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Goldman Sachs

June 25, 2018

*Via Electronic Mail*

Board of Governors of the Federal Reserve System
20th Street & Constitution Avenue, N.W.
Washington, D.C. 20551
Attention: Ann E. Misback, Esq., Secretary
Docket No. R-1603; RIN 7100-AF2

Re: Proposed Amendments to the Regulatory Capital, Capital Plan and Stress Test Rules (Docket No. R-1603; RIN 7100-AF2)

Ladies and Gentlemen:

The Goldman Sachs Group, Inc. ("Goldman Sachs" or "we") appreciates the opportunity to comment on the notice of proposed rulemaking (the "Proposed Rule")[1] issued by the Board of Governors of the Federal Reserve System (the "Federal Reserve") to modify its Capital Rule,[2] Capital Plan Rule[3] and Stress Test Rule[4] to establish requirements for a stress capital buffer ("SCB") and stress leverage buffer ("SLB") (collectively, "stress buffers") that would integrate the supervisory stress test results of the Comprehensive Capital Analysis and Review ("CCAR") framework with the "point in time" or "spot" regulatory capital requirements of the Capital Rule.

**Introduction**

We believe stress testing is an effective tool to ensure that individual banking organizations and the U.S. banking system as a whole have sufficient capital, and we support the Federal Reserve's commitment to simplify the capital framework through the integration of the stress and spot requirements. The concepts underlying the Proposed Rule represent a meaningful shift toward a simpler, more transparent and efficient regulatory regime that more closely aligns capital requirements with the way that we manage capital internally. We are also supportive of certain proposed modifications to the supervisory and bank-run stress tests contained in the Proposed Rule, including the proposal not to extend the stress buffer concept to the supplementary leverage ratio ("SLR") under the Federal Reserve's existing Capital Rule, and the shift to balance sheet and capital action assumptions that more closely reflect bank behavior in stressed environments.

While we support the intent of the Proposed Rule, we believe several of its elements can be further enhanced to support the Federal Reserve's stated objectives of maintaining a robust financial system through a simple, transparent and efficient capital framework. Our views are reflected in industry

[1] Federal Reserve System, Amendments to the Regulatory Capital, Capital Plan, and Stress Test Rules, 83 Fed. Reg. 18160 (Apr. 25, 2018).
[2] 12 C.F.R. pt. 217 (Capital Adequacy of Bank Holding Companies, Savings and Loan Holding Companies, and State Member Banks (Regulation Q)).
[3] 12 C.F.R. § 225.8 (Capital Planning: this section establishes capital planning and prior notice and approval requirements for capital distributions by certain bank holding companies).
[4] 12 C.F.R. pt. 252, subparts E and F (Policy Statement on the Scenario Design Framework for Stress Testing).

letters,[5] but we would like to emphasize several key aspects. Specifically, our recommendations are organized across the following themes:

- ***Section I – Calibration*:** The Proposed Rule increases post-stress minimums, duplicates risk capture and over-allocates capital to market making activity without sufficient empirical evidence
    - Recommendation 1: Standardized Approach Ratio Calibration. The SCB should serve as an alternative to the current Basel buffers given the double-counting of risks embedded in the proposed calibration
    - Recommendation 2: Global Systemically Important Bank ("G-SIB") Surcharge Calibration. The G-SIB surcharge, if added to the SCB, should be recalibrated
    - Recommendation 3: Stress Buffer Calibration. Global Market Shock ("GMS") and Large Counterparty Default ("LCD") assumptions should be made more realistic
    - Recommendation 4: Stress Buffer Calibration. Balance sheet and capital modeling should be recalibrated to make stress testing more risk-sensitive
- ***Section II – Volatility*:** The Proposed Rule increases the volatility of capital requirements without sufficient transparency
    - Recommendation 5: CCAR Scenarios. Scenarios should be published for comment and the Federal Reserve's Scenario Design Policy Statement[6] updated to include additional scenario parameters
    - Recommendation 6: CCAR Models. CCAR results should be based on banks' own models, or Federal Reserve models should be made more transparent
    - Recommendation 7: Stress Buffer Timing. Increases to stress buffers should become effective after one year
    - Recommendation 8: Payout Limitations. Payout limitations under the Capital Rule should be modified to reduce cliff effects and U.S. gold-plating
- ***Section III – Capital management*:** The Proposed Rule limits the ability of bank boards to manage capital effectively
    - Recommendation 9: Baseline Capital Plan. Capital actions should be governed by payout limitations under spot capital requirements, not the baseline capital plan

Incorporating these modifications would preserve safety and soundness without perpetuating or introducing additional inefficiency in capital management. Unduly trapped capital increases the likelihood of foregone credit extension and intermediation in businesses where returns cannot justify the higher costs of capital. This inefficiency would undermine our ability to effectively serve client needs, may restrict key forms of financing for the economy and would run counter to the Federal Reserve's broader policy objective of promoting economic growth at a time when capital and liquidity is extremely robust and significant improvements have been made in the resolvability of the largest banking organizations.

[5] Goldman Sachs contributed to and supports the letters submitted by The Clearing House, the Securities Industry and Financial Markets Association ("SIFMA"), the Financial Services Roundtable ("FSR"), the American Bankers Association, the Futures Industry Association, and the Financial Services Forum.

[6] Federal Reserve System, *Policy Statement on the Scenario Design Framework for Stress Testing*, 82 Fed. Reg. 59533 (Dec. 15, 2017).

Recent changes in capital, liquidity and market regulation have meaningfully improved the resiliency of the U.S. financial system. Since the 2008 financial crisis, loss-absorbing common equity has increased by more than $700 billion (a doubling of common equity capital ratios),[7] while leverage remains at "historically low levels."[8] The liquidity coverage ratio ("LCR") has increased holdings of banks' liquid assets from 12 percent to 20 percent of total assets between 2011 and 2017, and banks' reliance on short-term wholesale funding ("STWF") has decreased from 37 percent to 25 percent of liabilities over the same period.[9] Additionally, regulators have successfully implemented other reforms such as resolution planning, total loss absorbing capacity ("TLAC"), and mandatory margin requirements; these reforms have materially addressed prudential concerns such as resolvability, transparency, interconnectedness, complexity and fire sale risk. For example, over 87% of the notional of over-the-counter ("OTC") interest rate derivatives and over 78% of the notional of index credit default swaps are now centrally cleared.[10] Banks hold five times more eligible TLAC than they did in 2008, which can be used to absorb losses and recapitalize material subsidiaries.[11]

Collectively, these changes have materially addressed the Federal Reserve's broad concerns following the 2008 financial crisis. In particular, the likelihood that a large complex bank could fail has been reduced, as has the systemic impact of such a failure. Similarly, risks arising from runs on funding that result from acute market stress events have also been reduced. Post-crisis rulemakings are nuanced and remain relatively untested, particularly as they interact with each other; therefore we agree with Federal Reserve Vice Chairman for Supervision Quarles that "now is an eminently natural and expected time to step back and assess those [post-crisis regulatory] efforts. It is our responsibility to ensure that they are working as intended and – given the breadth and complexity of this new body of regulation – it is inevitable that we will be able to improve them, especially with the benefit of experience and hindsight."[12]

**Background**

Today, the Capital Rule subjects banks to capital requirements that are calculated on a spot basis throughout the year, and include minimums and buffers. For G-SIBs,[13] the standardized risk-based common equity tier 1 ("CET1") ratio requirement is measured as the sum of a 4.5% minimum and a capital conservation buffer ("CCB") comprising a 2.5% base, an idiosyncratic G-SIB surcharge, and any applicable Countercyclical Capital Buffer ("CCyB").[14] Additionally, G-SIBs are subject to leverage requirements including the SLR and the Tier 1 leverage ratios. Banks must exceed these requirements to avoid payout limitations, which increase in severity in accordance with the size of the capital shortfall.[15] For example, if a bank's CET1 ratio requirement, inclusive of buffers, is 11% and its actual ratio is 10%, the payout table in the Capital Rule would restrict distributions to 60% of eligible retained income.[16] A

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[7] Federal Reserve Vice Chairman for Supervision Randal K. Quarles, *Semiannual Supervision and Regulation Testimony* (Apr. 17, 2018), *available at* https://www.federalreserve.gov/newsevents/testimony/quarles20180417a.htm.

[8] Federal Reserve Vice Chairman Stanley Fischer, *An Assessment of Financial Stability in the United States* (Jun. 27, 2017), *available at* https://www.federalreserve.gov/newsevents/speech/fischer20170627a.htm.

[9] Federal Reserve Governor Lael Brainard, *Safeguarding Financial Resilience through the Cycle* (Apr. 19, 2018), *available at* https://www.federalreserve.gov/newsevents/speech/brainard20180419a.htm.

[10] SIFMA, *Rebalancing the Financial Regulatory Landscape*, at 104 (May 1, 2017), *available at* http://www.sifma.org/wpcontent/uploads/2017/05/SIFMA-EO-White-Paper.pdf.

[11] SIFMA, *Rebalancing the Financial Regulatory Landscape* (May 1, 2017), *available at* http://www.sifma.org/wpcontent/uploads/2017/05/SIFMA-EO-White-Paper.pdf.

[12] Federal Reserve Vice Chairman for Supervision Randal K. Quarles, *Early Observations on Improving the Effectiveness of Post-Crisis Regulation* (Jan. 19, 2018), *available at* https://www.federalreserve.gov/newsevents/speech/quarles20180119a.htm.

[13] Financial Stability Board ("FSB"), *FSB publishes 2017 G-SIB list* (Nov. 21, 2017), *available at* http://www.fsb.org/2017/11/fsb-publishes-2017-g-sib-list.

[14] The CCyB is currently set at zero in the U.S. Federal Reserve System, *Federal Reserve Board announces it has voted to affirm Countercyclical Capital Buffer (CCyB) at current level of 0 percent* (Dec. 1, 2017), *available at* https://www.federalreserve.gov/newsevents/pressreleases/bcreg20171201a.htm.

[15] Payouts in scope for limitation include capital actions to: (i) repurchase or redeem capital instruments; (ii) declare dividend or payment on any tier 1 or tier 2 capital instrument; and (iii) issue discretionary bonus payment as a payment made to an executive officer (prefunded bonus pools and other non-cash compensation, like stock, excepted). Eligible retained income is defined as "net income, calculated in accordance with the instructions to the Call Report or the FR Y9-C, as applicable, for the four calendar quarters preceding the current calendar quarter, net of any distributions and associated tax effects not already reflected in net income." The maximum payout ratio is the percentage of eligible retained income that a banking organization is allowed to pay out in the form of distributions and discretionary bonus payments. Once a bank falls below the minimum requirement (up to 1.25% below the minimum requirement), the maximum payout ratio is 60%. 12 C.F.R. § 217.11.

[16] 12 C.F.R. § 217.11 (Table 1 and 2).

bank with no excess capital above the 4.5% minimum would be restricted from making any capital distributions. It could even be the case that a firm that falls one basis point below its capital requirement, but that had a 100% payout ratio in the prior year, would be fully restricted from paying distributions (i.e., it could pay out 100% of zero dollars).

In addition to the spot capital requirements, the Capital Plan Rule also subjects banks to annual stress tests through the CCAR process. Under CCAR, banks must maintain capital and leverage ratios above minimums, including a 4.5% CET1 minimum, under stressed economic conditions (e.g., the supervisory Severely Adverse scenario). The Severely Adverse scenario assumes banks make all planned capital actions over nine quarters, and balance sheets and risk-weighted assets ("RWAs") grow under stress. In June, the Federal Reserve approves or disapproves each bank's planned capital actions on the basis that it can execute these actions while undergoing a severe stress and still maintain capital and leverage ratios above the minimum requirements. For many large banks, CCAR currently requires more capital than requirements under the Capital Rule; thus, capital actions are generally governed by the binary outcome of the CCAR process.

The Proposed Rule would integrate these spot- and stress-based frameworks by incorporating stress buffers directly into the Capital Rule's spot requirements. Specifically, the Proposed Rule would replace the base 2.5% portion of the CCB with a new SCB requirement and would introduce a SLB requirement for the Tier 1 Leverage ratio. Under the proposal, the new CET1 requirement to avoid payout limitations throughout the year would equal the sum of the 4.5% minimum, the G-SIB surcharge, any applicable CCyB, and the new SCB, with SCB measured as the higher of 2.5% and the difference between the starting and lowest capital ratio in the CCAR supervisory Severely Adverse scenario (the "peak-to-trough").[17] For G-SIBs, the inclusion of both the SCB and the G-SIB surcharge in the Standardized CET1 requirement would effectively increase post-stress minimum capital requirements from 4.5% to 4.5% plus the G-SIB surcharge.[18,19] The SLB requirement for Tier 1 Leverage would be calculated in a similar manner to the SCB.

