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Statement before the Senate Committee on Banking, Housing, and Urban Affairs' Subcommittee on Economic Policy

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

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May 17, 2023

EXECUTIVE SUMMARY

Chair Warren, Ranking Member Kennedy, and distinguished members of the Subcommittee on Economic Policy, thank you for the opportunity to appear before you. I am Mayra Rodríguez Valladares, Managing Principal of MRV Associates. My testimony today is based on my professional experience of three decades, consulting and training professionals at banks and financial regulatory agencies in over 30 countries on a wide range of risks that can threaten financial institutions' safety and soundness. With regulators, I have analyzed and helped write compliance and supervisory manuals. I have delivered a wide range of banking, regulatory, and capital markets courses to federal and state regulators and to countless compliance officers, auditors, analysts, technologists, and risk managers at financial institutions globally. From 2003 – 2016, especially, I spent countless hours working with bank supervisory entities in both advanced and emerging markets. Many used the Federal Reserve's supervisory and risk frameworks and guidance and translated them into their own languages. Additionally, I was an equity and fixed income analyst at JPMorgan and BT.AlexBrown in London, and I began my careers as a foreign exchange analyst at the Federal Reserve Bank of New York.

The Economic Growth, Regulatory Relief and Consumer Protection Act of 2018 (S2155) directly influenced the supervisory culture and tone at the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency. In my statement, I will focus on lessons learned from the failure of Silicon Valley Bank as well as respectfully recommend legislative and supervisory process changes at the Federal Reserve to improve the safety and soundness of banks given that their health is key to the financial stability of the United States.

Recommendations

- Order An Independent Investigation of the Silicon Valley Bank Failure
- Appoint an Independent Inspector General for the Federal Reserve System
- Revise Title IV of S2155 to Reinstate Dodd-Frank's Definition of Systemically Important
- Remove Heads of Banks From Federal Reserve District Boards
- Reform Remuneration for CEOs and Key Bank Professionals
- Require Transparency from Banks
- Utilize All of the Federal Reserve's Existing Powers to Escalate Identified Risks at Banks and Impose Enforcement Actions on Non-Compliant Banks
- Require Improvements In the Monitoring of Banks' Interest Rate Risk Models
- Reinstate The Liquidity Standard for All Large Bank Organizations
- Require Transparency from Banks about their Assets and Liabilities
- Provide Strong Protections for On-site Examiner and Off-Site Supervisors

ECONOMIC GROWTH, REGULATORY RELIEF and CONSUMER PROTECTION ACT

Concerns about EGRRCPA and Tailoring Rules

Laws about banks are incredibly important. They lead bank regulators to define the type of rules they write, promote supervisory culture at the top, and design examination processes. The Economic Growth, Regulatory Relief and Consumer Protection Act (S. 2155) greatly influenced Former Federal Reserve for Supervision Vice Chair Randal Quarles to propose the Tailoring Rules. Speaking before the American Bankers Association in 2018, Mr. Quarles said "in late May, the Congress enacted the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA), which, among other things, directs us to further tailor our supervision and regulation of large banks with more than $100 billion in assets. In other words, the Congress wants to see action and has, to a certain degree, specified some of the steps we need to take."[1] He also stated that "In conjunction with changing regulations, we also need to consider how such changes would be reflected in supervisory programs, guidance, and regulatory reporting. As supervisors, we need to balance providing appropriate relief to firms with ensuring that firms are maintaining resources and risk-management practices so they can be resilient under a range of conditions. We must also ensure we receive the right information in a timely manner so we can identify emerging risks."[2]

Former Silicon Valley Bank CEO Greg Becker and many bank lobbyists and politicians were in favor of EGRRCPA and argued that regional banks did not pose risks to the financial system.[3] Throughout 2017 -2018, almost 400 financial institutions lobbied heavily in favor of EGRRCPA.[4]

As someone who has worked with every size type of banks, including regional ones, I had, and continue to have a very different view. In August 2018, I wrote that EGGRCPA (S. 2155) was bestowing regulatory relief to too many banks. "Taxpayers should not be fooled into thinking that banks that are in the asset range of $100-250 billion are not systemically important, because regional and foreign bank organizations of that size range are incredibly interconnected to other financial institutions and to thousands of companies in the US due to the loans that they extend and the financial derivatives that they arrange for companies of every size. Regional banks also trade a wide variety of foreign exchange currencies from developed and emerging markets; foreign exchange rates are far more volatile than bond or stock prices and require that banks are very attuned to the risk that currencies can inflict on banks' balance sheets. If any of those banks were to run into problems for being insufficiently capitalized or if they were to become illiquid,

