trillion-dollar-omission-in-vice-chair-barrs-cost-analysis/.

However, despite the agencies estimating a $1,950 billion increase in risk-weighted assets due to the operational risk charge, they have omitted almost $1 trillion of this increase in their economic impact analysis. This unallocated $1 trillion is excluded from the agencies' estimation of the effects on lending and trading due to the proposed rule. The omitted amount, which the agencies seem to associate implicitly with fee income linked to other banking services, represents nearly half of the estimated increase in aggregate risk-weighted assets. As a result, its significance is substantial.

Business Lines: A Better Way to Assess the Economic Impact of the Basel Proposal

Banks often compare the expected returns on various lines of business with the required capital to determine whether to expand or scale back a particular line. A common metric used is the risk-adjusted return on capital:[5]

$$\text{Risk-Adjusted Return on Capital} = \frac{Revenues - Costs - Expected\ Losses}{Required\ Capital}.$$

For example, the greater the required capital for a specific business unit, the lower its risk-adjusted return. Business lines with lower risk-adjusted returns tend to contract, while those with higher returns are likely to expand.

Typical business lines at banks include commercial lending, mortgage lending, credit card lending, small business lending, investment banking, private equity, trading, asset management and treasury services, among others. Ideally, the agencies' impact analysis would assess the effects of the proposed changes on required capital, breaking down these effects in more detail, such as by individual business lines.

Analyzing the proposal's effects at the business-line level is crucial for two reasons. First, focusing solely on the average capital effect across all business lines obscures important details about how the proposal will affect various lending categories. Previous BPI posts have raised significant concerns about specific lending segments such as mortgage loans and retail loans. Second, for the purpose of more fully and accurately accounting for RWA

[5] See John C. Hull, *Risk Management and Financial Institutions*, 6th ed., pp. 599–616. New York: Wiley, 2023.

impacts from the services component of operational risk, we must analyze the sources of fee income that comprise the $1 trillion unallocated portion of operational risk. The rest of our discussion focuses on the latter issue.

Accounting for the Omitted Portion of the Op Risk Services Component

Public data on bank income are published in the quarterly FR-Y9C regulatory reports. Although these data present only a rudimentary breakdown of noninterest income across business lines, they are adequate for developing a rough allocation across lending-related, trading and other fee-generating activities. Toward this goal, we start by analyzing the components of noninterest income reported in Schedule HI of the FR Y-9C, which correspond to the currently unallocated (services) component that has been excluded from the agencies' analysis. This helps to identify which categories of fee income are associated with lending-related business lines and which with trading and other intermediation-related activities. The operational-risk charge related to these activities, properly allocated, should be incorporated into the RWA economic impact assessment.

Seven items of noninterest income are included in the services component of operational risk, ranked here by order of importance, along with the item's percent contribution to the total services component on average over the past three years:[6]

- *Other Noninterest Income* (34 percent). This category includes all other operating income such as bank card and credit card interchange fees, lease income and loan commitment fees.
- *Investment Banking, Advisory Fees* (26 percent). This category includes fees and commissions from underwriting securities, private placements of securities, investment advisory and management services, merger and acquisition services and other related consulting fees.
- *Fiduciary Activities* (15 percent). This category includes gross income from services offered by the trust departments of banks.
- *Fees and Commissions from Securities Brokerage* (15 percent). This category includes fees and commissions from securities brokerage activities, including from the sale and servicing of mutual funds, from the purchase and sale of securities and money market instruments where the bank is acting as agent for other banking institutions or customers, and from the lending of securities owned by the bank.
- *Service Charges on Deposits Accounts* (7 percent). This category includes amounts charged to depositors in domestic offices.
- *Servicing Fees* (1 percent). This category includes income from servicing real estate mortgages, credit cards and other financial assets held by others, or any other insurance activities net of expenses.
- *Insurance Fees* (1 percent). This category includes income associated with premiums earned by holding company subsidiaries engaged in insurance underwriting or reinsurance activities, and income from insurance product sales.

Clearly, the bulk of fee income related to lending-related business lines and functions would be contained in the *other non-interest income* category. An additional substantive share of lending-related fee income would derive from the investment banking category. This is because banks help firms of all sizes in raising equity and debt from market investors, categorizing these services as lending-related activities. In addition, these fees are connected to trading activities, since banks often make markets and hold these securities in their portfolios for this purpose.

[6] Servicing fees are reported by deducting expenses from revenues. The proposal mandates that banks capitalize based on gross servicing fees. Therefore, servicing fees will account for more than 1 percent of the op risk services component. Moreover, these data are available in the quarterly FR Y-14 regulatory reports, but this information is confidential.

Figure 2: Share of Fee Income Across Business Lines by Bank

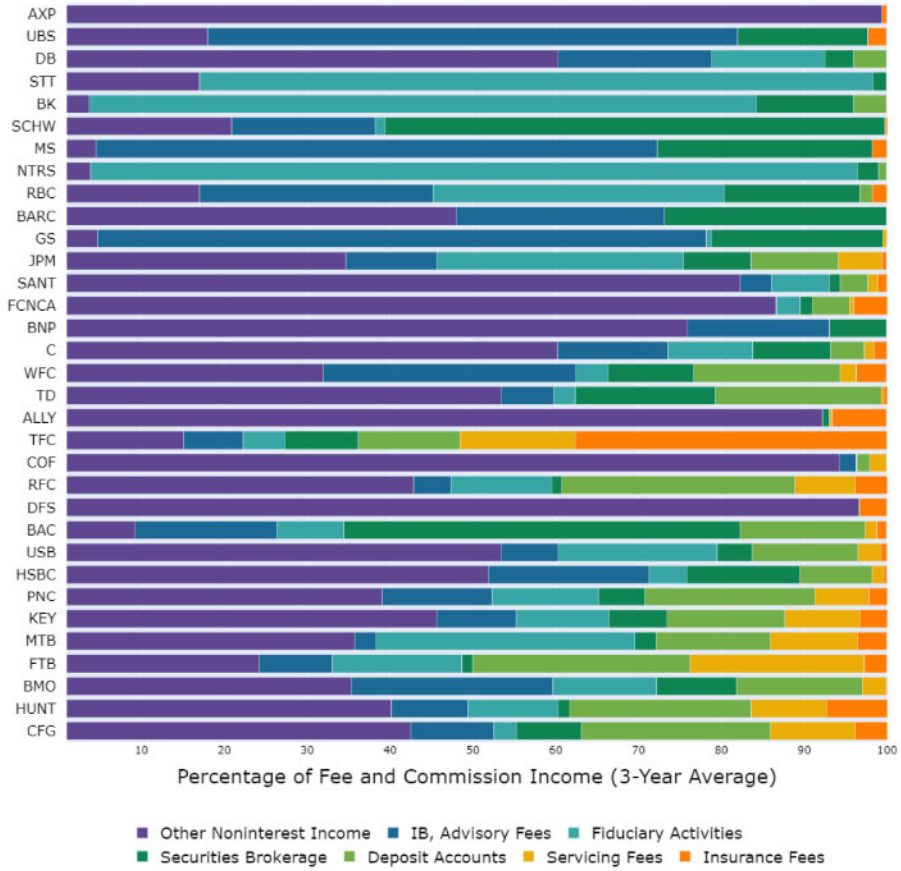


Figure 2 illustrates the distribution of fee income across these seven categories, as reported in Schedule HI by various banks. Note the wide variation in bank shares across different components of noninterest income. For instance, credit card banks and those focusing on auto lending report a share of other noninterest income in the op risk services component ranging from 82 to 99 percent. In contrast, universal banks and domestic regional banks, which typically have substantial loan portfolios, report a share of other noninterest income in the op risk services component from 35 to 60 percent, with one universal bank being an exception. On the other hand, trading banks often report a share for investment banks and advisory fees ranging from 60 to 80 percent. And custodian banks report a share in fiduciary revenues that varies from 80 to 95 percent.

How Much of *Other Noninterest Income* Is Related to Lending?

The "other noninterest income" category accounts for about one-third of all fee income in the op risk services component of the operational-risk charge. To gain a better understanding of this broad category, we analyze the memoranda items in Schedule HI of the FR Y-9C. This item includes seven standardized subcategories, including credit card interchange revenues.[7] Banks are required to report any item of other noninterest income that exceeds $100,000 and represents more than 7 percent of their noninterest revenues. They must also report any other revenue sources not included in the seven standardized subcategories, provided these revenues exceed the set regulatory thresholds. In such instances, the language used in the write-in revenue fields is not standardized, and each bank words it individually.

Among the standardized items, "Bank card and credit card interchange fees" account for about 42 percent of other noninterest income. The remaining six items, which total 21 percent of other noninterest income, are not lending-related, rarely exceed the regulatory reporting thresholds, and therefore are not itemized. The write-in items make up about 37 percent of other noninterest income.

Capital charges tied to bank card and credit card interchange fees will directly affect the pricing and profitability of both consumer and small business credit alongside capital charges for credit risk. With credit cards, the combined capital charge for credit and operational risks are likely to be passed on to consumers through higher annual fees, increased interest rates, reduced card rewards or other diminished benefits. Alternatively, a portion of the increased capital charges might be passed on to small businesses in the form of higher fees for payments and other services. This could disrupt existing banking relationships by driving small-business customers away, thereby also affecting access to credit for small businesses. Furthermore, some issuers may find that certain consumer segments or small businesses can no longer be served profitably due to reduced card usage prompted by these changes.

As for the write-in items, to assess their ties to lending-related business lines and functions, we first classify them into more standardized categories amenable to such an analysis:

- *Credit Card Fees* (12 percent of other noninterest income). This category includes net revenues associated with card fees, annual credit card fees, transaction processing revenues and other credit-card-related fees.
- *Operating Lease Fees* (8 percent of other noninterest income). This category includes operating lease revenues, lease income, rent on operating leases to others and other lease income.
- *Loan Commitment Fees* (7 percent of other noninterest income). This category includes syndication underwriting fee income, mortgage loan fees, net of broker premiums, fees on loans and lending commitments and other noninterest fees on loans.
- *Income from Affiliates* (4 percent of other noninterest income). This category includes affiliate service charges, income from dividends, fees and reimbursements from affiliates and revenue transfers.
- *Change in Valuations* (2 percent of other noninterest income). This category includes a broad range of items, namely FX losses on hedged items, write-downs due to credit spreads, net change in fair value of derivatives and changes in the fair value of mortgage loans held for sale.
- *Miscellaneous* (4 percent of other noninterest income). This category includes all other write-in items that are not classified above.

In this classification, about 25 percent of the other noninterest income category (from the first three groups listed) is directly linked to lending. Since credit cards are generally considered a business line with a lending focus, the 42

[7] The seven itemized items in other noninterest income are: "Income and fees from the printing and sale of checks," "Earnings on/increase in value of cash surrender value of life insurance," "Income and fees from automated teller machines (ATMs)," "Rent and other income from other real estate owned," "Safe deposit box rent," "Bank card and credit card interchange fees," and "Income and fees from wire transfers."

percent associated with credit card interchange fees are to be added on, so that in total 67 percent of the other noninterest income category is connected to lending-related business lines and functions.

Furthermore, servicing activities are generally related to lending. However, since servicing fee revenues are reported net of fees, whereas the op risk services component requires gross amounts for calculation, estimating the size of gross servicing fees in the services component is challenging. Recharge income should also be excluded from the services component because it applies only to subsidiaries, specifically U.S. subsidiaries of foreign banks.

And as noted, among the other components of noninterest income, investment banking and advisory fees are also closely related to lending in addition to being tied to trading activities; in the absence of more granular data, we shall presume an even split. In sum, the lending-related share of the op risk services component is two-thirds of the other-noninterest-income category, or about 23 percent, plus half the investment banking share, or 12 percent. Based on this analysis, *about one-third* of the op risk services component could reasonably be attributed to lending-related business lines and functions. The other two-thirds are tied to trading activity and other sources of fee income. However, the level of disaggregation provided in public reports poses challenges for achieving a more detailed level of disaggregation beyond what is accomplished in our analysis.

The Fed's Stress-Testing Data: The Answer to a Better Economic Impact Analysis

Fortunately, the agencies do not have to rely on FR Y-9C data to assess the changes in capital requirements across business lines. The Federal Reserve collects more detailed information on noninterest revenues through its confidential data on the stress tests. As shown in Figure 3, the quarterly FR Y-14 regulatory data collection gathers data on noninterest income by line of business. For instance, these data only allow the agencies to allocate the $1 trillion of RWA in the op risk services component to the various business lines, such as mortgages, credit cards, small business lending and commercial lending.

Figure 3: FR Y-14Q Regulatory Report—Noninterest Income Schedule

	Non Interest Income by Business Segment: (17)	
14	Retail and Small Business	-
14A	Domestic	-
14B	Credit and Charge Cards **(10)**	-
14C	Credit and Charge Card Interchange Revenues - Gross	
14D	Other	
14E	Mortgages and Home Equity	-
14F	Production	-
14G	Gains/(Losses) on Sale **(18)**	
14H	Other	
14I	Servicing	-
14J	Servicing & Ancillary Fees	
14K	MSR Amortization **(20)**	
14L	MSR Value Changes due to Changes in Assumptions/Model Inputs/Other Net of Hedge Performance **(19)(21)**	
14M	Other	
14N	Provisions to Repurchase Reserve / Liability for Residential Mortgage Representations and Warranties (contra-revenue) **(12)**	
14O	Retail and Small Business Deposits	-
14P	Non Sufficient Funds / Overdraft Fees - Gross	
14Q	Debit Interchange - Gross	
14R	Other **(22)**	
14S	Other Retail and Small Business Lending	
14T	International Retail and Small Business **(16)**	
15	Commercial Lending	

16	Investment Banking	-
16A	Advisory	
16B	Equity Capital Markets	
16C	Debt Capital Markets	
16D	Syndicated / Corporate Lending	
17	Merchant Banking / Private Equity	-
17A	Net Investment Mark-to-Market	
17B	Management Fees	
17C	Other	
18	Sales and Trading	-
18A	Equities	-
18B	Commission and Fees	
18C	Other [sales and trading noninterest income] **(23)**	
18D	Fixed Income	-
18E	Rates	
18F	Credit	
18G	Other	
18H	Commodities	-
18I	Commission and Fees	
18J	Other	
18K	Prime Brokerage	-
18L	Commission and Fees	
18M	Other	
19	Investment Management	-
19A	Asset Management	
19B	Wealth Management / Private Banking	
20	Investment Services	-
20A	Asset Servicing	-
20B	Securities Lending	
20C	Other	
20D	Issuer Services	
20E	Other	
21	Treasury Services	
22	Insurance Services	
23	Retirement / Corporate Benefits Products	
24	Corporate / Other	
25	Optional Immaterial Business Segments **(7)**	
26	**Total Non-Interest Income (2) (26)**	-

Previous BPI research examined the effects of the proposal on residential mortgages and card credit lines, demonstrating substantial increases in risk weights in some risk segments, driven largely by the new operational risk charge. The increased capital charges will adversely affect the price and availability of credit within these segments, with a disproportionate impact on access to credit among low- and moderate-income households.

A final important point is that the U.S. proposal imposes risk-weight surcharges, relative to the international Basel III agreement, for which there is no underlying risk justification (20 percentage points in each mortgage LTV category, and 10 percentage points for credit card and other retail). These surcharges apparently reflect the goal that the overall change in capital requirement for these products be neutral. As a general proposition, that notion is misguided. The agencies should consider reducing the risk weights from current levels for some business lines.

Moreover, in the United States, the annual stress tests bring more risk sensitivity to banks' capital requirements. They offer added assurance that banks hold sufficient capital to absorb extreme downturn losses.

Conclusion

In this note, we recommended ways the agencies can more comprehensively assess the impact of the Basel proposal on banks' lending activities. The focus of these recommendations is on accounting for the lending activity share of the $1 trillion services component of the operational-risk capital-charge calculation, currently missing from the agencies' published estimate of overall capital impact. This is best addressed through a granular analysis of the op risk services component by business line. We have used the FR Y-9C reports to show how such an analysis can be conducted. Our illustrative calculations also document the materiality of the missing $1 trillion component, since we estimate that almost half of the op risk services component is lending-related. Fortunately, the agencies have access to the more detailed FR Y-14Q data, which present revenue information broken down by line of business.

In actual practice, banks allocate capital at the business-line level, so it's essential to have a business-line focus when appropriately assessing the effects of increased capital charges on lending activity. If a bank's return on equity for a particular business line fails to exceed its cost of capital (after factoring in all changes to capital requirements), the bank will either pass the added funding cost on to borrowers or reduce those exposures, redirecting capital to other business lines or its shareholders.

Performing a revised economic analysis that addresses the deficiencies in the proposal's current analysis will lead to a significant increase in its estimated costs and show that the original analysis greatly understated these costs. Not only would this overcapitalization fail to achieve a clear benefit that would outweigh the associated costs, it would actually discourage banks from diversifying from pure lending services.

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Disclaimer: The views expressed do not necessarily reflect those of the Bank Policy Institute's member banks, and are not intended to be, and should not be construed as, legal advice of any kind.

Appendix 10

The Basel III endgame proposal: Yet another gift to private credit funds

ON NOVEMBER 3, 2023 COMMERCIAL LENDING, ECONOMY, MORTGAGE, POLICY

By Sayee Srinivasan and Jeff Huther
ABA Data Bank

Regulators recently proposed regulations that would impose additional capital requirements on banks (known as the "Basel III endgame," or B3E), which will inevitably reduce bank lending. Faced with additional capital requirements, banks have two broad choices — raise additional capital to maintain existing footprint or shrink current footprint. Evidence from the initial Basel III implementation reveals that banks will choose the latter. One of the consequences will be a further shift of lending to unregulated firms that are free from oversight and capital requirements, increasing the risk of financial instability.

This essay examines a small group of beneficiaries, private credit funds (or private credit for short), that have already experienced rapid growth following previous rounds of increased capital requirements for banks and whose rapid growth raises questions about the net effects of the proposed regulations. While they represent only a small part of the unregulated financial businesses that would benefit from B3E, private credit funds are a good illustration of the shift out of banks and into opaque, expensive nonbank financial firms. Such a shift constitutes an example of the classic unintended consequences of regulations that lack holistic economic analysis.

Background

Private credit funds are pools of actively managed capital that invest primarily in loans to private companies — a type of nonbank financial intermediation, or NBFI also called shadow banking. So, while investors could start a bank with the goal of lending to businesses, they can also choose to

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avoid the expansive bank regulatory framework by, instead, pooling their funds and hiring what in banking would be called loan officers. This regulation-light approach is allowed because lenders to these funds, unlike depositors, give up their right to withdraw money early and (Scout's honor!) they will not seek government assistance if the loans go bad.

The pace of growth of private credit is starkly illustrated in figure 1. And ironically, this growth is aided by regulations that encourage banks to reduce their loan portfolios, often with hedge funds and other private credit providers stepping in to fill the void.

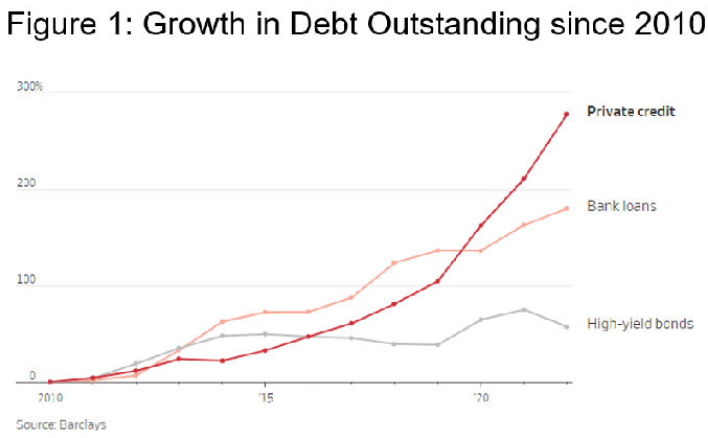

Figure 1: Growth in debt outstanding since 2010.

There is nothing new about nonbanks offering banking-type products. Also not new is that one can typically point to bank regulation as a key driver for such innovation. For example, money market mutual funds were a market response to the caps on interest payments by banks on deposits (former Regulation Q). They are now a $5.7 trillion market (as of the week ended October 4, 2023), prone to runs and requiring assistance from the Federal Reserve during stressed market conditions to stem financial contagion.

