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Strengthening Accountability at the Federal Reserve: Lessons and Opportunities for Reform

Supervisory lessons from the SVB Failure

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Supervisory Lessons from the SVB Failure

Chairperson Warren, ranking member Kennedy, and subcommittee members, thank you for the opportunity to testify at today's Economic Policy subcommittee meeting, "Strengthening Accountability at the Federal Reserve: Lessons and Opportunities for Reform." I am Paul Kupiec, an economist and senior fellow at the American Enterprise institution where I follow banking, financial system, and Federal Reserve issues. This testimony reflects my own personal views and assessments and not those of the American Enterprise Institute which, as a matter of policy, espouses no institutional views of its own.

My background includes almost a decade of service at the Federal Reserve Board and a similar term at the FDIC. In my time at the FDIC I had extensive interactions with bank regulation, examination, and supervisory activities both as Chairman of the Basel Committee's Reserve Task Force and as the FDIC Associate director who managed the economists that ran the FDIC's own early warning econometric models and economists that assessed the adequacy of bank stress test and other internal models during the course of bank examinations.

My testimony will focus on the proximate causes of the SVB bank failure, the supervisory role of the Federal Reserve and Board of Governors (BOG) of the Federal Reserve, issues related to the FDIC, the use of the systemic risk exception, and reforms might help to prevent a repeat of this unfortunate episode.

I begin with a summary of my supervisory findings regarding the SVB failure and my recommendations for reforms:

- The precarious nature of SVB's condition was obvious from regulatory call report information. There was no need to know anything about SVB's internal liquidity stress tests, internal regulatory capital stress tests, the results of a Federal Reserve Board stress test, its high quality liquid asset requirement under the Liquidity Coverage Ratio stress test, or the results of any other complex model-derived regulation to see that, by early March 2023, SVB was likely insolvent on a mark-to-market basis and in danger of experiencing a serious deposit run should its uninsured depositors recognize the bank's true condition.
- S.2155 had nothing to do with the failure of SVB. The S.2155 tailoring requirements deal with the Dodd-Frank enhanced regulations for large bank holding companies. In SVB's case, the risks were obvious, and they were in SVB bank, and not in SVB's holding company.
- Federal banking regulators, including Federal Reserve bank supervisors, have ample powers under prompt corrective action legislation and related regulations to remedy any serious safety and soundness issues bank examiners identify in a regulated bank like SVB. Timely and proper exercise of the Fed's prompt corrective action powers could have been used to de-risk SVB.
- Virtually all of the corrective supervisory recommendations made to SVB concerned processes associated with model-based large bank regulations or procedures to measure, set, and monitor internal risk limits. None of the supervisory communications actually spoke to SVB's actual liquidity risk associated with the SVB's precarious funding mix, the financial ramifications of its interest rate risk profile, or the bank's true capital adequacy risks.
- The failure of the Federal Reserve's examination team to appreciate the impact of rising short term interest rates on the market value of SVB's held-to-maturity securities is shocking given that the bank reports this data in its quarterly regulatory call reports. Moreover, the Federal

Reserve System was itself at the time experiencing a huge $1 trillion unrealized market value losses on the held-to-maturity securities in its system open market account.

- The Board of Governors of the Federal Reserve's November 2022 Financial Stability Report failed to highlight any of the issues that caused SVB, Signature Bank and First Republic Bank to fail.
- SVB is an example of a situation for which the FDIC's back-up authority was designed. I see no evidence that the FDIC pushed back on the Fed's lack of zeal in enforcing prompt corrective actions even though the FDIC's early warning models must have identified SVB as a failure risk.
- It is highly unlikely that the FDIC's large bank deposit insurance premium assessment system charged SVB bank anywhere near an appropriate deposit insurance premium since the FDIC's assessment system does not seem account for the risk features that caused SVB to fail.
- Dodd Frank Orderly Liquidation Authority was designed to resolve a large failing banking organization without creating systemic risk. OLA was not used to resolve SVB. It is important to understand why it was deemed inappropriate.

Some of the possible steps that, in my opinion, might reduce the probability of similar incidents in the future include:

- I agree with the GAO recommendation to revisit the rules and guidance related to the use of prompt corrective action powers to add explicit non-regulatory capital triggers that would mandate remedial examiner actions.
- Federal bank supervision and regulation of banks and bank holding companies has become exceedingly complex with a heavy reliance on economic modelling and hypothetical simulation exercises, especially in regard to large bank and bank holding company supervision. The SVB supervisory experience suggests that the emphasis on models has perhaps required too many bank supervision resources to be devoted to assessing modelling issues at a cost of distracting examiners from evaluating important fundamental bank risks obvious in call report data.
- The power of the Federal Reserve Board, FDIC and Secretary of the Treasury to declare a systemic risk exception and release the FDIC from its least cost resolution mandate is not constrained by any checks and balances in legislation. Once a systemic risk exception is declared, the FDIC could use orderly liquidation authority to resolve an institution, issue blanket deposit insurance guarantees as it did in the case of SVB, guarantee bank holding company debt as it did in the past financial crisis, or perhaps take other measures. There should be some accountability structure put in place to guide the policies taken once a systemic risk exception is declared.
- The FSOC and Federal Reserve Board are not very prescient when it comes to their assessments of issues constitute a systemic risk to the financial system. In fact, systemic risk is a term that is never defined in the Dodd-Frank Act even though the FSOC is empowered to require federal regulator agencies to promulgate regulations to control the systemic risks it identifies. This ambiguity has made the FSOC a political tool rather than a trusted independent voice on actual risks that threaten financial stability.
- FDIC risk-based deposit insurance premiums are not. The FDIC's approach for setting risk-based deposit insurance premiums for large banks needs to be revisited.
- Improve Federal Reserve oversight and accountability. A Senate confirmed IG may help. District banks should be subject to FOIA. Congress should also enhance its committee resources dedicated to Federal Reserve oversight.

The Silicon Valley Bank Failure

SVB grew very quickly during the COVID crisis without adequate risk management. It business model was concentrated on attracting large uninsured deposit balances from venture capitalists, their businesses, and private equity clients. Most of the bank's accounts held balances in excess of the FDIC $250K insurance limits. For the most part, these accounts were not business transaction accounts, but were money market deposit accounts (MMDAs).