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[1] Quarles, Randal, "Getting It Right: Factors for Tailoring Supervision and Regulation of Large Financial Institutions," *July 18, 2018.*
[2] Ibid.
[3] "Fact Sheet: Famous Words on S2155," Americans for Financial Reform, May 15, 2023.
[4] "Clients Lobbying on S.2155: Economic Growth, Regulatory Relief, and Consumer Protection Act," Open Secrets.

taxpayers would suffer the consequences.[5] That same year, I also expressed concern about the gutting of resources at the Office of Financial Research.[6] While this action was not part of EGRRCPA, it is emblematic of the very significant actions that took place in 2018 and 2019 to loosen regulations and to take away resources necessary to detect systemic risks.

I agreed with Former Vice Chair and a member of the Federal Reserve Board Lael Brainard who stated that the tailoring rules were "beyond the requirements of S.2155 in ways that may weaken the resolution planning process for very large banking firms and leave the system less safe."[7] I also agreed with Fitch Ratings analysts who in November 2018 stated that "the proposed relaxation of regulatory and capital standards is a negative for creditors at U.S. large regional banks, especially the potential loss of the comparability of annual public stress tests."[8] At the same time, Moody's Investors Services stated that the "proposal from the US Federal Reserve to loosen regulatory oversight for the largest US regional banks is credit negative. In particular, the Fed's proposals would apply less rigorous capital and liquidity standards to most large US regional banks with assets with less than $700 billion, with the greatest relaxation in standards for those below $250 billion of assets."[9]

EGRRCPA Led To Changes in Federal Reserve Rules and Supervisory Practices

EGRRCPA led to the Federal Reserve's Tailoring Rules in 2019.[10] When those rules were finalized October 2019,[11] the bare minimum was required of Silicon Valley Bank, since it was less than $100 billion in assets at that time.[12]

	Category I U.S. GSIBs	**Category II** ≥ $700b Total Assets or ≥ $75b in Cross-Jurisdictional Activity	**Category III** ≥ $250b Total Assets or ≥ $75b in NBA, wSTWF, or Off-balance sheet exposure	**Category IV** Other firms with $100b to $250b Total Assets	**Other firms** $50b to $100b Total Assets
U.S. Domestic Banking Org.	Bank of America Bank of New York Mellon Citigroup Goldman Sachs JPMorgan Chase Morgan Stanley State Street Wells Fargo	Northern Trust	Capital One Charles Schwab PNC Financial U.S. Bancorp	Ally Financial American Express BB&T Corp. Citizens Financial Discover Fifth Third Huntington KeyCorp M&T Bank Regions Financial SunTrust Inc. Synchrony Financial	Comerica Inc. CIT Group Inc. E*TRADE Financial NY Community Bancorp Silicon Valley Bank

5 Forbes, August 22, 2018
6 "The data is mightier than the sword, Mr. President," The Hill, August 15, 2018.
7 "Brainard hits back again at 'tailoring' regulations," Central Banking, October 29, 2019.
8 Wolfe, Christopher, "Fed Proposal Expands GSIB, Regional Bank Regulatory Gap," Fitch Ratings November 1, 2018.
9 Sahu, Rita, Vice President, Moody's Investors Services, November 5, 2018.
10 Tailoring Rules Visual, Federal Reserve, 2019.
11 "Federal Reserve finalizes rules that tailor its regulations for domestic and foreign banks to more closely match their risk profiles," Board of Governors of the Federal Reserve System, October 10, 2019.
12 Please see Appendix I.

The goal of the bank supervisory process in the United States is for off-site supervisors and on-site bank examiners to evaluate the overall safety and soundness of the banking institution. "This evaluation includes an assessment of the organization's risk-management systems, financial condition, and compliance with applicable banking laws and regulations."[13] It is important to note that the Federal Reserve "works with other federal and state supervisory authorities to ensure the safety and soundness of financial institutions, stability in the financial markets, and fair and equitable treatment of consumers in their financial transactions."[14]

In 2019, the Board of Governors of the Federal Reserve System published "SR 19-4 / CA 19-3: Supervisory Rating System for Holding Companies with Total Consolidated Assets Less Than $100 billion." This letter was sent to all reserve banks, and they were asked to send to all supervised institutions in their districts. The letter clarified "which rating system applies to holding companies with total consolidated assets less than $100 billion, given the adoption of a rating system for large financial institutions (LFIs)."

