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April 8, 2024

Statement on the recent banking crisis

Lessons Learned from the Recent "Banking Crisis"

The Financial Economist Roundtable (FER) is a group of senior financial economists who have made significant contributions to the finance literature and seek to apply their knowledge to current policy debates. The FER focuses on economic issues in investments, corporate finance, as well as financial institutions and markets, both in the U.S. and internationally. It aims to create a forum for intellectual interaction that promotes in-depth analyses of current policy issues to raise the level of public and private policy debate and improve the quality of policy decisions.

FER was founded in 1993 and meets annually. Members attending an FER meeting discuss specific policy issues on which the FER may adopt statements. When the FER issues a statement, it reflects a consensus among at least two thirds of the attending members, and all the members who sign it support it. The statements are intended to increase the awareness and understanding of public policy makers, the financial economics profession, the communications media, and the public. FER distributes its statements to relevant policy makers and the media. This statement is the outcome of the FER's discussion at its annual meeting, which took place on July 22-24, 2023, in Napa, California.

We signatories to this statement believe that financial regulators should consider the following policy recommendations: (a) requiring the calculation and disclosure of economic capital, (b) incentivizing managers to pay attention to market values (c) improving the supervisory dashboard and incentives for prompt intervention, (d) requiring uninsured depositors to bear some losses in the event of a bank failure unless the failed bank's uninsured deposits had received an emergency guarantee prior to its failure, and (e) reforming Fed lending rules to minimize potential unintended consequences.

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Lessons Learned from the 2023 "Banking Crisis"

April 8, 2024

Abstract

Reforms in light of the 2023 "banking crisis" should focus on structural flaws in supervision, regulation, and safety net policies, with a focus on creating credible incentives for informed and timely action that are both economically effective and cost effective. Supervisors should monitor measures of the fundamental economic condition of banks, not just accounting measures or qualitative compliance, on an ongoing basis and be held accountable for not providing timely reactions to those measures. Prudential capital ratio regulation should also adopt measures that reflect the economic condition of banks, not just their accounting ratios. Government safety net policy should limit the use of lending to banks with high insolvency risk and avoid 100% coverage of failed banks' uninsured deposits in the absence of a preexisting emergency guarantee of uninsured deposits.

I. Introduction

During March 2023, several regional banks collapsed. On March 8, Silvergate Bank publicly announced voluntary liquidation. The same day, Silicon Valley Bank (SVB) announced emergency measures and a bank run began. Signature Bank was shut down on March 12. First Republic Bank and other banks entered free fall, and the Federal Reserve Bank responded with a Bank Term Funding Program to support eligible depository institutions in which eleven banks participated. Policy makers also guaranteed the deposits of the uninsured depositors of two of the failed banks while simultaneously allowing generous Fed lending.

This "banking crisis" generated extensive policy discussion, which can be grouped into three categories: (1) supervision, (2) regulation, and (3) bank safety net policy. As economists who have studied both the theory of bank regulation and the practical challenges of reform, we address these three areas in this statement.

We believe one overarching lesson from 2023 is that bank and regulatory failures reflect systemic design problems rather than idiosyncratic incompetence of particular supervisors or information opacity of a particular bank. This is good news, in a sense, because it means that substantial improvements are possible. But the necessary reforms are challenging, and require substantive reform of the objectives, tools, and processes undertaken by supervisors, as well as reforms of the methods for measuring and regulating bank capital adequacy and bankers' risk choices.

We believe policy responses should empower supervisors and regulators with the necessary information and appropriate incentives to act in the interest of long-run efficiency and stability. We see persistent bank failures, including the 2023 failures, as reflecting the absence of these incentives. Accordingly, our recommendations focus on improving incentives to empower supervisors and regulators to resist myopia and special interests, in order to encourage them to emphasize long-term objectives of allocative efficiency and prudential risk management.

Specifically, with respect to supervision, we recommend requiring that fundamental economic measures of bank health – measures of a bank's "distance to default," commonly used in the quantitative measurement of bank insolvency risk – be added to the supervisory dashboard, and

that supervisors be required to respond to these and other indicators of bank insolvency risk in a timely manner.

Second, with respect to regulation, we recommend that book measures of minimum capital ratios be augmented with additional prudential regulations that incorporate market information, which highlight potential losses that are not apparent in book value measures of capital ratios. Possible approaches include a minimum market value of equity-to-assets requirement, or proposals related to conversion of contingent capital instruments into equity.