Transactions accounts are typically "sticky" because they are associated with bank-provided financial services that are critical to running a business. It takes time and effort to move these types of accounts a new bank. In contrast, MMDAs have the character of liquid investments. They are typically placed by customers to earn a safe but modest return until they are needed to fund some other investment. MMDA balances are much more likely to be quickly withdrawn should depositors lose confidence in a bank. They are also more likely to migrate to higher yielding US Treasury securities and SEC regulated money market mutual funds in a rising interest rate environment.

SVB ultimately failed because it did not have the resources to meet an unanticipated surge of MMDA deposit withdrawals after events taken by the bank's management caused the SVB's customers to question the bank's viability.

<u>Rapid growth fueled by uninsured deposits</u>

According to regulatory call report data, as far back as December 31, 2019, SVB's funding was concentrated in deposits with account balances in excess of the $250K FDIC insurance limit. In December 2019, SVB had a little over 52 thousand fully FDIC-insured domestic accounts with total balances of $2.2 billion and about 19 thousand domestic accounts over the deposit insurance limit. The latter, less than fully insured deposit accounts, had total deposits of $55 billion.

Notwithstanding more than 96 percent of its domestic deposits held in accounts that were above the FDIC insurance limit, based on its 2019 examination, the Federal Reserve, the bank's primary federal regulator, assigned the bank a CAMELS[1] component liquidity rating of 1, the highest possible rating. The bank was assigned a risk management rating of 2 indicating the examiners judged the bank's risk management to be "fundamentally sound". SVB's received an overall composite CAMELS rating of 2.

Between December 31, 2019 and December 31, 2020, SVB grew from $69.9 billion to $113.8 billion in total assets. The bank's growth was fueled by attracting deposits over the FDIC insurance limit. At the end of 2020, fully insured account balances had grown to $2.4 billion while SVB added about 4 thousand accounts with balances over the insurance limit. The latter accounts, 23 thousand of them, had total balances of $92.4 billion. SVB bank raised 97.5 percent of its domestic deposits from accounts with

[1] The CAMELS rating is the confidential bank rating assigned under the FFIEC's Uniform Financial Institution Rating System. The system is supposed to evaluate significant financial and operational factors that impact a bank's safety and soundness. The system assigns a separate numerical rating for five risk factors: C-capital adequacy; A-asset quality; M-bank management quality; E-bank earnings; L-bank liquidity; and, S-bank sensitivity to market risk. Components are rated on a scale of 1 through 5: 1= Strong; 2=Satisfactory; 3= Less than Satisfactory or Fair; 4=Deficient; and, 5=Critically Deficient. The bank is also assigned a composite CAMELS score that reflects its overall comprehensive examination rating.

balances in excess of the FDIC insurance limit. On average, these large balance accounts held about $4 million each. For comparison purposes, as of Year-end 2022, the entire US banking system had about $18 trillion in domestic deposits of which $7 trillion[2] (or about 43 percent) were in accounts with balances in excess of the FDIC insurance limit.

SVB received its 2020 bank examination CAMELS rating in May 2021. It was rated 1 for liquidity and 2 for risk management. Its overall composite CAMELS rating was 2, again implying that the bank was fundamentally sound. The supervisory letter informing SVB of its CAMELS ratings summarizes the bank's examination findings:

> The overall condition of Silicon Valley Bank (SVB or Bank) remains satisfactory. …The institution's overall financial condition and financial risk management practices remain satisfactory. Board of Director (Board) and management oversight is generally satisfactory. Capital levels and planning are adequate relative to SVB's risk profile including rapid asset growth over the prior year. …Earnings are at a satisfactory level, although are unable to accrete capital at a pace equal to asset growth. Liquidity is strong with sufficient sources of liquid assets capable of absorbing fluctuations in funding needs. Sensitivity to market risk and practices to measure and control market risk are satisfactory.

By year-end 2021, SVB bank grew its assets to $208.6 billion. SVB's growth was again funded by large uninsured deposit balances. It attracted an additional $2 billion in fully insured domestic deposits and $78.5 billion in new domestic accounts over the $250K FDIC insurance limit. Again, only 2.5 percent of its domestic deposits were held in accounts that benefited from full FDIC insurance coverage. The bank had 34,727 accounts that on average held balances of almost $5 million each. $158.5 billion of its deposits were held in large balance MMDA accounts. The bank reported owning $98 billion in high quality US treasury and agency securities in its held-to-maturity portfolio valued on an amortized cost basis. The market value of these securities was estimated to be $97 billion.

Following SVB's 2020 bank examination cycle, the Federal Reserve migrated the SVB from the Fed's regional bank supervision portfolio to its large and foreign bank organization (LFBO) supervision portfolio. According to the Fed's discussion of the SVB bank failure, this change should have led to intensified Federal Reserve examination efforts including annual "horizontal reviews" of banks in the LFBO portfolio. SVB would be assigned more examination resources including staff with a greater depth of experience in assessing the safety and soundness and identifying any required corrective supervisory actions needed in large financial institutions. The Fed's LFBO supervision process also includes an annual review and assessment of a large bank's holding company.[3]

Allegedly, as a consequence of delays associated with the handoff off of SVB's supervision from the regional bank supervision process to the LFBO process managed from the Federal Reserve Board and the Board's implementation of S. 2155 "tailoring regulations", SVB's 2021 bank examination rating and associated supervision letter was not delivered until August 17, 2022.[4]

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[2] www.fdic.gov/analysis/quarterly-banking-profile/qbp/2022dec/qbp.pdf Table 1-C

[3] LFBO holding companies are rated on three components: capital planning and positions; liquidity risk management and positions; and, governance and controls. Each component is rated on a four-point scale: broadly meets expectations; conditionally meets expectations; deficient -1; and deficient -2. A holding company must receive a broadly or conditionally meets expectations on each rating component to be considered "well managed".

[4] The supervisory letter indicates the results were verbally conveyed to SVB's board of directors on July 21, 2022.

