Financial System Resilience

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Introduction

I thank Doug Evanoff and the George G. Kaufman Center for Financial Policy Studies at Loyola University Chicago for inviting me to speak today. It is a particular honor to be part of a program organized by the Kaufman Center. As a researcher working on banking issues, I had the great opportunity to meet George Kaufman early in my career. He was generous with his advice about how to establish a productive research agenda and the importance of participating in conferences like this one. Even though I was not one of his students, George was a role model who inspired me and other researchers to do their best work to help further the safety and soundness of the banking system and foster financial stability.

Today I will speak about financial system resilience, its interactions with monetary policy in the context of today's economy, and some recommendations for increasing the resilience of the banking system. The views I present will be my own and not necessarily those of the Federal Reserve System or of my colleagues on the Federal Open Market Committee.

In less than two decades, the world has experienced two historically deep negative shocks to the global economy and financial system. While their causes were different, the global financial crisis of 2008 and the COVID-19 pandemic that hit in 2020 each necessitated the intervention of central banks in ways not contemplated in earlier decades. This spring, the Fed was required to intervene again to address stresses in the banking system that were precipitated by the failures of Silicon Valley Bank (SVB) and Signature Bank. This stress episode was a painful reminder that whether we are operating in a low-interest-rate environment or in a high-interest-rate environment, financial system vulnerabilities can lead to adverse shocks being propagated across the financial system and sometimes very quickly. The episode also underscored that to promote financial system resilience, financial institutions must properly manage risks and supervisors must effectively monitor risks. In the wake of the SVB failure, the Federal Reserve is currently evaluating and taking appropriate steps to improve its supervision, including its speed, force, and agility.[1] An underlying factor in SVB's failure was the bank's poor management of interest rate risk. This poor management was revealed as the Fed raised interest rates in response to very high inflation in the aftermath of the pandemic.

The Economy

Although the pandemic is over, in many ways its effects are still with us. The changes in household and business spending patterns, workforce participation, housing demand, and supply chains, all of which arose during the pandemic, are in many ways still shaping the economy.

These changes led to a situation in which demand in both product markets and labor markets became out of balance with supply in those markets. These imbalances occurred in an environment of accommodative fiscal and monetary policy, which helped to sustain the significant increase in inflation that started in 2021. In 2022, headline inflation reached levels not seen in 40 years, running 7 to 9 percent, depending on the measure.

To combat high inflation, the Fed has tightened monetary policy, raising the fed funds rate, starting in March 2022, by a cumulative 5-1/4 percentage points. We are also reducing the size of the Fed's balance sheet by allowing assets to roll off in a systematic way according to the plan announced in May 2022. This balance-sheet reduction is also firming the stance of monetary policy through its effect on the term premium on long-term bond yields.

The tightening of monetary policy has led to a broader tightening in financial conditions, which has been transmitting through the economy, helping to moderate demand. At the same time, supply conditions

[1] For further discussion, see Michael S. Barr, "Supervision and Regulation," testimony before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, Washington, D.C., November 14, 2023. (https://www.federalreserve.gov/newsevents/testimony/barr20231113a.htm)

have improved. Economic activity and employment growth have slowed, although they have remained more resilient than most forecasters, including FOMC participants, had expected earlier this year.

Inflation has been running well above the Fed's goal for more than two years. While it is still above our 2 percent goal, there has been discernible progress on inflation even while the overall economy has remained relatively strong. It will take some time to get inflation back down to 2 percent, but the FOMC is committed to doing so. Monetary policy is in a good place for policymakers to assess incoming information on the economy and financial conditions and judge whether policy is well calibrated to ensure that inflation is on a timely path back to 2 percent. Whether the fed funds rate needs to go higher than its current level and for how long policy needs to remain restrictive will depend importantly on whether the economy is evolving as expected, how the risks are changing, and the progress being made on our dual mandate goals of price stability and maximum employment.