A few facts: First, while banks are still a core part of the broader financial system, the U.S. banking system now provides just 33 percent of total credit to the U.S. non-financial sector — that is, Main Street America, both businesses and households. The rest of the credit supply comes from a slew of nonbanks offering many of the classic banking services, but without the same regulatory oversight: consumer loans, lending to businesses, creation and sales of securities, management of money market assets, payment system provision and support for traditional savings vehicles such as pension funds and insurance companies.

Second, few of these alternative sources of credit are subject to any form of capital requirements — the closely scrutinized asset cushion that banks must maintain to ensure financial stability. Some face state regulations while others are completely outside the regulatory capital perimeter — and capital requirements that do exist, say, for insurance companies, do not define capital as narrowly or rigorously as banking regulators do.

Third, banking is subject to the most comprehensive set of rules and regulations, supervisory examinations, etc.; none of the other sources of credit faces anything remotely comparable. The B3E proposal, for example, is over 1,000 pages.

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Fourth, the largest banks in the country have been designated as systemically important, but despite the government having the authority to designate other providers of credit following the financial crisis failure of large nonbanks, this tool has gone unused for nearly a decade. (Some insurance companies and other firms were designated for a short time, but several successfully sued to remove the systemically important designation). This designation comes with its own set of regulations and requirements.

Finally, regulatory bodies like the Financial Stability Board and the Financial Stability Oversight Council raise concerns related to NBFI, but they are thinking mainly about hedge funds and the markets-related activities of insurance companies. Other financial structures that operate outside of the regulatory framework face even less attention. Private credit funds only show up on their laundry lists of risks or as curiosities in the Fed's Financial Stability Report (see, in particular, the box in the May 2023 FSR). A recent FSB progress report on enhancing resilience of NBFIs does not include any reference to private credit lenders. While the FSOC acknowledged the risks of regulatory arbitrage in its 2022 annual report, the lack of concrete proposals for private credit funds accompanied by additional regulations for banks clearly indicate that regulatory arbitrage risk will worsen under proposed changes.

For banks, the facts of life listed above — rigorous oversight coupled with unregulated competition — have led to a contraction of bank provision of the building blocks of a healthy economy. Business lines such as mortgage origination have been undermined by the implementation of a slew of Basel III standards and numerous customer protection rules, giving nonbanks a competitive advantage that has led them to now account for over 70 percent of the total market. Even many community banks challenged by numerous regulatory requirements shrank their mortgage business. Some bank customers have been shut out from traditional mortgage products and now rely completely on alternative sources of credit. In other markets, banks are also losing market share to less regulated competitors. For example, around 2010, banks and the nonbank, tax-advantaged Farm Credit System had equal market shares of U.S. farm business debt; the latter now has a 10 percentage point advantage over banks. And more recently, a class of nonbank players offering loan products, such as buy-now-pay-later and payday lending, have grown up on the competitive advantages of regulatory arbitrage. When policy interest rates were close to zero, some of the largest nonbank firms offering these credit products boasted equity valuations reflecting multiples bigger than many banks.

It's good to be private credit

Private credit funds operate outside the regulatory perimeter, despite the fact that they raise money from investors, engage in maturity transformation, and engage in classic commercial banking activities. But they are not subject to any, once again, any bank-style rules and regulations: no capital requirements, no risk management requirements, no supervisors permanently stationed at their offices examining their books and records, no need for any regulatory reporting, no Community Reinvestment Act compliance to document. Hence their competitive advantage over banks.

In past economic cycles, corporate borrowers would have turned to banks to manage their financing, especially when rates spike and rate risk management needs grow. As described in a recent Bloomberg story, banks now face regulatory pressures to slow loan growth, causing their customers to turn to alternative funding sources like private credit. The story quotes a market participant saying that "[b]anks won't underwrite this stuff" and that "[i]t's going into the hands of private credit." Presuming the market is pricing the risks appropriately, holding everything else constant, banks should be interested in making these loans — but they are not.

Private credit fund growth is driven by investors. It is not the case that the broader U.S. financial system is running short of funding. Per figure 2, investors are actively looking to invest in financial

intermediaries such as private credit.

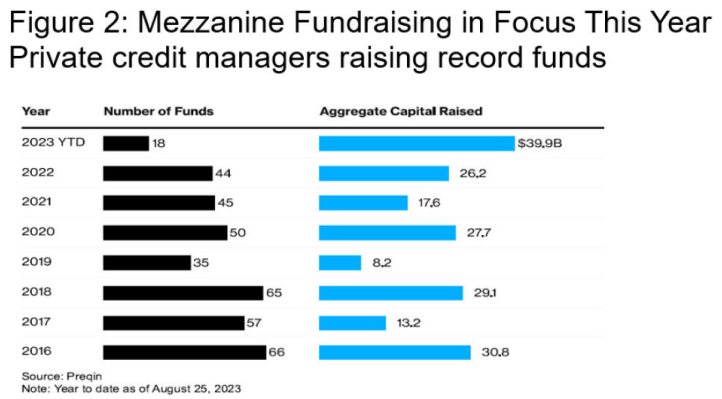

Figure 2: Mezzanine fundraising in focus this year.

Meanwhile, the competitive playing field is tilted towards private credit. Lending is a highly competitive business, with banks competing with each other and with a spectrum of other nonbanks. If banks try to pass on the full costs from the regulatory burdens, their customers will walk across the street to a competitor.

If the pricing is attractive, a bank should be eager to provide the needed funding. Corporations have relationships with banks for a slew of credit and other products and services. So why would a bank let a customer take this business elsewhere? Simple answer: once the bank factors in the cost of figuring out the additional capital required for these credit transactions, the cost of that additional capital, the costs imposed from the back and forth with bank supervisors examining the bank's transactions, and then any additional capital and other constraints if the bank is subject to stress tests, then the price at which the bank would be able to provide the credit will be easily undercut by the private credit funds.

Private credit also locks up investor funds. Investors in private credit funds typically cannot withdraw their money on demand. There are long lock-in periods and even more complex structures (you can read about zombie funds here) for these credit funds. Some nonbank lenders can impose withdrawal limits during stressed market conditions — if a bank were to do it, it potentially could be treated as a failed bank. In theory, this reduces the risk of a failure in a private credit fund creating contagion and wider financial instability. Unfortunately, this view misses the point that when systemic risk comes calling, lock-in periods will not matter.

It is instructive to look at the 2022 liability-driven investment episode in the UK. There was a run on the entities by counterparties in the derivatives markets as opposed to the classic depositors-running-to-the-bank-to-pull-out-their-money. This episode required very strong intervention from the Bank of England to stem broader market turmoil. More recently, concerns have been raised about private equity firms that have bought insurance companies to get access to cheap capital. If the private credit transactions (funded using insurance company assets) incur significant losses, then these will flow through to the insurance companies, creating the risk that when regular shocks hit policy holders — losses to personal property from daily events, natural disasters, and other hazards — the insurance company will not be able to fulfil its obligations. Market observers are now concerned that confidence in insurance companies could be undermined by affiliated private credit funds, potentially triggering runs by policy holders. Relatedly, the global standards bodies have been working on plans to provide liquidity support to NBFI providers during stressed market conditions.

Just because we have not yet seen financial system stresses due to failing private credit/equity funds does not mean we cannot rule it out.

So what?

What's the downside risk if Main Street America increases its reliance on private credit funds? We can start by responding to a question with another question: Do bank regulators want U.S. households and businesses turning to entities outside the regulatory perimeter for credit and hence not subject to any regulatory requirements? This is a rhetorical question, as no bank regulator will confirm that this is their intent. Unfortunately, this is not helpful as implementation of the broader Basel III standards — the original plus the endgame — is turning the proverbial dials up to 11 to take us to the state of the world where private credit funds will account for a larger fraction of credit supply to the U.S. economy.

One reason for the hundreds of thousands of pages of rules for banks is that they are dealing with other people's money and, ultimately, financial security is fundamentally important. But as figure 3, from a recent Fed Financial Stability Report, illustrates, private credit funds too are funded by Main Street America.

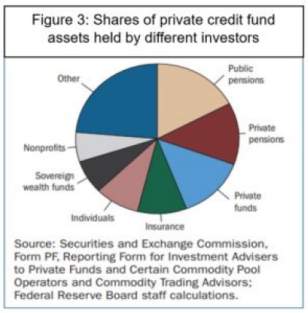

Figure 3: Shares of private credit fund assets held by different investors.

Intermediation matters, and to many people, it matters a lot. Consider a residential neighborhood: the residents' quality of life may be very different depending on whether people live in houses purchased with bank loans or rent houses from large-scale investment funds. The type of intermediation creates different incentives to invest in the character of the community. Same people, different financing, different outcomes.

Another reason, one that doesn't get mentioned at all, is a strong policy interest in ensuring that banks remain resilient to continue supporting their customers — Main Street businesses and American households — through the ups and downs of economic cycles. Unfortunately, as burdensome regulations drive U.S. banks out of the business of providing credit to these communities, the vacuum will be filled by poorly capitalized private credit funds (and other nonbank lenders) that will provide credit when times are good but disappear when times are tough.

Lacking any equivalent requirements for capital and conduct, there is a risk that these nonbank lenders will not survive the regular boom-and-bust cycle without support from the Federal Reserve — that is, their current success is partially based on an implicit subsidy from the Fed. We have seen nonbank residential mortgage originators shrink their operations very quickly in response to the sharp drop of transactions in the residential real estate market — they are here today, but might be gone tomorrow. Recent experience in the UK when some gas suppliers went bust during an energy crisis, leaving UK households and businesses without power, is instructive. Reports on "zombie" private equity funds make for interesting reading on the longer-term reliability of these nonbank financial institutions.

Over time, lacking the restrictions on counterparty credit risk imposed by regulators on banks, private credit funds have progressively increased the size and types of firms they lend to. And as they are typically more expensive, the cost of banks being pushed out of credit supply will ultimately be borne by Main Street America. In fact, U.S. firms are already in this situation. As banks are being

forced to shrink their footprint in the credit provisioning business, nonbank sources such as private credit have become the only option for many firms.

In short, the recent B3E proposals are a stark illustration of how bank regulators in the U.S. (and their collaboration with bank regulators in other jurisdictions as part of the Basel Committee on Bank Supervision) are continuing to enact regulations that push banks out of the business of banking. We witnessed a similar shift after the adoption of the post-financial crisis Basel III capital standards in the context of the residential mortgage origination business and in the business of liquidity provision in U.S. Treasury securities markets. Today, nonbank players operating outside the regulatory perimeter of these new capital rules account for over 70 percent of the mortgage origination business, up from 20 percent prior to implementation of the Basel III rules. These mortgage companies are thinly capitalized and frequently specialize in riskier types of mortgage lending that are prone to outsized losses during periods of financial stress.

In the U.S. Treasury markets, the supplemental leverage ratio is seen by many as hindering banks' ability to step up to smooth disruptions. Strains in the Treasury market have been exacerbated by capital regulations that discourage banks from acting as shock absorbers during bouts of volatility, forcing the Fed to step in, most recently at the beginning of the pandemic. It is reasonable to expect something similar to occur in the business of credit provision to U.S. households and businesses.

It is likely that the proposed B3E will continue to push additional activities out of banks to the other, less regulated entities. Private credit players are reportedly sitting on $2 trillion of cash, or "dry powder," waiting to be deployed, largely unconstrained by even modest rules governing leverage and potential risk to financial stability. The banking industry, in contrast, is very liquid, but is also dealing with high capital requirements, comprehensive supervision of all aspects of business and funding pressure as a consequence of the Fed's monetary policy decisions. In addition to available cash, private credit already has approximately $1.5 trillion dollars in assets under management, as shown in figure 4.

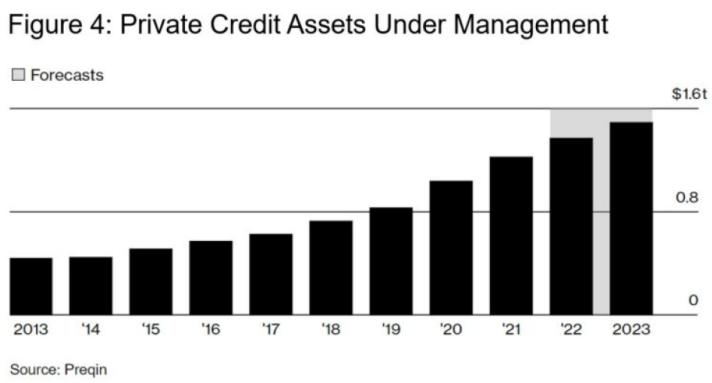

Figure 4: Private credit assets under management

Conclusion

From a free market perspective, the effects of the B3E proposals may suggest robust capitalism that will be boosted by the B3E proposals. From a historical perspective, they should raise concerns that the next financial crisis, when it inevitably occurs, will require bailouts of unregulated, leveraged firms with systemically large economic footprints.

The recent B3E proposals extend an already restrictive approach to capital management by regulators. While the 2008 financial crisis was largely the result of imprudent lending (and, of course, borrowing) by a wide range of financial intermediaries, the legislation and regulation that followed largely focused on banks and, specifically, the amount of capital they hold. The bank-capital focus has been pushing financial assets out of the safe banking sector into opaque nonbank financial institutions. While this push may lead most of us to shrug our shoulders and say, who cares, many more are exposed than we may realize. Pension funds are increasingly using hedge funds to boost their yields, insurance companies are increasingly owned by private equity looking for additional sources of funds. All of us pay the price when large, heavily leveraged firms go belly up — which is why we should think twice about creating a regulatory framework that drives business away from the brightly lit world of highly regulated banks and into the shadows of private credit.

Sayee Srinivasan is chief economist at ABA, where Jeff Huther is VP for banking and economic policy research.

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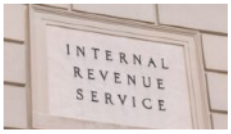

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Appendix 11

The Federal Reserve Should Revise the U.S. GSIB Surcharge Methodology to Reflect Real Risks and Support the Economy

Sean Campbell, Francisco Covas & Guowei Zhang | Oct. 11, 2023

Executive Summary

In this note, we explain how the U.S. methodology for assessing a capital surcharge on global systemically important banks (GSIBs) differs from international norms, overstates the risk presented by those firms, and puts them at a competitive disadvantage. It also provides recommendations for how to rationalize the surcharge and thereby significantly expand the ability of the affected banks to expand credit availability and maintain liquidity in U.S. capital markets. **Our analysis suggests that implementing these adjustments would reduce GSIB surcharges by roughly one percentage point which would expand lending and market making capacity by over $1 trillion and boost economic growth by roughly $25 billion per year without sacrificing bank safety and soundness.**

Background

The U.S. capital framework requires a GSIB to maintain capital above and beyond generally applicable minimum risk-based capital requirements. The GSIB surcharge requirement reflects the Federal Reserve's unilateral assessment of systemic risk as measured by the weighted sum of a select set of indicators, expressed as a systemic risk score. The higher the score, the higher the applicable GSIB surcharge.

The applicable surcharge is calculated as the higher surcharge of two methods – "Method 1" is the standard adopted by the Basel Committee on Banking Supervision for identifying and setting the surcharge for GSIBs and depends on five sets of systemic indicators – *size*, *interconnectedness*, *complexity*, *cross-jurisdictional activity*, and *substitutability*. "Method 2" is a U.S. only creation that generally employs the Basel methodology but replaces the *substitutability* indicator with a *short-term wholesale funding* ("*STWF*") indicator.[1] During periods of stress, reliance on short-term wholesale funding might make firms more susceptible to runs that could potentially impact financial stability.

In practice, the Method 2 surcharge always equals or exceeds that of Method 1. It is one of several binding capital constraints for U.S. GSIBs that is calibrated at a higher level.

Method 2 Needs Two Revisions to Appropriately Reflect Changing Realities

In this post, we describe two well-known shortcomings of the Method 2 GSIB score and suggest two adjustments that would improve Method 2's measurement of systemic risk. Two inherent design shortcomings prevent Method

[1] Method 1 calculates each systematic indicator score based on the ratio of that amount of that systemic indicator to the aggregate global indicator amount of that systemic indicator of that year. Whereas for purpose Method 2, the aggregate global indicators amounts are fixed at the average of 2012-2013 amounts.

2 from appropriately reflecting changing realities.[2] First, Method 2 assumes the aggregate global systemic indicators are fixed for all time. This assumption erroneously causes an increase in Method 2 scores for reasons unrelated to systemic risk, such as the growth in the global economy over time and the expansion of the Federal Reserve's balance sheet.[3] The BCBS published aggregate global *size* indicator has grown nearly 50% from end-2013 (€66.31 trillion) to end-2021 (€98.48 trillion). The fixed for all time nature of the Method 2 score implies that even if a U.S. GSIB had kept its market share constant during 2013-2021, its size indicator score under Method 2 would have increased by 50% while it would have been unchanged under Method 1. Clearly, Method 2 scores inappropriately penalize a bank for growing along with the rest of the economy. **Growth consistent with the overall level of economic growth bears no relation to systemic risk and should not be counted as such.** Accordingly, Method 2 scores should be re-calibrated to adjust for the overall amount of economic growth that has occurred since the rule was finalized in 2015.

Second, the importance of the U.S. specific STWF factor in Method 2 scores has increased over time, counter to the Federal Reserve's stated intent that each of the five factors mentioned above account for 20 percent of the Method 2 score.[4] In addition, Method 2 implicitly assumes global banks use STWF to fund illiquid assets which "can leave firms vulnerable to runs that undermine financial stability."[5] However, a recent Federal Reserve study has shown that, over the past decade, "[g]lobal banks mainly use such funding to finance liquid, near risk-free arbitrage positions". These activities are core to support U.S. capital markets and economic growth which benefits both businesses, government, and consumers. The results suggest that STWF actually poses low risk to financial stability and consequently that the STWF score significantly overstates systemic risk.[6] Accordingly, the STWF factor of the Method 2 score should be re-calibrated to ensure that it reflects only 20 percent of the overall score as originally intended by the Federal Reserve.

Recently, the Federal Reserve issued a proposal that would modify the GSIB surcharge in the U.S. However, the Federal Reserve's GSIB surcharge proposal does not address either of these two shortcomings. Below, we demonstrate the impact of addressing these two shortcomings.

Adjustments to Method 2

In Table 1, we quantify the projected effects on Method 2 scores and surcharges of (1) accounting for economic growth and (2) reverting the weight of the short-term wholesale funding component to 20 percent. In total, taking into account both the economic growth adjustment and the recalibration of the STWF weight to 20 percent, the average GSIB surcharge would be reduced by 90 basis points.

First, we recalibrate the GSIB scores to account for economic growth. Using 2015—the year when the fixed coefficients for score calculations were published—as our baseline, we measured the nominal GDP growth up to the recent four-quarter average and found a 44.4 percent increase. Consequently, we scaled the coefficients for size, interconnectedness, complexity, and cross-jurisdictional activity by a factor of 1.44. This recalibration led to a decrease in the aggregate GSIB scores by nearly 1000 points. Thus, the average surcharge was reduced by 60 basis points, bringing it down from 2.8 percent to 2.2 percent.

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[2] Method 2 has a set of other drawbacks that need to be addressed as we highlighted previously. https://www.sifma.org/resources/submissions/guidance-for-resolution-plan-submissions-of-certain-fbos/

[3] https://bpi.com/gsib-method-2-fixed-coefficients-must-be-adjusted-for-economic-growth/

[4] In the preamble to the final rule, the Federal Reserve explained: "The conversion factor was intended to weight the short-term wholesale funding amount such that the short-term wholesale funding score receives an equal weight as the other systemic indicators within method 2 (i.e., 20 percent)…" 80 Fed. Reg. at 49,100-101.

