



SILICON VALLEY BANK *INTER ALIA*



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SILICON VALLEY BANK AND THE CHANGING STRUCTURE OF BANKING

By Jonathan A. Parker



PRUDENTIAL SUPERVISORS SHOULD EMBRACE BETTER TECHNOLOGY TO HELP PREVENT BANK FAILURES

By Jerome Walker



BANKING REGULATIONS AND FINANCIAL STABILITY

By Jon Danielsson



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Interest rate risk, reliance on an undiversified group of uninsured depositors, social media and mobile banking all played important roles in the failures of SVB and other regional banks during the spring of 2023. But weak bank supervision was also a common factor across these failures, as it was during the Global Financial Crisis. This essay identifies several specific ways in which more effective bank supervision could have prevented recent bank failures or mitigated their severity and contagion risk. It also suggests concrete steps to both improve bank supervision and provide supervisors the means to deal with the new generation of technology-enabled bank runs, including the modernization of the system for providing emergency liquidity to banks.

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01

INTRODUCTION

The failures of Silicon Valley Bank (“SVB”), Silvergate Capital, Signature Bank, and First Republic bring to mind the Karl Marx quote about history repeating first as tragedy, then as farce.² Six years ago, Celine Rochon and I published a paper arguing that the direction of bank capital regulation needed to change.³ We pointed out that the response to the Global Financial Crisis primarily consisted of revising the rules that banks were expected to follow, yet a main source of the crisis was weak supervision of banks. As we stated in that paper, “Bank supervisors ignored warnings of danger and failed to take strong actions to limit bank risk-taking.”⁴ Unfortunately, this quote describing the 2008 crisis is just as applicable to the events of 2023. At least with respect to bank supervision, things don’t seem to have changed very much.

Once again, lapses in supervision played a key role in these individual failures. And even worse, lack of assurance that supervisors had the situation under control appears to have contributed to the swift rise of a sense of panic on the part of depositors in all regional banks, who are now equipped with the technological means to create runs of unprecedented speed and scale. This in turn required an extraordinary (and itself panicky) response from top regulators at Treasury, FDIC and Fed in the form of a blanket guarantee on all deposits in order to prevent a widespread banking panic from breaking out. Supposedly sophisticated regulators being overtaken by events and thus forced to set a very bad potential precedent for deposit insurance is high farce indeed.

Continuing on this theme, I am reminded of the conclusion of Tom Stoppard’s play *Rosencrantz and Guildenstern Are Dead* when Guildenstern says “...there must have been a moment, at the beginning, where we could have said — no. But somehow we missed it.”⁵ This is the key question for bank supervision when thinking about the Panic of ’23. Indeed, there were many moments at which bank supervisors could have “said no” by intervening in meaningful ways to mitigate problems or prevent panic. In this essay, I examine these missed opportunities and use them to draw lessons about how bank supervision needs to change, and what kinds of support bank

supervisors need in order to deal with the new reality of bank rumors and runs.

02

THE BANK COLLAPSES OF 2023

A brief review of the bank collapses of the spring of 2023 will help identify the points at which supervision could have altered the outcomes. By now, the underlying cause of failure for Silvergate Capital, SVB, Signature Bank, and First Republic is well known: interest rate risk combined with overreliance on an undiversified group of uninsured depositors. All of these banks had more deposits than they could profitably lend out, so they began to invest their excess deposits in Treasury securities. To make this profitable, the banks needed to buy long-term Treasuries, which had the highest yields, and continue to pay out near-zero interest rates on demand deposits. While the low interest rates lasted, it created a modern version of the 3-6-3 rule for these banks, and times were good.

But when interest rates began to rise, the large, positive duration gap between assets and deposits meant that banks were sitting on significant and growing, though unrealized, capital losses. At the same time, the interest rate shock also had consequences for the banks’ uninsured depositors that made them begin to withdraw funds. For Silvergate Capital, and Signature Bank, the cryptocurrency crash led to withdrawals by crypto companies and investors, while at SVB the tightening of VCs’ belts meant less cash support for their portfolio companies, creating a need for them to withdraw funds. Later, the runs on these banks motivated withdrawals from other banks such as First Republic.