We are operating in an uncertain economic environment. The Israel-Hamas war is a human tragedy, as is the ongoing war in Ukraine. Heightened geopolitical tensions pose risks to the medium-run outlook, with implications for financial markets, oil prices, and global demand. The slowdown in the Chinese economy also poses a risk to the outlook.

As the FOMC has communicated, two important considerations for calibrating monetary policy going forward are how much of the past tightening is yet to transmit through the economy and how restrictive monetary policy is. There is some uncertainty around both of these. Monetary policy transmits to the broader economy by affecting overall financial conditions, but the magnitude, speed, and duration with which it affects the economy vary with the nature of the shocks that have hit the economy and other aspects of the economic environment.[2] While the policy stance is currently widely viewed as restrictive,

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[2] Romer and Romer provide estimates of the effects of contractionary monetary policy shocks on real GDP, the unemployment rate, and inflation in various tightening cycles. See Christina D. Romer and David H. Romer,

the resilience the economy has shown in the face of high interest rates has underscored the difficulty of knowing precisely how restrictive policy is partly because of the uncertainty about the level of the neutral real interest rate, so-called *r*-star.

When policymakers are confronted with uncertainty, scenario analysis can be a helpful guide. In an uncertain economic environment, it is important to look at various models and various scenarios, because the economy could evolve quite a bit differently than expected. If it does, monetary policy will need to be nimble and respond appropriately to the evolving outlook and to the risks to achieving both parts of our dual mandate. I believe the current level of the funds rate positions us well to do that.

Financial System Vulnerabilities

The stress in the banking industry generated by the bank failures in March has subsided, but the underlying conditions and causes of this stress remain. As interest rates began rising in 2022, funding risks for banks increased and they remain elevated.

Many banks are holding longer-term securities, which if they had to be sold and marked-to-market would result in losses. Some of these banks have sizable exposure to the segments of commercial real estate that are particularly under stress, such as office buildings, and over the next year many of the CRE assets at banks will need to be refinanced at higher interest rates.

At some banks, the declines in the fair value of fixed-rate assets have been large relative to their regulatory capital levels, especially for some large but non-globally-systemically-important banks and

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"Presidential Address: Does Monetary Policy Matter? The Narrative Approach after 35 Years," *American Economic Review* 113, 2023, pp. 1395-1423. (https://doi.org/10.1257/aer.113.6.1395) some regional banks. A portion of these banks have above-average reliance on uninsured deposits, making them particularly vulnerable to shocks.

Of course, it isn't only banks that are vulnerable to shocks. After the bank failures this spring, some money market funds also experienced high redemptions. Reforms adopted by the SEC in July aim to increase the resilience of money market funds, but they have not yet been put to the test.[3]

Financial System Resilience

In times of banking and financial stress, regulators find themselves with a time-inconsistency problem. Forcing one bank to take actions to raise capital or address other risk-management concerns during a period of stress could precipitate a widespread reevaluation of the banking industry by investors and depositors resulting in a systemic event. In such cases, regulators and supervisors might lean toward forbearance even if this creates bad incentives for financial institutions to manage risks in the future.

Avoiding this potential bias requires fostering a financial system that is resilient to shocks *across* the business and financial cycles. Financial system resilience supports the attainment of our macroeconomic goals. A resilient financial system is one in which banks may tighten their credit standards but they are able to continue lending to creditworthy businesses and households during economic downturns, financial markets are able to continue intermediating in an orderly fashion during periods of stress, and monetary policy continues to transmit to the broader economy and is not disrupted by financial system stresses.

Increased resilience has the added benefit of limiting the times in which monetary policy and financial stability goals come into conflict. Usually, these goals are complementary. An unstable financial system can propagate adverse macroeconomic shocks over broad economic sectors and over time to the detriment

[3] See the SEC press release announcing the reforms at https://www.sec.gov/news/press-release/2023-129.

of macroeconomic stability. In the other direction, well-formulated and well-communicated monetary policy supports financial stability by allowing households, firms, and financial institutions to make better investment, saving, borrowing, and lending decisions, and price stability eliminates a source of asset-price volatility.