[5] https://www.govinfo.gov/content/pkg/FR-2015-08-14/pdf/2015-18702.pdf

[6] https://fsforum.com/news/changing-realities-and-financial-regulation-the-changing-nature-of-short-term-wholesale-funding

Table 1: Proposed Adjustments to the GSIB Surcharge

Current Data			(1) Economic Growth		(2) Adjusting the STWF Weight to 20%	
Bank Name	2Q23 Score	Surcharge (%)	Score	Surcharge (%)	Score	Surcharge (%)
BAC	631	3.3	472	2.5	411	2.2
C	728	3.7	540	2.8	477	2.5
GS	672	3.5	534	2.8	414	2.2
JPM	947	4.8	696	3.6	625	3.2
MS	600	3.1	498	2.6	354	1.9
WFC	298	1.6	217	1.2	198	1.1
BK	276	1.5	243	1.3	152	1.0
STT	217	1.2	190	1.0	121	1.0
Total/Avg	4369	2.8	3392	2.2	2752	1.9

Note: The surcharge is calculated using narrower score bank ranges as defined in the July 27, 2023 GSIB proposal.

Second, the weight of the short-term wholesale funding component in the overall score would increase to about 35 percent after adjusting the other coefficients for economic growth. As per the preamble of the GSIB final rule, this component is intended to have a 20 percent weight. To return it to that level, the "fixed conversion factor" needs to be recalibrated from 175 to roughly 80. This adjustment would further decrease the average GSIB surcharge by 30 basis points.

Economic Impact

As shown in the table above, implementing these two adjustments would reduce the average GSIB surcharge by 0.9 percentage points (90 basis points). Because capital is the most expensive form of finance, reducing the amount of required capital lowers the cost of bank borrowing and boosts economic growth. One data-based study conducted by the Bank of England concluded that a one percentage point decrease in required capital would decrease borrowing costs by 10 basis points and boost GDP by roughly $50 billion per year. This study, however, considers the entire banking sector. Because the GSIB surcharge only applies to U.S. GSIBs, the impact on economic growth must be adjusted for their share – roughly 50 percent – of the total banking sector. **As a result, this study suggests that reducing GSIB surcharges by 90 basis points would result in additional GDP of roughly $25 billion per year.**

Another way of assessing the impact of reducing the GSIB surcharge on economic activity is to estimate the additional lending that could be supported by reducing the GSIB surcharge by 0.9 percent. If U.S. GSIBs were held to a lower level of required capital, they would be able to grow their lending until the growth in lending resulted in a new capital ratio that matched the new and lower requirement. Today, U.S. GSIBs maintain a capital ratio of 12.6 percent on average across all U.S. GSIBs. **Reducing their capital ratio by 0.9 percentage points to 11.7 percent would allow U.S. GSIBs to collectively grow their lending and market making activities by roughly an additional $1.1 trillion.** This additional capacity for banks to intermediate would directly benefit economic growth as businesses, households and communities would put those additional resources to work in the real economy.

Finally, it is important not to lose sight of the broader landscape with respect to large bank capital requirements. Recently, the prudential agencies issued a "Basel III Endgame" proposal that would raise capital requirements for large banks by 19 percent. Against this backdrop of a potential sizeable increase in capital, these adjustments would help to offset the negative economic impacts of other changes to large bank capital requirements.

Conclusion

The Method 2 GSIB surcharge implemented in the U.S. has two well-recognized flaws. First, unlike the Basel GSIB surcharge (Method 1), Method 2 does not adjust for economic growth. Consequently, as the economy grows, the U.S. GSIB surcharge increases, even without a corresponding increase in systemic risk. Second, the importance of the STWF factor exceeds the 20 percent weighting intended by the Federal Reserve Board. We propose two simple and transparent adjustments to the Method 2 GSIB surcharge to address these issues. The adjustments would right-size the GSIB surcharge, leading to about a one percentage point decline in required capital. Such an **adjustment would free up capital, reduce borrowing costs, add over one trillion in additional lending and market making capacity, and increase GDP by approximately $25 billion annually.** These adjustments to the GSIB surcharge are long overdue and would go a long way toward improving the large bank capital framework while also supporting the U.S. economy.

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Appendix 12

BANK POLICY INSTITUTE

How Can the Global Market Shock More Effectively Complement the Fundamental Review of the Trading Book?

Greg Hopper | May 30, 2023

In the blog post "Why is the FRTB Expected Shortfall Calculation Designed the Way it Is?," we performed a VaR calculation for a simple portfolio consisting of a long $100 million position in the Dow Jones Small Cap Equity Index and two long positions in five-year, $500 million notional default swaps, one written on the Investment Grade index and the other written on the High Yield index. We then worked through for that portfolio how the new FRTB Expected Shortfall (ES), which is the modeled component of the FRTB, corrects problems with the VaR calculation by stressing five risks not captured by VaR.

In this policy-oriented note, we examine the Global Market Shock (GMS) component of the Federal Reserve's stress test and compare it to the FRTB. We find that the GMS essentially stresses the same five risks as the FRTB. Thus, implementation of the FRTB without a significant redesign of the GMS would significantly increase capital requirements not by capturing new risk but by increasing capital charges for the same risk.

In this note, we quantify how the FRTB captures the same risks as the GMS for a simple, representative portfolio. We then observe that the GMS has not been fundamentally updated since its inception but needs to be if it is to complement rather than duplicate the FRTB. We conclude with some options for updating the GMS along with the pros and cons.

How Does the GMS Capture the Same Risks as the FRTB?

Having witnessed a failure of VaR during the financial crisis, market risk managers and the regulatory community focused much more on stress testing as an alternative risk management model. A stress test is simply a specification of shocks to asset values that would be applied to a portfolio of assets. For example, the 2023 GMS specifies that a shock of -26.3 percent be applied to all U.S stock positions that a bank held on Oct. 14, 2022. The 2023 GMS also requires a shock of 177.4 percent to IG spreads and 80.0 percent to HY spreads. If a bank had our sample portfolio, these shocks would be applied to the equity and CDS positions, and the changes in values would be simply summed. For example, the change in value of the $100 million equity position would be $26.3 million, which would be simply added to the change in value of the CDS positions to get the total GMS loss.

Market risk managers and the regulatory community turned to stress tests because they measure risk not captured by VaR. In the previous blog post, we discussed the five risk management problems with VaR.

- VaR does not capture rare large losses effectively
- The future will not be like the past
- All asset classes do not have the same 10-day liquidation period
- We cannot always rely on diversification to reduce risk
- VaR cannot be estimated reasonably when the risk factors are relatively illiquid

Stress tests are inherently forward-looking and so they do not necessarily rely on past data and therefore do not assume the future will be like the past. Because they are forward-looking and the shocks are partially judgmentally determined, stress tests can capture rare large losses even for very illiquid assets that cannot be estimated reasonably using VaR. A stress test can also be very flexible: liquidity horizons do not need to be the same for all assets. Because asset changes are simply summed up, there is no reliance on diversification to reduce risk.

Thus, at least in principle, the FRTB and the GMS capture the same basic risks not included in VaR. However, does the GMS do anything else that would continue to justify its current specification after adoption of the FRTB? Does the GMS capture any fundamental risks that the FRTB fails to incorporate?

The GMS shocks are clearly defined every year by the Federal Reserve and are independent of a bank's portfolio, but the shocks implicit in the ES calculation are opaque, since they depend on the specifics of a bank's portfolio and result from a simulation. To compare implicit ES shocks to the GMS, we need to account for the portfolio dependency and model simulation. To account for portfolio dependency, we need to use a portfolio that is simple but also representative of the major risks the banks subject to the GMS face. Although the portfolio analyzed in the previous blog post, long credit and equity, may have seemed arbitrary, it was in fact chosen since it reflects those risks. Banks subject to the GMS typically will have significant long exposure to equity and credit risks. Besides that, the equity and GMS shocks are large relative to FX and interest rate shocks, while commodity exposure might be net long or short. We will therefore use our representative portfolio from the previous blog post as a simple proxy for a banks' major risk factors.

Methodology For Calculating FRTB Implied Returns

Comparing the GMS to ES is complicated by the fact that ES shocks result from a set of model simulations while the GMS is a single shock. To state the ES to the GMS shocks is a comparable manner, we must find a way to summarize the FRTB historical ES simulation and liquidity scaling in an implicit single ES shock for each of the underlying returns in the portfolio so that we can directly compare it to the single shocks in the GMS. The most straightforward method is to perform the same simulation and FRTB scaling calculation as we did in the previous blog post, but rather than performing it on the assets themselves, instead perform the calculations on the returns that produced the asset values. In other words, we run through exactly the same ES calculations for returns as we did for the assets, resulting in a single, scaled ES shock that can be compared to a GMS shock.

For example, to calculate the 10-day ES of IG returns for the portfolio including equities, IG, and HY, we average the top five IG returns in the ES historical simulation that correspond to the top five portfolio losses. On the other hand, to calculate the 10-day ES of IG returns for the portfolio consisting of just IG and HY CDS, we average the top five IG returns that correspond to the top five IG plus HY CDS losses. Exhibit 1 shows the results of those calculations for 10-day IG returns.

Exhibit 1

Equity, IG and HY Included	10-day ES IG Return	IG and HY Included	10-day ES IG Return
$ES_{EQ,IG,HY}$	32.0%	$ES_{IG,HY}$	32.0%

Given these values, we can calculate the diversified ES and the undiversified ES for IG returns by scaling them to the appropriate risk horizons. The IG return calculations proceed exactly as they would if we were calculating ES for the positions in the portfolio, except that we do not include equities since IG returns do not contribute to equity ES. Exhibit 2 shows the diversified ES IG return calculations while exhibit 3 demonstrates the undiversified ES return calculations.

Exhibit 2

Days 0-20	Days 20-40	$ES^2_{diversified}$	$ES_{diversified}$
$2(32\%)^2$	$+\ 2(32\%)^2$	**40.9%**	**64%**
We have two 10-day periods in which equities, IG, and HY share a common liquidity horizon, so we scale the 10-day $ES^2_{EQ,IG,HY}$ by two	We have an additional two 10-day periods in which IG and HY share a common liquidity horizon, so we scale the 10-day $E^2_{IG,HY}$ by two. Equities drops out since its liquidity horizon terminated after 20 days	Sum the numbers in the two-time buckets	Take the square root of 40.9% to get the final ES estimate for diversified IG returns

Exhibit 3

Days 0-40	$ES_{undiversifed}$
$4(32\%)^2$	**64%**
We have four 10-day periods in which IG and HY share a common liquidity horizon, so we scale the 10-day $E^2_{IG,HY}$ by four.	Note that we did not include equities in the undiversified calculation, since IG returns do not affect equity returns

We can calculate the final IG return by averaging the diversified return in Exhibit 2 and the undiversified return in Exhibit 3, as required by the FRTB calculation. However, since the capital formula multiplies the ES result by 1.5, we also multiply by 1.5 in this case. The final estimate of the implied IG return in the FRTB is

$$(64\% + 64\%) * \frac{1.5}{2} = 96\%$$

Comparing Implied FRTB Returns to GMS Shocks

We can repeat those same calculations to find the implied equity and HY returns and compare to the GMS shocks. Exhibit 4 shows the results for various portfolio combinations in order to measure the sensitivity to the composition of the underlying sample portfolio. Exhibit 4 allows us to compare the GMS and the EMS using the common standard of a single shock in which ES model simulations have been converted to a single implicit shock.

Exhibit 4

Implicit single ES shocks from FRTB compared to GMS single shocks

FRTB Sample Portfolios ($ mil)	Equity	IG	HY	IG
100 EQ + 500 IG + 500 HY (From the previous blog post)	-52%	96%	142%	176%
1000 EQ + 500 IG + 500 HY (Dominated by Equities)	-52%	91%	141%	174%
100 EQ + 5000 IG +500 HY (Dominated by IG CDS)	-49%	115%	124%	203%
FRTB Liquidity Horizon	20 days	40 days	60 days	120 days
Historical GMS Shocks	**Equity**	**IG**	**HY**	
2023	-26.3%	177.4%	80.0%	
2022	-38.3%	326.7%	206.8%	
2021	-26.0%	548.2%	247.8%	
2020	-26.0%	432.9%	336.2%	
2019	-20.3%	339.3%	318.9%	
2018	-28.1%	427.9%	315.1%	
2017	-19.2%	185.0%	198.0%	
2016	-29.4%	162.3%	168.2%	
2015	-29.4%	156.9%	165.1%	
Historical GMS Average	-27.0%	306.3%	226.2%	

We see in Exhibit 4 that the GMS shocks have often moved around over time. Part of that movement is a result of GMS scenario design but some of it, especially for CDS returns, is designed to compensate for changes in spread levels. For example, the HY shock in 2023 is lower than the historical average of past GMS exercises, but that lower shock compensates for the fact that the HY spread on Oct. 14, 2022, the GMS run date, was relatively high.

Both the FRTB and the GMS are projecting a severe downturn consistent with the financial crisis of 2008-09 in credit, coupled with an equity downturn that is more consistent with a standard recession. Looking at the comparisons, we see that the implied equity shocks from the FRTB are higher than the GMS shocks. The implied equity shocks in the FRTB were calculated using a small cap portfolio, which required the use of a 20-day liquidity horizon. Had we used a 10-day horizon instead, the -52 percent equity shock for the example portfolio would have dropped to -37 percent, which is more consistent with the GMS shocks, but still higher. Thus, the GMS equity shocks, at least for U.S. stocks, seem consistently calibrated to something like a 10-day liquidity horizon and a standard recession.

Turning to the credit shocks, the FRTB implied HY shocks are generally lower than the GMS shocks, implying an implicit liquidity horizon in the GMS for HY greater than 60 days. The FRTB implied IG shocks are dramatically inconsistent with the GMS shocks, which are much larger, implying an implicit liquidity horizon in the GMS that is much greater than 40 days. Indeed, the last column of Exhibit 4 reports the implied FRTB shock under the

assumption that IG has the largest liquidity horizon defined under FRTB, 120 days. It is not clear why IG in the GMS seems to be calibrated to a much higher liquidity horizon than HY, while the reverse is true in the FRTB.

In summary, this analysis suggests that equity shocks are similar, although the FRTB is on the more severe side. The difference between the two regimes is primarily a consistent pattern in the GMS of shocking the liquidation period in HY more than the FRTB and the liquidation period in IG much more than in the FRTB. Although that might be a justifiable stress test under some circumstances, it is difficult to see why the GMS should stress differential liquidity risk in the CDS market every year. If that were a consistent risk, why would it not have been incorporated into the FRTB?

What should the basic goals of an updated GMS design process be?

Any update of the GMS design process should aim to capture a different set of risks than does the FRTB. To achieve this, the GMS should be recalibrated so that implementation of the FRTB does not increase market risk capital. As described above, any increase in market risk capital as a result of FRTB adoption would not reflect a more nuanced view of risk (and a realization that it is higher) but rather a duplication of the same risks. Keeping market risk regulatory capital relatively constant is important because large increases in market risk capital requirements without an actual increase in the risk could damage market liquidity, one of the important risks that the FRTB was designed to address. At some point, increases in market risk capital do not make the system safer but rather become a Catch-22. Capital increases damage to liquidity and therefore more capital is required to account for the loss of liquidity. Therefore, the Federal Reserve should be cautious about imposing additional market risk capital requirements that may make the liquidity risks that the FRTB was designed to measure a self-fulfilling prophecy.

First step in updating the GMS: keeping market risk capital neutral

The update to the GMS could start by changing some pieces to keep market risk capital relatively constant once the FRTB is implemented. There are at least three options for accomplishing this goal, each with pros and cons.

Option 1:

Review risk factors from the GMS stress test that are already subject to a stress test in the FRTB because they fall into the non-modellable risk factor bucket.

Pros:

- Would eliminate obvious, clear-cut cases in which the same risks are stress tested
- Non-modeled risks contribute very significantly to the increase in market risk capital from FRTB

Cons:

- Regulators will have to monitor potential regulatory arbitrage in which banks put risk factors into the non-modellable bucket in order to be subject to a potential lower capital charge in the GMS
- Tends to benefit firms that have worse data and risk management practices

Option 2:

Remove private equity from the GMS

Pros:

- Very easy to implement
- Very easy to predict results by bank
- Effects do not depend on how FRTB is implemented as non-modeled risks do

Cons:

- Private equity is in the banking book so not really related explicitly to the FRTB/GMS risk overlap

Option 3:

Reduce HY shocks and reduce IG shocks even more

Pros:

- Eliminates consistent liquidity stress test in which IG is stressed more than HY, making it easier to focus on risks different from the FRTB in a GMS update

Cons

- May be desirable to have some differential liquidity stresses in the credit markets components of the GMS

Second step in updating the GMS: stressing different risks than the FRTB

As pointed out by the Federal Reserve, the first step in scenario design is to conduct risk identification exercise. For supervisory purposes, risk identification would focus on emerging risks and system vulnerabilities that are not necessarily captured by the FRTB. Once those risks are identified every year, there are a number of options for scenario design, each with its own pros and cons.

Option 1:

Design the GMS using a narrative approach. For example, a narrative could be developed around some emerging risk such as supply chain disruptions, acceleration of inflation, conflict on the Korean peninsula, etc.

Pros:

- The GMS is easy to interpret and clear about the risks it captures
- Since the most important shocks are hand-crafted, it is easy to incorporate judgment in the GMS design process
- Easy to target specific risks

Cons:

- It is harder to maintain coherence of shocks when they are hand-crafted
- The Federal Reserve may not want to include particular narratives if they touch on potential monetary policy choices
- Manual work may be required, which can be time-consuming

Option 2:

Another approach to generate the GMS scenario is to use a model. For example, a statistical model of the risk factors could be used to simulate paths, and then particular paths could be selected according to specific risk criteria and liquidity assumptions. For example, paths could be selected that have larger HY rather IG shocks and a particular simulated path could be made the official scenario. Also, correlations could be explicitly broken in the simulation in order to stress the risk of breakdown of historical correlations.

Pros:

- A highly flexible methodology to stress new types of risks by examining many scenarios while keeping the result to a single scenario

Cons:

- Significant upfront development costs
- Scenarios created may not be easily interpretable
- Can incorporate some judgment but not as easily as using the narrative approach

Option 3:

Combine Options 1 and 2 so that the fundamental statistical models contain interpretable macroeconomic and financial relationships rather than pure econometric models for financial assets.

Pros:

- Combines the advantages of interpretability with simulation of possible outcomes that may break historical patterns and correlations

Cons:

- Hardest of the three options to implement

Of course, the Federal Reserve already uses some aspects of options 1-3 in its GMS scenario design. However, any attempt to capture different risks in the GMS has historically been overwhelmed by the differential liquidity risk stress between IG and HY that has consistently been present in GMS specifications. As noted in option 3 of the "First Step" above, a notable advantage of correcting the capital increase problem by adjusting the spread shocks is that it will be easier to focus the GMS on different risks.

Conclusion

The upcoming introduction of the FRTB, which will update the market risk capital standard, provides an opportunity for the Federal Reserve to revamp the GMS. The GMS should be re-designed to complement the FRTB by covering different risks. Furthermore, the re-designed GMS should not raise market risk capital unless there is a clear increase in the underlying risks. There are many options to achieve these objectives, each with its own set of trade-offs. In the first step of the GMS update, it may be best to incorporate all three options in varying degrees. In the second step of the GMS update, option 3 is the best methodology, but it is also the most expensive and time-consuming to implement. Given the complexity of the various options for updating the GMS and the significant impact any changes will have on U.S. financial markets, a robust notice-and-comment period will be especially important.

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Appendix 13

BANK POLICY INSTITUTE

Rationalizing the Global Market Shock

Greg Hopper | Oct. 17, 2023

Following the market turmoil in the latter half of 2008, the Federal Reserve conducted in 2009 the first supervisory market risk stress test as part of the Supervisory Capital Assessment Program (SCAP). Building on the SCAP, the Federal Reserve initiated the Comprehensive Capital Analysis and Review (CCAR) in late 2010, which formalized the market risk stress test as the Global Market Shock (GMS). At that time, the Basel I capital framework for market risk, which was still in force in the U.S., was widely understood to have been inadequate for measuring market risk during the crisis. Although Basel II.5, the current standard, corrected many of the problems in Basel I for market risk, it was not a perfect solution.

