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Stress Testing: A Decade of Continuity and Change

Remarks by

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at

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Thank you Eric, and thank you to everyone at the Boston Fed and throughout the system who have contributed to this conference. This gathering comes a few weeks after the announcement of this year's stress test results, so let me begin by recounting the highlights of those results. They show that our financial system remains resilient and that capital planning by banks continues to improve. The largest and most complex banks were tested against a severe hypothetical recession and retained strong capital levels, well above their minimum requirements. They demonstrated the ability to withstand a severe and lasting economic downturn and still be able to lend to households and businesses. Additionally, most firms are now meeting the high expectations we have set to make sure capital planning takes into account their specific risks and vulnerabilities. This is an improvement from last year. Overall, these results are good news that confirm our financial system is significantly stronger than before the crisis.

Now let me turn to the purpose of this conference, which is to sharpen our understanding of the experience gained from stress testing and apply these lessons to think about the future. And let me begin by acknowledging that—notwithstanding our openness to learning from the collective experience of all of us in this room—the future of stress testing will, in a number of important ways, necessarily resemble the past. For example, we're still going to have them. Over the course of the last 18 months, I have heard overwhelmingly—from academics, from think tanks of every stripe, from banks of every size, from regulatory colleagues both domestic and foreign—that stress tests should continue to be a key element of the Federal Reserve's supervision of systemically important banks and a key aspect of the Fed's efforts to promote financial stability. Stress tests should be regular, rigorous, and dynamic. And the banks' performance on these tests will continue to be the most risk sensitive and consequential assessment of the affected banks' capital requirements.

Transparency around the stress testing process and results was a fundamental principle of the first stress test and every one that has followed, and it will remain a primary goal. Stress tests, as ever, will provide the public with essential information to assess the health of banks and the overall financial system. To be credible, stress tests will also continue to provide significant information about how the Fed does its work, so the public can understand the rigor and independence of our assessment process and how we come to our judgment of the firms we test.

Fidelity to these principles, embraced in the depths of the crisis by the first stress test a decade ago, does not mean that stress testing should never change or that it hasn't changed over the years. We have learned from our experiences with the early tests and added useful features and adjustments. These include a counterparty default scenario, as well as a number of policy statements that more explicitly convey the principles we find important in a sensible stress testing program.

Stress testing has evolved, and must continue to evolve, to take on what we as supervisors learn from our work and what we can learn from others. Each year, we have refined both the substance and the process of the stress tests, guided by our own experience and by critiques and suggestions from others. This feedback comes from a variety sources, including conferences such as this one, and I am confident that the presentations today will provide insights that result in improvements in our stress tests.

If stress tests are to continue to be relevant and effective, I strongly believe that they must continue to change: they must respond to changes in the economy, the financial system, and the risk-management capabilities of firms. Evolutionary change has been a consistent principle of stress testing since the beginning, embraced by my predecessors at the Board of Governors and our supervisory staff and reflected in each cycle of tests. Without such adjustments, regulators, banks, and the broader public cannot get a clear and dynamic view of the capital positions of the largest banks.

Stress tests each year have upheld the original principle of transparency around the capital adequacy of our largest banks. Stress tests results should allow investors, counterparties, analysts and markets to make more informed judgments about the condition of banks. Along with other regulatory measures, this transparency increases market discipline and it subjects the Federal Reserve to greater outside scrutiny and analysis. Accountability is important not only for the usual reasons that apply in a democracy but also, in this case, because stress tests can only be effective when the public has confidence in the Fed's evaluation of the capital adequacy of banks. In effect, stress tests are also a test of the Fed's supervision of large banks.

In these remarks, I will first sketch out how changes in regulation, risk management, the economy, and overall financial stability have prompted alterations to stress tests over the past decade. Much of that change has enhanced transparency, which is a founding principle for stress tests. I will then suggest some ways in which the effectiveness of stress testing can be further enhanced with greater transparency.

Ten years ago, in May of 2009, the Fed and the Treasury Department released the first stress test results under the Supervisory Capital Assessment Program (SCAP). At that moment, the U.S. economy was in free fall. The United States had lost an astonishing three million jobs in the previous four months. One significant reason for these losses was that many businesses were severely constrained in their access to funding and found it impossible to predict when that access might improve. The goal of the first test was urgent and simple: to restore confidence in the 19 large banks that then accounted for two-thirds of the assets in the banking system. In fact, simply announcing in March that there would be tests helped stabilize bank finances. That improvement continued after the results in May outlined the quite feasible steps for raising additional capital that the banks would need to take, and did take, to be able to continue lending if adverse conditions continued. Challenging conditions did continue, but the stress tests and other actions taken in the first half of 2009 marked a turning point. The recovery from the Great Recession began in July, as the financial system came back to life, and then steadily strengthened.

