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The Future of Stress Testing and the Stress Capital Buffer Framework

Remarks by

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at

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Federal Bar Association

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Thank you for the invitation to join you.¹ Given the recent conclusion of the Board’s stress test, it seems timely to share my thoughts on the stress testing program. In the past, I have noted reservations about the stress testing process, so today I’d like to discuss in greater detail the benefits, challenges, and issues I would like to see resolved as the stress testing program evolves in the future.²

Earlier this summer, the Board announced the results of the supervisory stress tests. At a high level, all 31 banks subject to the test remained above their minimum common equity tier one (CET1) capital requirements from the hypothetical recession scenario.³ Under this scenario, banks would have absorbed projected hypothetical losses of nearly \$685 billion, and would have experienced an aggregate CET1 capital decline of 2.8 percent.⁴ The hypothetical scenario included a 40 percent decline in commercial real estate prices, a substantial increase in office vacancies, a 36 percent decline in house prices, a spike in unemployment to a peak of 10 percent, and related declines in economic output.⁵ This year also saw the introduction of “exploratory” stress scenarios, which included two different funding stress scenarios, and for a subset of banks,

¹ These remarks represent my own views and are not necessarily those of my colleagues on the Federal Reserve Board or the Federal Open Market Committee.

² Michelle W. Bowman, “Large Bank Supervision and Regulation” (remarks at the Institute of International Finance, Washington, D.C., September 30, 2022), <https://www.federalreserve.gov/newsevents/speech/files/bowman20220930a.pdf>; and Statement by Governor Michelle W. Bowman on the Basel III Endgame Proposal (July 27, 2023) <https://www.federalreserve.gov/newsevents/pressreleases/bowman-statement-20230727.htm>, (“Today’s proposal is intended to improve risk capture, but in some circumstances, leaves in place and even introduces new regulatory redundancies, as with changes to the market risk capital rule, credit valuation adjustments, and operational risk that overlap with stress testing requirements and the stress capital buffer”).

³ Board of Governors of the Federal Reserve System, “Federal Reserve Board Annual Bank Stress Test Showed That While Large Banks Would Endure Greater Losses Than Last Year’s Test, They Are Well Positioned to Weather a Severe Recession and Stay Above Minimum Capital Requirements,” news release, June 26, 2024, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20240626a.htm>.

⁴ Id.

⁵ Id.

included two trading book loss scenarios.⁶ The Board’s press release announcing the results reported that large banks are well positioned to weather a severe recession and remain above minimum capital requirements.⁷

More recently, the Fed announced the final individual capital requirements for all large banks, effective on October 1, 2024.⁸ The firm-specific capital requirements are “informed by” the stress test results, and include a 4.5 percent minimum capital requirement, a stress capital buffer that is set at a minimum of 2.5 percent, and if applicable, a capital surcharge for the most complex banks that is based on each firm’s systemic risk.⁹ The announcement of this year’s results also noted the modification of the stress capital buffer for a single firm based on a reconsideration request. While firms subject to the stress test have long had the ability to request reconsideration—and many have done so in the past—this was notable as it was the first time that a reconsideration request was successful in producing a change to a firm’s stress capital buffer.

As we conclude this most recent cycle of stress testing—and as many firms begin to turn to the next round—I think it is helpful to pause and consider whether and how the process could be improved. My remarks today will address the value of stress testing on bank safety and soundness and on financial stability, my concerns about the current implementation of the stress test, and finally what I see as a potential path forward. I hope this discussion leads to a broader

⁶ Id.

⁷ Id.

⁸ Board of Governors of the Federal Reserve System, “Federal Reserve Board Announces Final Individual Capital Requirements for All Large Banks, Effective on October 1,” news release, August 28, 2024, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20240828a.htm>.

⁹ Id.

consideration of stress testing, its role in the current prudential framework as a supervisory tool, and as a mechanism to set large bank capital standards through the stress capital buffer.

The Value of Stress Testing

Let me start by emphasizing that my remarks today should not be interpreted as a wholesale criticism of the stress testing process and framework. I firmly believe that stress testing is and will remain a valuable mechanism that provides insights that can inform supervision and can inform the public about how the largest and most complex banks would fare under a severe stress scenario. This exercise helps us gauge a bank's capital position and determine whether it has sufficient capital to absorb losses and continue lending during an economic stress event.