The Fed's 2021 LFBO holding company exam rated SVB's holding company as: deficient -1 in its governance and controls rating; conditionally meets expectations in its liquidity rating; and broadly meets expectation in its capital rating. The supervisory letter informed the holding company management that its board oversight, risk management program, and internal audit functions were "less than effective". The LFBO assessment of the holding company's management of liquidity stated:

> While actual and post-stress liquidity positions reflect a sufficient buffer, the firm lacks several foundational liquidity risk management elements. These missing elements may negatively affect the sufficiency of the Firm's post-stress liquidity buffer. Notable elements that management must address include more granular deposit segmentation to produce effective modeling of deposit outflows during stress; more comprehensive testing of its contingent funding plan to assess the feasibility of funding options under stress; and more effective challenge provided by the second line independent risk function to ensure that the first line Treasury business unit has appropriately executed its liquidity risk management responsibilities.

The LFBO assessment of the holding company's capital planning process stated:

> The firm's actual and internal post-stress capital positions reflect a sufficient buffer to comply with applicable regulatory requirements and to serve as a financial intermediary through a range of conditions.

However, examiners did raise issues with SVB's holding company liquidity management:

> Key liquidity risk management deficiencies, identified in the Liquidity Target Examination supervisory letter issued on November 2, 2021, include internal liquidity stress testing design weaknesses, such as the lack of deposit segmentation, the lack of differentiation between market and idiosyncratic risk scenarios, and the lack of testing of the firm's contingency funding plan. The examination also identified a lack of effective challenge by the second line independent risk function over the first line treasury business unit.

SVB's 2021 CAMELS ratings were: Capital =2; Asset quality =2; Management =3; Earnings =2; Liquidity = 2 (downgraded from 1); and, Sensitivity to market risk =2. The bank's overall CAMELS composite rating was 3, indicating that in the examiners' opinion, from a safety and soundness perspective, the bank's condition was "less than satisfactory or fair".

To summarize, SVB and its holding company received their last full-scope examination report before failing in the late summer of 2022. The report was based on the bank and holding company 2021 examination findings. The Federal Reserve LFBO examination team assessment rated Silicon Valley Bank overall condition as "fair" and not "fundamentally sound" primarily because of management weakness. The examination team had issues with the bank holding company's liquidity management process that needed to be improved but said that the holding company and SVB bank both had adequate liquidity. The examination report mentioned no issue regarding the bank or the holding company's capital adequacy and planning process or its interest rate risk exposure. Indeed, in October 2022, SVB received another supervisory letter, its last before failing, informing the bank's holding company of the results of the LFBO examination team's horizontal review of the financial group's capital adequacy and planning process. The report stated:

> The Capital rating for SVBFG remains unchanged at Broadly Meets Expectations (BME). SVBFG maintains adequate levels of high-quality capital to support ongoing operations and initiatives commensurate with its risk profile. The firm's internal post-stress capital positions reflect a sufficient buffer to comply with applicable regulatory requirements and support the firm through a range of conditions.

Notwithstanding SVB's "fundamentally sound" liquidity and capital adequacy ratings, in a few short months SVB's embedded interest rate risk would render it insolvent on a mark-to-market basis and spark a massive depositor run that would overwhelm SVB's liquidity.

SVB's growth continued into 2022. By March 31, it held almost $218 billion in assets funded by $17.6 billion in foreign deposits and $182 billion in domestic deposits, $179 billion of which were held in accounts with balances in excess of the FDIC insurance limit. SVB's March call report showed no Federal Home Loan Bank advances and $98.7 billion in held-to-maturity assets with an estimated market value of $91.7 billion. According to call report data, in the first 3 months of 2022, SVB's unrecognized mark-value losses on it held-to- maturity securities portfolio increased from $1 billion to $7 billion. All of this information is reported in the SVB's call report

As the Federal Reserve began to raise short term interest rates beginning in late March 2022, SVB started to shed both deposits and assets. It should not have been difficult for examiners to forecast that large MMDA deposit balances might leave SVB for higher yields being offered by short-term Treasury securities and money market funds. Moreover, higher interest rates increased the unrecognized losses on SVB's held-to-maturity securities portfolio.

By June 30, SVB's assets had declined to $212 billion. It foreign deposits shrank by $2 billion; its domestic deposits fell to $175 billion as more than $8 billion were withdrawn from accounts with balances in excess of the FDIC insurance limit. SVB used $3.5 billion in advances from the Federal Home Loan Bank of San Francisco to replace a portion of the withdrawn deposit funding. The bank's unrecognized losses on its held-to-maturity securities portfolio increased to $11.2 billion.

By September 31, SVBs assets had declined by another $1.6 billion. Its domestic deposits declined $10 billion, again driven by withdrawals from uninsured accounts. Foreign deposits fell by $1.5 billion. SVB's Federal Home Loan Bank advances increased to $13.5 billion and its unrecognized losses on its held-to-maturity portfolio increased to almost $16 billion.

By year-end 2022, SVB had $208 billion in assets. Domestic deposits declined by another $5 billion in the fourth quarter and its Federal Home Loan Bank advances increased to $15 billion. SVB's unrealized loss on its held-to-maturity securities stood at $15.2 billion.

SVB's unrecognized losses on held-to-maturity securities and loans[5] were not counted in the bank's regulatory capital requirements. However, beginning in early March 2023, investors and depositors

[5] Bank long-term loans and leases are not marked-to-market to reflect changes in interest rates. According to its December 31, 2022 regulatory call report, SVB had $73.6 billion in loans and leases net of loan loss allowances. Of these, about $6 billion were residential mortgages with remaining maturity over 5 years. The bank also had about $2 billion of loans and leases with maturity over 5 years that were not secured by residential properties. Taken together, these $8 billion of long-maturity loans and leases would have had significant mark-to-market losses that were not recognized in SVB's regulatory capital requirement calculations.

were aware of these losses when evaluating the viability of SVB bank. While the bank satisfied all of its regulatory capital requirements, taking these unrealized losses into account (subtracting the bank's unrealized losses from the bank's nearly $17 billion in Tier 1 capital) the bank was likely insolvent on a mark-to-market basis. Depositors and investors could have learned this fact from the bank's regulatory call reports, the last of which became public information in late February 2023.

I stress that all of the information I have just presented—excepting information contained in SVB's redacted confidential supervisory letters released by the California Department of Financial Protection and Innovation and the Federal Reserve Board—is based on data reported in SVB's quarterly regulatory call reports. These reports become public information roughly six weeks following the end of a quarter.

