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Risks and Challenges for Bank Regulation and Supervision

by

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Banks play an indispensable role in an economy that works for everyone.[1] They enable households to borrow to buy a home, save for the future, and deal with the ups and downs of managing finances. Banks provide the credit for businesses to smooth out income and expenses, supply capital to seize new opportunities and create jobs, and facilitate the flow of payments that are the lifeblood of our economy. And banks borrow from households and businesses as well, such as through federally insured deposits. Because of these vital roles, we need to make sure that banks are resilient and serve as a source of strength to the economy in both good times and when the financial system comes under stress. In our market economy, like any business, banks compete with each other and pursue profits by balancing risk-taking with safety and soundness. But because of the key role banks play in the economy, and the fact that banks do not fully internalize the costs of their own failure, regulation and supervision must ensure that banks do not take on excessive risks that can cause widespread harm to households and businesses.

Bank failures are as old as banking, and we've seen repeated waves of bank failures over the centuries. America learned that hard lesson nearly 100 years ago, when bank failures played a central role in the Great Depression. In response, the United States—and many other countries around the globe—set up a system of deposit insurance and enabled emergency lending in times of stress. To balance the moral hazard of the federal safety net, Congress established a framework of regulation and supervision to make it more likely that banks internalize the costs to society of their risk-taking.

But finance is always evolving, and the buildup of new risks led to the banking crisis of the 1980s, and then to the Global Financial Crisis, with devastating consequences. Weaknesses

[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.

that were revealed in regulation and supervision led to unprecedented and unpopular bailouts, and shuttered American businesses, devastated local communities with foreclosures, and millions of individuals lost their jobs and their livelihoods. Government responded in the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) and in regulatory reforms by significantly strengthening bank oversight to curb excessive risk-taking. The message from the American people was clear: risk-taking must be balanced with the overarching need to maintain a resilient banking system that can continue to play its crucial role for households and businesses in good times and in bad.

Another, perennial lesson from the history of bank regulation and supervision is that the job is never done, and that the constant evolution of finance means risks will also evolve. As Vice Chair for Supervision, I have recognized the need to approach this mission with humility, aware that I don't have all the answers or perfect foresight of where things can go wrong. Both regulators and banks are limited in our ability to comprehensively identify and measure risks. Our financial system is complex, interconnected, and evolving. We cannot fully appreciate how a specific vulnerability can interact with other vulnerabilities to amplify and propagate risk in the face of shocks, let alone accurately anticipate shocks in time to avoid them.

When I became Vice Chair for Supervision in July 2022, the Global Financial Crisis was almost 15 years past, and much had been done to strengthen the resilience of the system to reflect lessons learned. But in March 2023, we experienced the second largest bank failure in history, Silicon Valley Bank (SVB), and the subsequent failures of Signature Bank and First Republic Bank. SVB's failure triggered stress throughout the system and required the issuance of a systemic risk exemption and the creation of an emergency bank lending program.[2] We have made some progress toward addressing the gaps that led to the failures. But there will be headwinds that we must guard against in the coming years, as well as ongoing vulnerabilities and areas of risk that require continued vigilance.

Earlier this year, I announced I would step down as Vice Chair for Supervision but remain a member of the Board of Governors. It has been an honor and a privilege to serve as vice chair for supervision, and to work with colleagues to help maintain the stability and strength of the U.S. financial system so that it can meet the needs of households and businesses. I've determined that I would be more effective in serving the American people from my role as governor. In this role, I'll continue to participate in monetary policy deliberations and vote on matters before the Board, including those related to supervision and regulation.

While it was a tough decision to make, I believe it was the right decision for the institution and, more importantly, for the public, whom we serve. The risk of a dispute over my position would be a distraction from our important mission. I feel strongly—as Chair Powell has said publicly many times—that the independence of the Federal Reserve is critical to our ability to meet our statutory mandates and serve the American public. Put simply, our mission is too important to let such a dispute distract from doing our job for the American people.