In practice, stress testing provides a very granular assessment of a firm's risk, one that is more refined and risk-sensitive than capital standards alone. It relies on detailed balance sheet information—fixed at a particular date in the past—to do a deeper analysis of the firm's financial condition at that point in time. By subjecting this balance sheet to a hypothetical shock, we develop a better sense of not only the firm's risk, but also the firm's capacity to respond and adapt to changing economic conditions. This type of analysis would be impractical to conduct on a continuous basis, but it is a useful periodic supplement to ongoing capital requirements and can be used to support more robust supervisory practices.

The Need for Reform

While there are many virtues of stress testing, as currently implemented and executed there are several significant drawbacks. These drawbacks arguably make the process less fair, transparent, and useful than it could and should be.

I have long supported and argued in favor of fairness and transparency in the bank regulatory framework.¹⁰ The rules and supervisory practices that comprise this framework should be consistent among firms, and consistent over time. Banks should have a clear understanding of these rules to allow them to make informed business decisions that consider the impact of the regulatory framework. But we also know that the diversity and variability of bank business models can present a challenge to the clarity of the framework. Clarity is needed both to promote equitable treatment among banks with different business models, and to create rules that are fair over time. This allows firms to anticipate regulatory expectations as their business activities and balance sheets evolve in response to, among other things, changing economic conditions. Each bank is unique, and one need look no further than the balance sheets, business activities, and risk profiles of large banks to observe this variability. But the onus is on regulators to ensure that over time, regulations and supervisory practices are applied fairly and consistently, and that evolution in the framework is accompanied by appropriate transparency for regulated entities.

The challenge of creating rules that are fair and transparent is nowhere more notable than in stress testing. Stress testing serves an important role in our regulatory framework, but one that requires evolution to ensure relevancy and effectiveness. To date, the evolution of stress testing has focused on refining the tests to be more robust over time and to provide more granular risk

¹⁰ See, e.g., Michelle W. Bowman, “My Perspective on Bank Regulation and Supervision,” (remarks to the American Bankers Association Community Banking Conference, February 16, 2021), <https://www.federalreserve.gov/newsevents/speech/files/bowman20210216a.pdf>; Michelle W. Bowman, “Large Bank Supervision and Regulation,” (remarks at the Institute of International Finance, Washington, D.C., September 30, 2022), <https://www.federalreserve.gov/newsevents/speech/files/bowman20220930a.pdf>; and Michelle W. Bowman, “Independence, Predictability, and Tailoring in Banking Regulation and Supervision,” (remarks to the American Bankers Association Community Banking Conference, Orlando, FL, February 13, 2023), <https://www.federalreserve.gov/newsevents/speech/files/bowman20230213a.pdf>.

information about these banks. While these incremental improvements have been helpful, the task of addressing identified problems is equally important.

To be clear, these problems extend beyond model accuracy and consistency across firms. While by no means a comprehensive list, I would like to address four of my concerns in particular: (1) volatility in firm results from year to year, (2) the challenge of linking stress testing outcomes with capital through the stress capital buffer, (3) the broad lack of transparency, and (4) the overlap with other capital requirements like the overlap between the global market shock in stress testing and the market risk rule under the Basel III endgame proposal.

Volatility

One area of particular concern is the year-over-year volatility in stress testing results. Many of the stress test design features are intended to promote consistency across firms—the exercise uses a common scenario design, and subjects similarly situated firms to stress testing at the same frequency. This format allows for comparisons across firms and can provide important supervisory insights as regulators can look across firms to find common risk factors that could affect multiple firms—and lead to more significant and widespread economic impacts—in a stress event. But we have seen that stress test results for several firms vary considerably from year to year based on the interaction of the specific scenario being tested with a firm’s business model, changes to the model, and each firm’s balance sheet. This variability then flows through to the stress capital buffers that apply to the largest firms.¹¹

¹¹ From 2000–2024, six firms were subject to the stress capital buffer “floor” of 2.5 percent, while other firms above the floor have seen significantly greater volatility. While the operation of the stress capital buffer floor has reduced volatility for these six firms and several others that have been subject to the floor at some point in time, this set of firms also has been subject to a higher stress capital buffer charge than would have been indicated by the results of the stress test. More than half of all firms subject to the stress test from 2000–2005 have experienced a change in their applicable stress capital buffer of at least 1 percent over time. See Board of Governors of the Federal Reserve System, “Annual Large Bank Capital Requirements,” <https://www.federalreserve.gov/supervisionreg/large-bank-capital-requirements.htm>.