The precarious nature of SVB's condition is obvious from regulatory call report information. There is no need to know anything about SVB's internal liquidity stress tests, internal regulatory capital stress tests, the results of a Federal Reserve Board stress test, its high quality liquid asset requirement under the Liquidity Coverage Ratio stress test or the results of any other complex model-derived regulation to see that, by early March 2023, SVB was likely insolvent on a mark-to-market basis and in danger of experiencing a serious deposit run should its uninsured depositors recognize the bank's true condition. It should not take a senior highly experienced bank examiners let alone a team of Federal Reserve Board LFBO examiner-overseers to recognize SVB's heightened risk of failure.

Depositors recognize the bank's true condition

With SVB's deposit exodus continuing, the bank needed to raise cash and equity capital. In a March 8 letter to it investors, SVB wrote,

> We have sold substantially all of our Available for Sale (AFS) securities portfolio with the intention of reinvesting the proceeds, and commenced an underwritten public offering, seeking to raise approximately $1.75 billion between common equity and mandatory convertible preferred shares. As a part of this capital raise, General Atlantic, a leading global growth equity fund and longstanding client of SVB, has committed to invest $500 million on the same economic terms as our common offering for a total raise of $2.25 billion.

SVB's sale of its available for sale securities resulted in an $1.8 billion after tax loss and its attempt to raise new capital failed.

The bank's assurance of its financial soundness rang hollow with its depositors. SVB experienced $42 billion in deposit withdrawals on March 9. On March 10, $100 billion in deposits tried to flee the bank. SVB was unable to satisfy depositor withdrawal demands and was closed by the California Department of Financial Protection and Innovation and the FDIC was appointed as receiver.

Bank Supervision Issues

From an *ex post* perspective, it is obvious that SVB failed because it had an unsustainable business model and was poorly managed. It is the job of federal and state bank supervisors to identify bank management weaknesses, unsustainable bank risk taking behavior while a bank is still viable and require remedial bank actions to restore safe and sound bank practices and reduce the chance the bank will fail. In the case of SVB, bank supervisors failed to do their job.

Federal Reserve bank supervisors did identify several risk management weaknesses that needed to be improved. They shared their concerns with SVB management, but not always in a timely manner. Supervisors did not aggressively push bank management to institute recommended remedial actions. Moreover, it is doubtful that the remedial actions supervisors communicated in their "matters acquiring (immediate) attention" would have prevented SVB's failure had the bank implemented them in a timely manner. The issues examiners identified did not focus on curing the fundamental deposit concentration, interest rate risk and capital inadequacies that ultimately caused SVB to fail.

Vice-Chair Barr's review of the SVB failure identifies supervisory shortcomings, but seemingly attributes these shortcomings to Federal Reserve Board supervision policies implemented to comply with the regulatory tapering requirements of S.2155, the 2018 Economic Growth, Regulatory Relief, and Consumer Protection Act. To quote Vice Chair Barr's cover letter to his SVB review:

> The Board's tailoring approach in response to the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA) and a shift in the stance of supervisory policy impeded effective supervision by reducing standards, increasing complexity, and promoting a less assertive supervisory approach.

The Fed's report on the failure of SVB leans heavily on the innuendo that, while imposing the regulatory tapering requirements of S.2155, then Vice-Chair Quarrels mishandled the Federal Reserve's Board's transition to an S.2155-complaint supervision oversight processes. The relevant section of S.2155 that could have had impacted SVB's supervision required the Fed:

> [W]ith respect to nonbank financial companies supervised by the FRB and certain bank holding companies, to:
>
> - increase the asset threshold at which certain enhanced prudential standards shall apply, from $50 billion to $250 billion, while allowing the FRB discretion in determining whether a financial institution with assets equal or greater than $100 billion must be subject to such standards;
> - increase the asset threshold at which company-run stress tests are required, from $10 billion to $250 billion; and

My assessment is that S.2155 had nothing to do with the failures of SVB, Signature, or First Republic Bank. The S.2155 tailoring requirements deal with the Dodd-Frank enhanced regulations for large bank holding companies. In SVB's case, the risks were obvious, and they were in SVB bank, not in the holding company.

Federal banking regulators, including Federal Reserve bank supervisors, have ample powers under prompt corrective action legislation and related regulations to remedy any serious safety and soundness issues bank examiners identify in a regulated bank like SVB. Timely and proper exercise of the Fed's prompt corrective action powers could have been used to de-risk SVB bank. There would be no need to invoke bank holding company regulatory powers to arrest reckless SVBs growth funded almost exclusively by uninsured MMDA deposit balances. For reference, I provide the text of the relevant sections of the Fed's prompt corrective action authority in an appendix to this testimony.

Federal Reserve examiners had the authority to limit SVB's growth, to require it to diversify its depositor base as a condition for growth, to better manage its interest rate risk exposure, to require SVB to increase its capital to offset unrecognized losses on its loans and held-to-security portfolios, and require SVB to preemptively pledge collateral at the San Francisco Federal Reserve Bank's discount window so that bank could quickly secure discount window funding in a crisis. Yet the bank supervisors from the Fed and the State of California did not take any of these actions or even suggest to SVB management that such actions were needed.

SVB bank was essentially run like a money market mutual fund without the SEC regulations that restrict the duration of money market fund permitted investments. Moreover, unlike an SEC regulated money market fund, the interest earnings of SVB accrued to SVB management and shareholders instead of to its MMDA depositors.

SVB funded itself by growing its large deposit MMDA accounts during a period when short term interest rates on these accounts were close to zero. It invested most of the proceeds in longer maturity securities and loans to earn a positive yield. Most of these securities had a federal government guarantee and hence low or zero regulatory risk weights. It should have been obvious to bank examiners that SVB's business model was unsustainable in a climate of rising short term interest rates. The bank would either have to raise the rate it paid on MMDA deposits to retain its funding or replace lost deposits with new higher rate funding sources. Either alternative would eventually erode the bank's net interest income (or result in net interest losses) and create unrecognized losses on its long-term loans and held-to-maturity securities.

The Federal Reserve Board's Dodd-Frank Act holding company stress test would not have identified interest rate risk as a major issue because the Fed's scenario of the next banking apocalypse was steep recession with declining interest rates. None of the institutions that have failed thus far were part of complex holding companies and so little would have been to be gained from the Dodd-Frank holding company living will requirements. Given SVB's concentration of uninsured deposit funding and its asset holdings, the bank's liquidity and interest rate risk exposure were obvious for years based on the regulatory call report data banks report quarterly.