The principles that made that first test so effective were independence and transparency. For the first time, an independent authority, the Federal Reserve, would seek to independently assess risks.[1] Just as important, the details of that assessment would be shared with the public, an extent of transparency that until then wasn't characteristic of bank supervision but would become the hallmark of the regulatory framework erected in response to the crisis. The first tests relied heavily on banks' internal risk models, but they still represented a huge step in independence in providing the public with an assessment of the health and resiliency of large banks. Transparency facilitated both market discipline and accountability. The information provided to the public under the SCAP stress test reinforced the entire enterprise of estimating the capital

[1]On May 7, 2009, the results of the Supervisory Capital Assessment Program were announced by the Federal Reserve Board, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20090507a.htm

shortfall faced by major banks. It held the banks accountable for information on their capital adequacy and required them to fill the capital hole.

The next big step for stress testing came with its integration with the Federal Reserve's Comprehensive Capital Analysis and Review (CCAR), beginning in 2011. One big change from the initial SCAP test was that stress tests were no longer a one-time emergency measure intended to restore confidence in major financial institutions. Instead, they became a recurring, ongoing process intended to maintain confidence in major institutions. Second, stress tests were no longer a discretionary exercise by supervisors—under Dodd-Frank, they became the law of the land. And third, when they were integrated into CCAR, stress tests became part of a *comprehensive*—it's the first C in CCAR—framework for capital planning that more closely connected capital regulation to risk management of banks and overall supervision.

These were changes, but with the effect of reinforcing the founding principles of the SCAP test. Transparency was enhanced when stress tests became mandatory, recurring events and the public could depend on continuing to have access to information about banks' capital adequacy. Also, the independence of those judgments was enhanced when Congress made them a statutory responsibility for the Fed and when they were integrated into our CCAR framework.

Further changes to stress testing have likewise reinforced the original goals. Stress testing scenarios have become richer and more challenging, providing more information about how banks would deal with a range of adverse developments and, for example, exploring the effects of more differentiated risks that are not tied to the business cycle. Large trading banks now face an instantaneous shock to their trading assets, and many participants in the stress tests now must address how they would respond to the failure of their largest counterparty.

Our stress tests demonstrate that banks have now built enough capital to withstand a severe recession. The capital-building phase of the post-crisis era is now complete, but as part of CCAR, stress testing continues to contribute to the significant and ongoing improvement since 2009 in risk management by banks. The original reason for the qualitative objection aspect of stress testing was to provide incentives for banks to address the risk-management shortcomings that the Federal Reserve had observed during the financial crisis. For example, many firms supervised by the Federal Reserve had substantial deficiencies in their ability to measure, monitor, and manage their risks. These shortcomings made it difficult for banks to accurately report their risk exposures to the Board, and consequently, threatened to undermine the credibility of the stress tests, which were, and remain, dependent on data from the banks.

Since the beginning of CCAR in 2011, large banks have significantly improved their risk-management and capital-planning processes. The qualitative assessment conducted as part of the 2018 and 2019 CCAR cycles found that most firms either meet or are very close to meeting the Federal Reserve's supervisory expectations for capital planning. Large banks have improved the methods they use to identify their unique risks, now use sound practices for identifying and addressing model weaknesses, and have strong processes in place to evaluate their capital positions on a forward-looking basis. While we continue to perform a qualitative assessment and ensure that progress is retained, the improvements led the Federal Reserve to conclude that for most banks this assessment can be incorporated into our regular supervisory practices. The evolution of our qualitative assessment reflects the experience of the past 10 years of stress testing, and in particular, the great improvement in risk management by large banks and the cumulative effect of the Fed's improved supervision of large institutions. As I said earlier, for stress testing to remain effective, it must respond to changes in the economy, the financial system, and risk-management capabilities.

The changes to CCAR have occurred in the context of a similarly dramatic improvement in the strength and resilience of the financial system. The firms have more than doubled their capital since the first round of stress tests in 2009. Since that time, the common equity of the largest 18 firms has increased by more than $650 billion.

Let me now turn to the most recent changes to CCAR and stress testing and put them in the context of the history I have just related. Congress revisited large bank supervision last year in S. 2155, yet the legislation it passed reaffirmed the important role of stress testing. This shouldn't be surprising, because the experience of stress testing over the last 10 years has demonstrated that it is a highly useful element of large bank supervision and the promotion of financial stability.

Something else that shouldn't be surprising is that this experience has revealed that periodic stress testing has turned out to be a less useful supervisory tool to evaluate the risks of smaller and less complex financial institutions. Congress made use of this experience by raising the threshold for stress testing to $100 billion in assets and providing more flexibility for the Fed to tailor stress testing for all firms. This step has, once again, advanced the principles demonstrated in the first stress test and ever since. It has increased transparency because incorporating and disclosing what we have learned about the varying effectiveness of stress testing at different types of institutions is making stress testing more effective. The accountability of the Fed is enhanced when we are seen taking on board what we have learned through successive cycles of stress tests, and this strengthens the independence and credibility of our judgments. For those of us who believe stress testing should remain central to supervision and promoting financial stability, it is vital that an adjustment such as this takes place as appropriate.

With that in mind, let me review recent changes and proposed changes to the Federal Reserve's stress testing. These changes are designed to make CCAR more transparent and simple and to feature less unnecessary volatility.