Since my term for Vice Chair for Supervision will end later this month, I'd like to use one of my last opportunities as Vice Chair to discuss seven specific risks ahead: (1) maintaining and

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[2] Board of Governors of the Federal Reserve System, Department of the Treasury, and Federal Deposit Insurance Corporation, "Joint Statement by Treasury, Federal Reserve, and FDIC," press release, March 12, 2023, https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312b.htm; and Board of Governors of the Federal Reserve System, "Federal Reserve Board Announces It Will Make Available Additional Funding to Eligible Depository Institutions to Help Assure Banks Have the Ability to Meet the Needs of All Their Depositors," press release, March 12, 2023, https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312a.htm.

finishing post-financial crisis reforms; (2) maintaining the credibility of the stress test; (3) maintaining credible, consistent supervision; (4) encouraging responsible innovation; (5) addressing cyber and third-party risk; (6) risks in the nonbank sector; and (7) climate risk. Each will continue to be a risk in either the near- or long-term.

Maintaining and Finishing Post-Financial Crisis Reforms

There is always push back on financial regulation. I felt that even in the wake of the Global Financial Crisis, as I helped to draft the legislative response to that crisis, the Dodd-Frank Act.[3] And I felt that over the last few years as we worked to finish the job of post-crisis financial reform and take up evolving threats revealed from the latest bank stress. It is important to get the balance right, but it is also important to stand up for the American people.

I urge regulators to finish the job of implementing the final plank of the Global Financial Crisis reforms—and not to dismantle the hard-fought resilience that banks have built up in the process. Of course, there are always ways to increase efficiency and reform prior methods without costs to resiliency, and I support those efforts. But as I've spoken about many times, capital is critical to absorb losses and enable banks to continue operations through times of stress, and capital requirements should be aligned with the risks that banks take.[4] The Basel III endgame reforms include many improvements to how we measure credit, trading, operational,

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[3] See, e.g., U.S. Department of the Treasury, "Remarks by Assistant Secretary Michael Barr" (speech at the Financial Times Global Finance Forum, New York, NY, December 2, 2010), https://home.treasury.gov/news/press-releases/tg986.

[4] See, e.g., speeches by Michael S. Barr: "Why Bank Capital Matters" (speech at the American Enterprise Institute, Washington, D.C., December 1, 2022), https://www.federalreserve.gov/newsevents/speech/barr20221201a.htm; "Holistic Capital Review" (speech at the Bipartisan Policy Center, Washington, D.C., July 10, 2023), https://www.federalreserve.gov/newsevents/speech/files/barr20230710a.pdf; "The Next Steps on Capital" (speech at the Brookings Institution, Washington, D.C., September 10, 2024), https://www.federalreserve.gov/newsevents/speech/barr20240910a.htm; and "On Building a Resilient Regulatory Framework" (speech at Central Banking in the Post-Pandemic Financial System 28th Annual Financial Markets Conference, Fernandina Beach, FL, May 20, 2024), https://www.federalreserve.gov/newsevents/speech/barr20240520a.htm.

and derivatives risks in light of our experience in the Global Financial Crisis. All major jurisdictions except the United States have finalized rules that would implement these standards for their internationally active banks.

The Federal Reserve played a central role in developing these standards in the many years before my arrival as Vice Chair. The Board sought comment on a proposal in July 2023 to implement the Basel III reforms, and we received a wide range of comments on the proposal.[5] On the basis of those comments, I took steps last fall to outline broad and material changes that would better balance the benefits and costs of capital in light of comments received and would result in a capital framework that appropriately reflects the risks of banks.[6] These reforms had broad consensus on the Board and the support of the heads of the Office of the Comptroller of the Currency and Federal Deposit Insurance Corporation.

When the U.S. provides leadership in international forums like Basel and then follows through, we set a powerful example and establish a standard that other jurisdictions also uphold. Implementing international standards enables U.S. firms to compete on a level playing field across the globe and makes the system safer. When we don't follow through on our commitments, for whatever reason, concerns about a level playing field rise in other jurisdictions, in an international "race to the bottom" on standards. This harms us all and makes U.S. banks less competitive. And unless the U.S. implements these standards, other jurisdictions will force U.S. banks operating abroad to meet their standards instead.

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[5] Board of Governors of the Federal Reserve System, "Agencies Request Comment on Proposed Rules to Strengthen Capital Requirements for Large Banks," press release, July 27, 2023, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230727a.htm.

[6] by Michael S. Barr: "The Next Steps on Capital" (speech at the Brookings Institution, Washington, D.C., (September 10, 2024), https://www.federalreserve.gov/newsevents/speech/barr20240910a.htm.