But there may be times when the goals come into conflict. Since monetary policy actions affect financial conditions, they can also affect financial stability risks. For example, a prolonged period of very low interest rates may contribute to financial vulnerabilities by spurring search-for-yield behavior, encouraging higher debt levels, or eroding lending standards. Similarly, a period of rapidly tightening financial conditions raises the risk of increased volatility, market dysfunction, and the potential that a shock could be amplified by known vulnerabilities in the financial system or reveal previously unknown vulnerabilities, including high levels of leverage. This means that, at times, policymakers may be faced with intertemporal tradeoffs between their monetary policy and financial stability policy goals, and these tradeoffs will vary over the business and credit cycles.

The question is how best to limit these tradeoffs. A general consensus has emerged that it is better to use supervisory, regulatory, and macroprudential tools to address financial stability concerns and monetary policy tools to address macroeconomic stability concerns. This is a desirable separation; indeed, it is optimal in some theoretical models. Increased financial system resilience will help limit the times this separation cannot be maintained.

In March, financial stability tools were used to address stresses in the banking system. This allowed the Fed to continue to use its monetary policy tools for macroeconomic purposes, and we proceeded with an increase in the federal funds rate at our March meeting. But those financial stability tools involved regulators invoking the systemic risk exception and implementing a new lending facility.[4]

Increasing the overall resilience of the financial system would diminish the need for the Fed and other regulators to have to step in, whether it be to reduce market dysfunction by buying Treasury assets, as we had to do in October 2019 and March 2020, or having to set up special facilities to serve as the lender of last resort, actions that have the potential to change us into the lender of *first* resort.

Recommended Steps to Increase the Resilience of the Banking System

The stresses in the banking system earlier this year underscored the challenge of ensuring that financial institutions have enough capital when their assets decline in value. Cyclical macroprudential tools aim to solve this problem by mitigating the systemic risk that can build up over the business cycle. In the U.S., these tools are basically limited to the countercyclical capital buffer (CCyB) and the stress test. The CCyB is intended to require banks to hold more capital during periods of high credit growth, which often coincides with the accumulation of system-wide risk.

However, the lead times needed to use this tool limit its effectiveness in addressing vulnerabilities that may develop rapidly or that can be detected only after they are far along. This suggests the need to raise the buffer in good times before we see the vulnerabilities, yet we have never raised the CCyB above zero in the U.S.

To make the CCyB more effective and time consistent, it should be recalibrated to be at a positive level in normal times, and then raised when credit growth moves up and lowered when credit growth moves down

[4] The Federal Reserve announced the creation of the Bank Term Funding Program (BTFP) on March 12, 2023. (https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312a.htm)

based on a systematic rule. In my view, being systematic about financial stability policy, including supervision and regulation, is perhaps even more important than it is for monetary policy because of the important role played by incentives and asymmetric information in financial markets and institutions. Applying policy systematically could help tame some of the moral hazard and time-inconsistency problems that policymakers face when promoting financial resilience.[5]

With respect to the other main macroprudential tool, I believe that the current stress tests should be redesigned with an eye to making them a more effective countercyclical capital tool so that banks would need to build up their capital buffers when they are better able to do so.

