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Preserving the Dynamism and Credibility of Stress Testing

Remarks by

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Thank you for the opportunity to speak to you.¹

Today, I would like to discuss a vital tool for supervising the safety and soundness of the largest banks and preserving the stability of our financial system. I was there, at the Treasury Department in 2009, when stress testing was first used in the United States in the heat of battle, an ad hoc measure to reverse a loss of confidence in U.S. banks that was a major force then driving the Great Recession. By examining how the balance sheets of banks would be affected by a worsening of financial and economic conditions, this process was intended to reveal weaknesses that could threaten the solvency of banks and prevent them from playing their central role in the economy.²

Stress testing ultimately succeeded in helping to restore confidence during the crisis, and in the aftermath this battle-tested tool became a formal and integral part of the effort to repair the ensuing damage and strengthen the banking system. Stress testing has continued to evolve in the years since then to maintain that strength and help limit the chances of another devastating financial crisis. Stress testing changed as its purpose changed from wartime to peacetime—from mitigating the crisis to preserving safety, soundness, and stability. It has changed as banks and regulators learned more about how stress testing works in practice and as part of an otherwise evolving supervisory and regulatory framework for banks that must necessarily adjust as finance itself evolves.

Adjusting regulation in this dynamic environment is challenging, and one of those challenges is dealing with unintended consequences. The Federal Reserve made changes

¹ The views expressed here are my own and are not necessarily those of my colleagues on the Federal Reserve Board or the Federal Open Market Committee.

² The stress tests during the Global Financial Crisis also included measures to address bank balance sheet weaknesses in a timely manner under stressed conditions, further supporting confidence, as discussed below.

to stress testing in 2020 intended to make it more predictable and to better integrate it with overall capital regulation, but those changes are now at the center of litigation brought by large banks. The Fed responded in April by proposing more changes intended to address these criticisms. But as I explained in voting against those measures, I believe these steps will substantially impair stress testing, concealing rather than revealing crucial weaknesses in the risk management of individual banks and in the stability of the financial system.³ As the Federal Reserve Board considers these changes, I believe we should focus on how best to address the original purpose—and preserve the effectiveness—of stress testing. As I will explain, I believe that the best way to further these goals is to separate stress testing from capital requirements in order to maximize the informative value of the tests and their results and untangle them from the larger and complex task of setting capital requirements. I will lay out that alternative approach toward the end of these remarks, but first I believe it is helpful to take a step back and recall how stress testing has evolved to this point, then turn to where it should go from here.

It all began during the Global Financial Crisis. Capital markets froze, resulting in business failures and prompting the need for unprecedented public-sector intervention. Credit to households and businesses slowed to a trickle, and millions of people were losing homes and jobs. By the fall of 2008, there was a broad-based lack of confidence in the banking system, as large banks faced questions about their exposures to losses

³ Board of Governors of the Federal Reserve System, “Statement on Stress Test Proposal by Governor Michael S. Barr,” press release, April 17, 2025, <https://www.federalreserve.gov/newsevents/pressreleases/barr-statement-20250417.htm>.

related to real estate and other assets. These were questions that large banks in many cases couldn't credibly answer because of the complexity and opacity of their direct and indirect exposures to mortgages at the center of the crisis. Without this information, investors assumed the worst, driving down equity prices of banks, which complicated efforts by banks to bolster their balance sheets.

Restoring confidence in the banking system required credible information from a reliable source. Treasury worked with the Federal Reserve to design the Supervisory Capital Assessment Program (SCAP) to test the capital adequacy of what were determined to be the 19 most systemically important banking and financial institutions. In addition, Congress had provided a backstop in the form of the Troubled Asset Relief Program (TARP), the Federal Deposit Insurance Corporation (FDIC) had backstopped bank funding through guarantees, and the Federal Reserve had stepped up in significant ways to bolster the financial system and the economy. The existence of a government backstop played a big role in the success of the first stress test. With the use of public funding on the line, the rigor and transparency of the stress test was doubly important.⁴

Rebuilding Confidence in the Largest Banks

There were five aspects of the SCAP that are elemental to stress testing and have been present in the different tests since then.