Let me turn to unfinished business from the March 2023 banking stress. In that event, we learned that bank runs and bank failures can happen fast, much faster than before. Before SVB, the largest bank to fail did so over a period of several weeks. The deposit losses experienced by SVB were much greater in both relative and absolute terms, and they occurred in less than 24 hours.[7]

Over the past two years, the Federal Reserve has worked with banks to improve their ability to borrow from the discount window, and the financial system's collective readiness has improved significantly compared to pre-SVB, including with a substantial increase of $1 trillion in collateral pledged across the system.[8] The Federal Reserve has also worked to improve the functioning of the discount window, through a concerted effort to gather public input and identify areas for modernization. These efforts have improved the ability of banks to weather stress, both individually and collectively, which enhances financial stability.

However, there is still more work to do. For instance, banks, even the largest banks, are not currently required to establish a minimum level of readiness at the window, and, as a result, there are outlier firms that are not prepared for stress. This needs to change. Without a requirement there is also a significant risk of backtracking on the substantial progress in readiness we have made since March 2023.

Another important lesson from SVB is a classic one: balance sheet vulnerabilities among a group of institutions can be a source of contagion for the financial system and thus a key stability risk. While we did much to improve the resilience of global systemically important

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[7] See "Vice Chair for Supervision Michael S. Barr memo" in Board of Governors of the Federal Reserve System, *Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank* (Washington, April 2023), https://www.federalreserve.gov/publications/files/svb-review-20230428.pdf.
[8] See "Discount Window Readiness," https://www.federalreserve.gov/monetarypolicy/discount-window-readiness.htm.

banks (G-SIBs) in the past decade, March 2023 showed that significant systemic risks can develop and spread from stress anywhere in the system, including in large and regional banks that are not G-SIBs.[9]

The resilience of these firms has improved as they have recognized their vulnerabilities, and we have worked through supervisory channels to encourage risk-management practices that put them on a firmer footing. But we also need to put in place more durable solutions to address risks. For one, the level of capital held by large banks needs to align with the underlying risks on their balance sheets. One important step would be to finalize the requirement that all large firms reflect unrealized losses on available for sale securities in their capital, which is a reform with broad agreement. This will help them manage interest rate risk before it gets to extreme levels, a significant problem revealed in the banking stress of two years ago.

Another lesson from the spring of 2023 is that large and regional banks—as well as G-SIBs—should ensure that they can actually monetize the securities on which they rely for their liquidity. Why does this matter? Banks need to be able to turn a portion of their assets into cash with a speed sufficient to meet outflows when uninsured depositors or other short-term creditors demand it. Regulation needs to reflect realistic assumptions about monetization.

We should also consider updating some assumptions about deposit outflows in our liquidity requirements so that they better align with observed stress behavior. During the stress in 2023, we saw uninsured deposits from high-net worth individuals and certain entities, such as venture capital firms, behave more like highly sophisticated financial counterparties than

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[9] For an earlier perspective, see *Hearing on Prudential Oversight before the Senate Committee on Banking, Housing and Urban Affairs*, July 23, 2015 (statement by Michael S. Barr), https://www.banking.senate.gov/imo/media/doc/BarrTestimony72315.pdf.

nonfinancial companies or ordinary retail depositors, which is how they are generally treated in regulations.[10] This mis-measured risk of deposit outflows means banks may not have sufficient liquidity to manage a stress period.

In a related vein, banks have stepped up their use of reciprocal deposit arrangements—arrangements where deposits are spread across many banks within a network—as a way to manage the risk of deposit amounts over $250,000.[11] While this arrangement spreads risk across the banking system, it is a strategy that has not been tested in a large-scale stress event. It is only logical to wonder how the attenuation of relationships between customers and banks under reciprocal arrangements will affect the behavior of depositors worried about a bank run. We also need to be attentive to operational risks in these arrangements, as well as the risk-management capacity of these companies to manage these relationships under stress.

A final lesson from the bank stress two years ago is that we need to do more to ensure that all banks that come under stress can be resolved in an orderly fashion. One way to do this would be to require all large banks—including those that are not G-SIBS—to issue certain amounts of long-term debt. This would have helped reassure depositors worried about the stability of bank funding and aided in the eventual resolution of at least some of the banks that came under stress in 2023. The banking agencies have proposed a rule on long-term debt

[10] 12 CFR 249. 32-33. Board of Governors of the Federal Reserve System, *Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank* (Washington, April 2023), https://www.federalreserve.gov/publications/2023-April-SVB-Evolution-of-Silicon-Valley-Bank.htm; and Federal Deposit Insurance Corporation, *FDIC's Supervision of First Republic Bank* (Washington: September 2023), https://www.fdic.gov/news/press-releases/2023/pr23073a.pdf.
[11] Board of Governors of the Federal Reserve System, Financial Stability Report (Washington: November 2024), https://www.federalreserve.gov/publications/files/financial-stability-report-20241122.pdf.

requirements, we have received many helpful comments that led us to adjust it in draft form, and I support moving forward to finalize it with those adjustments.[12]

As I mentioned, revised Basel III standards, revised long-term debt requirements, and to-be-proposed liquidity standards would help to address gaps in our current framework, and I continue to believe that they should move forward.