The introduction of the GMS in 2011 as part of CCAR was therefore an important and necessary step taken by the Federal Reserve to ensure that banks were adequately capitalized for market risk. From its inception, the GMS has consistently subjected banks with significant trading activity to an extreme stress test that resembles a financial crisis.[1] However, the new Fundamental Review of the Trading Book (FRTB), which is part of the Basel Finalization process, is also designed to assess market risk under extreme market stress conditions. Given the proposed changes to the market risk framework via the FRTB, the GMS has served its purpose and is no longer needed to do the work that the FRTB will do going forward.[2] Before Basel Finalization, the Federal Reserve has an opportunity to repurpose the GMS. This can be done by removing the extreme shocks included in the GMS that look backwards to a financial crisis and replacing them with shocks that look forward to the potential risks that might not be captured by the FRTB.

In this note, we focus on how the GMS shocks can be rationalized, using an empirically driven and objective methodology based on widely used econometric tools. We find that the GMS captures the same risk as the FRTB, extreme illiquidity in markets, with no trading possible for very significant periods during a market crisis. However, the implicit GMS liquidity assumptions are significantly inconsistent with the macroeconomic assumptions in CCAR. Moreover, since the FRTB already captures extreme illiquidity risk, we suggest how to replace the GMS assumption of no liquidity for long periods with the much more realistic assumption of limited liquidity for shorter periods that would also be more internally consistent with the rest of the macroeconomic CCAR scenario. The analysis suggests that the Federal Reserve can substantially reduce equity and CDS shocks in the GMS while still maintaining appropriate conservatism. U.S. equity shocks could be reduced by a factor of two while CDS shocks could be reduced by a factor of 10.

[1] For additional details on the assumptions of the market shock component of the stress tests see "Policy Statement on the Scenario Design Framework for Stress Testing," (pages 20-21) available at https://www.federalreserve.gov/bankinforeg/bcreg20131107a1.pdf

[2] For more information about the overlap between the FRTB and the GMS, see Hopper (2023), "How Can the Global Market Shock More Effectively Complement the Fundamental Review of the Trading Book," available at https://bpi.com/how-can-the-global-market-shock-more-effectively-complement-the-fundamental-review-of-the-trading-book/

How Has the GMS Been Recently Calibrated?

The key idea behind the determination of the GMS shocks is that during a financial crisis, markets can become illiquid for extended periods. Over those periods of illiquidity, banks cannot hedge or close out positions. Changes in market prices when markets are frozen determine how much a bank will lose on its position. If the illiquidity horizon is calibrated from a stressed historical period, using a longer horizon will result in a larger shock. Alternatively, if the shocks are selected from some percentile of market moves, such as 99 percent, longer horizons will also produce larger shocks. Thus, selection of the period of illiquidity essentially determines the magnitude of the GMS shock.

For the SCAP exercise, the Federal Reserve used a transparent[3] calibration strategy: it applied the actual shocks observed over the six-month period from June 30, 2008 to Dec. 31, 2008 to the trading portfolios of the five firms with trading assets over $100 billion. The Federal Reserve used the same methodology for the 2011 market stress test. However, the calibration of the subsequent GMS tests became less clear. Earlier in the program, the Federal Reserve indicated that the GMS shocks for more liquid products were generally calibrated to movements in asset prices over various periods observed over the last half of 2008, with less liquid products receiving larger shocks. More recently, the Fed has refrained from characterizing the shocks in terms of the 2008 crisis, noting in the 2023 CCAR exercise, for example, that it defined the shocks according to time horizons that reflect the inability to sell or hedge exposures during a period of extreme market stress.[4] However, the Fed has not revealed in any detail what those horizons are or how they were determined.

Looking at the last three GMS exercises, it is unclear, for example, how the GMS shocks were calibrated for CDS spreads. Table 1 shows the values of the CDS IG index spreads on the as-of dates of the last three GMS tests. Chart 1 depicts the historical path of the CDS IG over the last half of 2008. As can be readily verified, the 2022 GMS stress drives the IG CDS spread to a level that was close to what was observed at the end of 2008. The 2022 stress seems to be producing a level close to the maximum observed value over the crisis period.

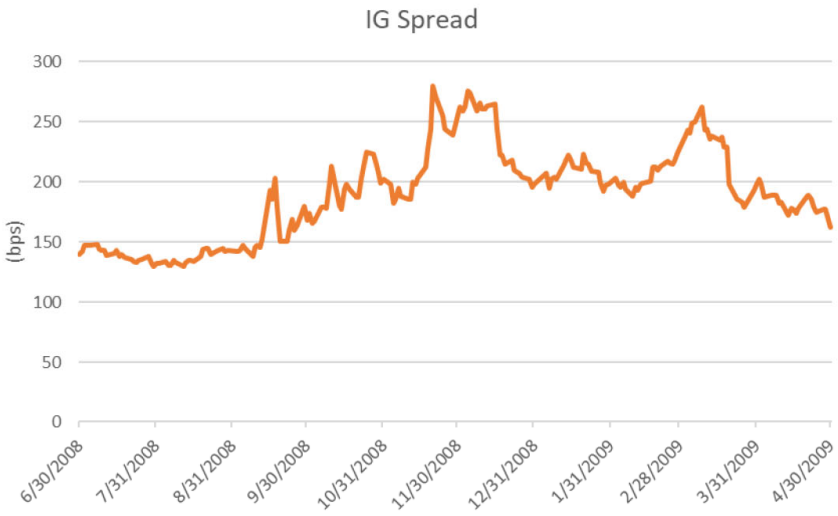
The stress for the 2021 GMS is larger, driving the spread to 344 bps, a level not observed over the financial crisis. That difference is likely explained by market conditions at the time the GMS was formulated, the fall of 2020. At that time, the effects of COVID were still highly uncertain and it is plausible to think that the GMS designers imposed extra conservatism judgmentally to target something close to the maximum spread that was observed at the beginning of December 2008. Overall, it appears that the Fed is still using essentially the six-month SCAP methodology supplemented by judgmental overrides. Taken literally, this methodology is assuming that global credit markets are closed for at least six months, with no ability to buy, sell, or hedge credit risk.

[3] See "The Supervisory Capital Assessment Program: Design and Implementation," April 24, 2009, Federal Reserve Board, available at https://www.federalreserve.gov/bankinforeg/bcreg20090424a1.pdf
[4] See "2023 Stress Scenarios"

Table 1

CCAR	Starting value (bps)	GMS shock	Ending Value (bps)
2023	104	177.4%	288
2022	54	326.7%	230
2021	53	548.2%	344

Chart 1



The GMS illiquidity assumption for CDS produces a very significant internal inconsistency in the CCAR stress test. The macroeconomic assumptions in the CCAR stress test generally assume a very bad recession after the GMS, somewhat akin to the severe downturn of 2008-09. If credit markets really did shut down globally for six months or more, however, the economic damage to the world economy would be massive, far worse than the downturn assumed in CCAR and far worse than anything observed in modern economic history, including the Great Depression.

The Federal Reserve has never explained how it reconciles the macroeconomic assumptions in the CCAR scenario with the apparent six-month market shutdown in key asset classes implicit in the GMS, nor has it been clear on exactly what illiquidity horizons it is currently using for many asset classes. Instead, it has suggested that it chooses illiquidity horizons "to capture the unpredictable liquidity conditions that prevail in a time of stress," offering as an example the unexpected loss of liquidity of AAA-rated private label RMBS during 2008.[5]

Although the motivation for this strategy for dealing with uncertainty is understandable, its justification is weak. There is no empirical basis for using a six-month move in the latter half of 2008 as an estimate for how long credit

[5] See "2023 Stress Scenarios"

markets could be closed in a future financial crisis. Six months is completely arbitrary. Why not use nine months or five months instead? Or why not use the largest move ever observed historically as the estimate?

In contrast, the FRTB makes explicit assumptions on how long credit markets will be effectively closed. For IG CDS, it assumes markets will be closed for 40 days and for HY CDS it assumes that credit markets will be closed for 60 days. The FRTB illiquidity assumptions are not justified in the Basel Finalization proposal, but they are clearly stated.

Since the proposal intends to use both the FRTB and the GMS to capitalize market risk, a key step in the rationalization of the GMS is to compare the FRTB and GMS illiquidity assumptions. This comparison is not straightforward, unfortunately. The FRTB assumes that IG CDS credit markets are closed for 40 days during an effective 99 percent move in the underlying CDS spread, a market move which is calibrated to the period of the worst one-year market conditions observed since 2007. We use 99 percent to translate from the ES assumption of 97.5 percent in the FRTB, since that confidence level was chosen to be equivalent to a 99 percent VaR with normally distributed return. The GMS assumes nominal six-month or longer periods of illiquidity under 2008 conditions in which markets are closed, but there is no percentile interpretation attached.

To rationalize the GMS, we need an empirically based and objective methodology to translate the GMS shocks into equivalent 99 percent moves over different periods of assumed illiquidity so that they can be compared directly to the FRTB illiquidity assumptions. We can develop such a methodology by using GARCH models, a widely used econometric approach to modeling financial time series.[6]

What are GARCH Models?

GARCH models were developed to statistically describe how the volatility of financial asset returns (daily percentage change in price) changes from day to day. Volatility is a measure of how frequently extreme daily returns are observed. To understand how GARCH models work, it may be helpful to consider an analogy. Suppose we wanted to explain what the return of the S&P 500 will be over the next day. We know that the return is random in some way. A simple statistical analogy is to think of the economy as spinning a giant roulette wheel each day. Above each pocket of the wheel is a return, either positive or negative (or zero). Every day, the wheel is spun and a return is chosen. If, for example, today's equity price is 100 and the return we obtained was 5 percent, then tomorrow's stock price will be 105. If tomorrow the market spins the wheel and gets a return of -1 percent, the stock price on the following day will be 103.95. In this way, spins of the roulette wheel generate the moves in stock prices observed over time. Of course, the returns are really determined by the buying and selling decisions of market participants, but we are summarizing the net effect of those decisions in a GARCH econometric model.

In terms of the roulette wheel analogy, volatility measures how frequently more extreme positive and negative returns are represented on the wheel. If the asset return is more volatile, the possible returns on the wheel will have higher positive and negative returns and with each spin of the wheel the asset price will move up and down more on average. Higher volatility implies more risk, since if we spin the wheel over and over, the asset can go up or down significantly over a period of many days.

Volatility is not constant but rather changes from day to day in a predictable way. In terms of our analogy, that means that every day we spin the roulette wheel, the wheel's volatility is different from what it was yesterday. GARCH models tell us how to update the volatility of the wheel each day. Empirically, the models find that if the volatility of yesterday's wheel was high, then today's volatility will be high as well. Alternatively, if yesterday's volatility was low, then today's volatility will tend to be low too.

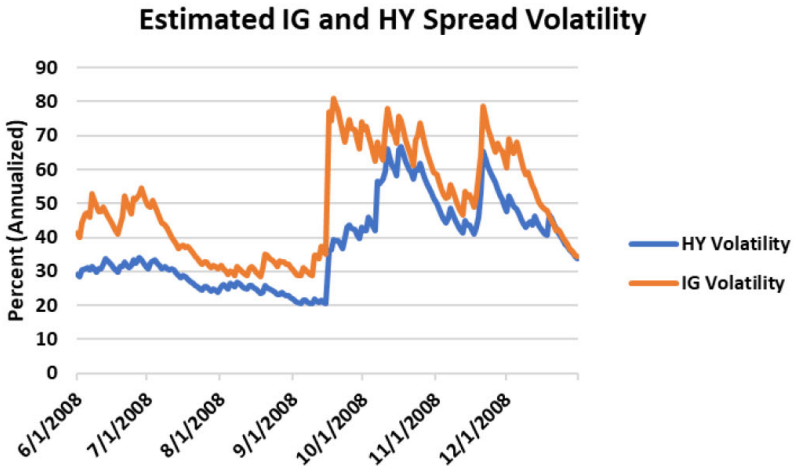
[6] NYU Stern's V-Lab employs a wide variety of GARCH models to analyze the volatility of financial assets. See https://vlab.stern.nyu.edu/

Because today's volatility is heavily determined by yesterday's volatility, daily volatility of asset returns tends to cluster. To see this effect, we estimate an EGARCH[7] model for daily returns on the S&P 500, the five-year on-the-run CDX IG spread index and the five-year on-the-run CDX HY spread index using data from 2007 to 2022. The EGARCH model is one of the class of GARCH models that are widely used by financial economists to analyze asset returns.[8] Charts 2 and 3 shows estimated annualized daily volatilities from the EGARCH model[9] over the last half of 2008, with the model reproducing the increase and clustering of high volatility during the period of market stress.

Chart 2

[7] See Nelson, D. (1991), "Conditional Heteroskedasticity in Asset Returns: A New Approach," Econometrica, Vol 59. No 2.
[8] For a textbook treatment, see Tsay, R., (2010), "Analysis of Financial Time Series," Wiley Series in Probability and Statistics.
[9] For the more technically minded reader, we estimate the EGARCH model using maximum likelihood under the assumption that the conditional error distribution is the Generalized Error Distribution, so that the conditional distribution is non-normal. Although estimates would be consistent using a normal distribution with quasi-maximum likelihood, we elected to use a non-normal conditional distribution to maintain conservatism when simulating the model. Estimated coefficients are strongly statistically significant when employing robust standard errors for all cases.

Chart 3



Comparing the GMS to the FRTB

To compare the GMS to the FRTB, we will work backwards: given that we know the GMS shocks, we need to determine to what illiquidity horizons they correspond to. To answer this question, we simulate equity and CDS prices using FRTB assumptions, i.e., at a 99 percent confidence level using data drawn from a period of extreme market stress. To take an example, if the GMS equity shock is -26 percent, then we simulate the equity price and find which horizon produces a -26 percent shock at some confidence level, such as 99 percent. That horizon is the implied liquidation assumption.

To understand how we use the EGARCH model to simulate equity prices and CDS prices, we return to the roulette wheel analogy. Simulating the EGARCH model over 20 days is analogous to spinning the roulette wheel on each of the 20 days. Given a starting equity price and a starting volatility, we spin the wheel to obtain a return. We calculate tomorrow's equity price from today's price and today's return. Then we use today's volatility and today's return to predict tomorrow's volatility. We put tomorrow's volatility on the wheel and spin it again. The return obtained can be used to project the equity price two days from now. We continue that process until we have a 20-day equity path. The EGARCH model estimates tell us at every stage exactly how we should update the volatility of the wheel on each day of the simulation.

To create a common yardstick to compare the GMS to the FRTB, we must use assumptions consistent with the FRTB in the simulations. The FRTB requires that the Expected Short (ES) fall be calculated using a one-year period of stressed data at the 97.5 percent confidence level, which is designed to be similar to a 99 percent confidence level when returns are normally distributed. The FRTB also requires that ES be estimated using the worst one-year of data since 2007. The motivation for the FRTB requirement, in terms of the roulette wheel analogy, is to exclusively use spins of the wheel that were experienced during financial crisis conditions and ignore the more benign outcomes that were seen under normal market conditions. We will impose the same conditions in the EGARCH simulations. The EGARCH estimation allows us to estimate the underlying historical random spins of the

wheel on each day over 2008 and 2009. Rather than using all possible spins to simulate the model, we will instead use only the estimated random spins observed during the period June 30, 2008 to June 30, 2009.

To compare the results directly to specific GMS exercises, we will begin each simulation with the starting values of equity prices and CDS spreads on the as-of date of the last three GMS exercises. For example, to compute the 99% worst equity loss over 20 days for the S&P 500, we would simulate 20-day equity paths using as the starting value the S&P 500 on each of the as-of dates of the last three GMS tests. We perform 20,000 simulations for each GMS date and then select the 99 percent worst loss over the 20-day period.

Table 2: Simulated S&P 500 Spread Shocks
Compared to FRTB and GMS

	2023 GMS	2022 GMS	2021 GMS
Days	25	25	25
Shock	-43.2%	-42.6%	-43.2%
Days	20	20	20
Shock	-36.6%	-36.6%	-37.1%
Days	10	10	10
Shock	-25.3%	-24.9%	-23.9%
Actual GMS	-26.30%	-38.30%	-26%
FRTB Liquidity Assumption (days)	10	10	10

Table 2 shows the simulated EGARCH shocks the model produced at the 99 percent confidence level at various horizons for the S&P 500. For example, using a 20-day horizon, the 99 percent shock was -36.6 percent for the 2022 GMS. Thus, if we assumed that the period of illiquidity was 20 days, so that the S&P 500 could not be bought, sold, or hedged over that period, then a position that a bank is forced to sit on for 20 trading days would have lost 36.6 percent in value at the 99 percent confidence level. Judging from the vantage point of the EGARCH model, the 2022 GMS of -38.3 percent, is assuming a 20-day period of illiquidity.

Comparing the EGARCH shocks to the GMS shocks in general, we can see that over the last three GMS exercises, the U.S. public equity GMS stress seems to be calibrated to between a 10- to 20-day illiquidity horizon at a 99 percent confidence level under stressed market conditions. It is worth noting that the 2023 Stress Test Scenarios document issued by the Fed stated that public equity shocks were calibrated to a three-month liquidation period[10], but our results suggest the GMS shocks actually assumed a 10-day period of illiquidity in 2023 when stated in FRTB terms. Thus, the equity shock in the GMS, at least over the most recent GMS tests, is essentially repeating the FRTB illiquidity assumptions.

Turning to CDS, Table 3 shows the results for the five-year IG CDS spread.

[10] See "2023 Stress Scenarios"

Table 3: Simulated IG CDS Spread Shocks
Compared to FRTB and GMS

	2023 GMS	2022 GMS	2021 GMS
Days	126	126	126
Shock	187.2%	199.1%	189.7%
Days	90	90	90
Shock	156.5%	146.3%	150.2%
Days	60	60	60
Shock	110.7%	112.5%	105.8%
Days	40	40	40
Shock	83.7%	83.3%	83.1%
Days	20	20	20
Shock	54.5%	53.8%	55.2%
Days	10	10	10
Shock	37.5%	37.8%	37.2%
Actual GMS	177.40%	326.70%	548.20%
FRTB Liquidity Assumption (days)	40	40	40

Comparing the GMS shocks to the EGARCH shocks, the results suggest strongly that the GMS shocks for IG CDS spreads are indeed calibrated to a period of six months or longer when compared to the FRTB. We see the same result for HY CDS spreads, shown in Table 4. HY spread shocks seem to be calibrated to a six-month liquidation period at a 99 percent confidence level under stressed market conditions.

It is unclear why there is such a vast discrepancy between the illiquidity assumptions used for equities and CDS in the GMS. It is understandable that credit markets are assumed to be more illiquid than equity markets during a crisis, but the difference in assumptions is notable. A 10- or 20-day period of complete illiquidity for equities in the GMS is likely not consistent with the CCAR macroeconomic scenario, but it is not violently at odds. But a corresponding six-month or longer period of complete illiquidity for credit markets under a 99 percent market move is a very significant internal contradiction within the CCAR scenario.

When compared to the FRTB, the GMS equity shock repeats the FRTB. However, the GMS credit shocks repeat the FRTB many times over.

Table 4: Simulated HY CDS Spread Shocks
Compared to FRTB and GMS

	2023 GMS	2022 GMS	2021 GMS
Days	126	126	126
Shock	204.3%	200.8%	195.2%
Days	90	90	90
Shock	146.1%	142.8%	142.7%
Days	60	60	60
Shock	97.5%	101.1%	97.8%
Days	40	40	40
Shock	70.6%	69.5%	68.5%
Days	20	20	20
Shock	44.0%	42.5%	43.5%
Days	10	10	10
Shock	28.6%	29.0%	29.1%
Actual GMS	80.0%	206.8%	247.8%
FRTB Liquidity Assumption (days)	60	60	60

Limited Liquidity

A very simple way to rationalize the illiquidity assumption is to interpret the illiquidity horizon not as the period over which no trading can occur but rather as a period over which a trade can be closed out. For example, if we assume the period of illiquidity is 20 days, then that would imply that 1/20th of the position could be closed out per day, so that the total position would take 20 days to sell or hedge. This assumption of limited liquidity is still quite conservative but is also a much more realistic representation of loss of liquidity during a period of market turmoil. During periods of illiquidity, the bid-ask spread may rise precipitously, inducing financial institutions to trade smaller pieces of a position over time. Or it may simply be impossible to sell or hedge more than a certain notional per day. Limited liquidity is a more reasonable assumption given the CCAR macroeconomic downturn assumptions.