First, there was the use of a severe but plausible scenario for macroeconomic conditions. The scenario assumed a deeper and more prolonged recession than forecasters expected. Because of the focus on housing-related losses, the scenario's

⁴ At the point of the stress tests results, taxpayers had already acquired an actual stake in all but one of the 19 SCAP institutions, which had accepted a total of just under \$190 billion in funding from the emergency Troubled Asset Relief Program (TARP). Banks could go to TARP to get more capital if needed after the stress test, but most were able to tap market sources and repay TARP.

assumption of a further severe decline in housing prices was essential to rebuilding confidence.

Second, there was the use of economic models to translate a given scenario into quantified losses for each bank. The banking regulators worked together to develop models to map the stress scenario into a range of associated loss rates for different loan categories and iterated with the banks to assess their specific exposures.

Third, based on the extent of those projected losses, the test arrived at a firm-specific amount of capital that each bank would need in order to withstand this stress and keep lending to customers.

A fourth aspect of the SCAP and subsequent stress tests was the public disclosure of the scenario, the basic testing methodology, and, most importantly, firm-specific results.

And lastly, in addition to the balance sheet data and other numbers related to the stress test, the Federal Reserve produced a qualitative supervisory assessment of the banks' capital planning decisions and processes.

One essential element of that first test is that the supervisors reviewed and assessed the data and modeling assumptions used by the banks, which helped to provide credibility for the loss estimates. The result of the SCAP was that 10 of the 19 tested institutions were required to raise capital sufficient to keep them above regulatory minimums if the scenario were to materialize—a total of \$75 billion. The 10 were given six months to develop capital plans to meet their stress test minimums.

The SCAP was remarkably successful. There was skepticism that the test would be sufficiently severe or transparent to be credible, and bank stock prices were volatile

due to speculation about what the stress test results would reveal. But bank stocks recovered after the results were announced in May. Most banks that had been struggling to raise capital were able to do so, with 9 of the 10 able to find private sector sources of funding by the six-month deadline.⁵ Credit default swaps for large banks returned to levels seen before the acute stage of the crisis.⁶ Bank lending was slower to recover, but stabilizing the banks helped stop the crisis and the U.S. economy started the long process of recovery that July.

Supporting the Resilience of the Largest Banks

I have compared the SCAP to a battlefield campaign, and while the financial crisis certainly felt like combat at the time, my point is to emphasize the unique challenge of making financial regulatory policy in an emergency. The goal was to restore public trust in banks that were under fire, and as the job shifted to preserving that trust, it was apparent that there should be an ongoing role for stress testing in peacetime as well. Starting with the yearly stress test established in 2010 with the Dodd-Frank Act and continuing with the integration of stress testing into the Federal Reserve's annual Comprehensive Capital Analysis and Review (CCAR), the peacetime approach focused on institutionalizing bank resilience and risk-management practices. The Federal Reserve Board conducted the first CCAR exercise in 2011. CCAR was an overall assessment of the capital planning processes of banks, which included quantitative and qualitative components. Either of those components could form the basis for an objection

⁵ *Troubled Asset Relief Program: Bank Stress Test Offers Lessons as Regulators Take Further Actions to Strengthen Supervisory Oversight* (GAO, September 2010), <https://www.gao.gov/assets/gao-10-861.pdf>.

⁶ Seung Jung Lee and Jonathan D. Rose, "Profits and Balance Sheet Developments at U.S. Commercial Banks in 2009," *Federal Reserve Bulletin*, September 2, 2010, <https://www.federalreserve.gov/pubs/bulletin/2010/articles/profit/default.htm>.

by the Fed to firm plans to distribute capital to shareholders, distribution which would reduce the capital available that the firm could use to buffer its losses.