New stress buffers would be communicated to banks each June and would become effective as part of each bank's spot capital requirement on October 1, leaving banks one quarter to adapt to any capital requirement increases before payout restrictions would apply.

The Proposed Rule would also change the capital planning process. Rather than the Federal Reserve approving planned capital actions in the context of the Severely Adverse scenario, banks would submit a full "baseline" capital plan with nine quarters of budgeted (non-stressed) ratios and planned capital actions. Actual capital actions would be capped per the baseline capital plan, even if actual ratios exceed projected ratios. Banks would submit baseline capital plans in the spring, but would be required to make a one-time capital plan resubmission at the end of June if planned capital actions are inconsistent with any payout restrictions that would apply based on new stress buffer requirements.

Bank capital actions would thus be governed by both the Capital Rule's payout restrictions throughout the year (on a spot basis), as well as the Federal Reserve's annual limit on capital actions per the baseline capital plan (on a projected basis).

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[17] See Figure 1. Peak-to-trough losses refer to the difference between the level of the relevant capital ratio as of the final quarter of the previous capital plan cycle and the lowest projection of the relevant capital ratio in any quarter of the planning horizon under the Dodd Frank Act Stress Test ("DFAST") supervisory Severely Adverse scenario. See, e.g., Proposed Rule 12 C.F.R. § 225.8(f)(2)(i)(A) and (B).

[18] Today in CCAR, banks must prove that they have enough capital to withstand losses while remaining above a post-stress minimum of 4.5% CET1. Under the Proposed Rule, the effective post-stress minimum capital requirement for a bank with a G-SIB surcharge of 3.0% would be a standardized CET1 capital ratio of 7.5% (4.5% + 3.0%) because this is the ratio that would be required after projected peak-to-trough losses are incurred.

[19] The new framework would include only four quarters of planned dividends, as opposed to the current requirement to include all planned actions, and would assume flat balance sheet and RWAs.

## Recommendations

### *I. Calibration: The Proposed Rule Increases Post-Stress Minimums, Duplicates Risk Capture and Over-Allocates Capital to Market Making Activity without Sufficient Empirical Evidence*

Federal Reserve Chairman Powell has noted that large banks "have plenty of capital."[20] Despite this, the Proposed Rule would "represent a corresponding increase in CET1 capital requirements of approximately $10 billion to $50 billion in aggregate" for G-SIBs, according to the Federal Reserve.[21] However, supporting data has not been provided to justify this increase. In fact, incorporating SCB on top of the G-SIB surcharge would effectively increase *post-stress* minimum capital requirements for G-SIBs and increase existing over-calibration of capital requirements by introducing a double count. Neither of these material changes to the calibration of capital requirements have been supported with analytical evidence. While quantification of the "optimal" level of capital is a difficult task, we agree with Vice Chairman Quarles that "more can be done to ensure when setting capital for the full range of institutions that we can be more sensitive to the character for each institution."[22] We believe a bottom-up stress testing framework is a more appropriate means of assessing bank capital needs than top-down approaches,[23] but this requires that framework components are appropriately calibrated.

We are particularly concerned that the over-calibration in the stress buffer framework is especially acute for market making activity. While market making activity may be more volatile than direct lending, the way the regulatory framework addresses this risk is excessively conservative relative to historical experience. According to a number of analyst research reports, estimated SCBs for the large universal G-SIBs are roughly half those of the smaller G-SIB market makers (2-3% vs. 4-6%), while G-SIB surcharges are flat to slightly higher (2.5-3.5% vs. 2.5-3%). **Thus, larger banks with an equivalent amount of market making activity but a smaller proportion of trading assets due to their greater systemic footprint will have quantitatively lower capital requirements.** Moreover, for banks with a higher proportion of trading and investment banking revenues, we have found that losses estimated by the Federal Reserve in CCAR are far more punitive relative to actual historical loss experience than non-trading activity.[24] **These dynamics suggest that market making activity is over-capitalized relative to lending and other activity in the stress buffers or the G-SIB surcharge, or – we would argue – both.**

This over-calibration of capital for market making activity relative to lending activity is because assets such as derivatives and repo-style transactions are subject to severe losses under the GMS component of the Federal Reserve's supervisory Severely Adverse scenario, and they are also weighted heavily in the G-SIB surcharge. Importantly, this calibration may be especially detrimental to U.S. capital

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[20] Federal Reserve Chairman Jerome H. Powell, *Relationship between Regulation and Economic Growth* (June 22, 2017), *available at* https://www.federalreserve.gov/newsevents/testimony/powell20170622a.htm.

[21] Federal Reserve System, Amendments to the Regulatory Capital, Capital Plan, and Stress Test Rules, 83 Fed. Reg. 18160, 18167 (Apr. 25, 2018).

[22] Federal Reserve Vice Chairman for Supervision Randal K. Quarles, *Statement Before the Committee on Banking, Housing, and Urban Affairs, United States Senate* (Jul. 27, 2018), *available at https://www.banking.senate.gov/imo/media/doc/Quarles%20Testimony%207-27-17.pdf.*

[23] Numerous studies over the past decade, including those by the Basel Committee, the Bank of England and the Federal Reserve, have attempted to quantify "optimal" overall bank capital levels, resulting in an expansive range of answers (approximately 7 percent to 23 percent CET1) that are highly sensitive to assumptions. These top-down studies have relied on the same basic equation that attempts to net the benefits of avoiding a future crisis against the GDP costs of the incremental capital requirements; however, other studies, including a March 2017 publication by the Federal Reserve Bank of San Francisco, have concluded that "the capital ratio has no value as a crisis predictor," but that there is a relationship between capital and the cost of a crisis. While most studies are based on this basic equation, they differ in data sources and key assumptions, for example, which crises are included, whether impacts are assumed to be permanent or temporary, what discount rates are used, the cost of capital for banks and how it varies – or does not – as the funding mix of banks shifts from debt to equity, the extent to which higher return hurdles impact lending rates, how GDP is projected, and how higher lending rates impact GDP. The range of outcomes across the studies demonstrates that any exercise to come up with the "right" level of capital is inherently limited, given the number of assumptions required and the difficulty of measuring all externalities. If anything, oversimplification of the impact of higher capital on GDP and undervaluation of TLAC would lead us to believe banks should be at the lower end of the aggregate "optimal" range. Simon Firestone, Amy Lorenc and Ben Ranish, *An Empirical Economic Assessment of the Costs and Benefits of Bank Capital in the US*, Federal Reserve Finance and Economics Discussion Series 2017-034 (Mar. 31, 2017). *available at* https://doi.org/10.17016/FEDS.2017.034; Martin Brooke et al., *Measuring the macroeconomic costs and benefits of higher UK bank capital requirements* (Dec. 2015), *available at* https://www.bankofengland.co.uk/financial-stability-paper/2015/measuring-the-macroeconomic-costs-and-benefits-of-higher-uk-bank-capital-requirements; Basel Committee on Banking Supervision, *An assessment of the long-term economic impact of stronger capital and liquidity requirements* (Aug. 2010); Oscar Jorda et al., *Bank Capital Redux: Solvency, Liquidity, and Crisis*, Federal Reserve Bank of San Francisco Working Paper 2017-06 (Mar. 2017), *available at* https://doi.org/10.24148/wp2017-06. Federal Reserve Bank of Minneapolis, *The Minneapolis Plan to End Too Big to Fail* (Nov. 2016).

[24] Analysis is based on historical FR Y-9C filings and DFAST disclosures from 2015-2017 for 23 banks, adjusting for changes in balance sheet size over time, and measuring a CCAR "penalty metric," as defined by the normalized distance between Federal Reserve projected revenues (reflecting pre-provision net revenues, GMS, LCD) and the bank's historical worst 9-quarter performance since 2006).

markets which provide almost 80% of debt financing for U.S. businesses, in contrast to the EU and Japan, where 75% or more of debt is directly financed by banks.[25] Liquidity and transparency make capital markets a more efficient and resilient source of financing than direct lending, but this liquidity and transparency relies on banks' ability to efficiently allocate capital as intermediaries.

**Recommendation 1: Standardized Approach Ratio Calibration. The SCB should serve as an alternative to the current Basel buffers given the double-counting of risks embedded in the proposed calibration**

The existing CCB requirements (inclusive of the 2.5% CCB base, the G-SIB surcharge and any applicable CCyB) and the SCB each have the same overarching objective: to ensure that banks have enough capital to remain viable after absorbing severe stress losses, inclusive of systemic and countercyclical elements.[26] The SCB applies a more idiosyncratic methodology to quantify risks that the CCB captures using a more standardized calibration.

In layering SCB on top of the G-SIB surcharge and the 4.5% minimum CET1 requirement, the Proposed Rule implicitly imposes a post-stress minimum requirement for G-SIBs of greater than 4.5%. For example, the effective post-stress minimum capital requirement for a bank with a G-SIB surcharge of 3.0% would be a standardized CET1 capital ratio of 7.5% (4.5% + 3.0%). In contrast to when the original 4.5% post-stress minimum and G-SIB surcharges were calibrated,[27] the Federal Reserve has not published any analysis to support the need for a higher effective post-stress minimum requirement for G-SIBs or for why the G-SIB surcharge is being repurposed. We agree with the Federal Reserve Bank of New York's Beverly Hirtle that although defining a regulatory minimum is an "abstract" exercise, the 4.5% determined by the Basel Committee is "an appropriate benchmark for a regulatory capital minimum that applies across all banks for all points in time."[28]

Furthermore, the Proposed Rule does not sufficiently acknowledge or support the double-counting of risks that result from the layering of the SCB on top of the G-SIB surcharge, nor does it recognize post-crisis reforms that reduce the probability and magnitude of a loss given a large bank failure. The Proposed Rule asserts that "each component of a firm's standardized approach capital conservation buffer requirement serves a distinct purpose,"[29] but their interplay is complex. CCAR and the G-SIB surcharge were developed at different times as part of separate frameworks that were each designed to ensure banks are adequately capitalized to withstand stress. **Both the G-SIB surcharge and the SCB assign capital to the same activity with the aim of reducing the likelihood of large bank failures.** The additional capital required by one serves to mitigate the concerns that give rise to the other.

Indeed, there is significant overlap between the potential risks these two buffers each aim to address. For example, G-SIB scores are largely driven by activities associated with trading and capital

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[25] SIFMA, *Capital Markets Report – Modernizing and Rationalizing Regulation of the U.S. Capital Markets*, at 3 (Aug. 10, 2017), *available at* https://www.sifma.org/wp-content/uploads/2017/08/Capital-Markets-Report-%E2%80%93-Modernizing-and-Rationalizing-Regulation-of-the-U.S.-Capital-Markets.pdf.

[26] The G-SIB rule states that it "works to mitigate the potential risk that the material financial distress or failure of a G-SIB could pose to U.S. financial stability by increasing the stringency of capital standards for G-SIBs, thereby increasing the resiliency of these firms." Federal Reserve, Regulatory Capital Rules: Implementation of Capital Requirements for Global Systemically Important Bank Holding Companies, 81 Fed. Reg. 90952 (Dec. 16, 2016). Similarly, the Federal Reserve states in its CCAR Objectives and Overview document that it aims to reduce the likelihood of large bank failures by ensuring they have enough capital to withstand stress: "The CCAR will provide the Federal Reserve with the information and perspective needed to help ensure that large bank holding companies have strong, firm-wide risk measurement and management processes supporting their internal assessments of capital adequacy and that their capital resources are sufficient given their business focus, activities, and resulting risk exposures." Federal Reserve, Comprehensive Capital Analysis and Review: Objectives and Overview (Mar. 18, 2011), *available at* https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20110318a1.pdf.

[27] Basel Committee on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems* (Dec. 2010, rev. Jun. 2011), *available at* https://www.bis.org/publ/bcbs189.pdf; Basel Committee on Banking Supervision, *Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement* (Jul. 2013), *available at* https://www.bis.org/publ/bcbs255.pdf; Beverly Hirtle, *How Were the Basel 3 Minimum Capital Requirements Calibrated?* (Mar. 31, 2011), *available at* http://libertystreeteconomics.newyorkfed.org/2011/03/calibrating-regulatory-minimum-capital-requirements.html; Federal Reserve, Regulatory Capital Rules: Implementation of Capital Requirements for Global Systemically Important Bank Holding Companies, 81 Fed. Reg. 90952 (Dec. 16, 2016).