Since Silicon Valley Bank[15] ($56 bn) was under $100 billion in assets in 2019, it was under the RFI (Risk Management, Financial Condition, Impact) rating system. RFI required assessing "risk management practices (R component) and financial condition (F component) of the consolidated organization, and an assessment of the potential impact (I component) of a holding company's nondepository entities on its subsidiary depository institution(s). A holding company under the RFI rating system is assigned a composite rating (C) based on an evaluation and rating of its managerial and financial condition and an assessment of future potential risk to its subsidiary depository institution(s). A holding company under the RFI rating system is also assigned a depository institution (D) component rating that generally mirrors the primary regulator's assessment of the subsidiary depository institution(s)."[16]

Also in 2019, the Board of Governors published SR 19-3 / CA 19-2: Large Financial Institution (LFI) Rating System. SR 19-3/CA 19-2 was sent to the head of supervision at every reserve bank and to large financial institutions.[17] SR 19-3 explained that "the Federal Reserve will assign LFI ratings and communicate ratings to large firms on an annual basis and more frequently as warranted. Under the LFI rating system, the Federal Reserve will continue to rely to the fullest extent possible on the information and assessments developed by other relevant supervisors and functional regulators."[18] The LFI rating system is comprised of three components: capital planning, liquidity risk management, and governance and controls.[19]

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[13] "Supervisory Policy and Guidance Topics," Board of Governors of the Federal Reserve System.
[14] Ibid.
[15] Silicon Valley Bank asset size at the end of 2018. SVB Financial Group and Subsidiaries Consolidated Balance Sheet,' p. 101.
[16] RFI Rating System, February 2019.
[17] SR 19-3 / CA 19-2: Large Financial Institution (LFI) Rating System, 2019.
[18] Ibid.
[19] Large Financial Institution Rating System, Attachment SR 19-3 / CA letter 19-2, February 2019.

The Federal Reserve has a risk-based approach to supervising banks. This means that it scales its supervisory work based on the size and complexity of the bank. It is essentially an issue of resource management as well. By focusing on firms that are considered to pose more risk to the financial system, the Fed is trying to deploy resources more efficiently and to implement more rigorous oversight of banks that are designated as systemically important. The supervision of the largest, most systemically important financial institutions is conducted by the Large Institution Supervision Coordinating Committee (LISCC).[20] This committee "uses both horizontal and firm-specific supervisory activities to assess the financial resiliency and risk-management practices of firms."

Banks that are at least $100 billion in assets are considered large banking organizations (LBOs) but are not included in the LISCC supervision. The Federal Reserve tailors expectations for LBOs to account for their asset size, complexity, foreign exposure, risk profile and financial activities.[21] Silicon Valley Bank became an LBO in June 2021.[22]

Financial Sector Assessment Process of the United States

After conducting its Financial Sector Assessment Process (FSAP) of the United States in 2020, analysts, consultants and analysts hired by the International Monetary Fund were critical about several components of S.2155 as well as of the Federal Reserve's tailoring approach. They noted that "bank capital and liquidity requirements have been eased for a large part of the banking sector following the 2018 Economic Growth, Regulatory Relief, and Consumer Protection Act and subsequent regulatory measures, which could reduce banks' resilience in the downturn."[23] The report lauded rules for globally systemically important banks (G-SIBs) in the U.S, however, warned about changes to rules for regional banks.

> "Strong prudential regulation has contributed to a sound banking system, but certain requirements are being reduced at a time when financial stability risks are rising. For the U.S. G-SIBs, considered as internationally active banks by the authorities, capital and liquidity requirements meet and sometimes exceed the Basel standards.
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> However, recent reforms emphasizing a tailored approach will require fewer banks (other than the G-SIBs) to be subject to the full set of Basel standards. Fewer banks are subject to annual supervisory stress tests while recent changes to the Comprehensive Capital Analysis and Review (CCAR) program and the implementation of the Stress Capital Buffer will likely lower capital requirements for some large banks. The 2018 statement on the role of supervisory guidance could create obstacles to the implementation of key supervisory expectations. Authorities should consider rewriting certain prudential

[20] Large Institution Supervision Coordinating Committee, Supervision and Regulatory Report, May 2019.
[21] Large Bank Organization Supervision (non-LISCC).
[22] Barr, Michael "Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank," p. 12
[23] United States, Financial Stability Assessment, International Monetary Fund Country Report No. 20/242, August 2020, p.