The quantitative evaluation of a firm's capital adequacy was driven by the results of the Dodd-Frank Act Stress Test, or DFAST.⁷ It departed from the SCAP in at least two important ways. First, rather than making the severe scenario just a more negative version of the current consensus forecast, the Fed built a process to develop thematic forward-looking scenarios using macroeconomic models calibrated to historical data.⁸ Some parts of the scenario design framework are purposely countercyclical under normal conditions—for instance, the minimum peak unemployment rate is set at 10 percent. The countercyclicality of stress test scenarios is an attempt to lean against pro-cyclical effects that can make borrowers appear overly resilient in good times, something which could cause the model to significantly understate the magnitude of borrower defaults when the economy turns.⁹

The second way that the Dodd-Frank stress test departed from CCAR is that most losses under DFAST are projected by applying models developed and operated by the Federal Reserve based on data provided by the banks. Using Fed-developed and validated models provides for independent risk assessments. The granular data provided

⁷ The number of financial institutions that participated in the annual DFAST exercise has varied from 18 to 33 between 2013 and 2025.

⁸ See 12 CFR pt. 252, appendix A (The Federal Reserve's Policy Statement on the Scenario Design Framework for Stress Testing). Although stressed losses in DFAST are projected for a two-year time horizon, the macroeconomic scenario itself is on a three-year time horizon. This reflects the fact that the CCAR capital planning exercise performed by the banks goes out three years. Moreover, a three-year scenario provides the public with greater transparency regarding the entirety of the conditions assumed as part of the macroeconomic cycle contemplated in the test. The number of scenario variables has increased notably from SCAP and the early days of CCAR.

⁹ Ben Bernanke, Mark Gertler, and Simon Gilchrist, "The Financial Accelerator in a Quantitative Business Cycle Framework," in *Handbook of Macroeconomics*, Vol. 1, 1999, (ScienceDirect, 1999), <https://www.sciencedirect.com/science/article/pii/S157400489910034X>.

by banks has been valuable in ensuring that the stress tests are truly risk sensitive and in understanding broader trends and interconnections in the financial system.

In addition to this quantitative test, CCAR assesses the ability of banks to determine their capital needs in the future. Supplementing the DFAST model administered by the Fed, each bank projects its income over the stress scenario using its internal models, providing supervisors with a view of governance and risk management of the bank's capital planning process. If a bank did not pass either the quantitative or qualitative evaluation, the Board of Governors was able to object to the capital plan and restrict the firm's shareholder distributions.

Over time, several criticisms of CCAR's approach emerged. The first was that CCAR was wholly separate from the process used to set a bank's basic, risk-based capital requirements. Large banks also criticized CCAR for a lack of transparency and predictability that resulted in them pre-committing to lower capital distributions and higher levels of capital.

In 2020, the Federal Reserve Board addressed these bank criticisms by creating the stress capital buffer (SCB). To address the criticism that CCAR was additive and wasn't integrated into capital planning, the SCB combined the basic capital requirement for banks with one equal to a bank's projected capital ratio decline during the stress test plus a year's worth of planned dividends, linking components of the capital framework. To address the claim that CCAR lacked transparency and predictability, the SCB

requirement was set for each participating bank at a level that reflected its losses in the stress test and provided banks with flexibility to change their dividends in real time.¹⁰

Another bank criticism was that CCAR's use of a qualitative assessment was subjective. The SCB dropped the qualitative objection and recast the assessment of capital planning practices as a traditional supervisory exam.

By more directly integrating stress testing into capital regulation, the SCB increasingly moved stress testing away from supervision and toward the regulatory arena, a consequential decision. While this change was intended to promote consistency and predictability, in retrospect, it may have reduced some of the value of the exercise, in that it reduced the range of facts and circumstances the Board would take into account when evaluating an individual firm's capital adequacy. As a result, the Board's flexibility to adjust capital adequacy determinations based on the unique features of different firms, including different business models and risk profiles, was constrained.

When I became Vice Chair for Supervision in 2022, we continued the process of evolving the stress test as necessary. In particular, the Fed conducted multiple scenarios not directly connected to setting banks' capital requirements.¹¹ Using additional scenarios has helped us to understand how a broader range of risks might affect the banking system. For example, we've explored a stagflation scenario and looked at the failures of large non-bank counterparties. Using multiple scenarios has helped to keep our risk-assessments dynamic.