Until we create more effective macroprudential tools and show that we are willing to use them, we should set standards for the through-the-cycle structural resilience tools, including capital and liquidity requirements, somewhat higher than they otherwise would be. I view the Basel III endgame capital proposal as aligned with this view.[6]

Banks' capital positions affect their lending, which in turn affects the macroeconomy. Research indicates that well-capitalized banks tend to lend more than poorly capitalized ones, to grow their loan and deposit market shares during crises by purchasing assets from less well-capitalized banks,[7] and to have more access to market funding during downturns than do less capitalized banks.[8] A well-capitalized banking

[5] I discuss the benefits of systematic financial stability policy in Loretta J. Mester, "Comments on 'Microprudential Versus Macroprudential Supervision: Functions That Make Sense Only as Part of an Overall Regime for Financial Stability,' by Paul Tucker," remarks at the 59th Economic Conference: Macroprudential Monetary Policy, Federal Reserve Bank of Boston, October 2-3, 2015. (https://www.clevelandfed.org/collections/speeches/sp-20151002-comments-on-microprudential-versus-macroprudential-supervision)

[6] See the announcement of the request for comment on the Basel III endgame proposal and accompanying materials at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230727a.htm.

[7] Allen N. Berger and Christa H. S. Bouwman, "How Does Capital Affect Bank Performance During Financial Crises?" *Journal of Financial Economics* 109(1), 2013, pp. 146–176. (https://doi.org/10.1016/j.jfineco.2013.02.008)

[8] Fenghua Song and Anjan V. Thakor, "Market Freeze and Bank Capital Structure Heterogeneity," *Management Science* 69, 2023. (https://doi.org/10.1287/mnsc.2022.4374)

system is less likely to amplify negative macroeconomic shocks. This is not to say that ever-increasing levels of required capital would be optimal. There would come a point where the requirement would so thwart risk-taking and beneficial innovation that it would undermine longer-run economic growth.[9] Indeed, a recent research paper presents a theoretical model in which the *distribution* of capital across banks and not just the level determines the socially optimal capital structure for the banking system.[10] But in my view, we are still below the level of capital where increasing it would be counterproductive.

The stresses in the banking system earlier this year point to other reforms that should be considered. First, much of bank regulation is tied to book values instead of market values. Moving toward market-value accounting for more of a bank's balance sheet and basing more of bank regulation on market values would help align regulation and supervision with market forces. Even if regulations are not changed, having supervisors pay more attention to market values would likely spur earlier actions to ensure adequate risk management at banks and would help focus supervisory attention on areas of highest vulnerability.[11]

Second, much of bank regulation aims to lower the probability of financial system instability. But we should also take steps to reduce the costs imposed on the rest of the economy when a shock hits the financial system. Resilience is a combination of both of these. More effort needs to be expended on creating an effective, credible, and time-consistent bank resolution mechanism. If regulators were able to

[9] See Paul Tucker, "Microprudential versus Macroprudential Supervision: Functions That Make Sense Only as Part of an Overall Regime for Financial Stability," remarks at the 59th Economic Conference: Macroprudential Monetary Policy, Federal Reserve Bank of Boston, October 2-3, 2015. (https://www.bostonfed.org/macroprudential2015/agenda/index.htm; https://www.bostonfed.org/macroprudential2015/papers/Tucker.pdf)

[10] Fenghua Song and Anjan V. Thakor, "Market Freeze and Bank Capital Structure Heterogeneity," *Management Science* 69, 2023 (https://doi.org/10.1287/mnsc.2022.4374)

[11] How best to do this is not straightforward. See, e.g., Philip Bond, Itay Goldstein, and Edward Simpson Prescott, "Market-Based Corrective Actions," *The Review of Financial Studies* 23, 2010, pp. 781–820. (https://doi.org/10.1093/rfs/hhp059)

confidently resolve systemically important financial institutions in a way that avoids causing system-wide instability, they would be in a much better position when the inevitable shock hits the financial system.

Third, while much regulation and supervision focuses on credit risk, more attention should be given to liquidity risk and interest rate risk. SVB lost over $40 billion of deposits, about one-quarter of its total deposits, in a day, showing that money can flow out of a bank much more quickly than ever imagined. As lender of last resort, the Federal Reserve System promotes financial stability by lending against good collateral to healthy banks facing temporary liquidity problems. Currently, the Reserve Banks are encouraging eligible financial institutions to ensure that they have the legal agreements and collateral in place and have tested their ability to use the discount window in a timely way should the need arise. Testing at this time is not mandatory, but requiring such testing as part of sound liquidity management is worth considering, as is tightening the liquidity coverage ratio requirement so that banks have to hold higher levels of liquid assets to cover potential cash outflows. Another idea worth consideration is requiring banks to post collateral in proportion to their short-term funding, so they would be ready to borrow at the discount window should that funding start to run.