To cover these withdrawals, the banks liquidated some of their long-term bonds, realizing capital losses on them. This appears to be what caused the runs, though it is unclear whether realized or potential losses were the actual trigger of each bank run. What does seem to be true

2 K. Marx, *The Eighteenth Brumaire of Louis Bonaparte*, 1852 (tr. Daniel de Leon, 1897), p1. “Hegel says somewhere that that great historic facts and personages recur twice. He forgot to add: ‘Once as tragedy, and again as farce.’”

3 Connel Fullenkamp & Céline Rochon, *Reconsidering Bank Capital Regulation: A New Combination of Rules, Regulators, and Market Discipline*, <https://doi.org/10.1080/17487870.2016.1181550>.

4 *Ibid.*, [x]

5 T. Stoppard, *Rosencrantz and Guildenstern are Dead*, 1967, Act III.

is that depositors who presumably had very little understanding of interest rate risk and its implications for bank solvency began a rush for the exits. The concentration of uninsured depositors in small communities whose members knew and communicated with each other, such as cryptocurrency firms or VC-funded startups in Silicon Valley, combined with the heavy use of social media and mobile communication tools such as Slack and WhatsApp, were undoubtedly instrumental in causing this behavior⁶. Clearly some of these depositors either understood interest rate risk themselves or passed messages along from other people in their network who did. There were reports, for example, of VCs who instructed their portfolio companies to immediately remove their deposits from SVB⁷.

The other distinctive characteristic of these runs was the use of mobile banking, which made it possible for a retail bank run to unfold even more quickly than the wholesale “silent” runs that characterized bank failures before the advent of the mobile web. The speed of the runs was limited only by how quickly depositors could work their smartphones to move money from their current banks to presumably safer ones (and perhaps by the quality of the data connection as well). Going forward, the experiences of the SVB and other related runs should be accepted as the new normal in terms of the speed at which bank runs will take place.

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Although the initial increases in withdrawals appear to have been triggered by particular events such as the “crypto winter,” it should be noted that it was only a matter of time before the profit strategy pursued by the banks would have become unsustainable. Even if out-

side events that caused depositors to withdraw fund from these banks had not occurred, a flight of uninsured deposits would have happened at these banks as interest rates rose and other safe investments such as money market funds offered much better returns. The banks would either have had to increase their deposit rates, which would decimate their interest income and potentially turn it negative, or sell long-term assets at losses to cover the withdrawals.

03

HOW BETTER BANK SUPERVISION COULD HAVE MITIGATED OR PREVENTED THE CRISIS

Given this basic version of events, we can think through the moments at which better bank supervision could have mitigated or prevented the bank runs and failures. One of these moments took place years before the crisis started, when bank supervisors were selected and trained. Did the supervisors who were responsible for SVB and other failed banks have the training and experience to recognize the potential problems with these banks’ asset-liability management strategies? How many of them had been active bank supervisors during a previous interest rate tightening cycle? What kind of training do supervisors receive in terms of recognizing and reacting to interest rate risk issues? What emphasis did their own superiors place on supervision of interest rate risk management at the time? Although it is difficult to answer these questions, the Fed’s report on the SVB failure does contain this disturbing observation: “The Federal Reserve did not appreciate the seriousness of critical deficiencies in the firm’s governance, liquidity, and interest rate risk management.”⁸ If interest rate risk management was a weak area or a blind spot for supervisors, this could have contributed to the development of the problems at these banks and limited the supervisors’ effectiveness in dealing with the problems once they emerged.

⁶ See Cookson, J. Anthony, Fox, Corbin, Gil-Bazo, Javier, Imbet, Juan Felipe, and Schiller, Christoph, Social Media as a Bank Run Catalyst (April 18, 2023). Université Paris-Dauphine Research Paper No. 4422754, Available at SSRN: <https://ssrn.com/abstract=4422754> or <http://dx.doi.org/10.2139/ssrn.4422754>.