Moreover, banks and supervisors should also stay vigilant to known risks in the current environment. For instance, risks remain in the commercial real estate market, particularly within the office segment, as borrowers may find it difficult to refinance maturing loans. And interest rate risk, especially for those with high levels of uninsured deposits, remains a key area of focus.

Maintain the Credibility of the Stress Test

We face a challenging environment with the Federal Reserve's annual stress tests. The stress tests helped the financial sector emerge from the Global Financial Crisis and rebuild its credibility. The annual stress tests are still important to the financial sector's credibility today. The stress tests help banks, market participants, and supervisors understand the banks' vulnerabilities to shocks and to guard against those shocks by holding sufficient capital.

In December, the Board announced that, due to the evolving legal landscape, we would be undertaking significant changes to the stress tests to reduce capital volatility and improve transparency.[13] While I recognize that we need to increase transparency to reflect changes in the

[12] Board of Governors of the Federal Reserve System, "Agencies Request Comment on Proposed Rule to Require Large Banks to Maintain Long-Term Debt to Improve Financial Stability and Resolution," press release, August 29, 2023, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230829a.htm.

[13] Board of Governors of the Federal Reserve System, "Due to Evolving Legal Landscape and Changes in the Framework of Administrative Law, Federal Reserve Board Will Soon Seek Public Comment on Significant Changes to Improve Transparency of Bank Stress Tests and Reduce Volatility of Resulting Capital Requirements," press release, December 23, 2024, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20241223a.htm.

legal environment in which we operate, there are good reasons why I and many of my colleagues and predecessors have been averse to such full disclosures since the inception of the stress test fifteen years ago. There are several risks that we will need to guard against.

First, we need to guard against the risk that the process results in reduced capital requirements. As they did during the Basel III process, banks are likely to argue against various aspects of the Fed's models that result in higher capital requirements, and not to highlight the areas in which the models underestimate risks. We should take those comments on the Fed's models seriously and adjust the models as appropriate, but we should be careful not to overcorrect and lower bank capital requirements in ways that underestimate aggregate risk. The Administrative Procedure Act should be a vehicle for transparency and public input into agency action, not used to weaken regulatory requirements that preserve the safety and stability of our financial system.

Second, we need to guard against the risk that banks lower their capital requirements because of increased transparency. Increased disclosure of details about the Fed's stress models could enable banks to optimize stress test results by adjusting their balance sheet based on their knowledge of where the models underprice risk, in order to reduce their capital requirements without materially reducing risks. Gaming the test in this way would be a bad outcome for risk management and our economy.

Third, banks are likely to change their behavior in other ways that increase risk. We should be aware of the risk that full transparency into the models and scenarios used by regulators could discourage banks from investing in their own risk management if the test becomes too predictable. Full transparency may also encourage concentration across the system in assets that receive comparably lighter treatment in the test. And banks are likely to reduce their management buffers over required levels, which will bring greater risks of breaching the minimums and regulatory buffers when a significant risk event eventually happens.

The fourth risk, and perhaps the greatest one, is that over time, given the difficulty of navigating the notice and comment rulemaking process on an ongoing basis to update the models we use, the dynamism and accuracy of the stress test will fade.[14] And as the events of two years ago show, it is hard to predict where risks will emerge in the financial system; an inherent challenge of preserving the relevancy of stress testing is coming up with a set of adverse scenarios that are novel enough, and dynamic enough, to reflect the risks that banks may face from unanticipated developments. I believe that the Fed should commit to investing in a credible, effective process to maintain the dynamism of the binding stress test by regularly updating its models and scenario variables to reflect changes in the environment and changes to bank behavior. This will require resources and a strong commitment up front and over time, but it will be necessary to maintain a credible stress test.