> guidance as regulation; and maintaining the overall stringency of prudential requirements for non-internationally active banks.[24]

In that same report, the IMF also recommended that the U.S. should implement remaining aspects of the Basel Core Principles (BCPs), some of which persisted from the previous assessment in 2015 and required further attention. Specifically, the analysts and consultants mentioned Basel III's Pillar II's interest rate risk in the banking book. "The authorities should finalize heightened standards on governance for large and complex bank holding companies, enhance the related-party framework, introduce rules on concentration risk management, and include more quantitative standards on interest rate risk in the banking book."[25]

The IMF had specific capital and liquidity recommendations for large banks that were not internationally active.

> "Authorities are encouraged to maintain the overall stringency of prudential requirements for non-internationally active banks. The U.S. authorities have maintained the broad compliance with Basel III of the regulation applicable to banks that are considered internationally active (i.e., the eight U.S. G-SIBs in Category I and one bank in Category II). The other banks, including large banks classified in Categories III and IV, are no longer required to comply with the full set of Basel capital and liquidity standards. As required under the [Basel Core Principles] BCPs, non-internationally active banks should be required to comply with capital requirements that are broadly consistent with the Basel capital framework and appropriate large exposure limits. Authorities should consider moving capital standards for non-internationally active banks closer to those required for internationally active banks. Authorities may also want to consider extending the full [liquidity coverage ratio] LCR requirements to all non-internationally active banks in Categories III and IV. In addition, considering the increase in financial stability risks, it is important to continue thoroughly scrutinizing banks."

The IMF report also had recommendations for US bank supervisors. "To effectively face new challenges arising from regulatory changes, rapid technological transformation of financial services, renewed industry pressure against supervisory actions and vulnerabilities that continue to build in a maturing credit cycle, it is key to maintain the intensity of supervisory scrutiny and being agile in responding to new threats to financial stability. As supervisory stress tests have become less frequent and capital and liquidity requirements less stringent for some non-GSIBs, supervision needs to remain intrusive and continue enhancing its effectiveness to ensure that banks remain appropriately governed and incentivized to manage their risks to remain financially resilient."[26]

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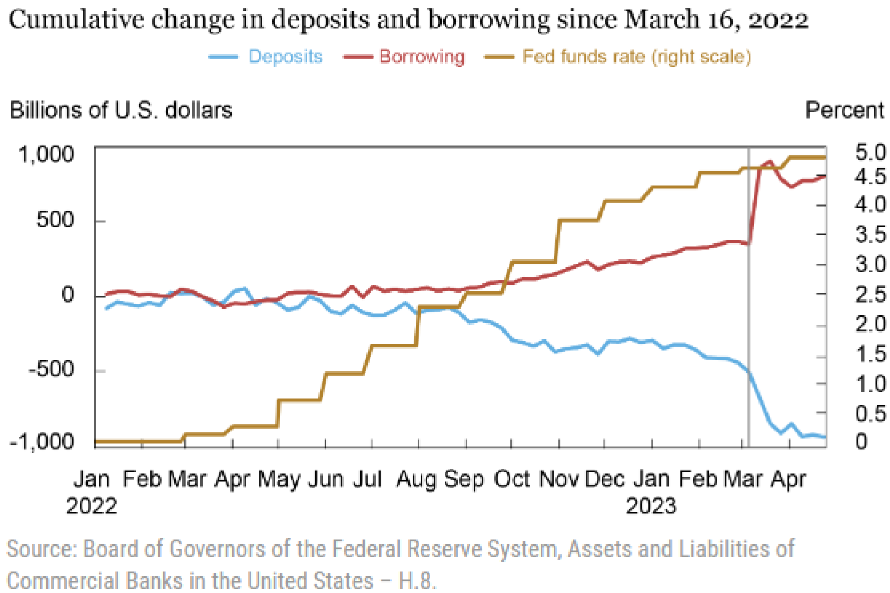
[24] United States, Financial Stability Assessment, International Monetary Fund Country Report No. 20/242, August 2020, p. 9.
[25] Ibid.
[26] Ibid. p.71.

INTEREST RATE RISK AT BANKS



Source: Luck, Stephan. Plosser, Matthew. Younger, Josh. Liberty Street Economics[27]

At the essence of liquidity risk management is identifying, measuring, controlling, and monitoring how interest rate movements can impact a bank's assets, liabilities, and earnings. For decades, the Federal Reserve, the Federal Deposit Insurance Corporation, and the Comptroller of the Currency (the Agencies) have been publishing rules, compliance guidance,[28] and best practice reports about how banks should identify and measure interest rate risks, both when they rise as well as when they fall.[29] The publications are sent to all districts of the agencies and to the regulated banks.