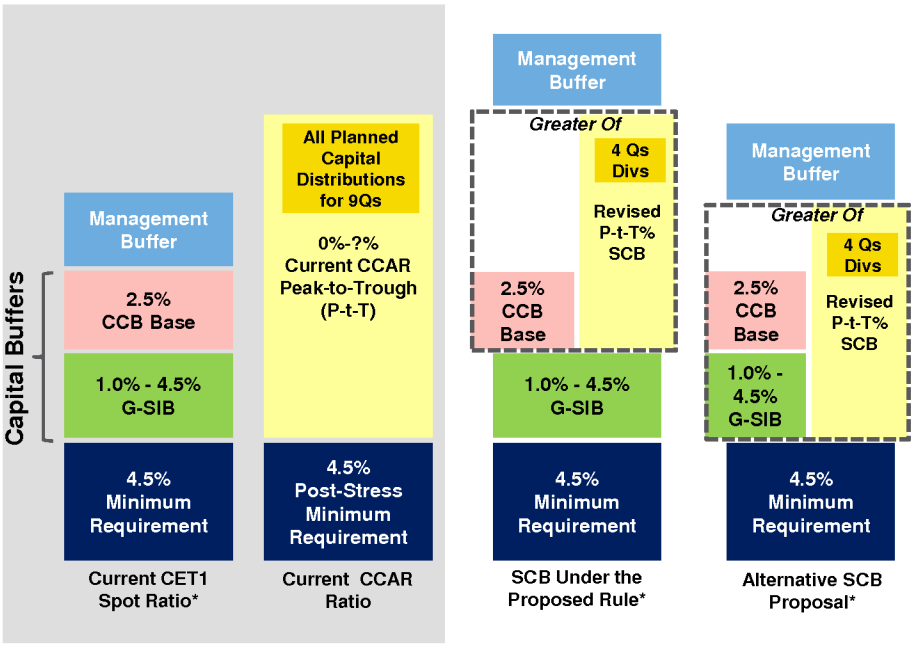
[28] Beverly Hirtle, *How Were the Basel 3 Minimum Capital Requirements Calibrated?* (Mar. 31, 2011), *available at* http://libertystreeteconomics.newyorkfed.org/2011/03/calibrating-regulatory-minimum-capital-requirements.html.

[29] In particular, the Proposed Rule posits that the SCB and G-SIB surcharges are not duplicative in spite of the fact that the GMS and LCD components of CCAR specifically apply only to G-SIBs or a sub-set of G-SIBs. Federal Reserve, Amendments to the Regulatory Capital, Capital Plan, and Stress Test Rules, 83 Fed. Reg. 18160, 18164 (Apr. 25, 2018).

markets, since they are based on metrics such as derivative notionals, trading and available for sale ("AFS") securities, and STWF (consisting of secured transactions and customer short positions), while the GMS and the LCD components similarly penalize the same trading and capital markets activities. For specific examples of this overlap, see Appendix A.[30]

Therefore, rather than flooring the SCB alone at 2.5%, it would be more appropriate to calibrate the overall CCB at the greater of (1) a bank's stress losses and (2) the sum of its base CCB, G-SIB surcharge and any applicable CCyB, as shown in Figure 1 below. Similar to the advanced and standardized approaches for calculating risk-based capital under the Capital Rule, which serve as two complementary frameworks sitting side by side and are not intended to be aggregated, the more risk-sensitive SCB framework should sit alongside the more standardized CCB requirements. Constructing the SCB framework in this way would preserve safety and soundness by ensuring that banks remain sufficiently capitalized through the cycle and would align with the international Basel III framework.

**Figure 1: Comparison of Current Regulatory Requirements with the Proposed Rule and an Alternative Proposal**




*Not pictured here are the countercyclical capital buffer (0% - 2.5% if activated) or TLAC

**<u>Recommendation 2</u>: G-SIB Surcharge Calibration. The G-SIB surcharge, if added to the SCB, should be recalibrated[31]**

If the above approach is not adopted, the addition of SCB to the Federal Reserve's G-SIB surcharge heightens our concerns about the calibration of that surcharge. The G-SIB surcharge was calibrated before important advancements in several prudential rulemakings that strengthen financial stability, including TLAC and credible resolution plans. In light of these changes, we believe several elements of the surcharge are overdue for reconsideration. For example, standard customer hedging

[30] The LCD specifically requires G-SIBs, many of which are already subject to the GMS, to assume the default of their largest OTC derivative or repo-style transaction counterparty.

[31] Similarly, if the SCB is added to the G-SIB surcharge and any applicable CCyB, the CCyB should remain at zero, given that the supervisory economic scenarios already reflect countercyclical elements. In a speech on April 3, Governor Brainard noted that the countercyclical features of the stress tests are intended for use as a macroprudential tool, the most prominent of which is the unemployment rate in the severely adverse scenario. Federal Reserve Governor Lael Brainard, *An Update on the Federal Reserve's Financial Stability Agenda* (Apr. 3, 2018), *available at* https://www.federalreserve.gov/newsevents/speech/brainard20180403a.htm. Any increase in the CCyB should be proposed for comment, and subject to changes to eliminate corresponding countercyclical elements of the CCAR economic scenario design to eliminate the double-counting of risks across buffers.

products (e.g., short-dated interest rate swaps) did not contribute to the 2008 financial crisis; however they are counted across four of the five G-SIB indicators.[32] A repo-style transaction backed by short-dated U.S. Treasuries is also included in four indicators.[33] The result is that banks hold more capital for routine market making transactions, on top of capital they hold against RWAs and as part of the GMS component.

We recommend that the G-SIB framework and its calibration be holistically reconsidered in light of the updated regulatory framework, and be revised to eliminate double-counted components. While this review is occurring, we recommend that Method 2 be removed and Method 1 be applied to determine a G-SIB's aggregate buffer requirements under the Capital Rule and the Proposed Rule.[34] Moving to Method 1 is a Basel compliant alternative that would provide the Federal Reserve time to review the G-SIB calibration and remediate the double-counting of the same risks that occur when Method 2 is applied on top of the SCB. If the Federal Reserve retains the Method 2 framework, we strongly encourage the recalibration of the STWF component, which capitalizes for funding and fire sale risk, both of which are already captured by liquidity requirements[35] such as the LCR and liquidity stress testing requirements, and conservative collateral haircuts for repo-style transactions under the Capital Rule.

Further detail with respect to the G-SIB surcharge calibration is included in Appendix A.

**Recommendation 3: Stress Buffer Calibration. GMS and LCD assumptions should be made more realistic**

For the GMS component, both the overall level of assumed losses and the rate at which such losses are incurred (i.e., instantaneously) could be made more realistic and consistent with historical data. Historical crises have demonstrated that the magnitude of such shocks would play out over several quarters,[36] giving banks the opportunity to adjust their positions and hedges to mitigate adverse market impacts for highly liquid assets. Therefore, the GMS should allow for additional hedging of highly liquid assets during stress.

In the case of less liquid trading assets, when GMS losses are combined with RWAs banks are required to capitalize based on losses that can exceed actual exposures. For example:

- Securitized products have implied losses close to twice the exposure amount after aggregating GMS losses and RWAs, and
- Shocks to U.S. agency or Government Sponsored Enterprise ("GSE") specified mortgage pools are larger than economically possible, given that these pools are deliverable into mortgage "to be announced" ("TBA") securities and would not fall below the mortgage TBA forward price.

Indeed, the GMS is less credible as a risk management tool if shocks remain divorced from realistic losses. Adjusting the shocks to be a more realistic reflection of actual losses under stress (including by allowing hedging for highly liquid assets and capping losses across the GMS component

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[32] A short-dated vanilla interest rate swap will be captured as part of Size, Complexity, Interconnectedness, and Cross-Jurisdictional Activity, assuming the counterparty is located in a non-U.S. jurisdiction.

[33] A standard repo-style transaction will be captured as part of Size, Interconnectedness, STWF, and Cross-Jurisdictional Activity, assuming the counterparty is located in a non-U.S. jurisdiction.

[34] See Appendix A for definitions of Method 1 and Method 2 G-SIB surcharge.

[35] In fact, recent research by the Federal Reserve indicates that fire sale risk is best addressed through liquidity regulation. Specifically, the Federal Reserve research states that "capital regulation improves financial stability by limiting risky investment, which in turn weakens banks' incentive to hold sufficient liquidity." However, the "lack of complementary liquidity ratio requirements leads to inefficiently low levels of long-term investments and more severe financial crises," and the research concludes that "the pre-Basel III regulatory framework, with its focus on capital adequacy requirements, was inefficient and ineffective in addressing systemic instability caused by liquidity shocks. Therefore, our results indicate that Basel III liquidity regulations are a step in the right direction." *See* Gazi I. Kara and S. Mehment Ozsoy, *Bank regulation under fire sale externalities* (Mar 2016), *available at* https://www.federalreserve.gov/econresdata/feds/2016/files/2016026pap.pdf.

[36] *See, e.g.,* Federal Reserve Bank of New York, Financial Turmoil Timeline (Jun. 2007–Dec. 2010), *available at* https://www.newyorkfed.org/medialibrary/media/research/global_economy/Crisis_Timeline.pdf (illustrating that the initial effects of the latest financial crisis emerged in late 2007 and grew throughout 2008 and 2009); George P. Boretos, *Global Recession: Just a Glitch or Is It Here to Stay?, in* Financial Markets and the Global Recession 1, 3–5, 7–8 (Benjamin Naas & Joachim Lysne eds., 2010) (describing the housing and stock market shocks underlying the latest financial crisis and Great Depression as unfolding over the course of years).

and RWAs at the maximum loss on each exposure) would reduce the double-counting of risks across the capital framework.

The LCD component is also unrealistically conservative because banks can and would take multiple risk-mitigating actions to reduce the impact of a deterioration in a large counterparty's financial condition. These could include requiring the counterparty to post additional collateral, restricting business with the counterparty and declining to roll-over short-dated trades with the counterparty. In assuming that a counterparty fails instantaneously, the LCD component requires banks to assume that they would not be able to enforce existing collateral agreements and collect additional collateral in response to their deteriorating credit condition. CCAR thus ignores important creditor rights that are bargained for precisely because of the potential for counterparty default, and which have been proven effective over time and are recognized under the Capital Rule as a risk mitigation technique.[37] Therefore, we recommend that the LCD component be revised to realistically distinguish between margined and unmargined exposures and to allow banks to realistically reflect their rights to require additional collateral.

In addition, the GMS and the LCD components should be linked to the broader stress scenario by reflecting their impacts in the starting balance sheet, RWA, and numerator deduction calculations. It is irreconcilable from an accounting perspective for banks to assume they incur material GMS and LCD losses instantaneously without updating the balance sheet to reflect this at the outset of the stress scenario. The result of this excessive conservatism drives the unbalanced treatment of market making activity within CCAR because the GMS and LCD components target trading assets.

**Recommendation 4: Stress Buffer Calibration. Balance sheet and capital modeling should be recalibrated to make stress testing more risk-sensitive**

As the stress buffers are intended to be idiosyncratic and risk-sensitive, we support the Federal Reserve's decision to no longer assume that balance sheets and RWAs grow in stress and to remove baseline share repurchases in the supervisory stress scenario. We believe, however, that further changes would make supervisory stress tests even more realistic and more accurate, and would reduce the disparity in the treatment of market making activity and direct lending activity.

**Balance Sheet:** Although a constant balance sheet assumption is simple, it is not realistic or consistent with historical experience, particularly for trading assets. The use of historical relationship-based models would make it possible to observe the movement of balance sheet components based on macroeconomic variables. More specifically, a replicable multivariate regression model can reliably identify the historical behavior of balance sheet items, including loans, trading assets and total assets of the banks subject to the CCAR stress test.[38] The regression model can leverage regulatory filings, including FR Y-9C reports and U.S. Securities and Exchange Commission ("SEC") filings, as well as the Federal Reserve's published macroeconomic variables.

Using these inputs, it is possible to forecast the quarterly growth rate of each balance sheet component at the industry aggregate level. Projections for each bank can then be performed by applying the aggregate industry growth rates to the starting balance sheet component values of each bank (e.g., loans and trading assets). The outcome of these projections would more closely align Federal Reserve pre-provision net revenue ("PPNR") projections with the balance sheet. In performing this analysis, we find a statistically significant relationship between movements in banks' balance sheet components and macroeconomic variables. The results indicate that over the nine quarter planning horizon, based on the economic variable movements in the CCAR 2018 supervisory Severely Adverse scenario, loans and total assets are forecasted to decline approximately 10%, while trading assets are forecasted to decline approximately 50% (see Appendix B for additional detail). Thus, a constant balance sheet assumption would further exacerbate the imbalanced treatment of market making activity. The Federal Reserve is appropriately concerned about reduced balance sheets in a crisis if banks "shrink to health" by reducing lending activity. However, changes in trading assets are not a result of reduced activity, but rather a

[37] 12 C.F.R. § 217.37.
[38] Of the banks subject to CCAR stress testing, data was available for 28 banks.

reflection of changes to the underlying fair value of these exposures. For example, the value of a routine stock borrow transaction would decline under stress because the value of the underlying equity has fallen in accordance with corresponding broader equity market declines (not because a bank has sold these positions).