As for former Vice Chair Quarles role in the SVB failure, according to the Federal Reserve Board, Michael Barr assumed the position of Vice Chairman of Supervision on July 19, 2022. Instead of launching a crusade to conquer real or imaginary climate-change risk in his "holistic" capital review, taxpayers and US financial stability would have been much better served had Mr. Barr focused examiner efforts on assessing basic banking risks, like interest rate and liquidity risk, especially give the Fed's need to aggressively increase short term interest rates. The SVB failure occurred while Vice Chair Barr's was fully in charge of Federal Reserve Board bank supervision.

Virtually all of the supervisory recommendations in SVB "matters acquiring (immediate) attention" communications concerned processes associated with model-based large bank regulations or procedures to measure, set, and monitor internal risk limits. None of the supervisory communications actually spoke to SVB's actual liquidity risk associated with the bank's precarious funding mix, the financial ramifications of its interest rate risk profile, or the bank's true capital adequacy risks. As I have demonstrated, all of these very real financial risks were obvious from simply analyzing call report data.

Instead of focusing on the bank's actual financial condition, examiners recommended corrective actions that focused on improving governance structures and compliance processes, not on curing the basic financial and concentration risks that endangered the safety and soundness of SVB bank. For example, the supervisory letter from November 2021 addressing SVB liquidity risk matters requiring attention specified the following:

> **Required Action**: By December 31, 2021, SVB is required to enhance their project plan for liquidity risk management as follows:
>
> 1. Update the project plan and the associated gap assessment to address applicable supervisory expectations and requirements, including those related to the findings cited in this supervisory letter.
> 2. Ensure sufficient staffing and resources are allocated to execute the plan to meet established timelines.

The corrective actions recommended concerned SVBs internal liquidity risk stress testing models. Examiners argued that the bank needed to develop "more granular deposit segmentation to produce effective modeling of deposit outflows during stress."

Separating deposits into finer behavioral buckets for modeling purposes as examiners recommended would have provided no useful information that would have helped SVB avoid its fatal bank run. It turns out, a huge proportion of large uninsured depositors attempted to withdraw their deposits simultaneously. These depositors acted identically. Examiners' recommendation to model depositors as multiple distinct "granular groups" with differing behavior in the bank's internal liquidity stress test modeling was misguided. Moreover, the veracity of SVB's internal liquidity stress had no bearing on its survival. Practically speaking, there would have been no point in SVB wasting resources to run a hypothetical internal liquidity stress test scenario that mimicked reality—where $140 billion of the bank's $160 billion in deposit ran in a matter of days. You don't need a stress test model to know that the bank would fail.

Examiner guidance would have been better focused on requiring the bank to perfect its capacity to access emergency liquidity should it be needed. The Fed's SVB review found that:

> SVB did not test its capacity to borrow at the discount window in 2022 and did not have appropriate collateral and operational arrangements in place to obtain liquidity. While stronger operational capacity to obtain contingency funding in March 2023 would likely not have prevented SVB's failure, it could have facilitated a more orderly resolution.

Requiring a bank to identify adequate collateral, have it pre-positioned, and have the operational processes in place to access Fed discount window lending in an emergency seems like a basic supervisory function. In particular, the quality of loan collateral pledged must be assessed before the Fed can provide discount window funding. This process takes time. While one might presume that bank supervisors determine that a bank has the necessary arrangements in place in order to receive a "fundamentally sound" CAMELS liquidity rating, but apparently this is not the case. Examiners' holding company supervisory letter did mention "the lack of testing of the firm's contingency funding plan," but did not specify the concrete steps needed to remedy this shortcoming. The examiners seemingly were much more concerned with perceived liquidity risk modeling inadequacies than in ensuring that a bank had timely seamless access to lender of last resort funding should it be needed.

Was anyone in Washington paying attention?

Federal Reserve Board Vice-Chair of Supervision Randal Quarrels left the Federal Reserve Board on December 25, 2021—long before the results of the FRBO's 2021 examination of SVB and its holding company were finalized. Taking office July 19, 2022,[6] Vice Chairman Barr would have been on the job for the month during which SVB's 2021 LFBO holding company examination rating letter was being finalized. Given that SVB was a very large Fed member bank for which the Board of Governors (BOG) had assumed supervisory responsibility, it would be surprising if Vice Chair Barr did not review or receive a briefing on LFBO's SVB examination conclusions before the supervisory letter detailing LFBO's finding were communicated to the bank on August 19, 2022.

For the much of the time between Vice-Chair Quarrels departure until the time Mr. Barr assumed his duties, the BOG had an acting Chairman[7], and only three governors: Governor Brainard[8], Governor Bowman, and Governor Waller. In prior years, Governor Tarullo fulfilled the function of Federal Reserve Board Vice Chair of Supervision but was never officially nominated and confirmed to that position. After Vice Chair Quarrels departure, it is unclear from publically available information which if any Federal Reserve Board Governor acted in a temporary capacity fulfilling the duties of Vice Chair of Supervision.

The failure of the Federal Reserve's examination team to appreciate the impact of rising short term interest rates on the market value of SVB's held-to-maturity securities is shocking given that the bank reports this data in its quarterly regulatory call reports. Moreover, the Federal Reserve System was itself experiencing huge unrealized market value losses on the held-to-maturity securities in its system open market account. The Federal Reserve System's 2022 audited financial statements show that, by December 31, 2022, the Fed's $8.6 trillion in Treasury, agency debt, and agency mortgage backed securities had unrealized mark value losses of more than $1 trillion.

The Fed's official position is that these market value losses will never be realized as cash losses because the Fed will hold the securities until maturity. Federal Reserve member banks may voice a similar justification for valuing their held-to-maturity securities at amortized cost instead of current market value. However, market value losses on held-to-maturity positions inevitably turn into cash operating losses in a leveraged institution like the Federal Reserve or a Federal Reserve member bank. Unrealized market value losses are an indication that the cost of financing the securities to maturity is expected to exceed the interest earnings the security will generate for the institution. A colleague and I explain this phenomenon in a recent Wall Street Journal op ed.