To calibrate the new GMS shocks, we will assume that they will have an illiquidity horizon below the FRTB assumptions, with a floor of 10 days, in order to reduce the overlap between the capture of illiquidity risk. Thus, we will report a 10-day illiquidity horizon for equities, a 20-day and 10-day horizon for IG since the FRTB assumption is 40 days, and 40-, 20-, and 10-day horizons for HY, since the FRTB horizon is 60 days. Tables 5, 6, and 7 repeat Tables 2, 3, and 4 but also include results using the limited liquidity assumption. To estimate the shock under limited liquidity over N days, we close out 1/N of the position on each day at its simulated price. For the case of CDS, we calculate on each day the gain or loss of selling or hedging 1/N of the notional of a five-year at-the-money CDS trade. We determine the instantaneous CDS shock by finding the shock that would produce a loss on the entire CDS position that is the same as the cumulative loss calculated along the daily path when 1/N of the CDS trade is closed out on each day.

Table 5: S&P 500

	2023 GMS	2022 GMS	2021 GMS	Average
Days	10	10	10	10
Shock (no liquidity)	-25.3%	-24.9%	-23.9%	-24.7%
Shock (limited liquidity)	-14.9%	-10.8%	-14.5%	-13.4%
Actual GMS	-26.30%	-38.30%	-26%	
FRTB Liquidity Assumption (days)	10	10	10	

Table 6: IG Spreads

	2023 GMS	2022 GMS	2021 GMS	Average
Days	20	20	20	20
Shock (no liquidity)	54.5%	53.8%	55.2%	54.5%
Shock (limited liquidity)	36.0%	5.2%	19.0%	20.1%
Days	10	10	10	10
Shock (no liquidity)	37.5%	37.8%	37.2%	37.5%
Shock (limited liquidity)	34.4%	25.1%	14.8%	24.8%
Actual GMS	177.4%	326.7%	548.2%	
FRTB Liquidity Assumption (days)	40	40	40	

Table 7: HY Spreads

	2023 GMS	2022 GMS	2021 GMS	Average
Days	40	40	40	40
Shock (no liquidity)	70.6%	69.5%	68.5%	69.5%
Shock (limited liquidity)	40.9%	31.8%	23.3%	32.0%
Days	20	20	20	20
Shock (no liquidity)	44.0%	42.5%	43.5%	43.3%
Shock (limited liquidity)	25.0%	22.0%	22.6%	23.2%
Days	10	10	10	10
Shock (no liquidity)	28.6%	29.0%	29.1%	28.9%
Shock (limited liquidity)	12.1%	9.0%	22.5%	14.5%
Actual GMS	177.4%	326.7%	548.2%	
FRTB Liquidity Assumption (days)	60	60	60	

As can be seen, the implied shock with limited liquidity can vary across GMS exercises, since it is path-dependent. The HY limited liquidity shock over 10 days is an example. Two simulated 99% HY CDS paths could reach the same point at the end of the 10-day horizon, but one path could start out relatively flat for a while and abruptly rise towards the end while the other could move steadily upwards. The first path will have a lower shock, since a good portion of the trade can be closed out before CDS spreads rise appreciably. We thus take the average of the limited liquidity shocks on the three GMS dates to smooth out the volatility of the estimates.

Rationalizing the GMS

In order to rationalize the GMS shocks, we need to reduce them in a way that minimizes the overlap with the FRTB but is also consistent with the CCAR macroeconomic assumptions. We can accomplish this by incorporating the following recalibration principles:

- reduce the GMS illiquidity horizons to be under the FRTB assumptions, in order to minimize the GMS-FRTB overlap
- use the more realistic assumption of limited rather than no liquidity for the reduced horizons to address the CCAR scenario inconsistency

Using the above principles, and the "average" column for the limited liquidity case from Tables 5, 6 and 7, a reasonable GMS recalibration would be:

- U.S. equities: -15%
- IG CDS: 20-25%
- HY CDS: 15-30%

Thus, equity shocks could be reduced by a factor of two while CDS shocks could be reduced by a factor of 10. These are order-of-magnitude estimates of course. The EGARCH methodology could be used to recalibrate other GMS shocks as well.

Conclusion

An empirically based methodology suggests that the GMS shocks for equities should be reduced by approximately a factor of 2 and CDS shocks by approximately a factor of 10 before FRTB implementation. These changes will substantially reduce but not eliminate the overlap between the GMS and the FRTB and will make the GMS internally consistent with the CCAR macroeconomic assumptions. The updates will eliminate the legacy financial crisis calibration of the GMS, which will be handled going forward by the FRTB. Although necessary, these GMS shock changes will not by themselves make the GMS an effective complement to the FRTB. Once the Fed has rationalized the GMS, it should take the next step and subject the GMS to a fundamental redesign that captures forward-looking risks that may be missed by the FRTB.

Appendix 14

BANK POLICY INSTITUTE

About Excessive Calibration of Capital Requirements for Operational Risk

Francisco Covas | Oct. 30, 2023

Based on analysis released by the banking agencies, the new operational risk charge accounts for nearly 90 percent of the increase in banks' capital requirements under the banking agencies' Basel proposal. The significant increase in capital requirements for operational risk implies that banks are currently undercapitalized in terms of operational risk capital, but the agencies have offered no evidence to suggest that is the case.

In this post, we demonstrate that the capital charge under the proposed new approach is excessive when compared with actual operational risk losses. Specifically, using a comprehensive dataset on operational risk losses dating back to the early 2000s, we show that annual operational risk losses of U.S. banks rarely exceed 30 percent of the capital required under the new standardized approach for operational risk.

Furthermore, large banks are already required to hold capital for operational risk through the Federal Reserve's annual stress tests and resulting capital charge.[1] The Federal Reserve has proposed no changes to that component of the test.

Therefore, the combination of both the new standardized approach for operational risk and the stress test capital charge would result in a substantial overstatement of capital requirements for operational risk. In fact, the combined effect of these two charges leads to overall capital requirements five times larger than almost all of the largest losses experienced by U.S. banks in the worst year since 2003. Moreover, our estimate suggests banks in the U.S. must allocate nearly 24 percent of their risk-weighted assets for operational risk, whereas the average for banks in other jurisdictions is nearly half of that amount.

Overstatement of this risk has real-world consequences. Because the operational risk capital charge functions as a broad tax affecting all bank activities, including lending, market making, agency services, asset management and underwriting of securities, it will lead to higher borrowing costs for businesses and households, less competition and more migration of financial intermediation activities to nonbanks.

Lack of Perfect Correlation Between Credit, Market and Operational Risks

Operational risk is the risk of direct or indirect loss resulting from fraud, employee lawsuits, litigation-related expenses or computer system or other operating disruptions. Although cyber risk is considered the most significant operational risk faced by banks, government fines and penalties and resulting class-action litigation have produced the largest losses.

It is never possible to predict the exact losses a bank will experience each year. Nevertheless, banks can estimate average annual losses and consider these expected losses as a cost component of doing business. The rationale behind banks maintaining capital is that realized losses occasionally surpass these expected losses. In addition,

[1] The largest banks also must calculate an operational risk charge using the so-called advanced approaches, but these requirements are almost never as binding as the U.S. standardized approach to which the stress tests apply.

regulators often specify a confidence level that dictates the overall level of capital required. Typically, this confidence level is set at 99.9 percent, although the proposed capital rule includes no such standard.

To illustrate, at a 99.9 percent confidence level, if a bank anticipates a $1 million loss on a corporate loan but there is a 0.1-percent chance it could face a $5 million loss, then the bank must have $4 million in capital for that loan.

The proposed rule's calculation of regulatory capital involves summing risk-weighted assets arising from credit risk, market risk, operational risk and derivatives risk. This method presumes that extreme losses in credit, market, operational and derivatives will all occur simultaneously, with a correlation of 1.0. Under the 99.9-percent confidence-interval assumption, it would mean that, if credit risk losses are in the 0.1-percent tail of the distribution of credit losses, the same is true for market risk losses, operational risk losses and losses associated with derivative instruments. This scenario is extraordinarily unlikely and without historical precedent, and not justified in the proposal. Therefore, the introduction of an explicit capital charge for operational risk into the existing capital requirement framework significantly overstates the capital requirements imposed on banks.[2]

But even on its own terms—leaving aside correlation with other risks and the duplicative charge in the stress test—the proposed charge for operational risk is severely overstated, as we will explain.

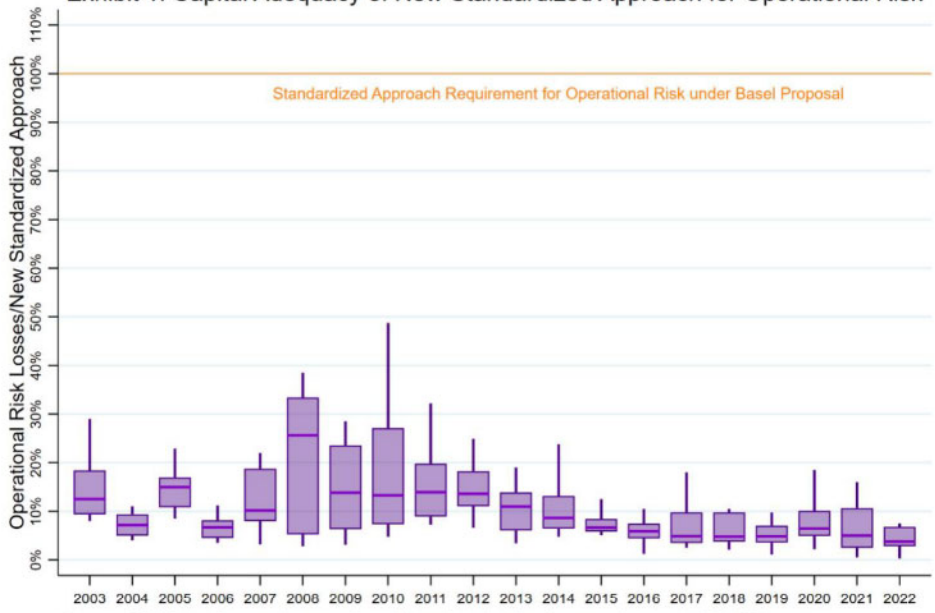
Overstatement of Capital Requirements Under the New Standardized Approach

Earlier in October, ORX published a report that used 21 years of operational risk loss data to assess the calibration of the new standardized approach for operational risk, including the version included in the U.S. Basel proposal.[3] The report includes both global and regional data on operational risk losses. We focus on operational risk losses in the United States, to better account for differences in legal frameworks, banks' business models and economic conditions across geographical regions.[4]

The ORX report analyzes data on operational risk losses across various business lines. It also examines the capital adequacy of the expanded risk-based approach for operational risk among U.S. banks. We will describe how historical operational risk losses of U.S. banks compare in relation to the capital charge of the new standardized approach for operational risk.

[2] Rosenberg and Schuermann estimate that capital requirements could be overstated by about 30 to 40 percent.
[3] ORX is the largest operational risk management association in financial services, owned and driven by member institutions, which include some of the largest global banks. ORX has the largest and most comprehensive dataset on operational risk losses dating back to the early 2000s. The ORX report is available at https://orx.org/resource/basel-iii-and-standardised-approaches-to-capital-2023.
[4] The detailed U.S. results are available in a numerical appendix available from ORX on request.

Exhibit 1: Capital Adequacy of New Standardized Approach for Operational Risk



Source: ORX, https://orx.org/resource/basel-iii-and-standardised-approaches-to-capital-2023.

Exhibit 1 plots the distribution of operational risk losses for each U.S. bank in relation to the capital charge associated with the proposed standardized approach for operational risk under the U.S. proposal. Specifically, it demonstrates that during the global financial crisis, average operational risk losses were always less than 30 percent of the capital required under the new standardized approach for operational risk.[5] Moreover, the ORX loss data are reported at the event level, which means that losses spanning multiple years are consolidated into a single year. Consequently, the operational risk losses shown in Exhibit 1 during the global financial crisis are considerably higher than what banks actually experienced in those years.

As noted, banks are required to maintain capital to cover unexpected losses. Therefore, it is not expected that the median or average of operational risk losses relative to the capital requirement would approach 100 percent. However, we would anticipate the tails of the distribution of operational risk losses scaled by the capital requirement to be closer to 100 percent during the global financial crisis period (or any other, for that matter). Instead, Exhibit 1 shows that the right tail of these losses barely exceeds 30 percent of the proposed operational risk requirement. This indicates that the new operational risk framework is overly calibrated.

[5] The results provided by ORX assume the internal loss multiplier is floored at 1, as in the U.S. proposal. The upper and lower whiskers extend to the highest and lowest values that are within 1.5 × the interquartile range. The interquartile range is the difference between the upper and lower quartiles. Any outlying points (values above or below the whiskers) have been excluded from the charts by ORX.

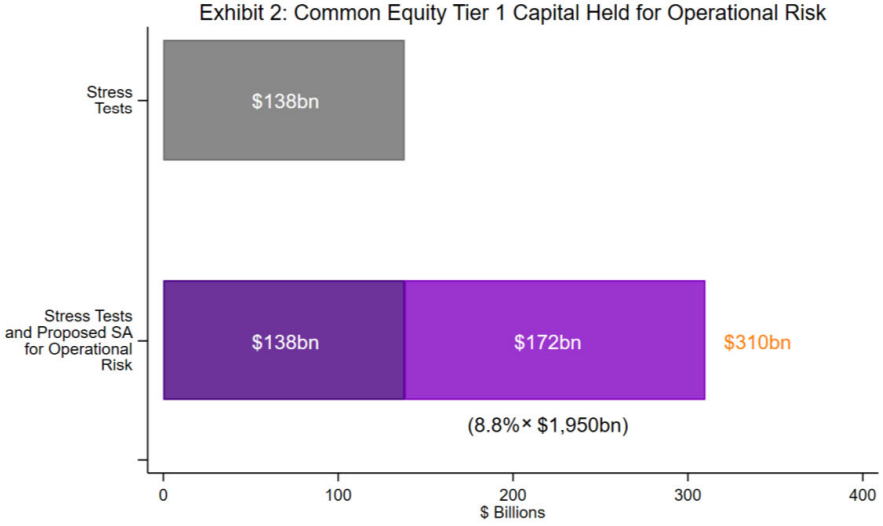
Moreover, this analysis does not even account for the additional capital for operational risk that banks need to hold as determined by the results of the stress tests, which we will cover next. So, rather than the standardized capital charge being three times almost all worst-case losses, it is more like five times those losses.

Operational Risk in the Stress Tests

The capital requirements for operational risk in the stress tests are not directly reported but can be estimated based on the Federal Reserve's stress testing disclosures. For instance, in the last year when all banks above $100 billion in assets participated in the stress tests, which was 2022, aggregate cumulative operational risk losses amounted to $188 billion over the nine quarters of the projection horizon. However, this figure overestimates the amount of capital currently held by banks for operational risk, since several banks reach the minimum level of regulatory capital before the end of the stress planning horizon. Therefore, operational risk losses after the trough is reached do not affect a bank's stress capital buffer and should be excluded from the capital requirement.

To estimate the capital that banks are currently holding for operational risk, we adopt BPI's stress testing model, which includes an estimate of the operational risk charge, to simulate the trajectory of the common equity tier 1 capital ratio of each bank under the severely adverse scenario for 2022. BPI's top-down models indicate that the inclusion of operational risk losses in the 2022 stress tests resulted in an average decline of another 118 basis points in the common equity tier 1 capital ratio for each bank. Considering that the aggregate risk-weighted assets of these banks currently amount to $11,670 billion, this equates to an operational risk capital requirement of approximately $138 billion (i.e., $11,670 × 118/10,000; Exhibit 2). Note that we do not think it is appropriate to set the operational charge to zero for banks at the 2.5 percent SCB. Without the operational risk losses in the stress tests, banks could use that added capacity to hold different types of assets, so an opportunity cost for the operational risk charge needs to be factored in.

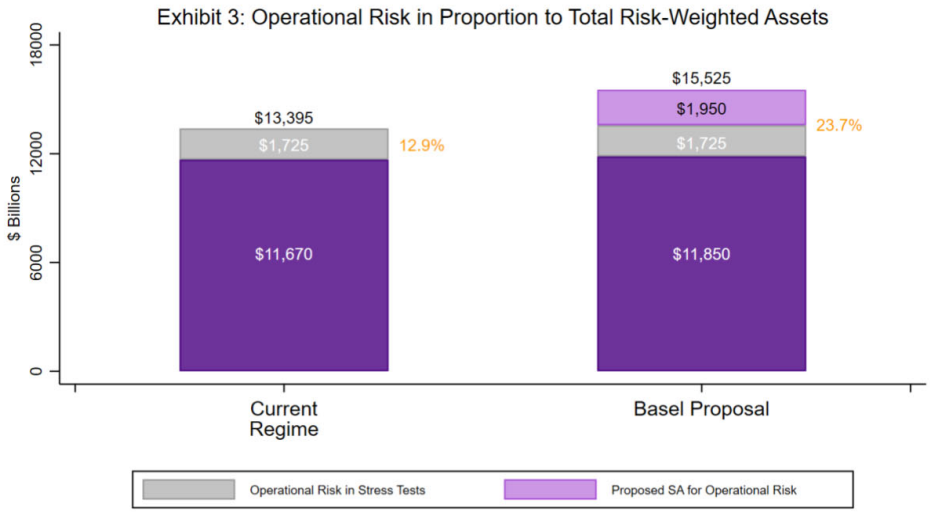
Exhibit 2: Common Equity Tier 1 Capital Held for Operational Risk



Source: Federal Reserve Board (Stress Test Disclosures, FR Y-9C, Basel Proposal) and BPI calculations.

According to the banking agencies' proposal, the expanded risk-based approach would raise risk-weighted assets attributable to operational risk by $1,950 billion.[6] The average capital requirement is 7 percent, calculated as the minimum of 4.5 percent plus the 2.5-percent buffer, in addition to the GSIB surcharge. The combined total of these two components corresponds to an average requirement of 8.8 percent across all banks, resulting in an additional $172 billion requirement for common equity tier 1 capital to cover operational risk. In total, the aggregate amount of common equity tier 1 capital that banks would be required to hold for operational risk would be about $310 billion (Exhibit 2).

Exhibit 3: Operational Risk in Proportion to Total Risk-Weighted Assets



Source: Federal Reserve Board and BPI calculations.
Note: We multiply operational risk losses in the stress tests by a factor of 12.5 to obtain an estimate of RWA.

For the purposes of the calculation of risk-weighted assets, banks are effectively required to set $1,725 billion in risk-weighted assets from the stress tests and another $1,950 billion resulting from the implementation of the Basel Endgame proposal (Exhibit 3). This corresponds to about 23.7 percent of risk-weighted assets allocated for operational risk. In contrast, the latest quantitative impact study released by the Basel Committee reveals that operational risk capital accounts for about 12 percent of the total required capital across all banks included in the BCBS sample. Therefore, U.S. banks would be required to hold nearly twice the amount of capital for operational risk compared with large banks in other jurisdictions.[7]

Conclusion

As we discussed, the proposed operational risk capital charge raises significant concerns. First, it appears unnecessary, since it assumes perfect correlation with credit, market and derivative risks. Second, the capital charge under the new standardized approach appears excessive when compared with actual operational risk losses. Third, as we noted in a prior post, the operational risk charge was not tailored to U.S. banks, and it is particularly punitive for fee-income banks. And finally, banks are already capitalized for operational risk through

[6] See Basel Proposal on page 64,168.
[7] The comparison is not perfect, because the Basel QIS is assessing the requirement in terms of the numerator, whereas we are calculating the requirement in terms of the denominator. However, it is approximately correct.

the stress tests, so the introduction of the new operational risk charge effectively more than doubles the required capital.

Therefore, to avoid an overcapitalization for operational risk, the banking agencies should either remove operational risk losses from the stress tests, make material adjustments to the new standardized approach for operational risk or combine both adjustments.

The economic implications of the new capital charge for operational risk are extremely significant. Using the same methodology as the one employed by the Basel Committee, the operational risk requirement would diminish U.S. GDP by close to $90 billion each year.[8] It acts as a universal tax that affects the entire spectrum of bank intermediation activities. The adoption of this new capital charge for operational risk as proposed would materially raise the cost of bank intermediation and further accelerate the migration of financial intermediation activities toward nonbanks.