**Capital Numerator:** While we understand the desire to simply exclude all capital actions other than certain dividends from the stress scenario, this creates a disconnect between PPNR and equity on the balance sheet that is inconsistent with U.S. GAAP in the case of equity issuances related to employee compensation. Specifically, while projected equity compensation expenses are incurred in the stress scenario, the related equity issuance is not permitted to accrete to the balance sheet. Issued equity compensation should be included in capital action assumptions within CCAR, not only so that balance sheets can balance, but also to avoid incentivizing banks to pay cash-based compensation.

### *II. Volatility: The Proposed Rule Increases the Volatility of Capital Requirements without Sufficient Transparency*

The Proposed Rule would infuse the volatility and opacity inherent in the CCAR stress tests directly into spot capital requirements, making capital planning more difficult for banks. In contrast to all other variable capital requirements, banks would be given only a single quarter to adapt to stress buffer increases. This change would introduce market volatility and capital planning inefficiency because bank capital distributions might be abruptly and completely curtailed as a result of unpredictable changes to capital requirements, and because the short effective timeline for the new stress buffer requirements could impact capital markets specifically in the third quarter.

For example, if the Federal Reserve decided to materially increase the severity of its stress scenario or to make modeling changes, otherwise well-capitalized banks could receive higher than expected stress buffers in June, which would then cause them to take abrupt capital actions and balance sheet reductions to increase their ratios in the third quarter. It could also lead to market volatility if several banks were forced to raise capital simultaneously. Such capital market impacts would be a function of regulatory constraints as opposed to the health of the banks.

To avoid these consequences, banks would need to hold excess "management" buffers over and above the regulatory buffers, which would trap excess capital at banks that would otherwise be deployed to the market. Some analyses indicate that the amount of excess capital held at banks could vary year-over-year by more than 100 basis points.[39] We estimate that if all CCAR banks held an additional 50 to 100 basis points of CET1 buffer, $50 to $100 billion of capital would be tied up that could otherwise be deployed in the economy.

The Federal Reserve could mitigate this problem in multiple ways, including by limiting the volatility driven by and opacity of Federal Reserve scenarios and models, providing banks with more time to react to stress buffer changes, and/or adapting the mechanics of the payout restrictions that apply if buffers are breached.

**<u>Recommendation 5</u>: CCAR Scenarios. Scenarios should be published for comment and the Federal Reserve's Scenario Design Policy Statement updated to include additional scenario parameters**

In accordance with recent statements from members of the Board of Governors of the Federal Reserve on the need to increase stress buffer and CCAR transparency,[40] we recommend that the supervisory Severely Adverse scenario, including the GMS component, be published for notice and

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[39] See Nomura *Bank Regulation Update – SCB Proposal, SCB Good for Everyone (Except the Brokers)* (Apr 11 2018); Autonomous *CCAR's Next Moves: Not So Scary After All* (Sept. 30 2016).

[40] *See, e.g.*, Federal Reserve Vice Chairman for Supervision Randal K. Quarles, *Semiannual Supervision and Regulation Testimony* (Apr. 17, 2018), *available at* https://www.federalreserve.gov/newsevents/testimony/quarles20180417a.htm; Federal Reserve Chairman Jerome H. Powell, *Remarks at the Salzburg Global Seminar* (Jun. 26, 2017), *available at* https://www.federalreserve.gov/newsevents/speech/powell20170626a.htm.

comment during the fourth quarter for a brief comment period (e.g., 15 days). This timeframe would balance the need for expedience while still granting academics, banks and others sufficient time to comment on the scenarios, and enable the Federal Reserve to incorporate this feedback so that final scenarios can be published at the beginning of January. This feedback would improve the Federal Reserve's scenario design process by, for example, identifying unintended incoherence within and among the Severely Adverse scenario, the GMS component, and the LCD component.[41]

In addition to proposing the supervisory Severely Adverse scenario for comment, we urge the Federal Reserve to outline further parameters within the scenario design framework. This approach would build on the parameters the Federal Reserve proposed for unemployment and the Home Price Index in its proposed revisions to its Scenario Design Policy Statement. Placing boundaries, justified by historical experience, on the design and calibration of various scenario inputs – including those of the GMS and LCD components – would incorporate objective, empirically justified shocks that are appropriately severe and also consistent with current economic conditions.

More specifically, we suggest that the Federal Reserve specify shock ranges for major variables based on the current economic environment. This specification could be practically achieved by defining three to five economic environments based on a series of objective indicators (for example, the shape of the yield curve, unemployment, or industrial production). For each environment, the Scenario Design Policy Statement would define schedules of ranges of shocks for major asset classes and macroeconomic variables based on historical episodes. The Federal Reserve would retain the ability to prescribe shocks outside of the defined boundaries if they deemed it appropriate given prevailing economic conditions; however, such exceptions would presumably be infrequent and would need to be adequately justified and supported by data.[42]

Additionally, to maintain plausibility of the scenario, we suggest the Federal Reserve explicitly incorporate a coherence requirement into the supervisory scenario design methodology. Coherence of the supervisory stress scenario is important for two reasons: 1) the underlying severity of the stress scenario depends directly on its coherence; and 2) the lack of coherence in the supervisory stress scenario can disincentivize risk mitigation strategies and undercuts creditability of the design process. While we would not suggest that coherence can be rigidly defined, we recommend a standard that would require analysis to support why deviation from historical relationships among variables is appropriate.

In aggregate, we believe these steps would generate more transparent, coherent and realistic scenarios. More detailed recommendations with respect to scenario design are included in Appendix C.

**Recommendation 6: CCAR Models. CCAR results should be based on banks' own models, or Federal Reserve models should be made more transparent**

Further volatility is introduced into spot capital requirements because each bank's stress buffer is determined by the Federal Reserve's supervisory models. Unlike other capital requirements, banks have limited insight into CCAR models, and while we are supportive of the Federal Reserve's proposals to enhance the disclosures related to supervisory models,[43] we believe the Federal Reserve can go further. Beyond transparency, we have concerns about the significant model risk that arises from the use of the Federal Reserve's "one size fits all" modeling approach, which is conceptually counter to Federal Reserve policy that stress testing should be tailored to reflect each bank's idiosyncratic risks.[44,45]

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[41] We use the term "coherence" to refer to appropriate historical relationships among variables, and "incoherence" to mean deviations from historical relationships among variables.

[42] For example, if the Federal Reserve had been designing a Severely Adverse supervisory scenario for a 2003 CCAR exercise, it might have completed its analysis by October 15, 2002 in order to put out a scenario for comment in early November of that year. While economic conditions at that time were improving after the 2001 recession, the 6-month change of the S&P500 of the period ending Oct 15, 2002 was approximately -20%. In those circumstances, reducing the US equity shocks below the lower ranges specified in the selected equity shock schedule could have been reasonable.

[43] Federal Reserve System, Enhanced Disclosure of the Models Used in the Federal Reserve's Supervisory Stress Test, 82 Fed. Reg. 59547 (Dec. 15, 2017); Federal Reserve System, Stress Testing Policy Statement, 82 Fed. Reg. 59528 (Dec. 15, 2017).

[44] The Federal Reserve System, *2018 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and*

While supervisory models should continue to play an important role as benchmarks in the Federal Reserve's stress testing framework, we believe that CCAR outcomes should be based primarily on the results of banks' own models, as overseen by Federal Reserve supervisors. Banks' own models would inherently avoid the risk of "model monoculture" and would allow a bank to accurately estimate stress buffer requirements that better reflect its idiosyncratic risks. This approach would not compromise safety and soundness, as the Federal Reserve would continue to set modeling standards and perform robust supervision of each bank's capital planning and stress testing processes.

If the Federal Reserve were to continue using its supervisory models as the primary determinants of a bank's peak-to-trough losses and thus its stress buffer requirements, we recommend that the Federal Reserve provide significantly enhanced disclosure about its models, including its models for the GMS component, PPNR, deductions, and any other inputs the Federal Reserve may use. This enhanced disclosure would have two main objectives: 1) to facilitate a bank's compliance with its stress buffer requirements and thus its point-in-time capital requirements; and 2) to provide banks with a factual basis for any request for reconsideration of stress buffer requirements.

**Recommendation 7: Stress Buffer Timing. Increases to stress buffers should become effective after one year**

The protracted transition timeline for Basel III's higher capital requirements, as well as the one-plus year effective timeline for increases in the G-SIB surcharge and CCyB, all reflect an understanding that raising capital ratios takes time, and that it is not in banks' or the market's interest to take severe and immediate actions. The Proposed Rule does not explain why stress buffer increases, which could be larger than increases in the G-SIB surcharge and CCyB, should become effective in just a fraction of the time. The volatility of stress buffer requirements could be dampened if stress buffer increases were to similarly become effective after one year, as opposed to one quarter, with decreases effective immediately.

**Recommendation 8: Payout Limitations. Payout limitations under the Capital Rule should be modified to reduce cliff effects and U.S. gold-plating**

The Proposed Rule changes the nature of the existing payout limitations. Our concern about stress buffer volatility and the short time period banks would have to cure a potential capital ratio shortfall is significant because of the abrupt cliff effect in distributions that the payout limitations would cause. Under the Capital Rule, in any given quarter, if a healthy bank with a 100% payout ratio in the prior year falls even a single basis point below its capital requirement (inclusive of buffers), it must completely curtail all repurchases, dividends, and discretionary compensation for executive officers in the following quarter. Counterintuitively, a bank under stress that has had to retain a percentage of its earnings rather than pay them out in recent quarters to raise its capital ratios would have more flexibility to pay out some portion of its earnings under the Capital Rule. When capital levels are high, this seems an unduly harsh outcome regardless of the reason for a buffer breach; however, it seems particularly unjustified if the breach is due to unpredictable changes in the Federal Reserve's stress buffer calculation and not a change in a firm's risk profile. We recommend that the Federal Reserve revisit the methodology for applying the payout limitations in light of the change in the nature of the buffers to which they apply. This can be accomplished in several ways, as described below.

**Redefining eligible retained income:** As written in the Capital Rule, the Federal Reserve's definition of eligible retained income – based on the prior four quarters' income net of distributions – is more conservative than the international Basel III definition, which includes income *prior* to distributions and does not specify a backward-looking calculation.[46] By looking backward at retained income net of

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*the Capital Plan Rule*, at 8 (Feb. 2018), *available at* https://www.federalreserve.gov/supervisionreg/files/bcreg20180201a1.pdf (noting that company run stress tests must use a company-run market risk component "that is tailored to the firms' individual risks").

[45] For additional detail on our concerns with supervisory models, see The Clearing House, *Re: Stress Testing Transparency Proposals* (Jan 2018), *available at* https://www.federalreserve.gov/SECRS/2018/February/20180227/OP-1587/OP-1587_012218_131945_561382171941_1.pdf.

[46] Basel Committee on Banking Supervision, *Basel III: A global regulatory framework for more resilient banks and banking systems* (Dec. 2010, rev. June 2011), para. 132(b), *available at* https://www.bis.org/publ/bcbs189.pdf.

distributions, the Federal Reserve's definition is likely to produce more severe results for banks that have been healthy enough to pay out 100% of earnings over the prior quarters, as they would have zero eligible retained income to payout in the current quarter. This would seem to undermine the intentionally graduated nature of the payout restrictions in Section 217.11 of the Capital Rule and Table 1 thereof, in which more stringent restrictions are correlated with increasingly lower capital ratios.[47]

The current quarter's payouts should be a function of banks' earnings power. In accordance with this, the international Basel III definition of earnings includes income gross of distributions, thereby capturing earnings power. We recommend that the Federal Reserve align the U.S. definition with the international Basel III definition and allow earnings to be calculated as an average of the past four quarters' income *gross* of distributions.

**Payout restrictions should not apply to precapitalized dividends; alternatively, they should not apply until the CCB floor is breached:** Under the Proposed Rule, the stress buffer includes an effective precapitalization requirement for four quarters of common dividends and nine quarters of non-common dividends. However, under the Capital Rule, if a bank's capital ratio were to dip into this buffer, it could be restricted from paying those dividends. This restriction should be reconciled within the Proposed Rule: if banks must precapitalize for dividends in the stress buffer calibration, then payout restrictions should not apply until a bank's ratio falls below the buffer these prefunded dividends comprise. Alternatively, the Federal Reserve could align payout limitations more closely with other jurisdictions[48] by not becoming effective until the CCB floor (G-SIB + 2.5% CCB base + CCyB, as applicable) is breached.