¹⁰ As part of its efforts to address concerns about transparency, in early 2019 the Fed finalized a proposal to augment its disclosures regarding its stress testing models. 84 Fed. Reg. 6784 (2019).

¹¹ See Michael S. Barr, "Multiple Scenarios in Stress Testing," speech at the Stress Test Research Conference at the Federal Reserve Bank of Boston, Boston, MA, October 19, 2023. <https://www.federalreserve.gov/newsevents/speech/barr20231019a.htm>.

Benefits and Effects of the Current Stress Testing Framework

Before turning to the legal challenges of the current stress test framework, I would be remiss not to emphasize the value of that framework. The stress test has been a critical element that led to strengthening both the quantity of capital in the banking system and the risk-management capabilities of large banks.

Since the Global Financial Crisis, large banks have more than doubled their risk-based common equity capital ratios—from roughly 5 percent to 12 percent or more. At the same time, they have made meaningful improvements in their ability to measure, monitor, and manage their own risks. The stress test has directly contributed to both.

Despite this success, some have argued for what they term “full transparency” of the test. But the criticism can be misleading because two important points are often omitted. First, the Federal Reserve already provides substantial information about the design of the test and has expanded those disclosures over time. Banks are far from uninformed. They receive substantial information about the models in annual model methodology disclosures.¹² Any material model changes are phased in over two years, with full explanation. Second, what critics call “transparency” is not disclosure of basic information about the rigor and methodology of the test essential for its credibility; instead, it is the equivalent of handing out the questions to the test in advance. That would fundamentally undermine the rigor of the test, which is intended to assess resilience under conditions not fully known in advance, just as in a financial crisis.

¹² See, e.g., Board of Governors of the Federal Reserve System, *2025 Supervisory Stress Test Methodology* (Board of Governors, June 2025), <https://www.federalreserve.gov/publications/files/2025-june-supervisory-stress-test-methodology.pdf>; Board of Governors of the Federal Reserve System, *2024 Supervisory Stress Test Methodology* (Board of Governors, March 2024), <https://www.federalreserve.gov/publications/files/2024-march-supervisory-stress-test-methodology.pdf>.

In short, the framework strikes a deliberate balance: providing banks with enough information about scenarios and models to ensure fairness and accountability, while preserving the rigor that makes the stress test an effective safeguard.

Challenges to the Current Stress Testing Framework

In December 2024, bank trade associations brought suit against the Board of Governors, challenging the role of stress testing in setting SCB requirements for large firms. The trade associations have challenged what they contend is the opacity of certain elements of the stress testing process and have argued that the models and scenarios should be released in proposed form to promote transparency and facilitate public comment. In anticipation of, and in response to, this litigation, the Board announced that it would disclose and seek public comment on all of the models that determine the hypothetical losses and revenue of banks under stress, as well as the annual stress scenarios. The Board also proposed to change its rules to average stress testing results over two years to reduce the year-over-year volatility in the capital requirements that result from annual stress testing.

These proposed changes represent a policy choice to respond to the litigation by enhancing transparency and promoting public participation, and they are not intended to materially affect overall capital requirements. But in my judgment, they are a mistake that will make stress testing less rigorous and nimble.

Subjecting the stress testing models to the notice and comment process could lead them to ossify, and their dynamism and effectiveness may fade. Stress testing models are inherently complex and require adjustments to maintain accuracy and relevance to appropriately account for quickly developing risks. Changes in the models would require

new notice and solicitation of comment, and the time lag and burden in making changes would be significantly extended. We saw this type of ossification play out before the Global Financial Crisis, when supervisory stress testing of Fannie Mae and Freddie Mac became formulaic and failed to capture escalating risks, with dire consequences.¹³

An additional problem is that the comment process may have an uneven effect, since banks have an incentive to object to aspects of the models that result in higher capital requirements and not to highlight the areas in which the models underestimate downside risk. Responding to these comments could create a one-way ratchet that successively weakens capital requirements.