⁷ See Foldy, Ben, Ensign, Rachel Louise, and Baer, Justin, “How Silicon Valley turned on Its Financier,” Wall Street Journal, 13 March 2023 p. A10.

⁸ See <https://www.federalreserve.gov/publications/2023-April-SVB-Key-Takeaways.htm#:~:text=The%20Federal%20Reserve%20did%20not,firm%27s%20safety%20and%20soundness%20emerged>.

Assuming that supervisors were adequately equipped to diagnose interest rate risk management issues, another critical moment occurred in mid-2022, when supervisors could have had a more vigorous dialogue with bank managers about their interest rate outlook and its implications for hedging. Fed Chair Jerome Powell was making clear and consistent declarations of his intent to raise interest rates.⁹ Why, then, were supervisors content to allow banks to make plans based on assumptions that the Fed would be cutting interest rates by late 2022? For example, the Fed's report on SVB noted that the bank changed its assumptions about the risks of interest rate changes and dropped nearly all of its hedges against rising interest rates to focus instead on protecting against possible rate decreases in 2022. Bank supervisors could have used moral suasion, backed by their insider knowledge of the likelihood of future rate increases, to argue powerfully that interest rates would be rising and then remain elevated, and that banks should plan accordingly.

They could also have used their authority to penalize interest-rate risk management decisions that would be ill-considered or irresponsible in a rising-rate environment. But as both the media's reports and the Fed's own report show, this did not happen. The records show that supervisors were well aware of actual and potential risk-management problems at SVB and other banks. For example, the Fed's report mentions that supervisors had identified "interest rate risk deficiencies" each year from 2020 – 2021,¹⁰ but did not issue an official supervisory finding (essentially a warning) on interest-rate risk management until November 2022. The Wall Street Journal reported that SVB had 31 open supervisory findings when it failed, noting that this was triple the number at similar banks.¹¹ The Fed report stated that supervisors did intend to downgrade SVB's rating related to interest-rate risk management (the S for "sensitivity" in CAMELS),¹² but the bank failed before this could be done.



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What was responsible for the lenient and slow response to the building evidence of problems in SVB and other banks? The Fed's report suggests several reasons. First, the overall supervisory strategy had shifted toward more of a light touch approach that reduced compliance costs of banks but increased the burden of proof on supervisors. In addition, the report describes a focus on ensuring that the supervisory process was driven by evidence accumulation, consensus building, and ensuring due process. This resulted in supervision that was "too deliberative," in the words of the Fed's report.¹³ In addition, the Wall Street Journal reported that ultimate decisions over enforcement actions often must be approved by the central office in Washington rather than allowing the regional banks to proceed on their own¹⁴. And finally, the Fed's report mentions that a new supervisory team was appointed in 2021, in response to the growth in the bank. This changeover could have resulted in loss of accumulated expertise about the bank and also encouraged a wait-and-see outlook among the newly installed supervisory team.

Even after the runs commenced at Silvergate Capital and SVB, there was a moment in which supervisors could have acted to reassure the public and calm its instinct to panic. One classic aspect of the runs on these banks was a lack of information that could have enabled depositors to distinguish stronger banks from weaker ones. A key feature of the large banks that failed in spring 2023 was that they had an overreliance on uninsured deposits from a concentrated and undiversified set of depositors. If supervisors had made clear to the public that these banks were different from the "normal" superregional banks in this key respect, then this could have

9 See https://www.federalreserve.gov/news_events/speech/powell20220826a.htm.

10 See <https://www.federalreserve.gov/publications/2023-April-SVB-Key-Takeaways.htm#:~:text=The%20Federal%20Reserve%20did%20not,firm%27s%20safety%20and%20soundness%20emerged>.