One effort we've already undertaken should help: to maintain the dynamism of the stress test, we launched exploratory stress scenarios to consider a wider range of possible conditions.[15] The Fed used this approach during the pandemic, and we've now made it a regular part of our annual stress test exercise.[16] The exploratory scenarios are not used to set binding capital requirements and are only reported on an aggregate level, but they help the Fed better understand

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[14] That model sclerosis contributed to the failure of the supervisory stress test used for Fannie Mae and Freddie Mac before the Global Financial Crisis, with devastating results. 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 (October 2015).
[15] Board of Governors of the Federal Reserve System, *Exploratory Analysis of Risks to the Banking System* (Washington: June 2024), https://www.federalreserve.gov/publications/files/exploratory-analysis-results-20240626.pdf.
[16] Board of Governors of the Federal Reserve System, *Assessment of Bank Capital during the Recent Coronavirus Event* (Washington: June 2020), https://www.federalreserve.gov/publications/files/2020-sensitivity-analysis-20200625.pdf.

risks posed to individual banks and to the banking system as a whole that are not captured in binding scenarios. I hope and trust that the Fed will continue this important analytical work.

As an additional backstop to help ensure banks have sufficient capital to withstand losses, the Fed should preserve its discretion to set individually binding capital requirements on firms based on supervisory judgment under the International Lending Supervision Act. Jurisdictions around the world undertake a similar process under a so-called Basel "Pillar 2" approach, and the United States would benefit from using such a framework as well. That is all the more important given the changes the Fed is undertaking for the binding stress tests.

Maintaining Credible, Consistent Supervision

Another area warranting continued vigilance is supervision. There will undoubtedly be calls to revamp supervision to reduce burden. And I am all for making sure supervision is the most effective and efficient it can be. Supervisors need to focus on the most urgent and important risks, and not burden firms with unnecessary or distracting matters. But we need to be careful to preserve and enhance the ability of supervisors to act with speed, force, and agility as appropriate to the risk.

Supervisors have emphasized proactive supervisory engagement, which helps banks address issues before they grow so large as to threaten the bank or broader financial stability. Earlier intervention means that firms are likely to have more options to fix their problems, with little impact on bank profitability.[17]

We should continue work to improve the effectiveness of our supervision and use data-driven analysis to improve our scoping and prioritization of supervisory issues. I support this

[17] Beverly Hirtle and Anna Kovner, "Bank Supervision," *Annual Review of Financial Economics* 14 (2022): 39–56.

work to the extent that it makes our supervision more effective and focused on the right issues. But the Board should resist initiatives that impede effective supervision by discouraging examiners to flag issues early, or initiatives that increase unnecessary process around issuing findings in a manner that impedes the speed and agility of supervision when it is needed. More generally, supervision is another area in which "efficiency and competitiveness" should not be used as an excuse for lax oversight that significantly impairs the safety and soundness of individual institutions and undermines broader financial stability.

We should take caution from our experience with SVB. While some have claimed that the examiners at SVB did not focus on the right issues, it's important to highlight that the Office of Inspector General (OIG) concluded that the Fed allocated an insufficient number of examiner resources to SVB while in the RBO portfolio, and that the examiners assigned to SVB as it was growing did not have sufficient expertise in supervising large, complex institutions.[18] Once it was in the large bank portfolio, examiners highlighted the risk from interest rate risk and uninsured depositors, but did not act with sufficient force to get the bank to change course in a timely way. We've made important changes since then, but we need to be sure we get the staff resources in place, and provide support to examiners on the front line, so that they can act with the speed, force, and agility warranted by the facts.

Encouraging Responsible Innovation

Another set of risks involve those related to the role of innovative technology in the financial sector. Innovation, when done responsibly, brings tremendous benefits to consumers, financial institutions, and the economy at large. For instance, blockchain technology underlying

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[18] Office of Inspector General, *Material Loss Review of Silicon Valley Bank* (Washington: September 25, 2023), https://oig.federalreserve.gov/reports/board-material-loss-review-silicon-valley-bank-sep2023.pdf.

crypto-assets has the potential to make financial services better, cheaper, and faster. Responsible use of this technology could make banking more efficient and accessible to more consumers.