For example, In 1996, the three federal agencies published a Joint Policy Statement on Interest Rate Risk Management. This statement very clearly explains that "Interest rate risk is the exposure of a bank's current and future earnings and capital arising from adverse movements in interest rates. Changes in interest rates affect a bank's earnings by changing its net interest income and the level of other interest-sensitive income and operating expenses. Changes in interest rates also affect the underlying economic value of the bank's assets, liabilities, and off-balance sheet items."[30]

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[27] "Bank Funding during the Current Monetary Policy Tightening Cycle," Liberty Street Economics, May 11, 2023.
[28] Section 3010.1 of the Federal Reserve Bank's Trading and Capital Markets Activities Manual.
[29] On May 11, 2001, agencies published Joint Agency Advisory on Brokered and Rate-Sensitive Deposits
[30] Federal Register, Vol. 61, No. 124, June 26, 1996, p. 3177.

Subsequently, in 2010, the agencies published Advisory on Interest Rate Risk Management which not only recommends always identifying and measuring interest risk, but also gives recommendations about good practices for interest rate risk models.

Also, very useful to all banks is The Interagency Advisory on Interest Rate Risk Management Frequently Asked Questions published on January 12, 2012 describes supervisory expectations for banks' sound interest rate risk (IRR) management.

> "Consistent with the agencies' safety and soundness guidelines, financial institution management is responsible for ensuring that the capabilities of the risk management process match the risks being taken. The regulators expect all institutions to manage IRR exposures using processes and systems commensurate with earnings and capital levels, complexity, business models, risk profiles, and the scope of operations."[31]

Importantly, this advisory recommends conducting interest rate stress tests with shocks of at least plus or minus 300 basis points. SVB's annual report of 2022 shows that it was only conducting shocks of up to 200 basis points.

Additional important rules from Basel III's Pillar II recommend that banks have independent professionals who can evaluate the Internal Capital Adequacy Assessment Process (ICAAP) conducted by banks. Pillar II recommends that every quarter banks design their own scenarios to run portfolio and enterprise-wide stress tests. They should disclose scenarios to regulators. Banks are recommended to incorporate interest rate and liquidity shocks on a quarterly basis.[32] The key is to disclose the result not only to regulators but also to the public. Market discipline is at the cornerstone of Basel III's third pillar, 'Risk Disclosures.

In addition to interest rate sections in the Federal Reserve's public available compliance manuals and supervisory letters, from time to time, the Federal Reserve published research and analysis about how interest rates can impact banks. For example, in 2014 Federal Reserve Bank of Cleveland published a paper about the economic value of equity in measuring interest rate risk at banks. In 2020, the San Francisco Fed stated that banks are not immune to interest rate risk. The Supervision and Regulation Report, published by the Board of Governors in mid-November 2022, had a page 'Effects of Securities Depreciation on Banks' Capital and Liquidity Positions" demonstrating that rising rates were causing significant unrealized losses on securities portfolios.[33] Also, in November 2022, in the Beige Book, the reserve banks of Atlanta, Kansas City, and St, Louis mentioned interest rate risks impacting held-to-maturity valuations which were decreases and deposit rates which were increasing.[34] Lower asset values and increasing interest expenses for deposits are always key signs of liquidity pressures on a bank.

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[31] "Interagency Advisory on Interest Rate Risk Management Frequently Asked Questions," FFIEC, 2012.
[32] "Overview of Pillar II supervisory review practices and approaches," BCBS.
[33] Supervision and Regulation Report, November 2022.
[34] 'Beige Book,' Federal Reserve, November 2022.

While in Tuesday's testimony former Silicon Valley Bank CEO Greg Becker implied that his bank was just following what the Federal Reserve was saying about 'temporary inflation,' the SVB annual report shows that bank risk managers were aware of the importance of interest rate hedges.[35] Unfortunately, the banking bank was not well hedged, if at all; otherwise, the bank would have been able to mitigate its interest risk.

SILICON VALLEY BANK

Missing Basel III and Dodd-Frank Regulatory Requirements

Due to the tailoring rules, Silicon Valley Bank (SVB) was not required to comply with two key components of The Basel Accord (now referred to as Basel III): measurement of interest rate risk in the banking book (IRRBB) and the Liquidity Standard, comprised of the Liquidity Coverage Ratio and the Net Stable Funding Ratio.