Finally, we offer recommendations regarding bank safety net policies. Loans to troubled banks by the Fed or the Federal Home Loan Banks (FHLBs) are not a desirable solution for assisting banks that are at significant risk of insolvency or already insolvent. For such banks, Fed or FHLB loans not only fail to address the core insolvency risk problems, but could make them worse by encouraging greater risk-taking by banks that receive such assistance. Timely resolution of troubled banks should either close banks or provide recapitalization assistance should the failure of the under-capitalized banks poses a true systemic risk problem. We also recommend that ex post, ad hoc bailouts of uninsured depositors of failed banks should not provide 100% protection but instead, offer limited immediate access to funds that require applying haircuts to uninsured deposits.

II. Background

The recent banking crisis highlighted four background assumptions about bank runs, government response, regulatory incentives, and moral hazard that should guide any policy response: (1) a bank run poses risks not only to that bank but also can precipitate withdrawals from other banks; (2) government officials continue to employ ex post, ad hoc bailouts of depositors or banks; (3) post-2008 bank regulation and supervision reforms did not prevent bank failures, even though bank losses from interest rate hikes were observable months prior to their failure; and (4) even small banks continue to enjoy “too big to fail” protections after post Dodd-Frank Title II reforms despite living wills and new resolution authority,

The banking troubles of 2023 underline problems that have been visible in banking systems for decades. The possibility of sudden outflows of deposits in reaction to concerns about bank insolvency risk have been a potential problem for as long as institutions have combined the risk of asset loss with the asset-liability maturity mismatch that allows liquidity transformation. Bank supervision and regulation, and the protections of the government safety net (consisting of lending by the Federal Reserve Banks and the Federal Home Loan Banks, federal deposit insurance, and additional ad hoc bailouts like those pursued under TARP in 2009) have sought to create a more resilient banking system, which is less prone to bank failures and depositor runs.

Unfortunately, in recent decades, the U.S. banking system continues to be one of the more crisis-prone banking systems in the world, leading to the Global Financial Crisis of 2008, and now the tumultuous events of 2023. Indeed, the most recent problems, which reflect bank losses from market changes in interest rates, are largely a replay of the asset losses in Savings and Loans (S&Ls) in the 1980s (when rises in interest rates caused large losses in S&L assets). Signature, SVB, and First Republic were all banks that used “carry trade” strategies (aggressive exposure to interest rate risk) and rapid asset growth to generate profits in the period leading up to the crisis. Signature, SVB, and First Republic all had tripled their balance sheet size in the two years leading up to the March 2023 crisis (Kupiec 2023).

As monetary policy predictably tightened in reaction to rising inflation, the consequent rise in interest rates caused banks engaged in carry trades to incur large losses. Those losses were not

recognized in regulated measures of prudential capital because the affected banks held many securities under "held-to-maturity" accounting, which meant that declines in market value did not affect the value of the assets for regulatory purposes. For banks that employed that accounting treatment, any subsequent hedging of HTM assets, or sales of them, would taint the HTM portfolio and trigger the immediate recognition of losses for regulatory purposes, which itself discouraged banks from responding to the sharp rise in interest rates by altering their carry-trade risks. Regulators should have known that banks, by designating the securities as HTM, effectively committed to not hedging interest rate risk associated with the securities.

Regulators and supervisors were aware of the losses that mounted in the affected banks prior to the March 2023 crisis. In addition, such losses were also disclosed in the banks' public filings. For example, SVB's public securities filings made visible the losses due to interest rate increases that had essentially wiped out its economic equity capital. Depositors fled SVB in response to this increased risk as early as mid-2022. Those deposit outflows, which might have prompted some action by the bank to reduce risk or increase capital, were replaced by borrowings from the Federal Home Loan Bank. Supervisors notified banks of the need to shore up their capital positions months before the crisis but did not take action to force banks to recapitalize or shed risk.

In March 2023, perhaps in reaction to the failure of SVB to raise equity capital in the market, withdrawals of deposits accelerated. SVB and Signature were forced into liquidation. Policy makers adopted an aggressive policy of guaranteeing all the uninsured deposits in these banks (which constituted almost all of their debt). But the protection of SVB and Signature deposits did not prevent continuing outflows of uninsured deposits at other banks or prevent the failure of First Republic because policy makers did not extend the deposit guarantee to other banks in the system.