Some variability is to be expected as the risk factors and balance sheet composition of the tested firms both change over time. However, the test results observed year over year often produce results that are not predictable in advance—for example, some of the volatility we see is not based on fundamental changes to a tested bank’s business model.

The link between stress testing and capital also creates a practical timing issue for firms. The time frame for compliance with stress capital buffers compounds the issue of excessive year-over-year volatility. While many capital requirements give firms a runway to comply and adjust capital planning projections going forward, stress capital buffers allow a very brief window of time for firms to comply.¹² As a real-time example, this year’s preliminary stress capital buffer requirements were announced in late June, with required compliance by October 1st.

This concern is experienced differently across firms—for example, some firms can likely predict that they will be subject to the stress capital buffer “floor,” which perhaps can help with longer-term capital planning. But for those firms whose stress capital buffers exceed the floor, this short turnaround can pose significant planning challenges. Although banks historically have not been required to raise capital to meet higher stress capital buffer results, volatility is not a nonissue. As a matter of practice, banks maintain management buffers—additional capital in excess of capital and regulatory buffer requirements—to ensure that they operate at levels significantly above the “well-capitalized” threshold. Unexpectedly steep increases in stress capital buffers may force firms to recalibrate or reconsider their management buffer, perhaps operating at a higher level than would otherwise be necessary to account for known volatility in stress capital buffers over time.

¹² See 12 CFR § 225.8(h)(4); 12 CFR § 238.170(h)(4).

This variability is not without cost. Firms engage in capital planning over a long-term planning horizon. Significant variability can disrupt these practices and require firms to hold more capital and higher capital management buffers than prudent business practices would indicate.

The link between stress testing and capital—the stress capital buffer

As currently implemented, the stress test exercise presents a single hypothetical shock to a firm's balance sheet, with the goal of better understanding firm performance and risks in the face of this stress. But the test is not intended to be—nor is it in practice—*predictive* of an actual stress event that the firm would experience. During the banking stress of 2023, the key risk factor was rapidly rising interest rates, and yet this type of economic stressor was not included in any past iteration of the test design.

Why do we select one scenario and use that hypothetical to establish binding capital requirements for many firms regardless of their business model? What incentives does this system create as regulators design scenarios?

Unquestionably, stress testing can provide valuable insights to inform supervision. Testing multiple stress scenarios could provide additional information that could be used to probe the unique risks and resilience of particular firms. And it could provide regulators and the public with a clearer understanding of financial stability risks across firms under different plausible future states of the world.

But a more robust use of stress testing would require rationalizing the link between stress testing and capital to ensure that any change in overall calibration was driven by an intentional process that results in a reasonable policy outcome. As a practical matter, testing additional scenarios raises the question of what consequences should flow from a multi-scenario testing

regime. Would such an approach *require* across-the-board capital increases, as regulators calibrate stress capital buffers based on the most severe outcome of any tested scenario for each firm? Or should regulators pick a common scenario to calibrate stress capital buffers for all firms, even in a multi-scenario stress testing regime? Or should regulators take a different approach and sever the link between stress testing and capital requirements?

The link between stress testing and capital raises important policy questions about the optimal level of capital, but ultimately should not dissuade us from using stress testing to better understand firm-specific and broader financial stability risks. At the same time, we need to pay careful attention to the design of all capital requirements—including not just the stress capital buffer, but also other risk-based capital requirements, leverage requirements, and long-term debt requirements—to ensure that the overall calibration of these requirements is proportionate to risk. In my view, an up-calibration of capital requirements through an expanded scenario-testing regime would not be supportable based on the underlying risks.

Transparency

One persistent issue with the stress tests is the lack of public transparency around the models. This opacity frustrates bank capital management and allocation. When a bank engages in an activity or prices a product or service, as a sound business practice, they must anticipate the financial consequences and the accompanying risks. Before making any decisions, a bank will often try to project the anticipated costs and revenues. In addition, the bank will want to evaluate the projected growth of the business or activity over time, determine whether the activity complements other existing products and services, and decide whether there will be sufficient customer demand to justify the cost based on the contemplated pricing levels and margins. One

important consideration in this exercise is the cost of capital. Banks often quantify the cost of capital and “allocate” those costs across various business lines.