To measure interest rate risk in the trading book, banks typically use Value-at-Risk models which use market rates. However, to measure interest rate risk in the banking book, which includes loans and held-to-maturities securities, bankers have a lot more flexibility in the models they use, many which do not include market rates as the data inputs. This can lead to significant understatement of what potential losses are. Also, since books use such a variety of models, it makes it difficult for regulators, lenders, and investors to make meaningful comparisons between banks' disclosed risks in the banking book. Due to these challenges, the Basel Committee on Banking Supervision has updated several times rules about how to measure interest rate risk in the banking book in ways that would make the measurements less flexible for banks and more useful to market participants to compare risks. "Market actors' consensus suggests that if the banks affected by SVB had been subject to IRRBB, the huge interest rate risk they were carrying would have been identified earlier, and flagged to a regulator who could have acted to address the issue, potentially saving the bank in the process."[36] Silicon Valley Bank could have used a variety of gap analysis and interest rate hedges to mitigate its interest rate risk. Yet, such actions reduce net income. When compensations of executives, board members, and/or employees depends on banks' profitability, this influences how much of a bank's portfolio risk managers want to hedge.

Importantly, banks the size of SVB, were and are not required, to measure the Liquidity Coverage Ratio. The LCR requires banks to calculate and report the level of their high-quality liquid assets (HQLA) cover their net cash outflows in period of stress. HQLA are measured as a market value. If SVB had been required to calculate and report the LCR to regulators and disclose the results to market participants, its inability to meet cash outflows in a stressed period would have been visible. Using data from SVB's 2022 annual report, I applied strict criteria for cash inflows not coming in as default rates go up and deposits leaving as interest rate hikes

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[35] See Appendix II.
[36] Van Doorsselaere, Jeroen "Wake-up Call for Banks or Regulators?" March 23, 2023.

increased. I estimated that LCR would have been at about 65% which is significantly below the 100% minimum requirement. Two other analyses show that the LCR would have been in the range of 75%[37] to 101%[38] Certainly, different analysts can come up with different assumptions to calculate LCRs, but it is clear that SVB would not have met even the minimum Basel III requirement for the LCR.

The Net Stable Funding Ratio, which purpose is to show if a bank has sufficient stable sources of funding for a twelve-month period, was also not required of banks the size of SVB. Given the types of deposits that SVB had, this ratio also would have been very useful for regulators and market participants.

SVB did comply with Basel III's Pillar III risk disclosures, which at twelve pages were very thin and only concentrated on credit risk. In its fourth quarter 2022 Pillar III disclosures, SVB did not mention interest rate risk in the banking book or liquidity risk.[39]

Additionally, due to tailoring rules, SVB was also not subject to the Federal Reserve's annual horizontal review of domestic and foreign-owned large banking organizations (LFBOs) liquidity risk management practices, including internal liquidity stress testing (ILST) assumptions and methodologies, and buffer monetization and composition. At the end of 2022, the Federal Reserve Bank did send a letter to former CEO Greg Becker that such a horizontal review would take place the weeks of January 3 – March 10, 2023.[40]

Tailoring rules also meant that since SVB was not designated as a systemically important bank, as it would have been under Dodd-Frank's Title I, SVB was not required to conduct supervisory stress tests known as the Dodd-Frank Act Stress Test (DFAST), the quantitative component of the Comprehensive Capital Analysis Review (CCAR). Without stress tests, banks can grow faster without much consequences. Before the tailoring rules, the more that SVB's assets grew, such as long-term bonds and loans, SVB would have had to increase capital, because such assets consumer more capital than shorter-term ones. By the time that SVB became a Category IV bank on July 2021, it was only required to conduct the Dodd-Frank Act Stress Test biennially. When it failed, it had not conducted such a test.

Importantly, interest rates are part of DFAST. The 2022 DFAST incorporated six measures of interest rates: the rate on 3-month Treasury securities; the yield on 5-year Treasury securities; the yield on 10-year Treasury securities; the yield on 10-year BBB-rated corporate securities; the interest rate associated with conforming, conventional, 30-year fixed-rate mortgages; and the prime rate. Additionally, the 2022 Supervisory Stress Test Methodology describes how interest

[37] Feldberg, Greg. "Lessons from Applying the Liquidity Coverage Ratio to Silicon Valley Bank," Yale School of Management, March 27, 2023.
[38] Nelson, Bill. "Update on SVB's LCR," Bank Policy Institute, March 27, 2023.
[39] SVB Basel III Pillar III Risk Disclosures, 2022.
[40] Entry Letter: 2023 Horizontal Liquidity Review (HLR), Federal Reserve Bank of San Francisco November 17, 2022.

rate movements are part of the modeling process to determine the impact of loans and securities in the held-to-maturity assets of the banking book.[41]

In 2022, SVB was required to write a bank recovery and resolution plan for the first time. Since like other banks, it was only required to disclose the executive summary.[42] In addition to describing how a bank should be failed if it were to fail, a recovery and resolution plan also provides a lot of confidential information to the Federal Reserve and to the FDIC about a bank's structure, shared funding and liquidity facilities, and many details about a bank's balance sheet. Hence, while market participants do not see these details, regulators receive incredibly important information about a bank's risks.