The first principle is transparency. We have taken a number of recent steps to enhance the transparency around our models and the stress testing process more generally. Earlier this year, the Board published enhanced disclosures on two of the key models that we use in stress testing. In addition, the Board published estimated loss rates for groups of loans with distinct characteristics, to show how supervisory models treat specific assets under stress. We will publish disclosures about two additional models in 2020 and each year thereafter until we have provided transparency about all our stress test models. At the same time, we published a new policy statement on our approach to supervisory stress testing. Among other things, the statement emphasizes the importance of independence and stability to the credibility of our stress tests.

We are currently considering options to provide additional transparency regarding scenarios and scenario design and I expect that the Board will seek comment on the advisability of, and possible approaches to, gathering the public's input on scenarios and salient risks facing the banking system each year. Such a proposal may also provide additional details about the scenario design features that underpins each year's scenarios, and a range of other enhancements.

Some argue that the greater transparency and disclosure promoted by recent changes and proposed changes to stress testing amounts to providing banks with the answers to the tests.[2] This both overstates the extent of disclosure involved and misunderstands what we are trying to accomplish in stress testing—goals that haven't changed since the spring of 2009.

If the goal were only to conduct a test that was difficult to pass—like the qualifying exams for some of the more esoteric and restrictive high-IQ societies—then trying to explain principles, scenario design, and how models work would be inappropriate. If the measure of success for the Fed in administering a stress test was simply how many banks failed, then greater transparency would indeed be a mistake. But that is not the purpose of stress testing, and it never has been.

The vitally important goal is to improve and sustain good risk management and capital planning at the individual institutions we supervise and to promote the stability of the financial system. Like a teacher, we don't want banks to fail, we want them to learn. In this case, we want them to learn good risk management in the context of forward-looking capital planning. This will provide the public with more information about the capital planning of major banks, and about how the Federal Reserve views good capital planning and risk management, bolstering our credibility.

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[2] Mark J. Flannery, Simon H. Kwan, and Mahendrarajah Nimalendran, "Market evidence on the opaqueness of banking firms' assets," *Journal of Financial Economics* 71, no.3 (2004): 419–60, https://www.sciencedirect.com/science/article/pii/S0304405X03001855.

The second principle reflected in recent changes to stress testing is simplicity. One important proposal—what we are calling the stress capital buffer—would simplify the Fed's large bank capital rule by integrating the stress testing process with our traditional regulatory capital rules. Our regulatory capital rule includes both minimum capital requirements and a buffer that sits on top of those minimum requirements. The buffer serves as an early warning to a firm and to supervisors, and it requires the firm to reduce its capital distributions as the firm approaches the minimum requirements. Integrating these two standards is a natural evolution of CCAR away from its origins during the crisis, when such tailoring was impractical and policy makers had not yet considered the approach of a regulatory capital buffer on top of a regulatory capital minimum. The stress capital buffer would result in a more transparent and simplified system of regulatory capital requirements because a firm will be held to a single, integrated capital regime.

The stress capital buffer would not reduce the stringency of the regulatory capital framework for large banks, but it would effect a substantial simplification of that framework. By my math, the number of different capital requirements applicable to large banks would fall from 18 to eight and the number of different total loss absorbing capacity requirements for large banks would fall from 24 to 14. I expect that we will move forward with a revised stress capital buffer proposal in the near future, reflecting many of the comments received on our original proposal.

The third principle addressed by the recent changes is volatility. When I think about volatility in stress testing, I want to distinguish what I consider to be useful variation in the tests, in the form of exploration of salient risks, from what I consider to be less useful variation, in the form of unexpected swings in capital requirements that don't have any particular relationship to changing risks at individual firms. In addition, one source of volatility in the tests comes from the fact that banks are forced to do their capital planning before they get the results of our tests. I will address each of these concerns in turn.

In distinguishing useful from less useful volatility, one option to address the year-over-year volatility of the tests would be to average the results of the tests from the previous year or years. This would not affect the overall stringency of the tests but, mathematically, would mean that no single year could have an outsized influence on the amount of capital that a bank is required to maintain. The potential downsides to this approach include the reduced risk sensitivity that a bank may experience to a particular test and potential technical challenges associated with changes to a bank's balance sheet and earnings. Bearing in mind these potential challenges, I believe more thinking and discussion of this issue would be fruitful.

With respect to the second concern, as I have said before, I believe it more rational and logical for firms to be able to plan for their capital needs with the benefit of the results of our tests. Given the huge strides that the banks have made in their capital planning and in meeting our expectations, I view the risk of banks backsliding in this regard to be minimal because it would be evident in the next test. Our capital-planning expectations will not decline, and we will continue to use the supervisory process to enforce these expectations. It is my hope that greater transparency can play a role in other parts of our supervisory process—for example, by allowing other aspects of bank supervision to benefit from public input. Greater transparency for supervision is in keeping with one of the biggest improvements to the regulatory framework and to stress testing since the financial crisis. I believe the changes and proposed changes to stress testing that I have discussed today reinforce the founding principles of the first test, administered in the challenging and uncertain spring of 2009, and reflect what we have learned each year over the decade since then. That process of learning and refining should and must continue in order to keep stress tests as relevant and effective as they have been in helping to reduce the chances of another severe crisis.