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[8] A 24 percent increase in risk-weighted assets corresponds to roughly a 2.5 percentage point increase in capital requirements. According to a recent survey of the literature published by the BCBS, a one percentage point increase in required capital would lead to a GDP reduction of approximately 16 basis points per year, equivalent to $43 billion. Considering that the banks subject to the proposal account for approximately 80 percent of bank assets, this would translate into an annual reduction in GDP of $86 billion.

Appendix 15

Estimating the Implicit Capital Charges in the Stress Tests

08.02.21

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The extent to which stress tests distort or may impede bank lending is an important question that has produced an active debate for some time. A research note published by The Clearing House (TCH) in 2017 developed a methodology to derive the implicit capital charges in the stress tests.[1] The analysis showed that the implied capital requirements in the stress tests are elevated for some portfolios, and the higher capital charges could be reducing credit availability to more cyclically sensitive borrowers. Most notably, it showed that the stress tests resulted in significantly higher capital requirements for small business lending than those suggested by bank internal models or the Basel standardized approach to credit risk. Other research, including some written by Federal Reserve economists, reached similar conclusions (see here, here and here).

Not all research concurred with the conclusion that stress tests are having an impact on bank lending. For instance, Greenwood, Hanson, Stein, and Sunderam (2017) (hereafter, Greenwood et al.) also attempted to estimate the implicit capital charges in the stress tests and concluded that "the stress test is not particularly stressful on individual lending activities at the margin." In this note, we revisit the derivation of the capital charges in the stress tests using more granular data from the stress tests that were unavailable back in 2017.[2] The results show that capital charges in the stress tests are considerably higher than the capital requirements estimated by Greenwood et al. and those set by Basel's standardized approach. More precisely, we show that the implicit capital charges for credit card, commercial real estate and commercial and industrial loans in the stress tests are substantially higher than the 2.5-percent Basel capital conservation buffer they replace under the U.S. framework. As a result, U.S. banks face substantially higher capital requirements than smaller banks not subject to the stress tests, which contributes to large banks being driven out of certain asset classes.

Another important result is that the implicit capital charges are time-varying and are estimated to change materially each year. Those changes could not only be driven by revisions in the Federal Reserve's design of the stress scenarios but also by changes in bank portfolios or even updates to the Federal Reserve's own models, which are not fully publicly disclosed. One useful future addition to the stress test disclosures would be for the Federal Reserve to disclose how much of the change in the maximum decline in a bank's common equity tier 1 capital ratio from one year to the next is being driven by each of those three factors. Those would be relatively easy to implement and would enhance our understanding of how banks' capital requirements adjust over time.

The TCH research note also showed that the implicit capital charges in the Federal Reserve's stress tests were higher than those obtained under banks' own models as part of company-run stress tests. As a result, the higher capital charges in the stress tests are also being driven by the specification of supervisory models and not just the severity of stress scenarios. In this post, we do not use banks' own model results. Limiting the analysis to banks that disclose the information

[1] See Covas, Francisco; "The Capital Allocation Inherent in the Federal Reserve's Capital Stress Test," January 2017.
[2] In particular, the analysis needed the supervisory projections of net interest income and noninterest expense under stress conditions. The Federal Reserve started releasing this information in the 2019 DFAST.

required to estimate the capital charges under the methodology of the note would considerably reduce the sample of banks since some of the smaller stress-tested banks are not required to publish their own stress test results every year. We leave the analysis of capital charges in the stress tests based on banks' own models for a future post.

BACKGROUND

Estimating the implicit capital charges in the stress tests using publicly available data is challenging, because the data available are not very granular. Recently, the Federal Reserve began releasing more granular information on pre-provision net revenue (PPNR) projections that allows for a more accurate derivation of the implicit capital charges in the stress tests. This note updates the estimated implied capital charges in the stress tests using those disclosures. In addition, we adjust the methodology to reflect the new stress capital buffer framework that combines the results of the stress tests with the capital requirements under the Basel standardized approach.

The note published by TCH estimated the capital charges in the stress tests using a "top-down" approach that relied on the results of a nonlinear regression model. By contrast, the methodology proposed by Greenwood et al. uses a "bottom-up" approach. Each approach has its own advantages and disadvantages. A useful feature of the TCH approach is that it can estimate the implicit capital charges for small business loans in the stress tests, given its reduced form approach. The bottom-up approach is more structural than the approach used in the TCH note, but can only estimate the capital charges for loan portfolios included in the Fed's disclosures. The more structural approach has some benefits, because it is more explicit in terms of the assumptions used to derive the implied capital charges.

However, a key limitation of the structural approach is that it requires an estimate of the PPNR associated with each major loan portfolio under stress. Back in 2017, the Federal Reserve did not disclose the projections for the subcomponents of PPNR. Greenwood et al. instead used the realized PPNR under normal economic conditions. That proxy is problematic, given that PPNR under baseline economic conditions is typically higher than PPNR under stress. For example, net interest income is higher when times are good because of stronger loan demand and higher interest rates. As a result, that assumption likely understated the implicit capital charges in the stress tests. The Clearing House methodology avoided this problem by using a nonlinear model that maps portfolio characteristics to the post-stress CET1 capital ratio. The disadvantage with TCH's approach was that the estimated capital charges could be inaccurate if the regression model were specified incorrectly.

OVERVIEW OF THE METHODOLOGY

Greenwood et al. show that when the results of the stress tests are integrated directly into the ongoing capital requirements via the stress capital buffer, the capital charge for each asset can be represented as:

$$K_i = k \times \omega_i + \text{Net Loss Rate}_i \quad (1)$$

where k is the capital requirement, ω_i is the risk weight of the asset, and net stress losses represent the after-tax net loss rate, defined as:

$$NLR_i = (1-\tau)(Loss_i - PPNR_i), \quad (2)$$

where i = 1,...,7, representing each of the seven loan portfolios reported in the supervisory stress tests (see columns in Table 1). The tax rate is represented by τ. Losses and pre-provision net revenue are derived from the supervisory results and explained in more detail below.

The methodology for estimating the net loss rate or portfolio-specific SCB uses the following assumptions. First, as in Greenwood et al., the tax rate is assumed to be zero, because bank profits are typically below zero under stress.[3] Second, loan losses for each major loan portfolio ($Loss_i$) are taken directly from the supervisory DFAST disclosures. Third, pre-provision net revenue ($PPNR_i$) is defined as net interest income from a given loan category minus noninterest expense for that category.

The analysis departs from Greenwood et al. in several important ways. First, it lets net interest income for each loan category equal projected net interest income under stress, instead of under normal conditions. To allocate stressed net interest income to each asset class, we use the composition of net interest income for each bank under normal conditions. Second, to estimate the noninterest expense attributable to a particular loan category, the analysis assumes the costs associated with originating and holding the loan are equal to each bank's efficiency ratio under stress, defined as the ratio of noninterest expenses to revenues times the loan portfolio amount. The DFAST disclosures also have the inputs required to estimate each bank's efficiency ratio under stress. Lastly, the estimation of the capital charges does not take into account the level of the allowance for credit losses at the start of the stress tests. Some banks will have a lower aggregate SCB than the one implied by our portfolio-specific SCBs because they start the stress tests with a higher allowance for credit losses.

RESULTS

The estimation of the portfolio-level SCB is carried out at the bank level and weighted by each bank's loan size in the corresponding category to arrive at aggregate results. Table 1 outlines the steps required to estimate the portfolio-specific SCB. The table results are derived using the projections published in the June 2020 stress tests.

Using this methodology, aggregate projected losses for commercial and industrial (C&I) loans were 7.2 percent, while net interest income attributable to C&I was projected to be 8.2 percent. Assuming an average efficiency ratio of 71.5 percent, the implied stress capital buffer is calculated as 7.2 – (1 – 0.715) * 8.2 or 4.9 percent. The stress capital buffer for C&I loans is therefore almost twice as high as the fixed 2.5-percent capital conservation buffer. In other words, if a bank's loan book only included C&I loans, its SCB would be estimated at 4.9 percent.

The capital buffer is also considerably higher than the CCB for credit card loans (9.5 percent), other consumer loans (3.9 percent), and commercial real estate (CRE) loans (3.4 percent). By contrast, the capital charges for both types of residential loans are considerably lower under the stress tests. As shown in Table 1, the net income for those loans is about the same as the income from C&I loans, while the reported loss rate is quite low.

[3] This assumption also helps simplify the analysis. In practice, banks can use deferred tax assets to lower future taxable income, so negative taxes can increase capital in some cases.

Table 1: Estimation of the Portfolio-Specific Stress Capital Buffer							
	Commercial and Industrial Loans	Commercial Real Estate Loans	First-Lien Mortgages	Junior Lien Mortgages and HELOCs	Credit Card Loans	Other Consumer Loans	Other Loans
1. Projected Losses[a]	7.2	6.3	1.8	3.1	17.3	6.9	3.7
2. Net Interest Income[b]	8.2	10.2	8.5	9.0	27.3	10.6	4.4
3. Efficiency Ratio[c]	71.5%						
4. Implied Stress Capital Buffer[d]	4.9	3.5	–1.1	0.5	7.5	3.5	2.6

Source: Federal Reserve Board, BPI calculations (see text for details).

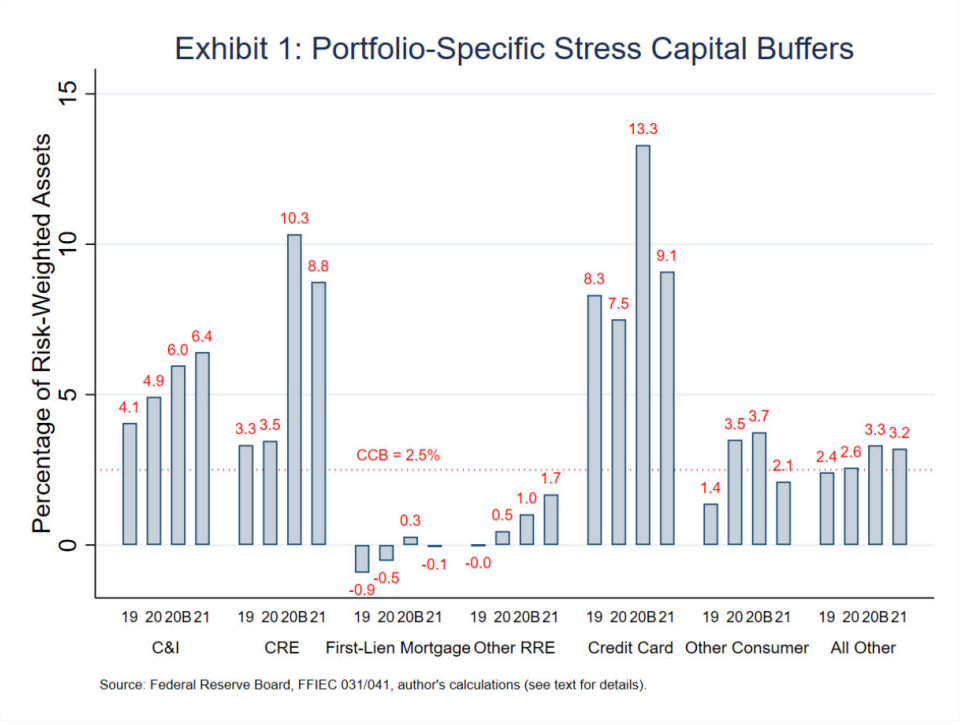
Notes: *a*. Projected losses under the severely adverse scenario in DFAST 2020, weighted by loan size.
b. Calculated as projected net interest income in DFAST times the share of interest income of each loan, as reported on each bank's Call Reports.
c. Defined as the ratio of noninterest expense to the sum of net interest income and noninterest income, as projected under the severely adverse scenario in DFAST 2020.
d. Defined as projected losses reported in line 1 less [net interest income × (1 – efficiency ratio)] reported in lines 2 and 3, respectively.

As noted, our estimates of capital charges under stress are higher than those obtained by Greenwood et al., because we can use the Federal Reserve's stressed PPNR projections, which are considerably lower than revenues under normal economic conditions. For instance, the net loss rate for C&I loans is estimated to be 4.9 percent, whereas it is 2.7 percent in that study. Also, many of the net loss rates are negative in Greenwood et al., while Table 1 only shows first-lien mortgage loans as having a negative net loss rate.[4]

UNEXPLAINED VARIABILITY IN STRESS TEST RESULTS

As noted earlier, the portfolio-specific buffers are expected to change over time with the stringency of the scenarios, changes in bank portfolios, and changes to nonpublic Federal Reserve models. Exhibit 1 shows the variation in portfolio-specific SCBs since DFAST 2019. Projections for PPNR subcomponents are unavailable before 2019, making it challenging to accurately estimate the net interest income component of each loan under stress conditions. It is evident from Exhibit 1 that there is material variation in the portfolio-specific capital buffers of stress-tested banks over the last two years. For example, the more stringent treatment of CRE losses in the December 2020 stress tests increased the implied SCB for CRE loans from 3.5 percent in the June 2020 stress tests to 10.3 percent in the December 2020 tests. The implicit SCB for CRE loans is estimated to have declined to 8.8 percent in DFAST 2021.

[4] The results presented here should also be interpreted as a lower bound for the estimates of the portfolio-specific capital buffers, since DFAST disclosures only include loan losses and revenues at the end of the planning horizon. This assumption underestimates the portfolio-specific SCB, because most banks reach their minimum CET1 capital ratio before the end of the nine quarters.



Credit card loans have also experienced a significant increase in the portfolio-specific SCB during the COVID event, from 7.5 percent to 13.3 percent. Similarly to CRE, the implied stress buffer for credit card loans declined materially in DFAST 2021. It would be very useful to understand how much of the decline in the implied stress capital buffer of credit card loans was driven by changes in banks' own portfolios versus updates to the supervisory models.

Furthermore, the capital buffer for C&I loans has also been rising steadily over the past four stress tests, consistent with an increased focus on heightened stresses in corporate debt markets. It would useful to see how banks are adjusting the risk in their portfolios in response to the increased stringency in the Fed's scenarios (and possibly supervisory models). Meanwhile, capital charges for residential real estate loans have remained well below the 2.5-percent fixed surcharge but have been rising over this period. One of the main reasons why the SCB associated with first-lien mortgage loans is so low in the stress tests is because mortgage loans held by banks were originated to borrowers with very low default probabilities. For instance, the house price path assumed in the severely adverse scenario remains quite severe and mimics the decline in home prices seen during the 2007–2009 financial crisis. So an important reason why the implicit SCB for first-lien mortgage loans is so low is because banks hold very safe mortgages on their books.

CONCLUSION

In this note, we derive portfolio-specific SCBs for banks subject to the stress tests. We use the Greenwood et al. methodology and further disclosures by the Federal Reserve to show that portfolio-specific SCB for C&I, CRE and credit card loans are well above the 2.5-percent flat capital conservation buffer included in the Basel Framework. Therefore, banks that want to reduce their stress capital buffer are incentivized to reduce their C&I, CRE and credit card loan exposures, thereby curtailing credit availability to small businesses and for borrowers with less-than-pristine credit scores.

In addition, the analysis shows significant time-series variation in the portfolio-specific SCBs. Therefore, it would be important to further analyze this variation and for the Federal Reserve to report how much of that variability is explained by the annual revisions to the supervisory stress scenarios, changes in bank portfolios and updates to the supervisory models.

Appendix 16

ABA and BPI Member QIS

BPI and ABA members provided confidential data for a study analyzing the impact of the proposal on banks' credit risk RWAs. BPI staff collected the data and performed the analysis. 20 Category II through IV banks participated, covering more than 70 percent of assets of all Category II through IV firms. Among them, nine banks were IHCs of foreign banking organizations. Firms provided data on RWA and exposure levels as of June 30, 2023. Firms also provided their own estimates of the impact of certain elements of the proposal on their RWAs.

The Financial Services Forum conducted a similar study covering the eight Category I banks (the "FSF Data Collection"). The FSF Data Collection and BPI/ABA data collection used a substantially similar template to enable the aggregation of both sets of data. Where results are discussed with respect to firms across Categories I through IV, BPI staff has combined the data from the FSF Data Collection and the BPI/ABA data collection to calculate the total aggregate impact.

The analysis used aggregate calculations to assess the impacts of the credit risk proposal on RWAs. The analysis also examined the effects of selected potential alternatives to certain elements of the Basel framework. For instance, the Member QIS analyzed the effect of removing the surcharges above the risk weights provided in the Basel standard with respect to mortgage exposures. It is important to note that not every bank in the BPI/ABA data collection contributed to each mitigation item, leading to potentially understated sensitivities in changes in credit risk RWA, as missing values are assumed to be zero. However, these omissions typically occurred because the item was not material to the bank. Therefore, BPI staff concluded that such absences did not materially change the results presented.

Note that the impact analysis included in Section V.C of this letter with respect to the proposed standardized approach to operational risk involved a separate population of firms, which are described in the context of that analysis in the letter.

Appendix 17

A Modification to the Basel Committee's Standardized Approach to Operational Risk

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The U.S. banking regulators will at some point release a proposal to implement the latest changes to the Basel Committee capital framework in the United States. One important novelty of the Basel framework is the introduction of a new capital charge for operational risk, known as the standardized approach for operational risk or "OPE." If the OPE is implemented in the U.S., it would be the first time that a U.S. standardized approach to calculating risk-weighted assets includes an explicit capital charge for operational risk.

The standards promulgated by the Basel Committee use a simple approach to estimate operational risk and determine the minimum required capital. In essence, the OPE uses a financial-statement-based proxy which is based on certain income and expense balance sheet items. This is called the Business Indicator, or BI. Specifically, as further described herein, the BI component utilizes three different types of income streams (each averaged over the last three years) to determine required operational risk capital: interest component; services component; and financial component.

Although the OPE is a significant improvement over the current advanced measurement approach for several reasons, it comes with some important potential drawbacks. In this note we show that banks with business models that rely more heavily on noninterest income (e.g., capital market activities, custodial services) relative to net interest income will have an inappropriately high BI component and therefore an excessive operational-risk capital requirement.

One important novelty in this note is that we estimate the operational risk losses used in the Dodd-Frank Act stress tests and benchmark them against the operational risk capital requirements derived under the OPE. In this comparison, we assume that the OPE's capital requirements apply over a one-year horizon and adjust operational risk losses in DFAST accordingly. There are two key advantages to comparing Basel's capital requirement for operational risk and operational risk losses in DFAST. First, operational risk losses in DFAST are tightly linked to banks' idiosyncratic business and risk profiles. Second, operational-risk losses in DFAST are derived under severe economic conditions, so those estimates are already biased to the upside.

Our results show that the operational risk capital requirement using the OPE is significantly higher than operational risk losses in the stress tests for almost all large banks. The difference in capital requirements is especially elevated for banks with proportionately higher fee revenue and expenses. To avoid an overstatement of the operational risk capital requirement, we investigate a cap to the BI's services component, similar to the 2.25-percent cap that already exists on the BI's interest component. Extending a similar cap to the BI's services component would be a natural extension of Basel's OPE methodology. Analysis shows that introducing a cap on the services component equal to 2.25 percent of total assets (adjusted for certain safe assets) would significantly ameliorate concerns about the existing OPE methodology.