**Gradually increase restrictions:** As the Federal Reserve has highlighted, as stress unfolds, banks are more likely to curb share repurchases than to reduce dividends.[49] The payout table should reflect this pattern, and payouts could also be restricted in a waterfall manner to better align with how banks manage capital distributions as ratios fall below targets. For example, repurchase restrictions could start to apply when the bank is at the 60% maximum payout ratio level, with additional restrictions on dividends and discretionary compensation for executives applying at the 40% maximum payout ratio level and below.

### *III. Capital Management: The Proposed Rule Limits the Ability of Bank Boards to Manage Capital Effectively*

The Proposed Rule indicates that the Federal Reserve "would remove the quantitative objection in CCAR and instead rely on the Capital Rule's automatic restrictions on capital distributions that are triggered if a firm breaches its buffer requirements."[50] However, the objection is effectively retained, as the Proposed Rule caps capital distributions based on a baseline capital plan submission and preserves a two-day capital plan resubmission process at the end of June if planned baseline capital actions would breach new stress buffer requirements. The baseline plan restrictions would undermine the Proposed Rule's stated intention of streamlining the spot and stress-based capital frameworks. In fact, they would introduce a new capital constraint, as a bank could be more bound by its projected baseline ratio than its actual ratio.

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[47] 12 C.F.R. § 217.11 (Tables 1 and 2).

[48] Existing regimes in the EU and UK (Capital Requirements Directive IV) impose distribution limits once the required Basel III buffers are breached. Directive 2013/36/EU of the European Parliament and of the Council on Access to the Activity of Credit Institutions and the Prudential Supervision of Credit Institutions and Investment Firms, 2013 O.J. L 176/338, art. 144.

[49] "During the financial crisis, firms began to curtail share repurchases beginning in 2007 but generally did not cut dividends until late 2008. See Hirtle (2014)." Federal Reserve Governor Daniel Tarullo, *Next Steps in the Evolution of Stress Testing* (Sept. 2016), *available at* https://www.federalreserve.gov/newsevents/speech/tarullo20160926a.htm.

[50] Federal Reserve System, *Amendments to the Regulatory Capital, Capital Plan, and Stress Test Rules*, 83 Fed. Reg. 18160, 18163 (Apr. 25, 2018).

**<u>Recommendation 9</u>: Baseline Capital Plan. Capital actions should be governed by payout limitations under spot capital requirements, not the baseline capital plan**

It is not apparent why the Federal Reserve has chosen to constrain bank capital actions via a baseline capital plan, when the primary advantage of incorporating stress buffers into spot capital requirements is that there would be an effective check on distributions should ratios fall below minimum requirements. If actual ratios are higher than the ratios projected in the baseline plan (e.g., due to budget outperformance or lower than expected RWAs), bank capital actions should be allowed to exceed those in the baseline plan. In the event of a baseline plan resubmission, by requiring banks to resubmit capital plans for only the fourth through the seventh quarters of the projection horizon, the Federal Reserve would create a disconnect between planned capital actions following the release of the stress buffer in June and the actions a bank would actually take throughout the third quarter to comply with the spot requirement on October 1 of each year. To illustrate this, in the example below, we assume a bank's CET1 standardized approach SCB requirement is 11.0% (the sum of 4.5% + 2.5% G-SIB surcharge + 4.0% SCB) at the time of its April baseline plan submission, and at the end of June, the bank learns that its new SCB is 5.0%, which will increase its CET1 standardized approach SCB requirement to 12.0% as of October 1:

| Reality | Baseline Capital Plan |
|---|---|
| • As of June month end, the bank's actual ratio is 11.4%<br>• The bank has one quarter, until October 1, to raise its standardized CET1 ratio from 11.4% to 12.0% to avoid extensive payout restrictions<br>• Throughout the third quarter the bank cuts repurchases, reduces RWAs, and grows profits sufficiently to raise its CET1 standardized ratio to 12.2% by the end of September<br>• Thus, the bank would not be subject to payout restrictions in the fourth quarter when its new higher SCB requirement of 12.0% becomes effective | • In its baseline capital plan, the bank had projected that its June month end ratio would be 11.3%, rising to 11.5% in the third projected quarter[51]<br>• Upon learning of its new SCB in June, the bank finds that its planned capital actions will not be consistent with effective capital distribution limitations and must resubmit its baseline capital plan in two days[52]<br>• In spite of knowing its actual second quarter ratio or the variety of actions it planned to take in third quarter, the bank's baseline projected third quarter ratio is locked at 11.5%<br>• Thus, in the projected fourth quarter of its capital plan and going forward, the bank would be below its capital requirement inclusive of buffers and would be subject to payout restrictions amounting to 60% of eligible retained income (which would be zero if planned payouts were 100% of eligible retained income in the prior four quarters)<br>• If the bank's maximum distributions are capped by its baseline capital plan submission, then its baseline plan would be more constraining in the projected fourth quarter than its actual fourth quarter ratios[53] |

[51] The third quarter in this example would have been the seventh planning quarter in the previous year's baseline capital plan, and would be the third planning quarter in the current capital plan – i.e., the baseline capital plan the bank would have submitted in April of the current year.

[52] Under the Proposed Rule, the bank would only be permitted to reduce its capital actions in the fourth through the seventh projected quarter in its resubmission. This process necessarily causes a break between the baseline capital plan and a bank's actual capital plan.

[53] Additionally, we believe a discrepancy exists between the baseline capital plan and G-SIB framework that could subject banks to a higher G-SIB surcharge in their baseline plan a full year before the higher surcharge would become effective in spot capital requirements. The Proposed Rule states: "A firm that became subject to a higher GSIB surcharge in its most recent annual surcharge calculation would use the higher surcharge beginning in the fifth quarter of the planning horizon (which would coincide with the quarter in which the higher GSIB surcharge would come into effect under the Capital Rule) and retain that amount through the end of the planning horizon." Federal Reserve System, *Amendments to the Regulatory Capital, Capital Plan, and Stress Test Rules*, 83 Fed. Reg. 18160, 18168 (Apr. 25, 2018). However, this would be misaligned with the implementation of the G-SIB surcharge, which would allow for two full years after the surcharge increases to apply to the spot ratio (i.e., it should apply in the ninth projected quarter of the baseline plan). Given the language in the Proposed Rule that the Federal Reserve intends to align with the quarter the higher G-SIB surcharge takes effect, we believe technical clarification is needed.

While banks should continue sharing baseline capital plans with the Federal Reserve as part of on-going supervision, capital actions should not be constrained by those baseline plans in the event that capital requirements increase or that actual performance or RWAs differ from projections. Baseline capital plan restrictions should be unnecessary under a framework that sets out clear consequences of a bank's capital ratios falling below its total requirements. We encourage the Federal Reserve to give banks more flexibility to manage their capital position and capital actions, subject to the Capital Rule. Most importantly, if the Federal Reserve retains the one-time resubmission process, banks should be able to modify projected capital actions or reassess projected balance sheet, revenues and RWAs in the projected third quarter to better align with the actions the bank will take.

### *IV. Conclusion*

The Proposed Rule requests comment on the "advantages and disadvantages of incorporating [SCB] requirements into the capital rule" and "how well…the proposal enhance[s] regulatory simplicity, transparency and efficiency." We believe the Proposed Rule is a meaningful step to implementing an enhanced capital framework, but believe several elements can be further enhanced to support the Federal Reserve's objectives, particularly with respect to the:

**1) Calibration** of the standardized ratio inclusive of G-SIB and the SCB. Specifically, the Proposed Rule further codifies the penalties facing banks engaged in market making activities and heightens the urgency of recalibrating the G-SIB surcharge. The practical implication of the Proposed Rule is that large universal G-SIBs will hold approximately 20% less risk-based capital than their smaller market making peers, despite having substantially the same market making activity and a larger systemic footprint.[54] This calibration can be addressed by using SCB as an alternative to the current Basel buffers, and by recalibrating both the G-SIB surcharge and elements of SCB.

**2) Volatility** that the stress buffers would introduce into spot capital requirements. Volatility can be mitigated by increasing transparency in scenario design, basing stress results on bank instead of Federal Reserve models, delaying the onset of SCB increases for one year, and by calculating eligible retained income on a gross basis.

**3) Capital Management** process, including constraints placed on bank boards' ability to efficiently and effectively manage bank capital. Capital actions should not be capped based on the baseline capital plan.

We recognize that this is a challenging exercise, and we would be pleased to discuss our comments or otherwise assist in any way that is helpful.

[54] Using Nomura's SCB estimates, the average CET1 requirement for universal banks is 10%, versus 12.4% for market makers. Nomura, *Bank Regulation Update – SCB Proposal, SCB Good for Everyone (Except the Brokers)* (Apr. 2018).

Sincerely,

Brian Lee
Chief Accounting Officer

## Appendix A: G-SIB Surcharge Calibration

The Proposed Rule argues that the GMS and LCD components of CCAR "do not capture the potential adverse impact of the failure of a G-SIB on the financial system as a whole."[55] As noted in our letter, we respectfully disagree and believe the proposed calibration of standardized SCB ratio would duplicatively capture systemic risk through both the G-SIB surcharge and CCAR. Although the Federal Reserve indicates that the G-SIB surcharge and SCB have different objectives, we believe they both assign capital to the same activity with the same aim of reducing a G-SIB's probability of failure.

More specifically, both the G-SIB framework and CCAR require G-SIBs to hold capital to compensate for the systemic risk generated by size, interconnectedness, complexity and funding. Each of these charges heavily emphasizes market making activity. In the G-SIB framework the Federal Reserve takes this a step further, doubling these charges relative to the international standard through the use of Method 2 calibration, and further emphasizes market making activity by including a STWF metric. Similarly, CCAR's GMS and LCD components also address the systemic risk of size (they are incremental capital charges only applicable to the largest banks), interconnectedness (LCD is an incremental charge for the largest banks that assumes the default of the largest trading counterparty), complexity and funding risk (GMS severely shocks trading assets, repo-style transactions and derivative transactions, and simultaneously the LCD component conservatively assumes an inability to call incremental collateral).

While the G-SIB surcharge and the SCB may be described and measured differently, we do not believe these factors sufficiently support treating these buffers as additive, given that both conservatively capitalize for the same activities to the same end goal of reducing a G-SIB's probability of failure. Furthermore, we do not find support for an increase of the post-stress minimum capital requirement for G-SIBs by the amount of the currently calibrated Method 2 G-SIB surcharge. If the Federal Reserve believes these capital-increasing measures are necessary, we encourage it to publish research justifying these changes.

At a minimum, if the Federal Reserve intends to layer the SCB and G-SIB surcharges (thereby effectively raising the post-stress minimum threshold), we recommend revisiting and recalibrating the G-SIB surcharge via a separate proposed rulemaking process. The review process should be based on the G-SIB surcharge objectives outlined in the Federal Reserve's *Calibrating the G-SIB Surcharge (2015)* paper ("2015 Paper"), which are:

- "to mitigate the risk posted to financial stability by certain large financial institutions,"
- to "create incentives for SIFIs[56] to shrink their systemic footprint," and
- to "offset any funding advantage that SIFIs have on account of being perceived as 'too big to fail'."[57]

Below we discuss our concerns with the way that the Federal Reserve seeks to achieve each of these objectives.

### Stated Objective 1: A surcharge is needed to mitigate the risk posed to financial stability by certain large financial institutions

A fundamental objective of the U.S. G-SIB framework is to equalize expected losses to the financial system of G-SIB and non-G-SIB failures. With this goal in mind, the Federal Reserve assumes that the larger impact on the U.S. financial system of a G-SIB's failure (the loss given failure, or "LGF") must be offset by a reduction of the G-SIB's probability of failure ("PF").[58] The 2015 Paper further asserts

[55] Federal Reserve System, *Amendments to the Regulatory Capital, Capital Plan, and Stress Test Rules*, 83 Fed. Reg. 18165 (Apr. 25, 2018).
[56] Systemically Important Financial Institutions.
[57] Federal Reserve System, *Calibrating the G-SIB Surcharge* (Jul. 2015), *available at* https://www.federalreserve.gov/aboutthefed/boardmeetings/gsib-methodology-paper-20150720.pdf.
[58] Id. at 2.

that "the most straightforward means of lowering a financial firm's" PF is through higher risk-based capital requirements.[59] Thus to appropriately calibrate a G-SIB surcharge requires accurately estimating the LGF, the PF, and the relationship between incremental capital and PF for the G-SIBs.