The capital requirements and supervisory risk assessment of activities are important inputs for bank decision-making. Banks benefit when they understand the regulatory perception of their activities. That feedback is often a critical part of the supervisory process. A regulatory perspective is embedded in stress testing, through the common parameters, assumptions, and conditions that will be used in the exercises. But much of this work remains hidden from public scrutiny and from the financial institutions subject to the stress tests. Providing access to this information—making clear the regulatory perspective—by improving the transparency of the process would enable banks to better manage their business and make more informed decisions.

Of course, greater disclosure is not without its detractors. A common criticism of increased transparency is that disclosing the more granular parameters of particular calculations would lead to “gaming” of the test by large banks seeking to optimize their capital. The underlying premise of this concern seems to be that the stress tests are and must be static over time, and that if firms make changes to their activities that have no economic consequences—but instead are used only for “gaming” purposes to reduce stress losses—that regulators are limited in making further changes. I think this misinterprets the dynamism and review that should complement the stress testing process. Greater disclosure and transparency should be accompanied by a careful review of how firms incorporate and use any additional information, and to the extent that gaming activity is identified, further changes to the test design may be appropriate.

Another criticism is that by disclosing test results, all firms—including in their internal stress testing practices—will “converge” on a common standard and that this standard will in

some way increase risk. For example, if firms' stress testing practices are uniform, but include some flawed assumption or parameter, this could create a systemic weakness. Put differently, the model "monoculture" caused by greater transparency could miss important systemic risks. We should ask whether more granular disclosures would override the informed risk assessments of banks in managing their business—would all firms simply adopt whatever the regulators are doing in the supervisory stress test, undermining the utility of other practices like internal stress tests? However, we should not think about stress testing in isolation—supervision informed by stress testing, and ongoing improvements to supervisory stress testing can operate as a backstop to address risks that may accompany more transparency.

I am concerned about changes that could undermine the utility of both regulatory and internal stress testing at large firms. Regulators should not seek to take risk-management decisions away from banks. But greater transparency, debate, and discussion of test parameters need not lead to a dilution of standards. These discussions could actually promote a cycle of continuous improvement and feedback. We have seen over time that the regulatory stress tests are not static. As regulators learn more, they adjust and adapt different elements of the exercise in light of lessons learned from the process.

The issues of transparency around the stress tests extend beyond just disclosure. The reconsideration process itself could be improved by developing a more transparent process and clearer standards against which reconsideration requests will be evaluated. While this year saw a positive development with the Board for the first time changing a firm's stress capital buffer requirement in response to a request for reconsideration, the high failure rate of such requests over time shows the need for rethinking and revisiting the process.

Overlap with other capital requirements

Finally, as I have noted in the past, we must ensure that each element of the capital framework operates in a complementary and not contradictory way, and that requirements are calibrated proportionate to risks. Failing to appropriately calibrate capital and risk requirements creates risks—incentivizing banks to curtail activities that are assigned a punitive capital treatment and devoting more resources to activities that are assigned an inappropriately low capital risk weighting. Over time, these dynamics can have real-world market and economic consequences, resulting in negative outcomes for customers and economic activity.

When we view capital requirements in their totality, one potential overlap can be found in the proposed changes to the market risk capital rules and operational risk rules with the “global market shock” and operational risk elements of the supervisory stress testing framework. We need to ensure that the risks captured and methodologies underpinning these distinct requirements do not lead to an over-calibration of capital requirements for activities that support the important role of U.S. capital markets in the global economy.

The Path Forward

As we look ahead to the future of stress testing, I think we need to carefully consider how the current framework can be improved. These issues—volatility, the link between stress testing results and capital and the short capital implementation compliance time frame, the lack of transparency, and the overlap between the global market shock in stress testing with the market risk test of Basel III—can all be addressed and should be prioritized in the ongoing evolution of the stress testing framework and stress capital buffer requirements. It is important that regulators consider the lessons learned from past tests and feedback from banks and other members of the public to ensure that stress testing is fair, transparent, and more useful going forward.

First, we need to address the excessive year-over-year volatility, which flows through to the calculation of stress capital buffers. As I noted, capital planning for many firms is a long-term enterprise, and excessive volatility and unpredictability of stress capital buffer levels can increase costs and complicate capital allocation and management. Of course, the goal is not to eliminate variability over time—variability based on changing economic conditions and changing firm business activities and balance sheets—but rather to blunt the excessive volatility observed over the history of stress testing.