Knowing the details of the stress test in advance will also increase the likelihood that banks are able to game the results to lower their capital requirements. We have seen examples of how firms have been able to game stress tests. For instance, some firms started to use so-called “macro hedges” in the late 2010s. Many of these macro hedges were hedges against a deep recession, similar to a stress test scenario, and these short-term hedges were cheap because investors assessed these scenarios as extremely unlikely (they were far “out of the money” in option terms). The hedges reduced projected capital losses in the stress tests by billions of dollars for some banks. But they weren’t credible protection from the effects of a recession because maintaining these hedges would become prohibitively expensive as the economy moved into an actual downturn. This is just one example of attempts to game the stress tests, that were eventually addressed

¹³ Scott Frame, Krisopher Gerardi, and Paul Willen, “The Failure of Supervisory Stress Testing: Fannie Mae, Freddie Mac, and OFHEO,” Federal Reserve Bank of Boston Working Paper No. 15-4 (Federal Reserve Bank of Boston, October 2015), <https://www.bostonfed.org/publications/research-department-working-paper/2015/the-failure-of-supervisory-stress-testing-fannie-mae-freddie-mac-and-ofheo.aspx>.

through the supervisory process. But this example underscores how full disclosure of the Fed’s stress models and scenarios would enable banks to optimize stress test results by, among other things, adjusting their balance sheets based on their knowledge of where the models underprice risk, in order to reduce their capital requirements without materially reducing risks.

Banks are likely to change their behavior in other ways that increase risk. Banks may invest less in their own risk management if the test becomes too predictable. Full disclosure of the Board’s models may encourage concentration across the banking system in assets that receive comparably lighter treatment in the test, which could create risks to financial stability. And banks are likely to reduce their management buffers, making it more likely that they would breach their required buffers and minimums in the event of stress. The upshot is that a full-transparency stress testing regime can increase systemic risks because risk is underestimated and capital is too low. The stress tests could lose their credibility. A loss in credibility is bad for the banks, the banking system, financial stability and, ultimately, American families and businesses.

An Alternative Path Forward

As an alternative to these proposed changes, I would favor prioritizing the rigor of the stress testing framework by separating stress testing from binding regulatory capital requirements, which would instead be increased commensurately.¹⁴ The Dodd-Frank Act requires that the Board conduct stress tests on large banks “to evaluate whether such companies have the capital, on a total consolidated basis, necessary to absorb losses as a

¹⁴ See Daniel Tarullo, “Reconsidering the Regulatory Uses of Stress Testing,” Hutchins Center Working Paper #92 (Brookings, May 2024), https://www.brookings.edu/wp-content/uploads/2024/05/WP92_Tarullo-stress-testing.pdf.

result of adverse economic conditions.”¹⁵ While these results can and should still play a role in informing supervisory and management assessments of the appropriate capital level for particular banking organizations, decoupling the stress test results from the preliminary SCB would enable the Board to preserve essential aspects of stress testing, including the generation of credible and detailed information on the risk exposures of banks and how their capital levels would be affected by a stress event. Such information would be valuable in the supervision of banks in normal times and especially important if banks and the financial system are again threatened by crisis.

If the stress tests are no longer used to inform the calculation of a firm’s preliminary SCB requirement, the legal justification for publishing the models and scenarios for comment would be eliminated, and I’ve already discussed the policy grounds for not publishing them. So, the Board could abandon the notice and comment proposal.

The Board could approach these statutorily required tests primarily as a supervisory exercise and could thereby retain flexibility to design and adjust the models and scenarios as appropriate to ensure their rigor and robustness. Moreover, as authorized by the Dodd-Frank Act, the Board could run multiple scenarios to provide greater dimension to the assessment of risks.¹⁶ As history teaches us, shocks and crises can manifest through a range of channels, and testing a large bank’s unique profile under a range of risks is more likely to yield high-value information about a bank’s likely resilience to potential stress events. The net result of these changes would be to increase

¹⁵ 12 U.S.C. § 5365(i)(1).

¹⁶ 12 U.S.C. § 5365(i)(1)(B) (“The Board of Governors—(i) shall provide for *at least* 2 different sets of condition under which the evaluation required by this subsection shall be conducted, *including* baseline and severely adverse.”) (emphasis added).

the nimbleness, dynamism, and effectiveness of our current stress testing framework. The Board's continued publication of firm-specific results would promote transparency and market discipline.