The FDIC resolution of these banks also raised criticism that the banks were sold at fire-sale prices based, in part, on the large positive stock price reaction of the acquiring banks. Critics argued that such returns were inconsistent with the policy objective of "least-cost resolution."

Policy makers, including Fed officials, have admitted that significant supervisory errors were made. These errors include: FHLB lending that delayed SVB's response to early deposit outflows, the failure of supervisors to insist on timeliness in addressing the loss of economic capital, the failure to prevent disruptions from large movements in uninsured deposits away from small and medium-sized banks, and the apparently inefficient auction process used to sell SVB and Signature.

Lending policies by the Federal Reserve also changed during the 2023 crisis. On March 10, 2023, the Fed declared that a banking emergency required them to create a new lending program, the Federal Reserve's Bank Term Funding Program, funded by billions of dollars from the U.S. Treasury. Under this new program, banks were allowed to borrow more than the market value of pledged securities collateral. This program departed from the FDICIA reforms of 1991, which had discouraged lending to weak or insolvent banks in response to challenges during the previous decade. By declaring that the banking system faced systemic risk in 2023, regulators sidestepped FDICIA limits.

We also observe that the problems of bank weakness remain. Jiang et al. (2023a, 2023b) find that approximately 600 U.S. banks are in very weak condition as the result of losses in the fundamental value of their securities and real estate loans, largely as the result of interest rate increases. Given that the high-interest rate environment has continued to persist beyond initial

expectations, despite the improvement in macroeconomic forecasts for real GDP growth, we believe there could be additional risks to the banking system.

III. Regulation: More Accurate Capital Ratios, Incentives for Maintaining Equity, and the Structure of Compensation

Members of FER voiced a wide variety of views about which accounting standards would be best for regulators to use in measuring compliance with regulatory standards. But they agree on four points about existing prudential capital standards: (1) accounting standards do not always reflect the economic value of the bank, (2) whatever prudential standards are chosen, banks have incentives to try to find ways to game the accounting system to exaggerate their health, (3) a key goal of prudential regulation should be to prevent crises by ensuring that banks maintain sufficient true economic equity-to-asset ratios that create a sufficiently large "distance from default," and (4) financial statements are prepared according to one set of accounting rules (GAAP), but as GAAP recognizes, there are a diffuse set of users of accounting information (equity investors, creditors, depositors, vendors, and employees, as wells as regulators); GAAP was not developed for regulatory purposes and it is the job of regulators to decide which measurement rules make sense for their purposes.

It is important to recognize that banks are service companies, and as such, the economic value of many of their assets are not fully captured by GAAP accounting (e.g., present values of some components of revenues and expenses, which have no balance sheet counterpart). For that reason, GAAP-based book value measures can never comprehensively characterize the economic value of bank equity, even if tangible assets are marked-to-market accurately. Thus, capital is also mismeasured because regulatory requirements fail to take into account changes in the value of intangible assets.

For these reasons, alongside the existing accounting measures based on balance sheet book values (including stress tests), we believe it is desirable to construct new regulatory measures that are more comprehensive in their approach to bank asset value and risk, and less susceptible to manipulation. As we note below, it is also crucial that the regulatory process make use of such information in a timely way to ensure that declines in capital ratios are addressed quickly either by replacing lost capital with new capital, or by shedding risk.

We highlight two alternative approaches to improving regulatory standards. We also consider how compensation for senior bank management could also be reformed to encourage banks to manage their risks properly.

One approach to improving regulatory standards is to use the market value of equity to construct a prudential equity ratio requirement using market prices of equity if they are available. The market value of equity inherently incorporates market perceptions of the value of intangibles. One could, as some studies have recommended, compute on an ongoing continuous basis the moving average (say, looking back over the previous 90 days) of the ratio of the market value of equity relative to the sum of the market value of equity plus the face value of debt. By doing so, it becomes apparent that some banks over recent years, such as JPMorgan Chase, maintain a market equity ratio that is consistently substantially above their tangible book value ratio. Others, such as Citigroup, have maintained a market equity ratio much lower than their tangible book ratio. During the year preceding the 2008 crisis, as well as in the months preceding the 2023 crisis, declining equity values of banks could have offered very useful information about lost equity

capital. In the present period, equity values of small and medium-sized U.S. banks continue to remain low and have not recovered from the March 2023 crisis, indicating that potential problems in many banks persist (a view that is corroborated by Jiang et al. 2023a, 2023b).