Indeed, because its funding costs exceeded the Fed's securities portfolio yield, the Fed began reporting system operating losses in mid-September 2022. The Fed's monthly operating losses are continuing and have only grown larger as the Fed has increased short term interest rates to fight inflation. Between September 2022 and May 11, 2023, the Fed's H.4.1 statement shows the system has incurred $57 billion

[6] While the Fed states Vice-Chair Barr's official start date as July 19, 2022, the Federal Reserve Board also reports that Mr. Barr voted as Vice-Chair of Supervision to approve: (1) the application of Bank First Corporation on June 18, 2022; (2) the application of benchmark Community Bank on June 30, 2022; (3) and, a Board motion to solicit public comment on a rule related to LIBOR on July 15, 2022. Curiously, he did not vote on a Board motion to extend the public comment period on a rule related to GSIB resolution plans on June 30, 2022.

[7] The Federal Reserve Board voted to make Jerome Powell Chair Pro Tempore on February 11, 2022. He was sworn in as Chairman on May 23, 2022.

[8] Governor Brainard became Vice Chair on May 23, 2022. Governor Jefferson was also sworn in on May 23, 2022.

in actual cash operating losses and these losses will continue to accumulate as long as short term interest rates exceed the yield on securities the Fed owns. Banks face similar issues on their held-to-maturity securities portfolios and long maturity loans only, unlike the Fed, their continued existence is imperiled when unrealized mark-to-market losses erode their equity capital.

The Board of Governors of the Federal Reserve's November 2022 Financial Stability Report failed to highlight any of the issues that caused SVB, Signature Bank and First Republic Bank to fail. In its discussion of bank capital adequacy, the report concluded:

> Leverage at banks and broker-dealers remained relatively low…higher levels of loss-absorbing capacity in the banking sector and among broker-dealers that have prevailed since the structural reforms introduced following the 2007–09 financial crisis signal resilience in those institutions.

In its assessment of liquidity risk in the banking sector, it stated:

> Funding risks at domestic banks are low, but structural vulnerabilities persist in other sectors that engage in liquidity transformation… large banks that are subject to the liquidity coverage ratio (LCR) continued to maintain levels of high-quality liquid assets (HQLA) that suggest that their liquid resources would be sufficient to meet redemptions during periods of stress, and their reliance on short-term wholesale funding remains low.

According to the BOG stability report, the banking system was liquid and well capitalized. However, it concluded that the financial sector as a whole faced systemic risks created by non-bank financial institutions that, coincidently, are not regulated by the BOG. For example, on nonbank financial institution capital adequacy (called leverage in the BOG report), the report finds,

> [C]omprehensive measures of hedge fund leverage remained somewhat above their historical averages… leverage at many types of NBFIs [non-bank financial institutions] can be difficult to measure or monitor in a timely way with available data. These gaps raise the risk that such firms are using leveraged positions, which could amplify adverse shocks, especially if they are financed with short-term funding.

When it comes to the liquidity risk posed by SEC regulated non-bank financial institutions, the BOG financial stability report finds:

> Prime and tax-exempt MMFs as well as other cash-investment vehicles remain vulnerable to runs, and some of these vehicles maintain stable net asset values (NAVs) that make them particularly susceptible to sharp increases in interest rates. Some open-end bond mutual funds continued to be susceptible to large redemptions because they hold assets that can become illiquid amid stress while promising shareholders the right to redeem their shares every day.

To be fair, the BOG report did conclude that, "[u]nexpectedly and persistently high inflation and higher interest rates could pose risks to the economy and the financial system." However, the alleged risk was not that banks would fail, but that persistent inflation and high interest rates would diminish the "…debt service capacity of households and businesses… [leading to] an increase in delinquencies, bankruptcies, and other forms of financial distress. Household purchasing power would be eroded by higher prices, and a steep rise in rates would also increase businesses' borrowing costs."

Instead of recognizing the stability risk that rising interest rates created in the banking sector, the BOG's financial stability report featured a full page "box" on the Fed's efforts to measure "climate-change risk" in the banking sector. The box states:

> The unprecedented nature of climate change means that anticipating its potential effects on the safety and soundness of financial institutions and on financial stability requires forward-looking analyses. One such approach is climate scenario analysis. A climate scenario posits a potential future path of important climate-related factors, allowing analysts to explore the resulting effects on the economy and financial system.

To summarize, in November 2022, the BOG issued a report that assured the American public that the banking system was financially sound, liquid and well-capitalized. However, the financial system still faced important risks from "climate change" and non-bank financial institution activities that were outside the BOG's regulatory reach.

Thus far, the BOG's November 2022 financial stability assessment included very little that has proven to be prescient— the banking system faced a depositor run caused the failure of several large banks. These runs required the Fed, FDIC and US Treasury to invoke a "systemic risk exception" so that emergency measures could be taken to stabilize the banking system. Fed officials are now discussing a new source of systemic risk—the risk that these bank failures will constrict the availability of bank credit and cause a recession. To date, no report I have seen attributes recent bank depositor runs to the risks of "climate change". Meanwhile SEC-regulated money market mutual funds are, thus far at least, providing household savers with a return on their liquid balances without the drama playing out in the banking system.

Before March 9, 2023 addressing real or imaginary climate-change banking risks was a BOG priority. Shortly after the Biden administration took office, its FSOC declared that climate change represents a systemic risk to financial sector. Such a designation requires FSOC members to formulate appropriate regulations to mitigate this newly identified risk. Vice Chair Barr's holistic review of regulatory capital requirements was in part designed to incorporate new climate-change stress test capital requirements into the Dodd-Frank enhanced regulatory requirements that apply to large bank holding companies. Repealing provisions of S.2155 would allow the BOG to apply these new climate-change stress test requirements to smaller regional bank holding companies in addition to G-SIBs.

The FSOC more recently decided that non-bank financial institutions—a.k.a. "shadow banks"—are potentially an important source of financial sector systemic risk. In its recent March 2023 meeting, the FSOC reportedly agreed to revisit the procedures they use to designate as "systemically important" large non-bank financial institutions and thereby subject them to BOG supervision and Dodd-Frank enhanced regulations. You may recall the FSOC's existing procedures for designating non-bank financial firms as systemically important were discredited when Metlife won its court case arguing that the FSOC's designation process was arbitrary and capricious.