So that this change does not reduce overall capital in the system, SCBs could instead be set entirely by regulation. For most non-G-SIBs subject to the SCB requirement, the current 2.5 percent buffer floor likely remains an appropriate level. For G-SIBs with a lot of trading, past stress tests have routinely indicated that SCBs should likely be set higher than the 2.5 percent floor, and any regulatory capital measure designed to replace the current SCB framework would need to account for this gap. While further analytical work is required, the shortfall generated by decoupling the stress tests from the SCB may be largely addressed by a regulatory capital requirement linked to the risks in the trading book, with perhaps some other adjustments as required to maintain appropriate capital levels. If, over time, stress testing results indicate that this replacement regulatory capital measure routinely exceeds or falls short of the capital levels required to provide adequate resilience to stress conditions, the Board could revise the regulatory measure through a notice-and-comment process, informed by data gathered in the stress testing process.

This proposed approach of decoupling the stress tests from regulatory capital and increasing regulatory capital to make up the shortfall in the SCB appears to me to be the best way to retain the value of stress testing as a supervisory exercise while maintaining appropriate levels of capital in the system. However, replacing the current framework of individualized SCBs—informed by firm-specific stress test results—with broadly applicable, formulaic regulatory capital requirements would result in a diminution of the

risk sensitivity reflected in SCB requirements. That is, capital levels for firms that are subject to the stress tests would be relatively less tailored than they currently are and less reflective of the unique business models, exposures, and risk profiles of a particular firm.

To address this loss in risk sensitivity, I would propose that, in exceptional circumstances, the Board could use its capital directive authority to impose individualized capital requirements on specific firms to account for a firm's particular circumstances, including its capital structure, riskiness, complexity, financial activities, and other appropriate risk-related factors.¹⁷ This would be similar to the United Kingdom's Pillar II-B requirements and those of other jurisdictions.¹⁸ While these requirements could be informed by the stress test results in part, they would also take into account qualitative factors and supervisory judgment. Because these individualized requirements would consider the specific risks of a firm, they would be adjusted to reflect a specific firm's risk profile. While I don't believe it would be advisable for this type of exercise to become the default manner for setting capital requirements, in exceptional cases, it would preserve some of the tailoring benefits of the current SCB regime in a manner that comports with the changes I have discussed. Furthermore, it would preserve the ability for the Board to address stress results that demonstrate significant deficiencies in capital adequacy under a stressed scenario, when the firms are otherwise in compliance with regulatory capital requirements.

¹⁷ 12 U.S.C. § 3907(a)(2). Other statutes provide the Board with a authority to impose individualized capital requirements through the issuance of orders. See, e.g., 12 U.S.C. §§ 1844(b), 1467a(g)(1).

¹⁸ See Bank of England, "CP16/22 – Implementation of the Basel 3.1 Standards: Interactions with the PRA's Pillar 2 Framework," chapter 10 (BOE, November 30, 2022), <https://www.bankofengland.co.uk/prudential-regulation/publication/2022/november/implementation-of-the-basel-3-1-standards/interactions-with-the-pras-pillar-2-framework>.

With these changes, stress testing could maintain its flexibility and adaptability and therefore could retain its value as an effective tool for identifying idiosyncratic risk in a major bank and ensuring that capital is sufficient to address the risk. Among the benefits would be the space this approach would allow for continued innovation in stress testing. Such innovation is vital as finance evolves and banks continue to seek ways to reduce supervisory and regulatory requirements. This approach could allow for scenario design and modeling advancements unencumbered by the limitations I've spoken of imposed by the notice-and-comment process.

In conclusion, I believe it is critical to maintain the dynamism and rigor of stress testing so that supervisors, banks, and the public understand the underlying vulnerabilities in the banking system and at the largest banks and understand that these firms are holding sufficient capital to address these vulnerabilities. I have deep concerns that the set of changes the Board is now considering risks reliance on a stress test that can no longer effectively assess the resilience of the largest banks and lacks credibility, thus putting our financial system and economy at risk.