With any new technology, there are new risks. To achieve the benefits in a durable manner over time, we must ensure that the associated risks are managed appropriately. With crypto-assets, investors do not currently have the structural protections they have relied on for many decades in other financial markets. It is important that those guardrails are put in place to avoid issues such as the misuse of client funds, misrepresentations, obfuscation about availability of deposit insurance, and fraud. We should also recognize that some of the attractive attributes of crypto-assets—the pseudonymous actors that are parties to transactions, the ease and speed of transfer, and the general irrevocability of transactions—also make crypto-assets attractive for use in money laundering and terrorist financing. It is encouraging to see innovators develop tools and processes to better manage these risks, while harnessing the benefits of the technology. But regulation and supervision also have an essential role to play.

Responsible innovation is in everyone's interest. In the past few years, we stood up the Novel Activities Supervision Program, which dedicates resources to understanding how technology is transforming banking and supports banks' ability to innovate while ensuring that banks clearly understand and manage the risks associated with innovative activities.[19] I hope and trust that approach will continue.

Addressing Cyber and Third-Party Risk

Cyber risk from both foreign powers and non-state actors has become a major concern for banks, and regulators will need to ensure that these risks are being properly managed. The

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[19] See https://www.federalreserve.gov/supervisionreg/novel-activities-supervision-program.htm.

operational disruption propagated through a third-party security company last summer was a wake-up call for banks and regulators about vulnerabilities in a system where security is outsourced. Disruption of one of these critical systems may compromise a bank's ability to execute important functions and adversely affect individual firm safety and soundness as well as the broader financial system. Given the significant concentration in the IT industry, we should expect operational failures at single IT entities to have potentially far-reaching effects, no matter their original cause. And advances in artificial intelligence are likely to give bad actors new tools for fraud and infiltration, while also providing banks with new tools to combat these attacks. Both banks and the Federal Reserve need to continue to invest in cyber resiliency.

Risks in the Nonbank Sector

Let me speak next to the perennial concerns of intermediation by financial firms outside the bank regulatory perimeter. An increasingly varied and evolving collection of nonbank clients, including hedge funds, private credit, and insurance companies, is playing a significant role in the global economy and presenting new risks.

Beginning with hedge funds, bank exposures to hedge funds have risen over the past several years, and concurrently, hedge fund leverage remains near historic highs.[20] Archegos's failure revealed the risks presented by hedge funds and the degree of interconnectedness between banks and hedge funds. And the exploratory analysis as part of last year's stress test showed that

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[20] Board of Governors of the Federal Reserve System, *Financial Stability Report* (Washington: November 2024), https://www.federalreserve.gov/publications/files/financial-stability-report-20241122.pdf.

banks have material exposures to hedge funds under certain market conditions, and that the hedge fund counterparty exposures can vary significant based on the specific set of shocks.[21]

One area that has grown substantially is the Treasury cash-futures basis trade.[22] The basis trade helps provide liquidity and price discovery in normal times, as hedge funds trade with asset managers and other financial institutions to align returns to holding Treasury securities and related futures. But the trade involves high levels of leverage, which can contribute to a rapid unwinding in positions and exacerbate market stress, as we saw in the spring of 2020. In principle, margining practices and participants' risk-management activities should limit these risks, but individual firms do not account for the spillovers their actions can have on market functioning. These externalities suggest a role for regulation, and the central clearing mandate for Treasury market trading is an important step in supporting the resilience of this market. At the same time, we need to continue to consider how we can support the collection of minimum margin across trading venues and in bilateral trades to avoid loopholes and risks, and continue to monitor banks' credit risk management practices with these hedge fund counterparties.

Another area that has experienced rapid growth in recent years is private credit, which is now comparable in size to the high-yield bond market and leveraged loan market.[23] Traditional private credit arrangements rely on limited leverage and generally have long-term funding, making them less vulnerable to the deleveraging spiral associated with high leverage and short-term funding. Nonetheless, risks may be growing. The connections between private credit and

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[21] Board of Governors of the Federal Reserve System, *Exploratory Analysis of Risks to the Banking System* (Washington: June 2024), https://www.federalreserve.gov/publications/files/exploratory-analysis-results-20240626.pdf.
[22] Board of Governors of the Federal Reserve System, *Financial Stability Report* (Washington: November 2024), https://www.federalreserve.gov/publications/files/financial-stability-report-20241122.pdf.
[23] Board of Governors of the Federal Reserve System, *Financial Stability Report* (Washington: November 2024), https://www.federalreserve.gov/publications/files/financial-stability-report-20241122.pdf.