To keep the FSOC's newest "climate-change" and "shadow bank" systemic risk declarations in perspective, consider that the FSOC has never to my knowledge issued any forewarnings identifying interest rate risk and contagious banks runs as systemic risks in the banking sector worthy of elevated attention.

The Role of the FDIC in SVB's Failure

The FDIC does not escape blame for the SVB failure. The FDIC is proud of "supervisory back up authority," a power it has to participate in any bank examination, regardless of a bank's primary federal regulator, and in special circumstances, to conduct an independent exam should the FDIC deem a bank or bank holding company to be material risk to the Deposit Insurance Fund.

SVB is an example of a situation for which the FDIC's back-up authority was designed. I see no evidence that the FDIC pushed back on the Fed's lack of zeal in enforcing prompt corrective actions even though the FDIC's early warning models must have identified SVB as a failure risk.

The FDIC is also responsible for setting bank deposit insurance premiums. Bank deposit insurance premiums, by law, are supposed to be risk-based. The FDIC large bank insurance pricing model probably does not charge sufficiently elevated deposit insurance premiums for banks like SVB with large unrecognized loss on their loans and held to maturity securities or for high concentrations of deposit over the FDIC insurance limit unless these risks reflected in in a bank's component CAMELS ratings or the bank has other special features that trigger premium adjustments factors.

The FDIC's large bank insurance premium assessment model bases premiums on a weighted average of component CAMELS ratings. It has adjustments for unstable bank funding, but the adjustment raises premiums when a bank uses a lot of broker deposit funding and has time deposits over the deposit insurance limit. Brokered deposits were not an issue for SVB and SVB's and the FDIC does not consider MMDA accounts to be time deposits.

Large bank deposit insurance premiums are also impacted by a bank's liquidity ratio and the potential losses to the DIF should the bank fail. SVB owned lots of HQLA securities and most of SVB's deposit were uninsured so the DIF would have suffered no losses in a normal SVB FDIC resolution. Neither of these factors would have resulted in an elevated deposit insurance premium for SVB bank according to the FDIC's large bank assessment rule. While SVB's deposit insurance assessments are not public information, it appears likely that SVB was not being appropriately charged for the true risk it posed to the deposit insurance fund. Because of the systemic risk exception, SVB is the most expense bank failure in FDIC history.

The Systemic Risk Exception

Because the simultaneous failures of SVB and Signature Bank sparked runs at other regional banks, many of which also had large unrecognized mark-to-market losses on their held to maturity securities, the Federal Reserve Board, the FDIC board, and Secretary Yellen all agreed to invoke a systemic risk exception for these two banks and apply an FDIC blanket guarantee on all deposits in these banks regardless of size. In addition, Secretary Yellen inferred that they would apply the blanket deposit guarantee to other banks if authorities deemed it necessary.

The source of systemic risk that mandated the need for a systemic risk exception and a blanket deposit insurance guarantee was the simultaneous loss of depositor confidence in a significant number of large banks. The SVB and Signature Bank failures catalyzed depositor concerns in early March. However, it was lax federal supervision that, as the Fed raised interest rates throughout 2022, allowed interest rate risk and market value capitalization shortfalls to endanger the safety and soundness of multiple large banks. To its credit, the FDIC's quarterly banking profile did mention unrecognized losses on held-to-maturity bank securities as a stability risk to the banking system. If the FSOC and BOG took an honest measure of financial system stability in the Fall of 2022, they would have designated federal bank supervision as a source of systemic risk.

Under normal FDIC rules, because of the magnitude of their uninsured deposit balances, SVB and Signature Bank could have been resolved without any losses to the FDIC deposit insurance fund. Zero losses.

The blanket deposit guarantee raised the SVB resolution cost to at least $20 billion and cost of the Signature Bank Rescue to something like $2.5 billion. The three failed bank FDIC receiverships (including First Republic Bank) are borrowing well over a hundred billion dollars from the Federal Reserve—which is highly unusual to say the least. I am guessing it is because the debt ceiling precludes the FDIC from borrowing the US Treasury as it usually does---but no one in Congress has grilled the regulators yet on this anomaly as far as I know.

Post Dodd-Frank Act, a systemic risk exception was supposed to trigger the use of the FDIC's new orderly liquidation authority, where the FDIC would take over the SVB holding company, cancel its equity and bonds, and liquidate its assets to keep SVB bank open and operating.[9] For some unspoken reason, the government did not use OLA. As far as I can tell, OLA was never even considered as a way to manage SVB's failure. The FDIC should have been required to assess the cost to the deposit insurance fund of using OLA as compared to SVB liquidation.

Other Issues

The BOG's vice-chairman of supervision, Michael Barr spearhead the Fed's review of the SVB bank failure. In contrast to most Federal agencies, the Fed does not have a Senate-confirmed independent Inspector General to examine its mistakes. The Fed has its own Board-appointed IG office and the GAO has some investigative powers, but these arrangements fall short of the investigative powers of a true independent IG. Moreover, Federal Reserve district banks are technically owned by their member commercial banks. They are not considered to be federal agencies as defined by the 1967 Freedom of Information Act (FOIA) and therefore are not subject to the provisions of FOIA.

[9] Signature Bank did not have a holding company, so OLA would not have been an option in that case.

Appendix: Federal Reserve Prompt Corrective Action Authorities

§ 208.40 Authority, purpose, scope, other supervisory authority, and disclosure of capital categories.[10]

(a) ***Authority.*** Subpart D of Regulation H (12 CFR part 208, Subpart D) is issued by the Board of Governors of the Federal Reserve System (Board) under section 38 (section 38) of the FDI Act as added by section 131 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (Pub. L. 102–242, 105 Stat. 2236 (1991)) (12 U.S.C. 1831o).

Other supervisory authority. Neither section 38 nor this subpart in any way limits the authority of the Board under any other provision of law to take supervisory actions to address unsafe or unsound practices or conditions, deficient capital levels, violations of law, or other practices. Action under section 38 of the FDI Act and this subpart may be taken independently of, in conjunction with, or in addition to any other enforcement action available to the Board, including issuance of cease and desist orders, capital directives, approval or denial of applications or notices, assessment of civil money penalties, or any other actions authorized by law.