Key Risks Identification Timeline

The Federal Reserve Bank of San Francisco and California Department of Business Oversight identified multiple risk management and compliance problems at Silicon Valley going back to at least 2016. CAMELS examination reports and supervisory letters before 2016 have not been released to the public.

2016

CAMELS Report of Join Examination by the California Department of Business Oversight and Federal Reserve Bank of San Francisco on October 3, 2016 show significant problems in 2016 with Bank Secrecy Act and Anti-Money Laundering compliances.[43] When there are problems of that severity, bank risk managers at banks and bank regulators should see this as a warning bell of what else is wrong. In that same report regulators stated that SVB's compliance function was not consistently meeting supervisory expectations of SR 16-11, Supervisory Guidance for Assessing Risk Management at Supervised Institutions with Total Consolidated Assets Less than $100 Billion. SR 16-11 states that "principles of sound management should apply to the entire spectrum of risks facing an institution including, but not limited to, credit, market, liquidity, operational, compliance, and legal risk."

In that CAMELS report, both regulators also identified deficiencies with SVB's compliance program and required it to "comply with Treasury policies requiring the annual review of model assumptions and quarterly back-testing of the interest rate risk model.[44]

2017

In this examination report, the California Department of Business Oversight and the Federal Reserve Bank of San Francisco stated that SVB's "Matters Requiring Immediate Attention

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41 "2022 Supervisory Stress Test Methodology," Board of Governors of the Federal Reserve System, pp. 11-13.
42 SVB 2022 Covered Insured Depository Institution Resolution Plan.
43 CAMELS SVB 2016 Joint Examination Report.
44 See Appendix III.

related to oversight and internal controls, as well as the prior OFAC MRA[45]" remained open. Importantly, new MRAs were opened. "Although risk management practices over the credit, liquidity, market, and legal functions remain adequate, the bank's rapid growth and turnover of key management positions have placed a strain on the compliance and Enterprise Risk Management functions with respect to oversight and challenge. As a result, weaknesses were noted in management's ability to effectively identify and monitor key risks as well as ensure compliance with bank policies, regulatory rules, and supervisory guidance. While the severity of these issues is mitigated by an experienced management team and an effective audit function, the board is required to direct management to ensure that the risk management structure is commensurate with the institution's growing size, complexity, and risks."

2018

Model risk problems were identified in this examination report. This should always be a concern for regulators, lenders, and investors. If banks have problems with their models, the results cannot be trusted. Additionally, liquidity risk issues, especially concentration of depositors was pointed out. Even with the significant issues cited, examiners gave liquidity a '1', the highest score in CAMELS. SVB's Board was notified about the identified problems.[46] There is no public documentation as to if and how SVB's Board responded.

2019

In November 2019, the Federal Reserve Bank of San Francisco sent a letter to the Board of SVB stating that it had "conducted a target inspection of SVB Financial Group (SVBFG) Corporate Governance/Global Risk Management activities" in the summer of 2019.[47] The letter highlighted that "management continues to use a capital stress testing methodology as a key component in assessing capital adequacy and in setting various capital risk limits. Within the stress-testing process, management has a well-defined governance process that remains similar to the previous Dodd-Frank Act Stress Testing (DFAST) process. Through the process followed in 2019, two large model overlay/assumptions were made regarding the Sponsor Led Buyout portfolio in the idiosyncratic stress scenario. These overlays were not appropriately identified in presentation materials provided to senior management committees and examiners. Without appropriate disclosure, the modeled loss results were unintuitive and hard to explain." [48]

At this time, the Federal Reserve Bank of San Francisco closed an MRA that it had issued to SVB pertaining to its rationale and support of the Dodd-Frank Act Stress Test (DFAST). The Federal Reserve Bank of San Francisco stated that "DFAST is no longer a requirement for banks the size of SVB due to the Economic Growth, Regulatory Relief and Consumer Protection Act." As such the MRA was closed. "Nevertheless, given that stress testing results are key to setting

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[45] SVB 2017 CAMELS Examination Report, February 14, 2018.
[46] SVB 2018 CAMELS Examination Report.
[47] SVBFG Target Corporate Governance/Global Risk Management, November 19, 2019, p. 3.
[48] Ibid.

capital limits, safety and soundness concerns dictate that expectations for a sound and transparent process remain. Management has revised the capital planning and stress testing process in the absence of the DFAST requirement to focus on two scenarios."