**Losses Given Failure:** The 2015 Paper does not attempt to estimate the LGF of the G-SIBs, but instead assumes that the summation of the G-SIB surcharge's five systemic indicators for each bank is proportionate to that bank's LGF. "In other words, it assumes that if firm A's score is twice as high as firm B's score, then the systemic harms that would flow from firm A's failure would be twice as great as those that would flow from firm B's failure."[60] This causes a circular reference in the framework that calibrates the G-SIB surcharge based on an assumption that the underlying systemic indicators are correctly measured and calibrated.[61] However, we do not believe this to be the case, and we describe double-counting and risk insensitivity that should be corrected within the current indicators below among our recommendations.[62]

The U.S. G-SIB framework was calibrated before the establishment of key reforms such as TLAC and an orderly resolution regime, which have both reduced G-SIB LGFs as well as the risk of overall financial instability from a G-SIB failure.

The Federal Reserve's TLAC rule notes that TLAC and Long Term Debt requirements have "two overall objectives: improving the resiliency of these companies and improving their resolvability in the event of their failure or material financial distress," which, in turn, is intended "to reduce the financial stability impact of a failure."[63] To meet these objectives, the U.S. G-SIBs have increased their TLAC holdings five-fold over the past decade.[64]

In addition, the U.S. G-SIBs have made significant progress in addressing resolvability through the resolution planning process supervised by the Federal Reserve and the Federal Deposit Insurance Corporation ("FDIC"). This includes the development of single point of entry ("SPOE") resolution strategy. The fact that in 2017 the Federal Reserve and the FDIC deemed the G-SIB resolution plans as "credible" relative to the objective of "enable[ing] agencies to assess whether a firm could be resolved under bankruptcy without severe adverse consequences for the financial system or the U.S. economy" would suggest a meaningfully reduced LGF.[65]

**Probability of Failure:** The finalization of Basel III risk-based capital standards and the development of a robust stress testing regime have reduced the PF of the G-SIBs by increasing the aggregate quantity and quality of capital that they hold. Basel III also introduced strict penalties on capital actions to the extent a bank fell below its buffer requirements, all of which will be reinforced by the Proposed Rule. But to suggest that capital is the only, or even the most straight-forward, way that G-SIBs should and do reduce their PF overlooks the importance of liquidity, as the Federal Reserve itself has suggested. In particular, recent research by the Federal Reserve indicates that fire sale risk is best addressed through liquidity regulation.[66] The implementation of liquidity rules and related stress testing, including the LCR, which notably increases banks' holdings of liquid assets, as well as the proposed Net

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[59] Federal Reserve System, *Calibrating the G-SIB Surcharge*, at 2 (Jul. 2015), available at https://www.federalreserve.gov/aboutthefed/boardmeetings/gsib-methodology-paper-20150720.pdf.

[60] Id. at 4.

[61] *See, e.g.*, The Clearing House, SIFMA, and FSR, *Re: Notice of Proposed Rulemaking; Comment Request: Risk-Based Capital Guidelines - Implementation of Capital Requirements for Global Systemically Important Bank Holding Companies* (79 Fed. Reg. 75,473, Dec. 18, 2014) (Apr. 2015), *available at* https://www.federalreserve.gov/SECRS/2015/April/20150427/R-1505/R-1505_040215_129913_303842345964_1.pdf.

[62] *See, e.g.,* The Clearing House, *Overview and Assessment of the Methodology Used to Calibrate the U.S. GSIB Capital Surcharge*, (May 2016), *available at* https://www.theclearinghouse.org/-/media/action%20line/documents/volume%20vii/20160510_tch_research_note_gsib_surcharge.pdf.

[63] 12 C.F.R. pt. 217 p. 4.

[64] SIFMA, Rebalancing the Financial Regulatory Landscape, at 5 (May 1, 2017), *available at* http://www.sifma.org/wpcontent/uploads/2017/05/SIFMA-EO-White-Paper.pdf.

[65] Federal Reserve System, Resolution Plan Assessment Framework and Firm Determinations (2016), *available at* https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20160413a2.pdf.

[66] Specifically, they state that "capital regulation improves financial stability by limiting risky investment, which in turn weakens banks' incentive to hold sufficient liquidity." However, the "lack of complementary liquidity ratio requirements leads to inefficiently low levels of long-term investments and more severe financial crises," and they conclude that "the pre-Basel III regulatory framework, with its focus on capital adequacy requirements, was inefficient and ineffective in addressing systemic instability caused by liquidity shocks. Therefore, our results indicate that Basel III liquidity regulations are a step in the right direction.'" Ozsoy, S. Mehment, and Kara, Gazi Ishak, *Bank regulation under fire sale externalities* (Nov. 2015), *available at* https://www.frbatlanta.org/-/media/documents/news/conferences/2015/1119-the-role-of-liquidity-in-the-financial-system/kara-ozsoy-bank-regulation.pdf.

Stable Funding Ratio ("NSFR"), which requires banks to hold more stable funding, have also materially reduced the probability of the G-SIBs' failure.

While the 2015 Paper acknowledges some of these reforms, it does not quantify their potential impact in reducing the LGF and PF of G-SIBs. We encourage the Federal Reserve to do this. Economists at The Clearing House have estimated that having a 100% LCR should lead "to approximately a 25 percent LCR haircut on the GSIB surcharge by lowering the probability of bank failure.[67] Moreover, the fact that the SPOE resolution plans submitted by the U.S. G-SIBs in 2017 were deemed to be credible by the Federal Reserve and the FDIC is evidence that the LGF is lower than it was at the time when the G-SIB surcharge was calibrated three years ago.[68] Because the current G-SIB surcharge calibration does not account for these elements, we believe that the current levels of G-SIB surcharges are generally too high and should be revisited and revised accordingly, as outlined below.

**Stated Objective 2: The G-SIB surcharge incentivizes banks to lower their systemic footprint**

The Federal Reserve maintains that "higher capital requirements create incentives for SIFIs to shrink their systemic footprint, which further reduces the risks these firms pose to financial stability."[69] Arguably the most meaningful change resulting from the Federal Reserve's adoption of the G-SIB framework was the incorporation of a STWF metric, which measures STWF as a percentage of RWAs. But rather than incentivizing G-SIBs to reduce their STWF component by shrinking, the final rule does just the opposite: G-SIBs can reduce their STWF measure by *growing* RWAs.

**Stated Objective 3: Higher capital requirements may offset perceived "funding advantages"**

The Federal Reserve asserts that "higher capital requirements may offset any funding advantage that SIFIs have on account of being perceived as "too big to fail," [which reduces the distortion in market competition caused by the perception and the potential that counterparties may inappropriately shift more risk to SIFIs, thereby increasing the risk those firms pose to the financial system]." In fact, evidence suggests that to the extent that G-SIBs had a funding advantage during the crisis, any such advantage "may have declined or reversed."[70] As such, the G-SIB surcharge is no longer needed to compensate for any funding advantage that may have existed.

**Recommendations**

The G-SIB surcharge should not be included with the SCB in the standardized ratio until the Federal Reserve undertakes a broader review and comment process. However, if the Federal Reserve does decide to include it, we recommend minimizing the double-counting of risk by recalibrating as follows:

- Align the U.S. G-SIB surcharge methodology with the international Basel III standard by eliminating Method 2, and recalibrate Method 1 to correct its shortcomings. Until the recalibration is complete, the current Method 1 surcharge should be applied to the standardized SCB ratio; and
- In the event Method 2 is retained, it should be recalibrated to correct shortcomings.

We understand the challenge in fully recalibrating the G-SIB surcharge given the short timeframe in which the Federal Reserve plans to finalize the stress buffer proposal. As such, our recommendation

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[67] The Clearing House, *Estimating How Basel III Liquidity Requirements Should Affect a GSIB Surcharge*, (Jun. 2018), *available at* https://www.theclearinghouse.org/advocacy/articles/2018/06/-/media/e3426a1e96114e018f5aa06783ec8856.ashx.

[68] Federal Reserve, FDIC, Agencies announce joint determinations for living wills (Dec. 19, 2017), *available at* https://www.federalreserve.gov/newsevents/pressreleases/bcreg20171219a.htm.

[69] Federal Reserve System, *Calibrating the G-SIB Surcharge* (Jul. 2015), *available at* https://www.federalreserve.gov/aboutthefed/boardmeetings/gsib-methodology-paper-20150720.pdf.

[70] Government Accountability Office, *Large Bank Holding Companies: Expectations of Government Support* (Jul. 2014), *available at* https://www.gao.gov/products/GAO-14-621.

is – if the G-SIB surcharge is added to the SCB – to adopt Method 1 now, and to focus on recalibrating Method 1 (or, if retained, Method 2) over a longer period of time.

### *I. Recalibrate Method 1 to correct certain flaws in its methodology*

In addition to the double-counting by the G-SIB surcharge of risks addressed by other regulations, Method 1 itself double counts certain exposures across multiple indicators of systemic risk. We believe that the Federal Reserve should make the following adjustments to correct these shortcomings, and that the Method 1 surcharge should be applied in the standardized SCB ratio while these adjustments are under development:

- **Minimize double-counting across components within Method 1**

Certain types of activity are counted multiple times within the G-SIB framework. For example, a short-dated interest rate swap, which is a standard customer hedging product that did not contribute to losses or financial instability during the 2008 financial crisis, is penalized across four of the five G-SIB indicators.[71] Similarly, a standard repo-style transaction backed by short-dated U.S. Treasuries is included in the same number of indicators.[72] These activities that were not sources of systemic risk are heavily penalized. In contrast, activities that significantly contributed to losses and systemic risk during the recent credit crisis are missing altogether, such as leveraged lending and certain types of retail lending. By not appropriately targeting the right types of activity, the G-SIB framework fails to address the very risks that contributed to the systemic risks that became apparent during the crisis while at the same time disincentivizing the types of hedging activity that could be used to reduce risk.

While size is a component of systemic risk, not all assets produce the same risks for an institution and some in fact may be risk reducing. For example, liquid assets are held and available to meet a bank's short-term liquidity outflows. Yet, despite being encouraged/required in the LCR, liquid assets count against a firm's size in the same way as less liquid assets.

- **Use a modified fixed approach instead of the relative approach in the Method 1 denominator**

Method 1 and the international standard use a relative approach to measuring systemic risk, whereby a bank's systemic indicators are measured relative to the corresponding aggregate global indicator amounts. The Federal Reserve believes this relative approach "limit[s] the ability of a firm to reduce its GSIB surcharge by reducing its systemic risk profile," since if one bank reduces its systemic indicator by the same proportion as other banks do (on average), the first bank's systemic indicator score would remain unchanged.[73] Yet in designing Method 2, the Federal Reserve deliberately departed from this relative approach in favor of a fixed approach, citing the advantages of "enabl[ing] a GSIB to predict its potential future systemic indicators scores, better facilitating its ability to engage in capital planning… [and] provid[ing] more certain regarding the actions that the GSIB may be able to take to reduce its GSIB surcharge."[74] Method 1's relative approach is also susceptible to foreign exchange rate volatility that could artificially overstate the systemic importance of U.S. G-SIBs when the U.S. dollar is strong.

The Federal Reserve should revise Method 1 to adopt a modified version of the fixed approach, which could include mechanisms to address "systemic risk drift" – i.e., the potential for *measured* systemic risk to appear to inflate over time even as *actual* systemic risk remains unchanged. However, because U.S. G-SIBs should grow as the U.S. economy grows, the Federal Reserve has indicated it would "periodically reevaluate the framework to ensure that factors unrelated to systemic risk do not have

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[71] A short-dated vanilla interest rate swap will be captured as part of size, complexity, interconnectedness and cross-jurisdictional activity, assuming the counterparty is in a non-US jurisdiction.

[72] A repo-style transaction backed by short dated U.S. Treasuries will be captured as part of size, interconnectedness, short-term wholesale funding and cross-jurisdictional activity, assuming the counterparty is in a non-US jurisdiction.

[73] Federal Reserve System, *Regulatory Capital Rules: Implementation of Risk-Based Capital Surcharges for Global Systemically Important Bank Holding Companies,* 80 Fed. Reg. 49082, 49085 (Aug. 14, 2015).

[74] *Id.*

an unintended effect on...systemic indicator scores."[75] Such modifications could reflect a combination of automatic mechanisms – such as a formulaic deflator for general economic growth – supplemented by more discretionary approaches, such as an explicit policy statement or procedure to recalibrate the fixed approach coefficients via public notice and comment at regular intervals (for example, every two years).

### *II. In the event Method 2 is retained, it should also be recalibrated to correct certain methodology flaws*

The Method 2 calibration is inappropriately high and creates an uneven international playing field, which the addition of the SCB will only exacerbate. If the Federal Reserve does retain Method 2 in the United States, it should eliminate the STWF component, or at a minimum recalibrate it to better reflect the risks associated with different types of STWF.