Reclassification based on supervisory criteria other than capital. The Board may reclassify a well capitalized member bank as adequately capitalized and may require an adequately-capitalized or an undercapitalized member bank to comply with certain mandatory or discretionary supervisory actions as if the bank were in the next lower capital category (except that the Board may not reclassify a significantly undercapitalized bank as critically undercapitalized) (each of these actions are hereinafter referred to generally as "reclassifications") in the following circumstances:

(1) ***Unsafe or unsound condition.*** The Board has determined, after notice and opportunity for hearing pursuant to 12 CFR 263.203, that the bank is in unsafe or unsound condition; or

(2) ***Unsafe or unsound practice.*** The Board has determined, after notice and opportunity for hearing pursuant to 12 CFR 263.203, that, in the most recent examination of the bank, the bank received and has not corrected, a less-than-satisfactory rating for any of the categories of asset quality, management, earnings, liquidity, or sensitivity to market risk.

Restricting payment of capital distributions and management fees (section 38(d));

(ii) Requiring that the Board monitor the condition of the bank (section 38(e)(1));

(iii) Requiring submission of a capital restoration plan within the schedule established in this subpart (section 38(e)(2));

(iv) Restricting the growth of the bank's assets (section 38(e)(3)); and

(v) Requiring prior approval of certain expansion proposals (section 3(e)(4)).

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[10] Source: National Archives, Code of Federal Regulations. https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-208/subpart-D

(3) ***Additional provisions applicable to significantly undercapitalized, and critically undercapitalized banks.*** In addition to the provisions of section 38 of the FDI Act described in paragraph (a)(2) of this section, immediately upon receiving notice or being deemed to have notice, as provided in § 208.42 or § 208.44, that the bank is significantly undercapitalized, or critically undercapitalized, or that the bank is subject to the provisions applicable to institutions that are significantly undercapitalized because the bank failed to submit or implement in any material respect an acceptable capital restoration plan, the bank shall become subject to the provisions of section 38 of the FDI Act that restrict compensation paid to senior executive officers of the institution (section 38(f)(4)).

(4) ***Additional provisions applicable to critically undercapitalized banks.*** In addition to the provisions of section 38 of the FDI Act described in paragraphs (a)(2) and (a)(3) of this section, immediately upon receiving notice or being deemed to have notice, as provided in § 208.32, that the bank is critically undercapitalized, the bank shall become subject to the provisions of section 38 of the FDI Act:

(i) Restricting the activities of the bank (section 38(h)(1)); and

(ii) Restricting payments on subordinated debt of the bank (section 38(h)(2)).

(b) ***Discretionary supervisory actions.*** In taking any action under section 38 that is within the Board's discretion to take in connection with: A member bank that is deemed to be undercapitalized, significantly undercapitalized, or critically undercapitalized, or has been reclassified as undercapitalized, or significantly undercapitalized; an officer or director of such bank; or a company that controls such bank, the Board shall follow the procedures for issuing directives under 12 CFR 263.202 and 263.204, unless otherwise provided in section 38 or this subpart.

§ 263.202 Directives to take prompt regulatory action.[11]

(a) ***Notice of intent to issue directive*** —

(1) ***In general.*** The Board shall provide an undercapitalized, significantly undercapitalized, or critically undercapitalized state member bank or, where appropriate, any company that controls the bank, prior written notice of the Board's intention to issue a directive requiring such bank or company to take actions or to follow proscriptions described in section 38 that are within the Board's discretion to require or impose under section 38 of the FDI Act, including sections 38(e)(5), (f)(2), (f)(3), or (f)(5). The bank shall have such time to respond to a proposed directive as provided by the Board under paragraph (c) of this section.

(2) ***Immediate issuance of final directive.*** If the Board finds it necessary in order to carry out the purposes of section 38 of the FDI Act, the Board may, without providing the notice prescribed in paragraph (a)(1) of this section, issue a directive requiring a state member bank or any company that controls a state member bank immediately to take actions or to follow

[11] Source: National Archives, Code of Federal regulations. https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-263/subpart-H/section-263.202

proscriptions described in section 38 that are within the Board's discretion to require or impose under section 38 of the FDI Act, including section 38(e)(5), (f)(2), (f)(3), or (f)(5). A bank or company that is subject to such an immediately effective directive may submit a written appeal of the directive to the Board. Such an appeal must be received by the Board within 14 calendar days of the issuance of the directive, unless the Board permits a longer period. The Board shall consider any such appeal, if filed in a timely matter, within 60 days of receiving the appeal. During such period of review, the directive shall remain in effect unless the Board, in its sole discretion, stays the effectiveness of the directive.

(b) ***Contents of notice.*** A notice of intention to issue a directive shall include:

(1) A statement of the bank's capital measures and capital levels;

(2) A description of the restrictions, prohibitions, or affirmative actions that the Board proposes to impose or require;

(3) The proposed date when such restrictions or prohibitions would be effective or the proposed date for completion of such affirmative actions; and

(4) The date by which the bank or company subject to the directive may file with the Board a written response to the notice.

(c) ***Response to notice*** —

(1) ***Time for response.*** A bank or company may file a written response to a notice of intent to issue a directive within the time period set by the Board. The date shall be at least 14 calendar days from the date of the notice unless the Board determines that a shorter period is appropriate in light of the financial condition of the bank or other relevant circumstances.

(2) ***Content of response.*** The response should include:

(i) An explanation why the action proposed by the Board is not an appropriate exercise of discretion under section 38;

(ii) Any recommended modification of the proposed directive; and

(iii) Any other relevant information, mitigating circumstances, documentation, or other evidence in support of the position of the bank or company regarding the proposed directive.

(d) ***Board consideration of response.*** After considering the response, the Board may:

(1) Issue the directive as proposed or in modified form;

(2) Determine not to issue the directive and so notify the bank or company; or

(3) Seek additional information or clarification of the response from the bank or company, or any other relevant source.

(e) ***Failure to file response.*** Failure by a bank or company to file with the Board, within the specified time period, a written response to a proposed directive shall constitute a waiver of the opportunity to respond and shall constitute consent to the issuance of the directive.

(f) ***Request for modification or rescission of directive.*** Any bank or company that is subject to a directive under this subpart may, upon a change in circumstances, request in writing that the Board reconsider the terms of the directive, and may propose that the directive be rescinded or modified. Unless otherwise ordered by the Board, the directive shall continue in place while such request is pending before the Board.