11 See Ackerman, Andrew and Ben Eisen, "Bank Regulators Take Some Blame, The Wall Street Journal, 29 April 2023, p. A4.

12 CAMELS is an international rating system used by regulatory banking authorities to rate financial institutions. The CAMELS system rates six factors: capital adequacy, asset quality, management, earnings, liquidity, and sensitivity.

13 See <https://www.federalreserve.gov/publications/2023-April-SVB-Key-Takeaways.htm#:~:text=The%20Federal%20Reserve%20did%20not,firm%27s%20safety%20and%20soundness%20emerged>.

14 See Ackerman, Andrew and Ben Eisen, "Bank Regulators Take Some Blame, The Wall Street Journal, 29 April 2023, p. A4.

limited the sense of panic that did become a contagion of withdrawals spreading among other superregional banks. The spread of fear was extremely similar to that which happened with respect to CDOs in 2007. Investors knew that some of the mortgages underlying some of the CDOs were toxic, but didn't have the ability to find out quickly or cheaply which CDOs were the bad ones. The only rational strategy in this situation is to flee from all CDOs. Similarly, the public began to think that all superregional banks were subject to the problems that caused SVB and Silvergate Capital to collapse, implying that the rational strategy was to withdraw funds from any superregional bank.

The final moment that should be considered is the individual banks' desperate attempts to secure emergency liquidity from existing sources, such as the Fed and the Federal Home Loan Banks. Compared to the speed with which smartphone-armed depositors were able to drain liquidity from banks, the speed of liquidity support was ponderously slow. In addition, it was also only available during a highly restricted set of operating hours. Although the Fed's report correctly pointed out that the managers of SVB did not have a solid liquidity management plan in place, the Wall Street Journal reported that a liquidity infusion that could possibly have kept the bank alive arrived too late, thanks to the "creaky apparatus" that supplies emergency liquidity to the banking system.¹⁵ Signature Bank was also unable to secure timely liquidity from the Federal Home Loan Bank ("FHLB"), although it did receive a limited amount from the Fed's discount window (the Fed subsequently refused to extend more loans when a buyer for the bank could not be found). A modern system of liquidity provision that can provide cash in real time and around the clock, could have prevented the need to close SVB and other banks, at least by gaining time to find a buyer for the banks' assets or deposits.

04 PROPOSED IMPROVEMENTS

Although there are doubtlessly other moments when supervisors could have intervened into specific circumstances of each bank, the missed opportunities I discussed above appear to apply to all of the banks that failed in the Panic of '23. And I believe they will also ap-

ply to future bank failures, unless significant steps to improve bank supervision and support are taken. I see three main areas for improvement, starting with increasing the capacity of individual bank supervisors. We need to ensure that bank supervisors are well trained, not only in the techniques of financial analysis and risk management, but also in the history of financial failures, panics, and crises. In an essay I wrote over a decade ago with Sunil Sharma, we went as far as suggesting special academies for regulators that would provide this training.¹⁶ In addition, we need to incentivize bank supervisors to remain on the job long enough to accumulate significant experience, as well as the wisdom and confidence that comes with it. Such incentives would include improved compensation, of course, but would also include more independent authority vested in regional offices of supervisors and individual supervisors.



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The second improvement would be to increase both the power vested in individual supervisors and regional offices, and their responsibility. The means of doing this would be to finally implement the supervisory standard that was introduced in the FDIC Improvement Act of 1991 and then ignored: prompt, corrective action. What I have in mind is to require bank supervisors to take prompt, corrective action but also give them the power to do so. This would mean giving discretion to bank supervisors to take stronger actions without needing excessive ex ante review. Such a system would have to place a great deal of trust on individual supervisors to perform well — hence the emphasis on training and experience. But short of turning over bank supervision to AI, there seems to be no other way to conduct bank supervision in real time (and I'm not necessarily opposed to using AI tools to augment supervisory decisionmaking, as long as the ultimate responsibility for decisions lies with individual human supervisors). Although regulators and supervisors will always lag behind the private sector, this isn't necessarily a problem if the gap between them isn't very large. Delegating more power to individual supervisors