banks have been expanding, and private credit remains opaque, with limited information relative to asset classes of similar size.[24] Moreover, the rapid growth and opacity of the sector raise the risk that recent private credit arrangements may be assuming new risks. Retail investors can now gain exposure to the asset class through mutual or exchange traded funds, which could present the age-old consumer and financial stability risks we see when opaque, illiquid assets are converted to liquid ones.[25]

We also need to monitor risks in the insurance industry. Households planning for retirement often rely on life insurance companies to provide them a steady stream of income. In principle, life insurance companies are the ultimate patient investor and thus the natural vehicle to finance long-maturity and risky projects. Indeed, while venture capital funding gets a lot of the attention, mobilized retirement savings through life insurance companies have supported long-term investments in capital-intensive projects. However, life insurance companies, just like other financial institutions, can overpromise and be tempted to take on greater risk than their liability holders or regulators appreciate. Given the complexity of some investment vehicles, the institutions themselves may not fully appreciate all of the risks. The life insurance sector has been changing. Even as the life insurance industry has been increasing its holdings of assets originated by private equity firms, private equity firms have been acquiring life insurers directly. Moreover, private-equity-affiliated insurers rely more heavily on nontraditional liabilities, which may prove flighty in a stress event. This is something to watch carefully. In the next business

[24] John Levin and Antoine Malfroy-Camine, "Bank Lending to Private Equity and Private Credit Funds: Insights from Regulatory Data," Federal Reserve Bank of Boston Supervisory Research and Analysis Notes (February 2025), https://www.bostonfed.org/publications/supervisory-research-and-analysis-notes/2025/bank-lending-to-private-equity-and-private-credit-funds.aspx.
[25] Chapter 2 The Rise and Risks of Private Credit in: Global Financial Stability Report, April 2024, https://www.elibrary.imf.org/display/book/9798400257704/CH002.xml.

cycle downturn, it's possible that unexpected losses at insurance companies could lead to a sharp pullback and deeper credit crunch.

Climate Risk

Finally, regulators will need to continue to confront the financial risks from climate change. The Federal Reserve has a responsibility to recognize emerging risks to the safety and soundness of banks, to the ability of households and businesses to access financial services, and to financial stability. Costly natural disasters could present just such risks.

The recent wildfires in California should be a wake-up call that we need to focus on how insurance markets will need to adjust to more frequent and severe weather events. The loss of life and hardship borne by many households is tragic, and the economic losses associated with the wildfires, while uncertain, are likely to be among the largest losses from a natural disaster on record. The wildfires should remind us of the problems in property and casualty insurance markets—just as the severe flooding caused by Hurricane Helene reminded us of significant gaps in flood insurance coverage.

Often the structure and regulation of insurance markets prevents risk from being appropriately priced, limiting the ability of market signals to influence development and adaptation in high-risk areas and contributing to the buildup of risks. And there is a broader question of the extent to which private capital will be sufficient to cover increasing natural disaster risk.

The Federal Reserve has an important but narrow role to play with respect to climate change, and that is to focus on risks from climate change to bank safety and soundness and financial stability. The pilot climate scenario analysis conducted by the Federal Reserve was an important step forward in assessing the capacity of the largest banks, as well as in building our own capacity, to perform the kind of analysis that is increasingly crucial as risks arising from more severe weather events become a driver of financial risk for specific firms and the broader economy.[26] Guidance for the largest banks also plays an important role in reminding banks of basic principles in prudent risk management as it applies to these types of climate-related risks.

Conclusion

In conclusion, the United States has the benefit of a strong, vigorous economy, the deepest and most liquid markets in the world, and a critical place in the world economy through the role of the U.S. dollar. The Federal Reserve has an essential role in maintaining the strength and resilience of the U.S. economy, including through its vigilance about the risks I discussed today. A strong and resilient banking system benefits the American people. We need to be humble about our ability to predict shocks to the financial system, and how they will propagate through vulnerabilities in the system. That is why it is so important to have strong regulation and supervision as shock absorbers to protect households and businesses from risks emanating from the financial system.

In closing, I want to speak directly to the staff of the Federal Reserve and express my deep gratitude. Your rigorous analysis and deep expertise are fundamental to our ability to promote a strong and stable financial system that serves the American people. Thank you for your outstanding service.

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[26] Board of Governors of the Federal Reserve, *Pilot Climate Scenario Analysis Exercise: Summary of Participants' Risk-Management Practices and Estimates* (Washington: May 2024), https://www.federalreserve.gov/publications/files/csa-exercise-summary-20240509.pdf.