The current STWF score methodology within Method 2 includes secured funding, unsecured funding, covered asset exchanges, short (borrowed) positions, and brokered deposits held by a bank holding company ("BHC") rather than by a depository institution (notwithstanding the "clean holding company" provisions of the final TLAC rule), and are weighted according to type, maturity, and to some extent by counterparty. These different types of STWF do not all constitute unstable funding that may contribute to asset fire sale risk, i.e., funding that could be withdrawn immediately or on short notice at the first sign of economic stress. Some types of STWF, such as institutional deposits or other funding related to securities and derivatives clearing activities and custody activities, even exhibit increased "flight to quality" stickiness in stressed market conditions compared to normal market conditions.[76] Collateralized swaps and other secured funding transactions are less likely to constitute run risk than unsecured wholesale funding or brokered deposits. As a result, we believe that if Method 2 is retained, it should be replaced with metrics designed to more accurately measure the effective run risk of different types of STWF relative to a G-SIB's assets.

Moreover, the degree of risk posed by STWF is not dependent solely on the right-hand side of the balance sheet, as implied by the Method 2 STWF score and table. Rather, this risk is highly dependent on the left-hand side of the balance sheet, i.e., by which kinds of assets are funded by STWF. To the extent that STWF runs can be met by cash or other high quality liquid assets ("HQLA"), which have increased notably since the LCR became effective, the firm in question is not exposed to the same risk of such a run as a firm that funded longer-dated or less liquid assets with STWF. Additionally, the proposed NSFR will increase the amount of long-term funding that a bank is required to hold, further reducing the likelihood of an overreliance on STWF. It is unnecessary to require banks to hold capital beyond the conservative collateral haircuts for repo-style transactions under the existing Capital Rule, given STWF fire sale risks are more appropriately mitigated as part of liquidity risk rulemakings.

In addition, eliminating or recalibrating the STWF would reduce the incentive it currently creates for firms to reduce their STWF scores without reducing their reliance on STWF (by increasing assets with higher risk weights), which encourages the use of runnable liabilities to fund riskier long-term assets and is at odds with prudent asset-liability management and liquidity risk management. If retained, the STWF score should be measured based on a quantum of STWF in the system rather than at an individual firm.

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[75] *Id.*

[76] Federal Reserve System, Liquidity Coverage Ratio: Liquidity Risk Measurement Standards, 79 Fed. Reg. 61440 (Oct. 2014).

## Appendix B: Alternative Balance Sheet Modeling Approach

We support the Federal Reserve's decision to no longer assume that balance sheets and RWAs grow in stress and to remove baseline share repurchases in the supervisory stress scenario. However, further changes would make supervisory stress tests even more realistic and more accurate, and would reduce the disparity in the treatment of market making activity and lending activity. As such, we support use of a historical relationship-based model that would make it possible to observe the movement of balance sheet components based on macroeconomic variables. We believe the outcome of this alternative modeling approach would be a more holistic and representative portrayal of the effect of stress scenarios on the banking system. This Appendix describes an approach that could realistically be implemented using information submitted to regulatory agencies by banks subject to stress testing.

### *I. Balance Sheet Modeling Approach*

To improve predictive power, we believe a replicable multivariate regression model can reliably identify the historical behavior of loans, trading assets and total assets of the banks subject to the CCAR stress test.[77] The regression model can leverage regulatory filings with the Federal Reserve, including FR Y-9Cs and SEC filings, as well as the Federal Reserve's published macroeconomic variables.[78] Using these inputs, it is possible to forecast the quarterly growth rate of each balance sheet component at the industry aggregate level. BHC projections can then be performed by applying the same industry growth rate to the starting balance sheet component values of each individual BHC. The outcome of these projections would more closely align Federal Reserve PPNR projections with the balance sheet.

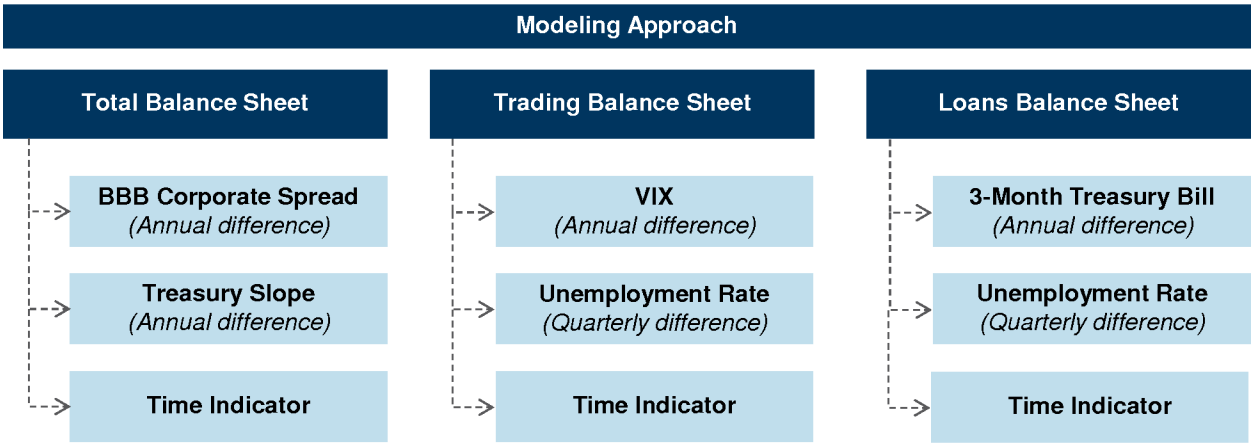
Specifically, an illustrative model for projecting individual BHC balance sheets leverages data provided by the BHCs to the Federal Reserve as well as Federal Reserve data such as:

- FR Y-9C line items
  - Total Assets: Schedule HC, Line 12
  - Loans: Schedule HC-C, Line 12
  - Trading Assets: Schedule HC, Line 5
- Macroeconomic variables calculated by the Federal Reserve
  - BBB-rated corporate credit spreads
  - Treasury slope, defined as difference between 10-year Treasury yield and 3-month Treasury yield
  - VIX
  - Unemployment rate
  - 3-month Treasury yield

An overview of the individual balance sheet component modeling approach, including variables used to regress results, is shown below in Figure 2. Variables were chosen based on their statistical significance in forecasting total, trading and loan balance sheet, respectively. Additionally, selection criteria were refined such that all variables are stationary[79] and perform consistently over the past three CCAR tests to ensure that selection was appropriate.

[77] Of the banks subject to CCAR stress testing, data was available for 28 banks.
[78] Model incorporates 16 years of data and incorporates 95% of total industry balance sheet. The remaining 5% is composed of six CCAR BHCs that did not have sufficient data to include.
[79] Stationary variables are those that display statistical properties such as mean, variance and covariance are consistent over time. Use of stationary variables will ensure that coefficient estimates are not biased and the model will not yield spurious results.

**Figure 2: Overview of the Balance Sheet Modeling Approach**



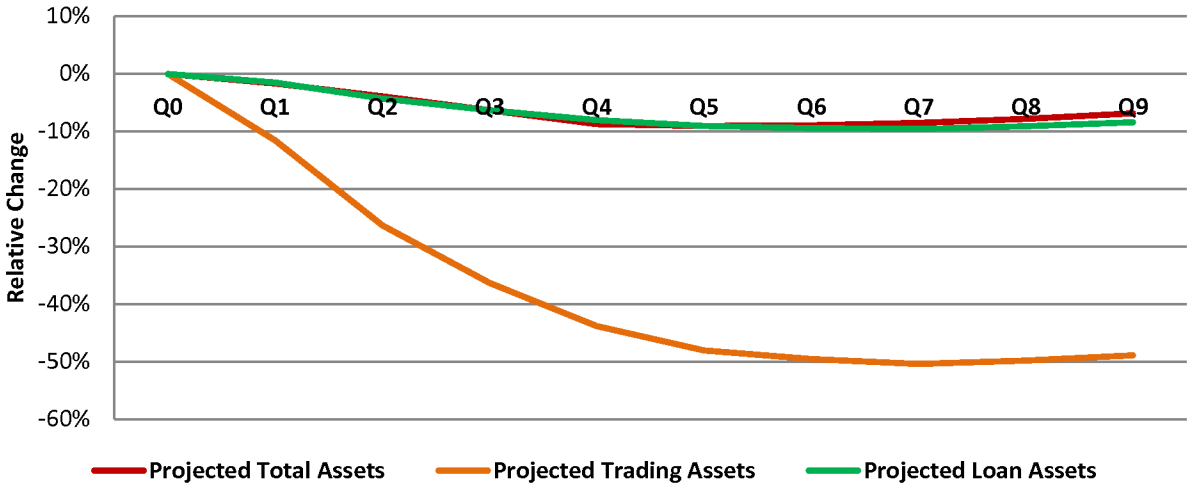

Using this approach, an illustrative model was created in which the dependent variable would be the quarterly returns of industry aggregated total, trading and loan balance sheets with adjustments for major merger and acquisition events and population changes. The independent variables used are the aforementioned macroeconomic variables, inclusive of any transformations needed such as quarterly or annual differences. A time window of the second quarter 2002 through the fourth quarter 2017 was selected to formulate the model.

### *II. Balance Sheet Modeling Results*

Based on the inputs outlined above, there is a statistically significant relationship between the quarterly return of banks' balance sheet components and macroeconomic variables.[80] As shown in Figure 3, the results indicate that over the nine quarter horizon, based on the trough in the CCAR 2018 supervisory Severely Adverse scenario:

- Loans and total assets are forecasted to decline approximately 10%
- Trading assets are forecasted to decline approximately 50%

**Figure 3: Industry Total, Trading, and Loan Asset Projections: Illustrative Model**

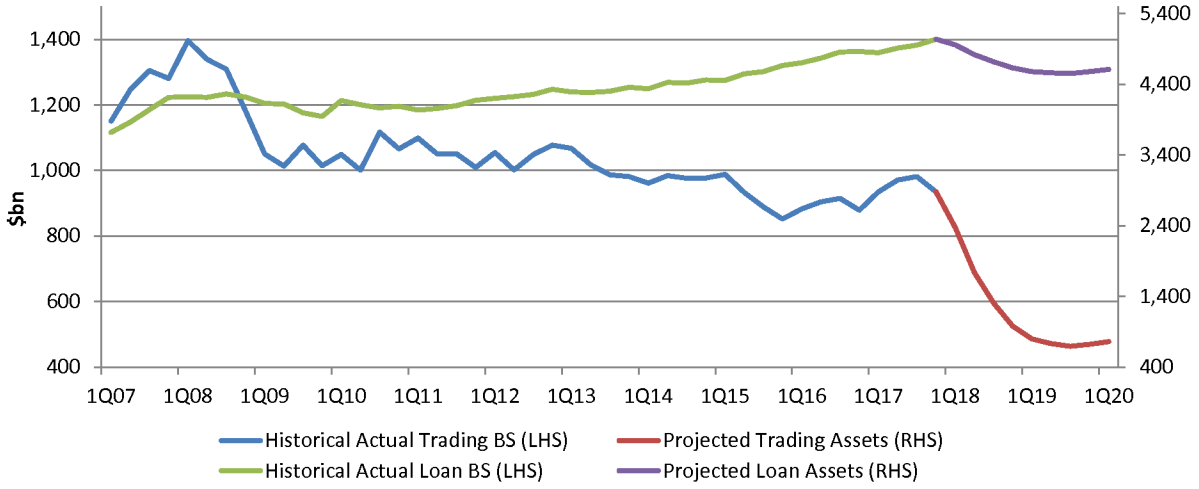



[80] The data includes adjustments for mergers and acquisition activity, as well as the addition of new large banks over the data span.

Due to the severity of Federal Reserve macroeconomic forecasts, model results are even more extreme than those experienced during the 2008 financial crisis. The 2018 CCAR scenario is characterized by a global decline in demand for long-term fixed-income assets, which causes a steepening of the yield curve and deep corrections in asset prices. The result of this scenario is a sharper deterioration in U.S. real GDP than experienced during the recession. Moreover, this scenario is held over a longer time horizon than the 2008 financial crisis.

Figure 4 shows historical trading and loan assets of the CCAR banks, which experienced a decline of approximately 25% and 2%, respectively, during the 2008 financial crisis when adjusting for merger and acquisition activity. In contrast, the illustrative model shows a steeper decline in trading assets through the nine-quarter stress test period. Model results display even stronger statistical significance when refined to the six largest BHCs, suggesting this relationship is even more pronounced when considering the largest industry participants.