15 See <https://www.wsj.com/articles/how-the-last-ditch-effort-to-save-silicon-valley-bank-failed-89619cb2>.

16 Sharma, Sunil & Fullenkamp, Connel, *Good Financial Regulation: Changing the Process is Crucial* (February 7, 2012). Available at SSRN: <https://ssrn.com/abstract=2044217> or <http://dx.doi.org/10.2139/ssrn.2044217>.

is the best way to ensure this gap is as small as possible. And such a system will still permit decisions to be reviewed and individuals to be held accountable, arguably in a more meaningful way than if regulatory agencies volunteer to take on collective blame, as is the case with the Panic of '23.

The final improvement that must take place is that the system of emergency liquidity provision must be upgraded so that its operation is as fast and universally available as the means of conducting runs on banks have become. Institutions that need liquidity must be able to access it in real time, on a 24-7 basis. This calls for a tremendous upgrade of the individual screening and approval systems of the liquidity providers as well as of the Fedwire Real-Time Gross Settlement System (“RTGS”) payment platform. But the technological changes are only part of the needed improvement. This upgrade in speed of delivery of liquidity cannot come at the expense of careful evaluation of the banks that request liquidity assistance, particularly in emergencies. The entire way that liquidity assistance is allocated needs to be rethought and restructured, so that the providers can still say no when appropriate.

These constraints suggest that pre-approval of liquidity lines for individual banks from the Fed and FHLBs is an allocation mechanism that should be introduced. At the end of each business day, a bank would update its information with the Fed and FHLBs and these providers would issue a guarantee on the minimum size of the liquidity line the bank would be entitled to draw the next day. The bank could apply for greater liquidity assistance the next day, but would face additional informational and collateral requirements specified by the liquidity provider. And no liquidity would be disbursed if there were significant changes in the bank's condition between the time of approval of the liquidity line and the draw. The sizes of these liquidity lines would also be public information that would be readily available on the Fed or FHLBs' websites.



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The existence of such liquidity lines would serve supervisory and regulatory objectives as well as functioning as a vital source of liquidity for banks. First, supervisory information and evaluations would feed directly into the size of the liquidity lines, giving regulators another avenue with which to penalize banks that had deficiencies. Also, if banks had to update their information daily (and even more frequently if they drew on these lines), then this would facilitate private sector monitoring. Daily changes in the size of the liquidity lines would contain information for market players regarding the health and activities of the banks. In particular, depositors and investors could compare the minimum size of the liquidity lines supporting each bank and compare them to key measures of liquidity demand such as uninsured deposits. Many banks would also be motivated to supplement the government-provided liquidity lines with private lines, which they would also have the incentive to prearrange and reveal to the public. Thus, this mechanism would foster improved market discipline on the banks that could pressure banks to change their behavior well before their practices sparked a loss of confidence among depositors or investors.

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CONCLUSION: URGENT CHANGE IS NEEDED

The urgency of making these changes was captured well by a recent article in the Economist which argued that state control of the financial system is ratcheting up with each new crisis.¹⁷ The article pointed out the increasing use of “emergency” deposit guarantees, emergency lending programs and outright bailouts by governments in response to financial crises. Both deposit guarantees and lending programs were deployed in response to the Panic of '23. The more of these programs that are rolled out, the more likely it is that they will remain permanent features of the financial landscape, due to the moral hazard they engender among private sector agents. Attempting to mitigate the moral hazard it created gives governments justification for playing a larger and larger role in how banking is done and more generally, how capital is allocated in the economy. The best hope to reverse this trend is for the existing supervisory system to improve and show that it can be effective at preventing the need for emergency government interventions that worsen moral hazard problems. If we believe that history repeats itself as farce, imagine the economic farce that will follow as regulators increasingly take over for financial markets in allocating capital, and impose “improved” business models such as narrow banking on the banking system. ■

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17 <https://www.economist.com/finance-and-economics/2023/05/18/the-financial-system-is-slipping-into-state-control>.

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