A market value-based minimum capital ratio requirement would require publicly traded banks with low economic capital ratios to raise new capital in a timely fashion. Economic resiliency should also be considered when evaluating the outcomes of stress tests. Currently, a stress test is considered a success if that bank's tangible equity ratio is sufficiently high after experiencing the stress. But that outcome could result in a potentially false conclusion if the bank's economic capital is low. This could have a detrimental effect on the ability of the regulator to monitor not only the health of the individual bank but its potential effect on systemic risk.

Another approach is to make use of market information in a more indirect way, using it to create incentives for bank managers to pay attention to market equity ratios when deciding to raise equity in the market to bolster their bank's safety. Flannery (2009) and Calomiris and Herring (2013) advocate requiring banks to issue a large amount of contingent capital (so-called CoCos that convert from debt to equity on a dilutive basis, if the market equity ratio is sufficiently low for a sufficient period of time).

Managerial incentives toward risk can also be addressed by incentivizing management through the structure of compensation. John et al. (2000) and Bolton et al. (2015) show how incorporating the value of claims other than equity into bank management compensation (rather than just using cash and stock options) can align the incentives of managers to produce more socially optimal risk management.

IV. Supervision

The Fed's own criticism of bank supervision noted the problem of inadequate incentives to compel supervisors to act in a timely manner (Barr 2023, Bowman 2023, Gillison 2023). We argue that it is imperative to impose a burden to act on supervisors that ensures timely action in response to relevant information. In other words, in a supervisory system that systematically uses discretion to give banks the benefit of the doubt and delay action, it is important to limit the discretion supervisors have about what information to consider and how quickly to act. Any attempt to improve supervisory accountability must require supervisors to pay attention to signals they sometimes would rather ignore and get them to see discretionary delays in action as personally costly to them.

With respect to the supervisory dashboard, in addition to tracking bank condition based on the checklists associated with traditional bank examination, it is crucial to pay attention to measures that markets use to gauge banks' asset values and risks such as economic capital and distance to default as noted above. One cannot manage what one does not measure, and supervisory agencies have not designed their dashboards to measure the fundamental economic condition of banks on an ongoing basis, These, not just book values and check-the-box criteria, should be at the forefront of the supervisory dashboard. For example, banks appeared to be in sound financial condition (based on the regulatory accounting that computes their capital ratios) even though, from an economic standpoint, they were on the brink of insolvency. This problem also was visible during the 1980s and in 2008. For example, Citigroup's regulatory accounts during the 2008 crisis suggested that it had an equity capital ratio of roughly 12%, when its market equity ratio was close to zero.

Adding prudential capital standards that capture the true economic value of bank capital ratios helps to buttress the ability of supervisors to justify prompt intervention and makes it more

difficult for political pressures to discourage supervisory action. Imposing strict limits on how quickly banks must resolve problems that arise from the measures being tracked on the supervisory dashboard is essential.

For example, supervisors clearly possess detailed knowledge about the value and risk of bank securities. Changes in interest rates and in interest rate risk have clear implications for a bank's distance to default. As the distance gets smaller, the supervisor should be forced to recognize the problem immediately and require the bank to resolve the problem quickly (within a pre-specified period of time).

There will always be arguments made to forbear such discipline, but we observe that under the current regime (where clear measures and clear timetables for action are lacking) such discretion tends to be used to delay dealing with problems too long. Even if a reliance on rules about what information to use and how quickly to use it might occasionally lead to an undesirable lack of patience, on average, the discipline from adherence to such rules will substantially improve the effectiveness of supervision.

V. Safety Net Policies

In the recent crisis, regulators employed two aggressive means for delivering safety net subsidies to banks: guarantees of failed banks' deposits, and new lending authority for Fed loans to banks.

First, in the case of two banks (SVB and Signature), after the banks entered receivership, regulators decided to guarantee that their uninsured depositors would be 100% insured against loss. It is noteworthy that this policy was an ex post bailout of two banks' uninsured depositors, not an ex ante guarantee of uninsured deposits. It did not eliminate the risk of loss for uninsured depositors in other banks (which, unlike the depositors in SVB and Signature) were still able to withdraw their deposits. After the bailout of SVB's and Signature's uninsured depositors, the uninsured depositors of other banks continued to move substantial amounts of their deposits from small and medium-sized banks to banks that were perceived to be too big to fail. Thus, the protection of uninsured deposits at the two failed banks did not alleviate the flight risk of depositors in other banks.