A Brief History of Operational Risk in the Basel Framework

The first Basel Capital Accord was released in 1988 and established a risk-sensitive framework to quantify bank assets, thereby initiating what is now usually referred to as risk-weighted assets.[1] Basel I categorized bank assets into five risk categories and assigned risk weights ranging from 0 to 100 percent to each, based on each category's level of credit risk. The calibration of capital charges in Basel I was designed to reflect these credit risks. The original Basel framework did not separately account for operational risk, but implicitly accounted for it instead in the overall calibration of risk weights and minimum capital ratio requirements. For example, the U.S. banking agencies' October 2005 advance notice of proposed rulemaking for Basel II implementation in the United States noted that capital charges for operational risk (and interest-rate risk) were embedded in the Basel I risk-based capital rules:

> The existing risk-based capital requirements focus primarily on credit risk and generally do not impose explicit capital charges for operational or interest rate risk, which are covered implicitly by the framework. [2]

Operational risk is defined as the risk of losses derived from inadequate or failed internal processes, people, and systems or from external events. The precise types of losses included in this definition have evolved over time. Under Basel I, operational risk generally included any type of unquantifiable risk faced by a bank.[3] In the early 2000s, the BCBS published a set of principles on the management and supervision of operational risk including seven broad types of events that could result in material losses: internal fraud; external fraud; employment practices and workplace safety; clients, products and business practices; damage to physical assets; business disruption and system failures; and execution, delivery, and process management.[4]

Basel II elevated operational risk to a category of its own and assigned it an explicit capital charge. The revised capital framework included three distinct methodologies to calculate the operational-risk capital charge: the basic indicator approach, the standardized approach, and the advanced measurement approach (AMA). The first two approaches were based on fixed percentages of average operating income, with the standardized approach being slightly more granular across business lines than the basic indicator approach. The AMA modeled operational-risk loss exposure using data on each bank's historical experience.

Although the Basel Committee defined the AMA operational-risk exposure as the 99.9th percentile of the distribution of aggregate operational-risk losses over a one-year horizon, making such an estimation with any degree of accuracy is impossible, so taking such estimates seriously is silly. In practice, banks could use various models including scenario analysis or extreme value theory to quantify operational risk. However, the lack of concrete guidance led to huge variability in operational-risk charges across jurisdictions, especially since not all jurisdictions were as permissive in terms of allowing banks to use scenario analysis to lower their AMA models' outputs. The final implementation of the Basel II Accord in the United States only subjected the largest banks to an explicit capital charge for operational risk and required them to use the AMA to determine this charge.

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[1] "History of the Basel Committee." Bank for International Settlements. Available at https://www.bis.org/bcbs/history.htm.
[2] Risk-Based Capital Guidelines; Capital Adequacy Guidelines; Capital Maintenance: Domestic Capital Modifications, 70 Fed. Reg. 61,068 at 61,071 (Oct. 2005).
[3] Power, Michael. "The Invention of Operational Risk." *Review of International Political Economy*, October 2005. Available at (PDF) The Invention of Operational Risk (researchgate.net)
[4] See "Sound Practices for the Management and Supervision of Operational Risk," Basel Committee on Banking Supervision, February 2003. Available at https://www.bis.org/publ/bcbs96.pdf.

The most recent Basel Accord replaces all three Basel II methodologies for operational risk with a new standardized measurement approach. The OPE presents a unified, non-model-based approach that aims to maintain risk-sensitivity of the framework but overcome some limitations of prior approaches. In essence, the OPE combines information from financial statements and historical losses to calculate an operational-risk capital charge.

The Standardized Approach for Operational Risk

The new standardized approach for operational risk calculates operational-risk capital requirements in three steps. First, it estimates a financial-statement-based proxy for operational risk (the BI), using a bank's income and expense items as inputs. The BI is defined as the sum of three components: (1) the interest, leases, and dividend component; (2) the services component; and (3) the financial component. Each component is calculated based on the income generated by the relevant activities. A complete derivation of each of the three components is contained in the Appendix.

Second, the OPE multiplies a bank's BI by a coefficient that increases as the BI rises to generate the Business Indicator Component (BIC). For instance, a bank with a BI between €1 billion and €30 billion is subject to a coefficient of 15 percent, whereas a bank with a BI more than €30 billion is subject to a coefficient of 18 percent. In the last step, the BIC is multiplied by a scaling factor, or internal loss multiplier (ILM), that depends on each bank's average historical losses over the last 10 years. Throughout this analysis, we will assume the ILM is equal to 1, which is permissible in the Basel framework.[5]

Third, the risk-weighted-assets associated with operational risk are defined as:

$$\text{RWA for Operational Risk} = 12.5 \times ILM \times BIC \quad (1)$$

[5] According to the definition of ILM, it is more likely for the ILM to exceed 1 than to be lower than 1.

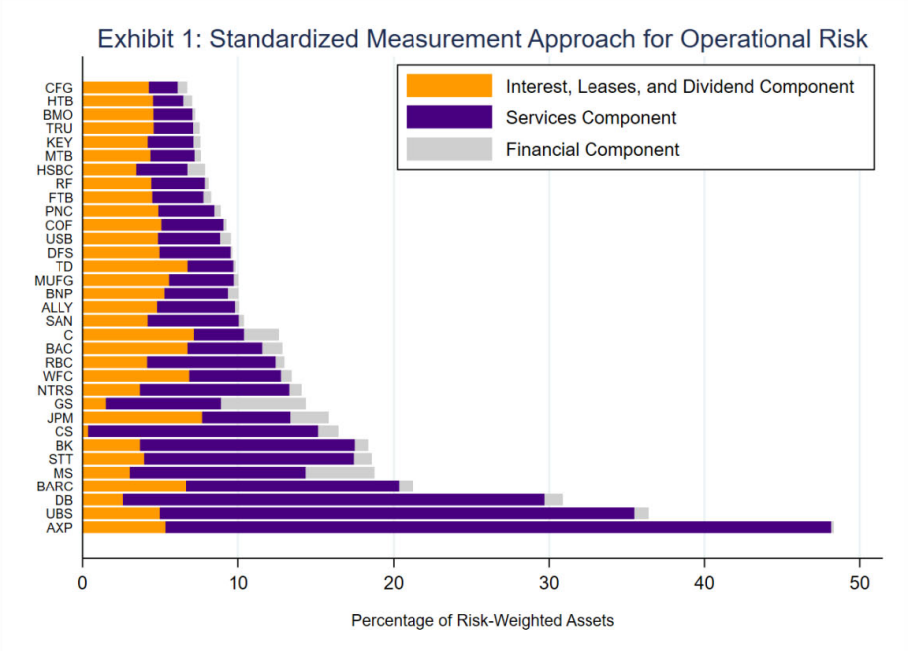


Exhibit 1 plots the RWA for operational risk relative to total RWA as currently defined. The bar chart uses data on bank income statements between 2018 and 2020, since the BI is calculated using an average of financial data over a three-year period (see the Appendix for details). Although which U.S. banks will be subject to OPE under the Basel proposal is still unknown, we have included all banks with more than $100 billion in assets and therefore subject to the Fed's stress tests.[6]

As shown in the chart, the share of RWA for operational risk across large banks varies widely. Specifically, the share of operational risk in total RWA varies from 6.7 percent for Citizens Financial Group (CFG) to 48.3 percent for American Express (AXP). As the purple portions of the bars show, the services component generates a significant share of RWA for operational risk, especially for banks that tend to have the highest operational risk capital requirement.[7]

[6] This set of banks represent the largest cohort that allows us to compare Basel's operational-risk requirement with losses associated with operational risk events in the Fed's stress tests.
[7] The operational risk requirement is higher for larger banks, so relative to revenues the outliers are the largest banks followed by AXT.

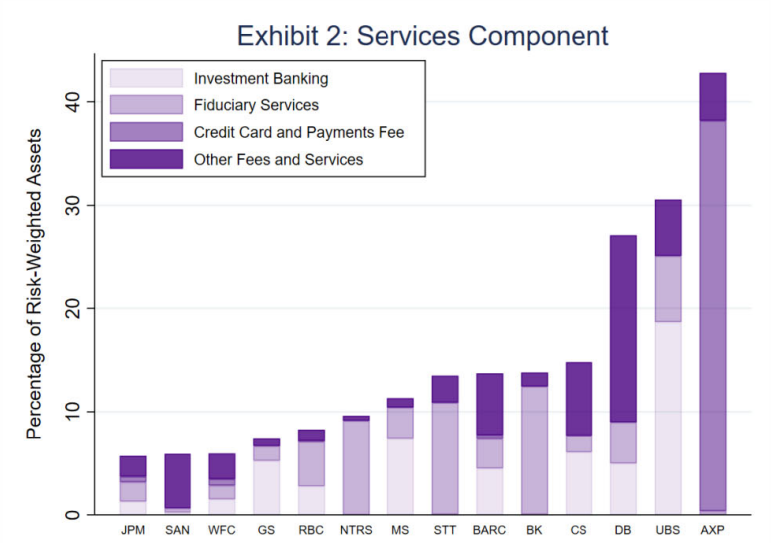


Exhibit 2 breaks out the services component for banks for which the share of RWAs generated from the services component is highest and shows the portions of RWA generated from investment banking, fiduciary services, credit card and payments fees, and other fees and services. The portion of the services component generated by credit card and payments fees alone would account for nearly 40 percent of AXP's RWA. For UBS, investment banking fees generate an operational risk-based RWA that would account for about 20 percent of the firm's aggregate RWA. For DB, income from other fees and services would also generate nearly 20 percent of its aggregate RWA.

The services component of the OPE drives these outsized operational risk charges because the BI formula generates higher RWAs from noninterest income than from interest income. Specifically, the operational risk capital requirement tied to interest income offsets interest income with interest expense and is no higher than 2.25 percent of interest-earning assets. By contrast, the operational risk capital charge tied to noninterest income does not offset revenues with expenses and it is uncapped. The decoupling between the interest and services components penalizes banks with a business mix tilted toward noninterest income in the absence of any evidence of higher operational risk. In addition, the differences in capital requirements across the interest and services components misaligns the risk of banking products that generate both interest income and noninterest revenue, such as credit cards.

This overstatement of risk for banks whose business mix is tilted towards noninterest revenues, could be corrected by capping the BI's services component at 2.25 percent of a banking institution's total assets (less reserve balances, Treasuries, and Agency MBS to mitigate procyclicality).[8] For some lines of business, it would also be logical to offset fee income with fee expense because the product generating the two flows is the same (e.g., credit card fees are aligned with credit card member rewards). However, for other firms, the fee income source is

[8] The argument to also exclude Treasuries and Agency MBS in addition to deposits at Federal Reserve Banks is that in a downturn loan demand is weak and banks hold a larger share of their portfolios in securities.

mainly from investment banking and fiduciary fees while the major source of expenses comes from brokerage and clearing activities. In this latter case, offsetting fee income with fee expenses is less straightforward because there is less of a comparable relationship between services offered and services used. That said, this is a topic that deserves further analysis beyond the one done in this note.

Losses Associated with Operational Risk Events in the Federal Reserve Stress Tests

The Federal Reserve's stress tests estimate losses associated with operational risk events for banks above $100 billion in assets using banks' own historical data on operational risk losses. Those projections offer a robust reality check against the capital requirements for operational risk calculated in Exhibit 1. The level of losses associated with operational risk events in the stress tests depends significantly on the severity of the stress scenarios. In addition, since the losses in the stress tests are derived using banks' own historical data, analyzing the correlation between OPE's capital charges and operational risk losses in the Fed's stress tests is also useful.

One key challenge is that bank-level losses associated with operational risk events in the stress tests are not disclosed but are included in the noninterest expense projections. Fortunately, the projections of noninterest expense are publicly available. The Federal Reserve provides a description of the models used to generate the projections of noninterest expense without operational risk losses in the stress tests. Moreover, those projections rely entirely on data from banks' FR Y-9C regulatory reports, which are publicly available. Therefore, we estimate losses associated with operational risk events in the stress tests as the difference between the Federal Reserve's projections of noninterest expense and the projections based on our own models and publicly available data. In addition, the Federal Reserve also publishes aggregate operational risk losses in the stress tests for all firms—another useful datapoint to help calibrate our estimates.

The supervisory stress test methodology document states that the Federal Reserve uses three regression equations to project the components of noninterest expense in the stress tests: compensation expense; fixed assets expense; and all other noninterest expense, excluding operational risk losses and OREO expenses.[9] The supervisory models are estimated using data from the FR Y-9C. These data are publicly available, so it is therefore possible to approximate some of the assumptions the Federal Reserve uses in its projections, excluding operational risk losses and OREO expenses. The projections are based on autoregressive models that relate each specific noninterest expense subcomponent (expressed as a share of total assets) to macroeconomic variables, previous values of the expenses, bank fixed effects, and other bank-specific variables.

The Federal Reserve's description of expense models offers useful information about the functional form of the regression models, but it does not say precisely which macroeconomic or bank-specific variables are included in each regression. Based on an analysis of DFAST 2020 results, we find that compensation expenses and other noninterest expenses are positively correlated with stock returns, while real GDP growth drives some of the variation in expenses of premises and fixed assets.

The Federal Reserve uses banks' own historical data on operational risk losses to develop two different modelling approaches during its stress testing exercise: a linear regression model and a historical simulation model. The regression model correlates operational risk losses with macroeconomic variables such as BBB spreads, the house

[9] The Federal Reserve excludes operational risk losses and OREO expenses from all other noninterest expense because there is a separate supervisory model that estimates losses from fraud, employee lawsuits, litigation-related expenses, or computer system or other operating disruptions. We removed these types of expenses from all other noninterest expense using the information from the write-in fields for other noninterest expense. We also exclude goodwill impairment losses and amortization expense from noninterest expense.

price index, and the unemployment rate. Operational losses are estimated for the full sample of banks. The share of losses allocated to a given firm is a function of the size of the firm, measured by the total assets of each bank.

The historical simulation model attempts to capture historical variation in operational risk losses across seven different types of operational risk events based on data the Fed receives directly from the firms. The projected operational risk losses used in the Fed's stress tests are calculated as an average of losses obtained from each model.

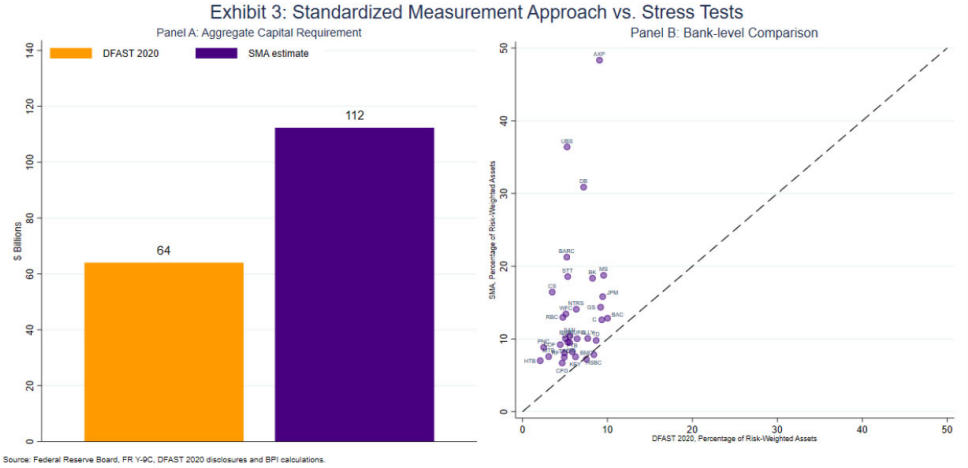
We will also follow a similar approach and average the projections for operational risk losses from the regression model with those obtained by allocating aggregate projected operational risk losses from the stress tests using bank size. Next, we divide our estimate by 2.25 percent to transform a nine-quarter projection into a yearly estimate, to ensure the OPE and the estimates from the stress test results conform to the same time horizon. Finally, we multiply the stress test projections by 12.5 to transform the operational risk losses into a risk-weighted assets metric.

An appropriate strategy to assess the overall calibration of the OPE is to compare operational risk losses in the stress tests with the operational risk capital requirement calculated using the OPE. Also, our estimates make a conservative assumption and assume the tax rate to be zero; the assumption is conservative because bank profits are typically below zero under stress.[10] Operational risk losses are a reasonable proxy for capital needs, because losses feed directly to bank capital through declines in net income and retained earnings. Since operational risk losses in the stress tests are estimated conditional on a stress scenario, it is also reasonable to compare the aggregate and bank-specific operational risk losses directly with the capital requirements calculated using OPE. Had those losses not been derived under stress conditions, it would be more appropriate to look at the distribution of operational risk losses and compare the tail of the distribution to OPE's capital requirement.

First, the minimum aggregate operational risk capital under OPE being nearly twice as high as the aggregate operational risk losses in DFAST 2020 as shown in Panel A in Exhibit 3. Cumulative operational risk over the nine quarters of the projection horizon equaled $144 billion in aggregate for the 33 banks. Annualizing those losses to a one-year horizon yields losses of $64 billion under the Federal Reserve's severely adverse scenario in DFAST 2020. In addition, the OPE methodology results in higher operational risk capital requirements for 31 of the 33 firms that participated in the 2020 stress tests.

[10] This assumption also helps simplify the analysis. In practice, banks can use deferred tax assets to lower future taxable income, so negative taxes can increase capital in some cases.

Exhibit 3: Standardized Measurement Approach vs. Stress Tests



Source: Federal Reserve Board, FR Y-9C, DFAST 2020 disclosures and BPI calculations.

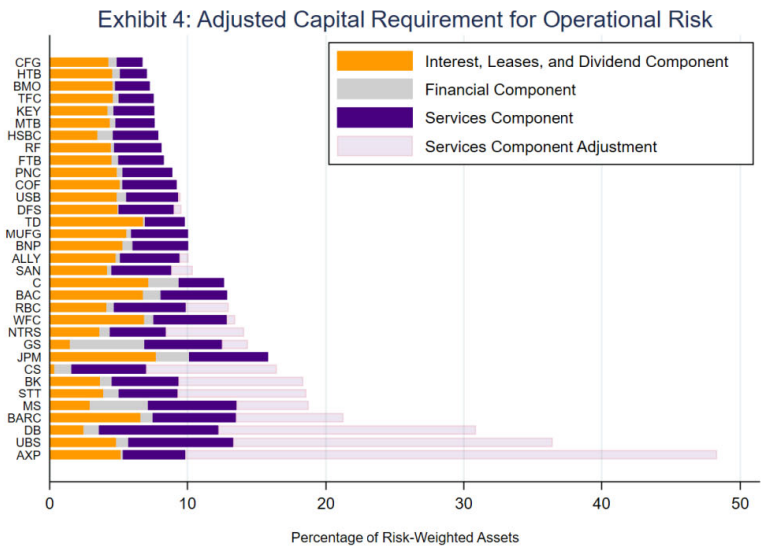
Second, as shown in Panel B in Exhibit 3, there are some sizable outliers for minimum operational risk capital under OPE relative to DFAST. The x-axis measures the annualized losses associated with operational risk events in the Fed's stress tests, and the y-axis represents the share of RWA for operational risk under the OPE. In addition, the correlation between the OPE capital requirement and operational risk losses in DFAST is low because the dots lie vertically on the top of each other. More precisely, the correlation between OPE's operational risk capital requirement and operational-risk losses in the stress tests is only 29 percent. The correlation would jump to 59 percent if AXP, foreign-bank organizations with an elevated capital markets presence (UBS, CS, DB, BARC), and STT were excluded from the sample.

All together, these findings suggest that the capital requirement for the services component is overstated in OPE.

Adjustment to BI's Services Component

The current specification of OPE disproportionately penalizes business models with a high percentage of noninterest income in total revenues for two main reasons. First, unlike the interest component, the services component does not offset revenues with expenses. Second, there is no cap on the BI's services component. The solution we discuss in this section is to introduce a cap to the BI's services component similar to the one already in place for the interest component.

A cap tied to total assets is preferable to one tied to interest-earning assets, since the services component covers noninterest income. Furthermore, deducting deposits at Federal Reserve Banks, U.S. Treasuries, and Agency MBS from total assets would better reflect operational risk and reduce the procyclicality of the cap. We know that during economic downturns, the Federal Reserve tends to expand its balance sheet as it conducts asset purchases. This causes a large influx of reserve balances into the banking system, since only banks can hold deposits at Federal Reserve Banks. In addition, banks typically use their excess liquidity to purchase Treasury securities and Agency MBS.



A cap on the BI's services component equal to 2.25 percent of total adjusted assets would be binding for 15 out of the 33 CCAR banks.[11] That is approximately the same number of banks bound by the BI's cap on the interest component. In Exhibit 4, we plot the adjusted RWA for operation risk for all the banks in the sample. In the revised formulation, AXP has a capital charge near 10 percent of RWA instead of 48 percent, as shown in Exhibit 1. Foreign-bank organizations with high capital markets presence (UBS, DB, CS, and BARC) would also benefit by having a cap on the services component. In addition, the correlation between the adjusted OPE capital charge and operational risk losses in the stress tests would increase from 29 to 53 percent. Finally, the Basel III capital requirement for operational risk would decline from $112 billion to $99 billion, or 11.6 percent. Still, the Basel III operational risk capital requirement would exceed operational-risk losses in the stress tests over a one-year horizon.