I have been speaking mostly about banks, but we also need to take steps to increase the structural resilience of nonbank financial firms and markets, ensure that the financial system's supervisory and regulatory structure keeps pace with innovations, and improve our visibility in the nonbank financial sector. Not having the data needed to adequately measure the risks and vulnerabilities in a particular segment of the financial system should not lure us into thinking that the vulnerabilities are small or don't exist. For example, there is a general lack of transparency and lack of verifiable information around the assets backing many stablecoins, leading to the possibility of sharp changes in prices and substantial losses for their investors. Stablecoins are one example, but there are several parts of the financial system on which we do not have sufficient data to make a clear assessment of the risks. This includes data on central counterparties' member concentrations, principal trading firms, and nonbank funders. The fact that we can't put the risks on a dashboard doesn't mean the risks don't exist. The Financial Stability Board has recognized the need to better understand the interconnections between bank and nonbank intermediation, the amplification of shocks, and the overall resilience of the nonbank financial sector.[12]

Cyber resilience is also an area that requires continued focus. All aspects of the financial system, including markets, nonbanks, and banks, are subject to cyber risk and to operational risks more generally. These are not potential risks; these risks are actually being realized. Continued supervisory focus on ensuring that financial institutions are making the investments needed to prevent cyber incidents and the investments needed to ensure they can recover in a timely way when the inevitable cyber event occurs is very important, especially in the current environment when bank profits are under pressure and banks are taking actions to cut costs.

As with monetary policy, scenario analysis can play an important role in understanding the financial system's vulnerabilities to various shocks. Looking at various stress scenarios involving relevant risks can make policymakers better prepared for what *could* happen even if it is not viewed as the most likely situation at the time. And the more uncertain the environment, the wider the set of possible scenarios that should be examined.

It is important to remember that in a situation of significantly increasing financial stability risks, the blurring between financial stability goals and monetary policy goals increases as well: if the risks to financial stability are sufficiently great, achieving our dual mandate monetary policy goals would also be in jeopardy over the medium run. More work needs to be done to determine how best to handle the nexus between monetary policy and financial stability. The FOMC's current statement on its monetary policy

[12] See Financial Stability Board, "Promoting Global Financial Stability: 2023 FSB Annual Report," October 11, 2023. (https://www.fsb.org/wp-content/uploads/P111023.pdf)

strategy says that "sustainably achieving maximum employment and price stability depends on a stable financial system" and that the FOMC's monetary policy decisions do reflect its "assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals."[13] I would like the FOMC's next framework review, which Chair Jay Powell has recently indicated will start in the latter half of 2024,[14] to develop that further. The revised statement should clarify the strategy for handling the interactions between monetary policy and financial stability policy, shedding more light on how the FOMC takes into account the potential impact of monetary policy on financial stability risks and how those risks influence the Committee's monetary policy decisions.

Finally, I would also like to encourage the Kaufman Center to continue furthering research on the financial system and its role in promoting economic growth and financial stability. Good policymaking is informed by good research. Advances in research will help ensure that our financial system remains resilient, which is fundamental for a strong economy.

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[13] See "Statement on Longer-Run Goals and Monetary Policy Strategy," adopted effective January 24, 2012; as reaffirmed effective January 31, 2023. (https://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf)

[14] Jerome H. Powell, "Opening Remarks," 24th Jacques Polak Annual Research Conference, International Monetary Fund, Washington, D.C., November 9, 2023. (https://www.federalreserve.gov/newsevents/speech/powell20231109a.htm)