Furthermore, concerns about the illiquidity of the uninsured deposits in the failed banks could have been addressed in other ways. There is precedent for the FDIC to allow uninsured depositors to access a substantial proportion of their deposits in advance of the disposition of a failed bank. For example, the FDIC could have allowed SVB depositors to access 80% of their deposits (or perhaps more) with little risk of loss to the insurance fund. In the future, to incentivize depositors to monitor the financial condition of the bank, it seems desirable to consider applying at least small haircuts to any bailouts of uninsured depositors of failed banks.

We note that our proposal to limit protection of the uninsured deposits at failed banks does not address the separate question of whether temporary blanket protection for uninsured deposits, which is sometimes offered during systemic crises, should also face haircuts. Whether haircuts should be applied in such circumstances, and how to determine the size of such haircuts, are more complex questions, and the FER did not reach consensus on how best to design haircuts for systemic temporary guarantees.

The other aggressive safety net subsidy that was applied in March 2023 was a change in Fed lending rules that allows banks to borrow, for up to a year, an amount from the Fed greater than the value of the existing value of the securities collateral, and at a low interest rate.

Since the classic nineteenth-century treatises on the role of emergency loans from a lender of last resort in ameliorating banking crisis (Thornton 1802 and Bagehot 1873), there has been a widespread recognition of the helpful role of such loans in addressing liquidity crises. But there is also a widespread recognition of the limitations of such loans for addressing banking crisis, and of the possibility that overly generous lending can actually make matters worse. When banks face illiquidity problems, such as a temporary inability to convert valuable assets into cash, loans from a central bank fully and collateralized by valuable assets (and subject to collateral haircuts that require collateral to exceed the amount of the loan from the central bank) can assist banks in weathering the liquidity problem. But when banks face significant fundamental losses in their assets, loans from central banks are generally not the best solution to the problem.

The new Fed facility created to address the recent crisis lends to weak banks for up to a year, with inadequate collateral, at concessionary rates. This tool runs contrary to our theoretical and historical understanding of the types of policy tools that should be used to address fundamental weakness in the banking system and is likely to encourage more risk taking by banks, and/or possibly more runs by uninsured depositors.

There are two problems that have been identified in the literature related to excessive lender-of-last-resort lending (as well as deposit insurance): (1) a moral-hazard problem in bank risk management, which is sometimes called a "debt overhang" problem (Myers 1977) or an "asset substitution" problem (Jensen and Meckling 1976), and (2) the possibility of effective subordination of other bank debts, which can encourage runs by unsecured creditors, including depositors.

With respect to the first problem, when a bank suffers a loss, deleveraging can help to restore the proper incentives to manage risk. But if loans available to the bank help avoid deleveraging, one of the consequences is that the highly leveraged bank will tend to have an increased appetite for risk. Since the bank does not bear the full consequences of the downside of increased risk-taking, this can result in larger losses. Indeed, the FDICIA reforms of 1991, limiting loans from the Fed to under-capitalized banks, were based on observations of "resurrection risk taking" by "zombie banks" that increased the losses borne by the FDIC deposit insurance fund.

Another problem with supplying loans to weak or insolvent banks is that doing so often requires the receiving banks to pledge their best collateral to the Fed or the FHLBs, which can subordinate uninsured creditors. Creditors anticipating such potential subordination have incentives to withdraw deposits or not roll over debts. These consequences can exacerbate bank liquidity problems.

The appropriate policy response to address a significant increase in insolvency risk can include government purchases of preferred stock or equity, which was done in the 1930s and during the 2008-2009 crisis, or credit guarantees of bank debt, or allowing the bank to fail, if the social costs of the failure are not deemed to be large (see the review of the literature in Calomiris, Flandreau and Laeven (2016)).

In other words, if systemic risk in the banking system is sufficient to warrant large subsidies to banks, then subsidies to fundamentally weakened banks should be administered as fiscal policies that strengthen bank capital ratios (typically through legislative action, as in the cases RFC loans and TARP loans). Collateralized lending is not the most appropriate means to address such problems.

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