[11] There is no special reason to choose 2.25 percent, except that it is identical to the cap on the interest, leases, and dividend component.

Conclusion

The OPE methodology to calculate capital charges for operational risk in the Basel III endgame proposal offers a simplified, non-model, financial-statement-based approach that resolves some problems related to the large variability in capital charges under the previous methodologies introduced by Basel. Although the calculation allows for calibration based on actual historical losses, a misalignment of certain requirements leads to capital charges significantly and inappropriately higher than operational risk losses in the Fed's stress tests, especially for banks with business models tilted toward noninterest revenues. This problem could largely be corrected by imposing a cap on BI's services component. Furthermore, deducting reserves, Treasuries and agency MBS securities would not only further enhance accuracy but also make the requirement less procyclical.

Appendix

The new standardized measurement approach for operational risk calculates operational capital requirements in three steps. First, it estimates a proxy for operational loss exposure by aggregating financial statement data based on three types of revenue streams (interest, services, and financial) to generate the Business Indicator (BI). Second, the BI is then multiplied by marginal capital requirement coefficients to obtain the Business Indicator Component (BIC). Third, the BIC is multiplied by an adjustment factor called the Internal Loss Multiplier (ILM), which compares the BIC with actual historical operational losses over the last decade.[12] We describe each component of the BIC in detail below.

$$\text{Minimum operational risk capital } (ORC) = BIC * ILM \quad (1)$$

In this appendix, we present the relevant business indicator formulas and explain our methodology and adjustments in detail. In the formulas below, a bar above a term indicates that the term is calculated as the average over three years: t, t – 1, and t – 2. We will be using 2018, 2019, and 2020 for our three years when calculating the variables.

A detailed item-by-item mapping of the Business Indicator to FRY-9C items can be found in Table 2.

Business Indicator

The BI has three components: the interest, leases, and dividend component (ILDC); the services component (SC), and the financial component (FC).

The BI is defined as:

$$BI = ILDC + SC + FC \quad (2)$$

Interest, Leases, and Dividend Component. The ILDC quantifies risks coming from shocks to net interest income. It compares the absolute value of net interest income over the last three years to a reference value of 2.25 percent of total interest earning assets. The ILDC takes the minimum of both metrics and then adds total dividend income from unconsolidated entities to obtain a measure of potential operational risk stemming from interest revenues.

$$ILDC = Min\Big[\overline{Abs(\text{Interest Income} - \text{Interest expense})}; 2.25\% \times \overline{\text{Interest Earning Assets}}\Big] + \overline{\text{Dividend Income}} \quad (3)$$

The interest income from the FRY-9C schedule HI Item 3 is adjusted according to the BCBS guidelines for operating leases other than investment property disclosed as other expenses under the classification in Schedule HI item 7n to 7p. The absolute value of net items (e.g., interest income – interest expense) is calculated first year by year and then averaged over three years.

Interest earnings assets are defined according to the New York Federal Reserve stress testing methodology (see Hirtle et al. 2015). This includes interest-bearing balances, hold-to-maturity and available-for-sale securities, federal funds sold in domestic offices, securities purchased under agreements to re-sell, trading assets, and total loans and leases.

We do not have available data for dividend income from investments in stocks and funds not consolidated in the bank's financial statements, including dividend income from non-consolidated subsidiaries, associates, and joint ventures.

Services Component. The SC captures income and expenses received from offering advice and services. For example, this includes but is not limited to activities such as securities issuance, clearing and settlement, or fees obtained through asset management business. The BCBS definition aggregates revenues and expenses into those related to fees and those representing other operating income. Finally, the maximum of fee income or expense is added to the maximum of other operating income or expenses, as in this formula.

$$SC = Max\left[\overline{\text{Other Operating Income}}; \overline{\text{Other Operating Expense}}\right] + Max[\overline{\text{Fee Income}}; \overline{\text{Fee Expense}}] \quad (4)$$

We do not have available data for other operating income, defined as income from ordinary banking operations not included in other BI items but of similar nature (income from operating leases should be excluded). We define other operating expense using Schedule HI memoranda items 7n to 7p when related to losses incurred because of operational loss events (e.g., fines, penalties, settlements, replacement cost of damaged assets), which have not been provisioned/reserved for in previous years; or expenses related to establishing provisions/reserves for operational loss events.

We use fee income as established by the FRY-9C: (1) Income from fiduciary activities; (2) service charges on deposit accounts; (3) fees and commissions from securities brokerage and investment banking activities; (4) venture capital revenues; and (5) servicing and securitization income. We exclude fee income from insurance or re-insurance business as stated by BCBS.

We define fee expense as Schedule HI item 7e *"Other noninterest expense"* from the FRY-9C. We adjust this metric downward to better reflect BCBS definition. This adjustment includes: (1) fees paid by the bank for the supply of non-financial services (e.g., travel expenses, IT services, and general administrative costs); (2) for operating lease expenses; and (3) for expenses included in *"Other operating expense"* above.

Our adjustment to the services component introduces a cap to the BI's services component by taking the minimum of the original services component and 2.25 percent of total adjusted assets. Total adjusted assets subtract reserve balances, U.S. Treasuries, and Agency MBS from total assets.

$$Adjusted\ SC = Min\left[\ SC\ , 2.25\% \times \text{Total adjusted assets}\right] \quad (5)$$

Financial Component. The FC adds the absolute value of the profit and loss coming from the banking book and the trading book to obtain a proxy for the firm's exposure to net financial operating losses.

$$FC = \overline{Abs(\text{Net P\&L Trading Book})} + \overline{Abs(\text{Net P\&L Banking Book})} \quad (6)$$

Net P&L for the trading book is defined as trading revenues determined according to the definition of the Federal Reserve Bank of New York stress testing methodology (see Hirtle et al. 2015).

Net P&L for the banking book follows the FRY-9C mapping of realized gains and losses from the trading book, including: (1) net gains (losses) on the sale of other assets, (2) realized gains on held-to-maturity securities, and (3) realized gains (losses) on available-for-sale debt securities.

Business Indicator Component

Once these three elements are added to obtain the Business Indicator, the BCBS guidelines apply marginal coefficients to obtain an intermediate capital charge.

Table 1: BI Ranges and Marginal Coefficients

Bucket	BI Range (€bn)	BI Marginal Coefficients
1	$BI \leq 1$	12%
2	$1 < BI \leq 30$	15%
3	> 30	18%

Note: The analysis assumes a €/U.S.$ exchange rate of 1.13. [2]

To calculate the BIC, the BI is multiplied by the marginal coefficients. For example, for banks with a BI of €40 billion, the following BIC would apply: First bucket impact of (1 × 12%), a second bucket impact of (30 – 1) × 15%, and a final bucket impact of (40 – 30) × 18% = €6.27 billion.

Internal Loss Multiplier

And finally, the intermediate capital charge can be scaled to account for historical operational risk losses through an adjustment factor. The internal loss multiplier (ILM) compares the potential losses estimated through the BIC to actual average historical losses over a period of 10 years using the following formula:

$$ILM = Ln\left(\exp(1) - 1 + \left(\frac{LC}{BIC}\right)^{0.8}\right) \quad (7)$$

The loss component (LC) is calculated as 15 times the net annual operational losses and then averaged over a window of the last 10 years. If the LC equals the BIC, then no adjustment factor is needed and the ILM is equal to 1. If, on the other hand, actual historical losses are above those calculated by the BIC, then the ILM would be higher than 1 and the minimum operational risk capital would be adjusted upward to reflect the incremental risk associated with higher historical losses. ILM is set to 1 throughout this research note.

Table 2: Mapping of BCBS Operational Risk Items to the FRY-9C Reporting Form

Item	FRY-9C item	Description
Interest Income	BHCK4107	Total interest income
Interest Expense	BHCK4073	Total interest expense
	+ operating lease adjustment	Adjustment for operating leases expenses (see Table 3 for details)
Interest Earning Assets	BHCK0395	Interest-bearing balances: in U.S. offices
	+ BHCK0397	Interest-bearing balances: In foreign offices, Edge and Agreement subsidiaries, and IBFs

[2] We use a €/U.S.$ exchange rate of 1.13.

Item	FRY-9C item	Description
	+ BHCK1754	Total Securities, MBS, ABS and Other Debt Securities Held-to-Maturity at Amortized Cost (from Schedule HC-B)
	+ BHCK1773	Total Securities, MBS, ABS and Other Debt Securities Available-for-Sale at Amortized Cost (from Schedule HC-B)
	+ BHDMB987	Federal funds sold in domestic offices
	+ BHCKB989	Securities purchased under agreements to resell
	+ BHCK3545	Trading assets (from Schedule HC-D)
	+ BHCK2122	Total Consolidated loans and leases held for investment and held for sale
Dividend Income	–	–
Fee Income	BHCK4070	Income from fiduciary activities
	+ BHCK4483	Service charges on deposit accounts in domestic offices
	+ BHCKC886	Fees and commissions from securities brokerage
	+ BHCKC887	Fees and commissions from annuity sales
	+ BHCKC888	Investment banking, advisory, and underwriting fees and commissions
	+ BHCKKX46	Fees and commissions from securities brokerage, investment banking, advisory, and underwriting fees and commissions
	+ BHCKB491	Venture capital revenue
	+ BHCKB492	Net servicing fees
	+ BHCKB493 + BHCKB497	Net securitization income Other noninterest income
Fee Expense	BHCK4092	Other noninterest expense
	– operating lease adjustment	Adjustment for operating leases expenses (see Table 3 for details)
	– BHCKC018	Printing, stationery, and supplies expense
	– BHCK4803	Postage expense
	– BHCKF559	Telecommunications expense
	– [BHCK8565 + BHCK8566 + BHCK8567]*	Adjustment for outsourcing fees paid for the supply of non-financial services (see Table 3 for details)
Total Assets Adjusted	BHCK2170 – [BHCK0081 + BHCK0395 + BHCK0397] – [BHCK0213 + BHCK1287 + BHCM3531] – [BHCKG303 + BHCKG307 + BHCKG311 + BHCKG315 + BHCKK145] – [BHCKG301 + BHCKG305 + BHCKG309 + BHCKG313 + BHCKK143] – [BHCKG380 + BHCKG379]	Total assets Cash and balances due from depository institutions U.S. Treasuries (AFS, HTM, Trading) Agency mortgage-backed-securities (AFS) Agency mortgage-backed-securities (HTM) Agency mortgage-backed-securities (Trading)

Item	FRY-9C item	Description
Other Operating Income	–	–
Other Operating Expense	[BHCK8565 + BHCK8566 + BHCK8567]**	Adjustment for expenses and losses incurred because of operational loss events (see Table 3 for details)
Net P&L Trading Book	BHCKA220	Trading revenue
Net P&L Banking Book	BHCK8560 + BHCK8561 + BHCKB496	Net gains (losses) on sales of loans and lease Net gains (losses) on sales of other real estate owned Net gains (losses) on sales of other assets
	+ BHCK3521	Realized gains (losses) on held-to-maturity securities
	+ BHCK3196	Realized gains (losses) on available-for-sale debt securities

*Only items related to outsourcing fees paid for the supply of non-financial services are selected from items BHCK8565, BHCK8566, and BHCK8567 (see Table 3 for details).
**Only items related to expenses and losses incurred because of operational loss events are selected from items BHCK8565, BHCK8566, and BHCK8567 (see Table 3 for details).

Table 3: Definitions of Adjustment Items

Memoranda Items BHCK8565, BHCK8566, and BHCK8567 from Schedule HI of the FRY-9C forms outline additional disclosure on "Other Noninterest expense". We categorize these items into three adjustments: (1) operating lease and expense; (2) outsourcing fees paid for the supply of non-financial services; and (3) expenses and losses incurred as a consequence of operational loss events. We follow the definitions contained in *Finalizing Post Crisis Reforms* (BCBS 2017) and *Policy Advice on Basel III Reforms: Operational Risk* (EBA 2019).

Item	FRY-9C disclosure
Adjustment for operating leases and expense	Depreciation expenses of operating leases
	Loan and lease expense
Adjustment for outsourcing fees paid for the supply of non-financial services	Capitalized computer software expense
	Depreciation and amortization of technology assets
	General administrative expense
	IT professional services
	Software licensing and maintenance expenses
	Technology expense
	Technology services
	Travel and entertainment
	Travel expense
Adjustment for expenses and losses incurred as a consequence of operational loss events	Accrual for legal matters
	Fraud losses
	Increase provision for litigation
	Insurance losses
	Legal and risk provisions
	Litigation expense
	Operating losses
	Provision for contingent liability

Table 4: Derivation of Minimum Operational Risk Capital for American Express (Illustrative Example)

U.S.$ in Billions*	2018	2019	2020	Average
Net Interest Income	7.7	8.6	8.0	8.1
Adjustment for Operating Leases Expense	0.0	0.0	0.0	0.0
Net Interest Income Adjusted	7.7	8.6	8.0	8.1
Interest Bearing Balances	22.2	18.2	27.5	22.6
Total—HTM Securities	0.0	0.0	0.0	0.0
Total—AFS Securities	4.8	8.5	21.7	11.6
Federal Funds Sold in Domestic Offices	0.0	0.0	0.0	0.0
Securities Purchased Under Agreements to Re-sell	0.1	0.1	0.1	0.1
Trading Assets	0.0	0.0	0.0	0.0
Total Loans and Leases	141.5	149.5	119.9	137.0
Total Interest Earning Assets	168.6	176.3	169.2	171.4
Dividend Income	–	–	–	
2.25% of Interest Earning Assets				3.9
Interest, Leases, and Dividend Component (ILDC)				3.9

*Source: FRY-9C; balance sheet items are end of year. P&L data are for the full fiscal year.

Table 4: Derivation of Minimum Operational Risk Capital for American Express (Illustrative Example cont'd)

U.S.$ in Billions*	2018	2019	2020	Average
Other Operating Income	–	–	–	
Other Operating Expense	0.0	0.0	0.0	0.0
Income from Fiduciary Activities	0.0	0.0	0.0	0.0
Service Charges on Deposit Accounts in Domestic Offices	0.0	0.0	0.0	0.0
Fees and Commissions from Securities Brokerage	0.0	0.0	0.0	0.0
Investment Banking, Advisory, and Underwriting Fees and Commissions	0.0	0.0	0.0	0.0
Fees and Commissions from Annuity Sales	0.0	0.0	0.0	0.0
Venture Capital Revenue	0.0	0.0	0.0	0.0
Net Servicing Fees	0.0	0.0	0.0	0.0
Net Securitization Income	0.0	0.0	0.0	0.0
Other Noninterest Income	32.3	34.5	27.8	31.5
Total Fee Income	32.3	34.5	27.8	31.5
Fee Expense	22.8	25.0	20.7	22.8
Adjustment for Outsourcing Fees Paid for the Supply of Non-Financial Services	0.0	0.0	0.0	0.0
Fee Expense Adjusted	22.8	25.0	20.7	22.8
Services Component (SC)				31.5
Net P&L Trading Book	0.1	0.1	0.1	0.1
Net P&L Banking Book	0.0	0.0	0.0	0.0
Financial Component (FC)				0.1
Business Indicator (BI)				35.5
Business Indicator Component (BIC)				5.3
Internal Loss Multiplier (ILM)				1.0
Minimum Operational Risk Capital (ORC)				5.3
Minimum Operational Risk Capital (as a Percentage of Risk-Weighted Assets)				48.3

*Source: FRY-9C; balance sheet items are end of year. P&L data are for the full fiscal year.

Table 5: Adjusted Derivation of Minimum Operational Risk Capital for American Express

U.S.$ in Billions*	2018	2019	2020	Average
Interest, Leases, and Dividend Component (ILDC)				3.9
Services Component (SC) Prior to Cap				31.5
Total Assets Adjusted	157.5	166.7	137.9	154.0
2.25% of Total Assets Adjusted				3.5
Services Component (SC) Adjusted				3.5
Financial Component (FC)				0.1
Business Indicator (BI)				7.5
Business Indicator Component (BIC)				1.1
Internal Loss Multiplier (ILM)				1.0
Minimum Operational Risk Capital (ORC)				1.1
Minimum Operational Risk Capital (as Percentage of Risk-Weighted Assets)				9.8

Appendix 18

Template and Instructions for the Operational Risk QIS

BPI and ABA members provided confidential data for a study analyzing the impact of the proposal on banks' operational RWAs. BPI staff collected the data and performed the analysis. 16 Category I through IV banks participated, covering about 70 percent of RWAs for operational RWAs. Firms provided data on the various components of operational risk as of June 30, 2023.

The template and related instructions are provided below.

Bank Name:

Reporting Date	2023-06-30
Reporting Units	USD Thousands

Business Lines: Level 1	Business Lines: Level 2	Fee Income ($ thousands)	Fee Expense ($ thousands)	memo: names of ORX Business Lines
Corporate Finance	Corporate Finance			Corporate finance
	Municipal / Government Finance			Municipal / Government Finance
	Merchant Banking			
	Advisory Services			Advisory Services
Trading and Sales	Sales			Equities
	Market-Making			Global Markets
	Proprietary Positions			Corporate Investments
	Treasury			Treasury
Retail Banking	Retail Banking			Retail Banking
	Private Banking			Private Banking
	Card Services			Card Services
Commercial Banking	Commercial Banking			Commercial Banking
Payment and settlement	External Clients			Cash Clearing
				Securities Clearing
Agency services	Custody			Custody Services
	Corporate Agency			Corporate Trust & Agency
	Corporate Trust			
Asset management	Discretionary Fund Management			Fund Management
	Non-discretionary Fund Management			
Retail Brokerage	Retail Brokerage			Retail Brokerage
Insurance	Insurance			Insurance is not included in the SA for Op Risk in 2006

other operating income ($ thousands)	
other operating expense ($ thousands)	

Instructions

Business lines (See "Mapping of Business Lines")
Fee and commission income: income received from providing the services for the corresponding business line (three year average of: 2Q21-3Q20, 2Q22-3Q21; 2Q23-3Q22)
Fee expense: expenses paid by the banking organization tied to that business line (three year average of: 2Q21-3Q20, 2Q22-3Q21; 2Q23-3Q22)

Level 1	Level 2	ORX Name	Activity groups
Corporate Finance	Corporate Finance	Corporate finance	Mergers and acquisitions, underwriting, privatisations, securitisation, research, debt (government, high yield), equity, syndications, initial public offerings, secondary private placements
	Municipal / Government Finance	Municipal / Government Finance	
	Merchant Banking		
	Advisory Services	Advisory Services	
Trading and Sales	Sales	Equities	Fixed income, equity, foreign exchanges, commodities, credit, funding, own position securities, lending and repos, brokerage, debt, prime brokerage
	Market-Making	Global Markets	
	Proprietary Positions	Corporate Investments	
	Treasury	Treasury	
Retail Banking	Retail Banking	Retail Banking	Retail lending and deposits, banking services, trust and estates
	Private Banking	Private Banking	Private lending and deposits, banking services, trust and estates, investment advice
	Card Services	Card Services	Merchant / commercial / corporate cards, private labels and retail
Commercial Banking	Commercial Banking	Commercial Banking	Project finance, real estate, export finance, trade finance, factoring, leasing, lending, guarantees, bills of exchange
Payment and settlement	External Clients	Cash Clearing	Payments and collections, funds transfer, clearing and settlement
		Securities Clearing	
Agency services	Custody	Custody Services	Escrow, depository receipts, securities lending (customers), corporate actions
	Corporate Agency	Corporate Trust & Agency	Issuer and paying agents
	Corporate Trust		
Asset management	Discretionary Fund Management	Fund Management	Pooled, segregated, retail, institutional, closed, open, private equity
	Non-discretionary Fund Management		Pooled, segregated, retail, institutional, closed, open
Retail Brokerage	Retail Brokerage	Retail Brokerage	Execution and full service
Insurance	Insurance	Insurance is not included in the SA for Op Risk in 2006	
Note: Go to the following webpage for more information on the mapping of business lines.			
OPE25 - Standardised approach (bis.org)			