There are many possible ways to limit excessive volatility while maintaining the value of the Board’s stress tests. For example, one solution could be to average results over multiple years, so a firm’s stress capital buffer would move in smaller increments through the averaging process. Another possibility is to constrain variability in annual stress test scenario design.

Countercyclicality in the design of the regulatory stress tests—where the stress experienced by firms is more severe when economic conditions are better—acts as a counterweight to the inherent procyclicality of risk models. This approach “eases” capital requirements (through lower stress capital buffers) as economic conditions decline. But this countercyclicality is also a driver of volatility, and we should look more closely as to whether our attempts to adjust for countercyclicality are appropriate through the lens of stress test volatility.

Second, I think there is a benefit to promoting greater transparency in stress testing, particularly as it relates to the disclosure of the underlying models. Stress testing need not be an exercise shrouded in secrecy, and the Federal Reserve has shown in the past that improvements are possible. For example, in 2019, the Board adopted new principles that guide the design of

the stress tests, and promoted greater transparency.¹³ In addition to these principles, the Board moved to provide more information about its stress testing models, including ranges of loss rates for actual loans held, portfolios of hypothetical loans with loss rates estimated by the Board's models, and more detailed descriptions of the Board's models (including some granular information about certain equations and variables used in the models).¹⁴ While these were positive steps in promoting transparency, the announcement of design principles and enhanced disclosures did not go far enough in my view, and we have seen that even after several years, firms continue to struggle to understand and anticipate the results of supervisory stress tests and the accompanying stress capital buffer requirements.

The simple solution here seems to be disclosure of more granular information about all of the models used in stress testing. In my view, disclosure of these models—and even subjecting the models to appropriate notice and comment processes and public feedback—would not undermine the goal of the stress tests of having a regulator-created model that is separate and distinct from the internal models used by firms. Regulators would still control the contours and content of the models but would have the benefit of public feedback. If we believe in the validity and reasonableness of our model design choices, we should not shy away from public feedback.

Third, we should adjust the compliance framework for stress capital buffers. Firms should not be forced to comply with higher capital requirements after only a few months' notice but should have a reasonable time frame for compliance. I would note that a longer compliance

¹³ "Stress Testing Policy Statement," 84 Fed. Reg. 6664 (February 28, 2019), <https://www.govinfo.gov/content/pkg/FR-2019-02-28/pdf/2019-03503.pdf>.

¹⁴ Board of Governors of the Federal Reserve System, "Federal Reserve Board Finalizes Set of Changes That Will Increase the Transparency of Its Stress Testing Program for Nation's Largest and Most Complex Banks," news release, February 5, 2019, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20190205a.htm>.

runway is particularly important in a world in which testing is opaque and volatility continues to be excessive. To the extent that these more fundamental issues are addressed, this may mitigate the need for a shorter compliance window.

Finally, as we move forward with Basel III implementation, we need to take a careful look at whether market risk and operational risk requirements are overlapping and redundant with the “global market shock” and operational risk elements of stress testing and think about the calibration of these requirements in the aggregate. Would these tests in tandem produce excessively calibrated capital requirements, and if so, what would the impact be on U.S. capital markets? In my view, there are strong indications that as currently formulated, the combination of these requirements would result in an excessive calibration of risk-weighted assets for market making and trading activities. And of course, we must think broadly about the optimal level of capital in the banking system, taking into account the full range of risk-based and leverage capital requirements and long-term debt requirements.

There are many possible ways to move forward with stress testing, and the proposals I have offered above are merely a subset of possible changes that could improve the process and address many of the known deficiencies. But I believe there is a growing awareness of the need for a fundamental rethink and strategic reform of stress testing, and any such process must acknowledge and address these known issues within the framework.¹⁵

Closing Thoughts

Thank you again for the invitation to join you today. The stress test is an important supervisory tool, and I think it is imperative that we work to continually improve it. I have laid

¹⁵ See Daniel K. Tarullo, “Reconsidering the Regulatory Uses of Stress Testing,” Hutchins Center Working Paper #92 (May 2024), https://www.brookings.edu/wp-content/uploads/2024/05/WP92_Tarullo-stress-testing.pdf.

out a number of my concerns about the current practice, and some potential areas to explore in terms of improvement. But I also think it is imperative to listen to a wide range of stakeholders about the path forward.