**Figure 4: Historical and Model Industry Trading and Loan Assets**




While we support the Federal Reserve's decision to no longer assume that balance sheets and RWAs grow in stress, further enhancements would make supervisory stress tests even more accurate. A constant balance sheet assumption is simple, but not realistic given historical experience, which shows the outsize decline in trading assets relative to loan assets. If the Federal Reserve utilized a similar approach, it would reduce the disparity in the treatment of market making activity and lending activity.

## Appendix C: Federal Reserve Stress Scenarios

The Proposed Rule introduces a greater element of uncertainty in the calibration of a bank's point in time capital requirements because the stress buffers would be calculated based on the application of the Federal Reserve's supervisory stress scenarios and the Federal Reserve's own models. Because the current process for publishing and changing the economic scenarios from year to year is not transparent (the scenarios are typically published each year in early February without any opportunity for prior review or comment), and because the application of the Federal Reserve's supervisory models to the various financial and other data submitted by banks as part of their annual capital plans is also not transparent (only the output is), we are concerned that a bank could become unexpectedly subject to payout restrictions if, for example, the Federal Reserve calculates a stress buffer that is higher than what the bank had projected under its own models.

The Federal Reserve has solicited input on the notion of publishing for notice and comment the Severely Adverse scenario used in CCAR and, as proposed in the Proposed Rule, in calculating a bank's stress buffer requirements.[81] In addition, in testimony on April 17th, Federal Reserve Vice Chairman for Supervision Quarles proposed that the Federal Reserve publish CCAR scenarios for notice and comment.[82] We are supportive of making the Federal Reserve's scenarios and scenario components subject to the public notice and comment process for each stress testing and capital planning cycle. We would also recommend that the Federal Reserve amend its stress testing policy statement to add parameters that will incorporate more transparency and objectivity, thereby curbing volatility.

The supervisory scenarios vary, sometimes significantly and unpredictably, from year to year, making capital management difficult, as well as compliance with the SR 15-18 requirement that a bank's Severely Adverse scenarios generally be at least as severe as the supervisory Severely Adverse scenario.[83] For example, the GMS scenario component for the 2018 cycle features some particularly surprising and economically counterintuitive assumptions:

- While a severe recessionary market shock would historically trigger the Federal Reserve to reduce interest rates, the 2018 GMS component includes increasing short-term interest rates. This is inconsistent with the nine-quarter path of the macroeconomic scenario, in which short-term rates are decreasing.
- In historical crises, short-term volatility spikes and eventually lessens over time; however, the CCAR 2018 GMS component shocks 10-year volatility more severely than short-term volatility.
- While the basis between cash and synthetic credit spreads has historically widened in a crisis, with cash underperforming, the 2018 GMS component locks cash and synthetic spread movements, resulting in synthetic credit spread shocks far larger than experienced over a six-month period in 2008.

Our first recommendation for mitigating the unpredictability and volatility inherent in the current process would be for the Federal Reserve to publish its scenarios for prior notice and comment sufficiently in advance of the proposed publication date to allow banks and other stakeholders to provide meaningful feedback. For example, the Federal Reserve could release the scenarios for a brief (e.g., 15 days) comment period in early November and then aim to publish the scenarios in early January to provide banks with enough time to model and challenge results of the scenarios, and for the Federal Reserve to incorporate this feedback. In our view this feedback could only help improve the Federal Reserve's scenario design process and its underlying assumptions. In particular, the feedback from affected banks would be able to address any unintended inconsistencies and lack of coherence between

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[81] *Id.* at 18172 (Question 23(ii)).

[82] Federal Reserve Vice Chairman for Supervision Randal K. Quarles, *Semiannual Supervision and Regulation Testimony* (Apr. 17, 2018), *available at* https://www.federalreserve.gov/newsevents/testimony/quarles20180417a.htm.

[83] "Bank holding companies should not view the Board's general expectation for the severity of the BHC stress scenario as a rigid benchmark against the particular supervisory severely adverse scenario from a single stress test cycle. Rather, the Board expects a bank holding company to develop scenarios of severity generally comparable to the usual severity in the Board's severely adverse scenario." 12 C.F.R. pt. 225 and 252.

and among the scenarios and the GMS and LCD components and any disproportionate impact the scenarios would have on their capital positions and existing capital plans.

Our second recommendation would be for the Federal Reserve to more fully develop a scenario design methodology in its Policy Statement on the Scenario Design Framework for Stress Testing, which would incorporate objective, empirically justified shocks that are appropriately severe but also consistent with current economic conditions. The use of a scenario design methodology would generate more transparent, coherent and realistic scenarios.

The scenario design methodology we suggest would specify shocks of major variables that are based on the current economic environment. While it is not feasible to define shocks of a large number of variables that vary continuously with current economic conditions, a practical alternative would be to define three to five economic environments that are distinguished by a series of objective indicators. For each environment, the scenario design methodology would define schedules of ranges of shocks for major asset classes and macroeconomic variables. Thus, each shock range schedule would be associated with a set of indicator variables. Objective indicators that could be used to define each shock range schedule include:

- Business cycle dating methods such as the Chauvet and Hamilton filtering algorithm[84]
- The difference between the 10-year and 2-year risk free yields
- The difference between LIBOR and Overnight Index Swap ("OIS")
- The level of the unemployment rate
- Recent job growth
- Industrial production
- How much key financial or macroeconomic variables have already changed

These shock ranges would be detailed for both the GMS and the 9-quarter path and cover at a minimum the following variables, which would be distinguished by geography if significantly different:

- Real GDP growth
- Equity prices (private and public)
- Credit spreads
- Interest rates
- Foreign exchange rates
- Commodity prices
- Housing prices
- Mortgage rates
- Default rates (9-quarter path only)
- Important bases such as the bond-CDS basis, commodity basis, etc.

In each schedule, shock ranges would be stated for each variable class, and for 3 time horizons: the GMS, 1 to n quarters, and n+1 to 9 quarters, where n could vary by asset class, but would typically be 4 or 5. Ranges could be defined as min to max, in terms of percentiles, or another descriptive statistic. In some cases, the shock schedules may need to be defined in both relative and absolute terms, e.g., credit spreads could be defined in percent and basis point changes. We would suggest that the shock size ranges be calibrated to specific historical episodes, either by examining variable changes during historical time periods directly or by using time series or other macro-econometric models. The shock schedules could be included in the policy document directly or as an appendix. In either case, the schedules would be periodically revised by the Federal Reserve as appropriate.

In designing each scenario, the Federal Reserve would use the indicator variables as a guide to specify the shock schedule it would use in its scenario design. Ultimately, the selection of the schedule is at the discretion of the Federal Reserve scenario design team, since no set of indicator variables can be

[84] Chauvet and Hamilton, *Dating Business Cycle Turning Points*, in *Nonlinear Time Series Analysis of Business Cycles*, Chapter 1 in Contributions to Economic Analysis, Milas, Rothman, and van Dijk (eds), Elsevier.

sufficiently robust to capture idiosyncratic conditions. Once the schedule is selected, shock sizes would be generally drawn from it. Shock sizes in the scenario would be expected to come from the middle section of the ranges for a majority of variables but in some cases could be at the limits of the ranges. Nonetheless, there will instances in which a particular variable should not be bounded by its pre-defined range or its specific schedule. For example, if equity prices have declined significantly already, they should not be expected to be shocked as heavily in the scenario as might be implied by the shock schedules. On the other hand, if there is evidence of significant overvaluation in the equities market, we might expect the equity shocks to be greater than the shock schedules would suggest. Shock sizes may also deviate from the schedules because the supervisors may wish to incorporate a feature into the supervisory stress scenario that has never been experienced, such as the unwind of unconventional monetary policy or the possibility of an emerging market crisis. It is impossible to specify these situations in advance in a policy document and so deviations from these schedules in particular cases will necessarily be up to the judgment and discretion of the Federal Reserve. For particular variables, the Federal Reserve may wish to specify a variable outside the range defined in the current schedule or use a different schedule to specify the shocks.

Any deviations from the schedules will necessarily reduce the probability of the scenario's occurrence, making it less plausible. Some variables must nevertheless be specified in an unanticipated way according to Federal Reserve judgment. To maintain plausibility of the scenario in this situation, we suggest the scenario design methodology explicitly incorporate a coherence requirement into the supervisory scenario design methodology. Coherence of the supervisory stress scenario is important for two reasons: 1) the underlying severity of the stress scenario depends directly on its coherence, and 2) lack of coherence of the supervisory stress scenario can disincentivize risk mitigation strategies.

The supervisory scenario is required to be used as a benchmark for the severity of the BHC scenario.[85] Thus, the Federal Reserve is determining the minimum capital necessary for all banks subject to the supervisory stress test. That minimum capital standard depends strongly on the underlying coherence of the supervisory stress scenario. Incoherence of the scenario, although it may make the scenario less likely, does not automatically imply a higher minimum capital standard, since the effects of any particular stress scenario depends on the risk profile of the bank. One bank may benefit significantly from an incoherently specified scenario, experiencing a lower minimum capital requirement, while another bank is penalized by the same stress scenario. Without coherence standards, the level of minimum required capital can vary across financial institutions in an unpredictable, non-objective manner. An unpredictable capital standard is a form of policy uncertainty that recent research suggests may have negative consequences for the economy.[86]

Coherence of the scenario is also important to incentivize risk mitigating behavior, which is increasingly relevant as the economy moves into later stages of the business cycle. In its market making activities, a bank may have the opportunity take on positions that are risk mitigating with respect to a plausible but severe capital stress scenario. For example, a bank might have trades that benefit when equity prices decline or if interest rates decrease. However, if the supervisory scenario is substantially incoherent, i.e., equity prices do not decline much or interest rates rise, then the bank has a reduced incentive to adopt a risk profile that is more likely to be benign in a plausible severely adverse environment.

In advocating for a coherence requirement, we are not proposing that the Federal Reserve develop a process that requires that any supervisory stress scenario to precisely follow history. Since the future is never exactly like the past, effective scenarios must break from past empirical relationships. The coherence standard we suggest would recognize that good scenario design requires that empirical relationships sometimes be severed, but when they are, there should be a specific requirement in the scenario design methodology for analysis on why the relationship should be broken as well as an attempt to quantify the implications. For example, a scenario designer might want to have interest rates going up

[85] "Bank holding companies should not view the Board's general expectation for the severity of the BHC stress scenario as a rigid benchmark against the particular supervisory severely adverse scenario from a single stress test cycle. Rather, the Board expects a bank holding company to develop scenarios of severity generally comparable to the usual severity in the Board's severely adverse scenario." 12 C.F.R. pt. 225 and 252.

[86] *See, e.g.*, Baker, Bloom, and Davis, *Measuring Economic Policy Uncertainty*, The Quarterly Journal of Economics, Volume 131, Issue 4, at 1 (2016).

(or remaining constant) during a severe recession, which would be inconsistent with the stylized facts of business cycles. The coherence standard would require that analysis be done justifying why that specification is plausible under the current circumstances. One reason might be concern that during a downturn the debt to GDP ratio would rise to the point that interest rates rise. Another justification might be concerns about a potentially stagflationary environment. The coherence standard of the scenario design methodology would also require quantitative analysis to assess the potential magnitude of the effect, relying on published academic research, such as research conducted by the economics staff of the Federal Reserve, or other studies.

At the start of the brief comment period, we suggest the Federal Reserve disclose for comment the candidate supervisory scenario as well as some details on how the scenario design methodology was employed to create that scenario. To that end, we suggest that the Federal Reserve also disclose for comment a proposed narrative of the scenario, pointing out which variables may be at the extremes of their ranges, or outside of their ranges, and the reasons. Those reasons may be that some variables have already significantly declined, and as a result, the shock is less than the minimum shock in the range, or that there is concern about instability in a particular market and the shock is greater than the maximum in the range. The Federal Reserve would also disclose any relationships incorporated into the scenario which may have been analyzed under the coherence standard. Examples of features that could have been flagged for comment by the Federal Reserve in the last CCAR supervisory scenario include: 1) increasing short term interest rates during the GMS, 2) long term rates remaining high and not falling over the 9-quarter path, 3) failure of cash-CDS basis to widen, and 4) long volatility rising more than short volatility. In each case, the Federal Reserve would also disclose for comment the analysis it undertook to include those features.

We believe that the development of a scenario design methodology, coupled with a consultation period in which the details of the proposed supervisory scenario are disclosed, would increase transparency and coherence without limiting the discretion of the Federal Reserve to design and utilize its supervisory scenario as a macroeconomic tool. Such an approach would strike an appropriate balance between the Federal Reserve's supervisory objective of testing banks' exposures under a variety of potential stress conditions and the ability of banks to engage in efficient and predictable capital planning.