2020

The 2020 examination of SVB again highlighted numerous data and information technology (IT) problems.[49] In my experience, problems with should immediately be red flags to whether anyone can trust results of any product pricing or risk measurement model.

2021

On November 2, 2021, after the Federal Reserve Bank of San Francisco met with SVBFG, the San Francisco Fed sent a letter to CEO Greg Becker stating that after completing a Liquidity Target Examination of SVB Financial Group, examiners found that the "firm's liquidity risk management practices are below supervisory expectations set forth in applicable guidance. The FR identified foundational shortcomings in three key areas: (1) internal liquidity stress testing (ILST), (2) the liquidity limits framework, and (3) the contingency funding plan (CFP)."[50] The letter was also sent to Daniel Beck, Chief Financial Officer, Laura Izurieta, Chief Risk Officer John Peters, Chief Auditor, and Ben Jones, Head of Regulatory Affairs

2022

In July 2021, SVB had grown to be over $100bn, so it then became designated as a Category IV firm. According to the 2022 SVB annual report, however, it was still not conducting a supervisory stress (DFAST), and it was not measuring LCR or NSFR. Unlike bigger banks, it also was not implementing Basel III's capital conservation buffer of 2.5% risk-weighted assets. "In March 2020, for BHCs with $100 billion or more in assets, such as SVB Financial, the Federal Reserve approved a final rule replacing the static 2.5% component of the capital conservation buffer with an organization-specific stress capital buffer ("SCB") requirement, reflecting stressed losses in the supervisory severely adverse scenario of the Federal Reserve's CCAR stress tests, and including four quarters of planned common stock dividends, subject to a minimum 2.5% floor. During a year in which a Category IV organization, such as SVB Financial, does not undergo a supervisory stress test, the organization will receive an updated SCB that reflects the updated planned common stock dividends. A Category IV organization may also elect to participate in the supervisory stress test in a year in which the organization would not normally be subject to the supervisory stress test to receive an updated SCB."[51]

[49] SVB 2020 CAMELS Report, May 3, 2021.
[50] San Francisco Federal Reserve Supervisory Letter, November 2, 2021.
[51] 2022 SVB Annual Report, p. 19.

On August 17, 2022, the Federal Reserve Bank of San Francisco sent a letter[52] to the SVB Board of Directors stating that this was the first Large Financial Institution rating issued to the firm.[53] Also it stated that SVB's "Governance & Control (G&C) rating is rated Deficient-1, while the Liquidity (L) and Capital (C) are rated Conditionally Meets Expectations and Broadly Meets Expectations, respectively."[54]

Subsequently, the California Department of Financial Protection and Innovation and the San Francisco Federal Reserve Bank issued a Matter Requiring Attention on November 15, 2022, to SVB because of significant deficiencies in SVB's interest rate simulation and modeling.[55]

> "The Firm's interest rate risk (IRR) simulations are not reliable and require improvements. SVB's balance sheet had been modeled and reported as asset sensitive. While data from the first 3 quarters of 2022 confirmed asset sensitivity and the firm benefiting from rising rates, management is forecasting meaningful Net Interest Margin (NIM) compression, Net Interest Income (NII) decline and significant adverse earnings impact starting in 4Q and into 2023. Changes in NIM, NII and earnings are directionally inconsistent with internal projections and IRR simulations, calling into question the reliability of IRR modeling and the effectiveness of risk management practices. Unreliable IRR modeling directly impairs management and the board's ability to make sound asset liability management decisions." [56]

On December 27, 2022, the California Department of Financial Protection and Innovation and the Federal Reserve Bank of New York sent a detailed letter to SVB's Board about the results of a targeted exam for the internal audit function. Numerous weaknesses were found with audit risk assessments, oversight, reporting, continuous monitoring, and audit execution. [57]

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[52] SVBFG and SVB 2021 Supervisory Ratings Letter, Federal Reserve Bank of San Francisco, August 17, 2022.

[53] The Federal Reserve of San Francisco "delayed issuing the ratings for the 2021 supervisory cycle to account for the full onset of large bank supervisory expectations and to better assess the thematic root causes associated with the previously cited supervisory findings." Ibid.

[54] Ibid.

[55] See Appendix IV,

[56] SVB Supervisory Letter CAMELS 2022 Exam, November 15, 2022.

[57] SVBFG and SFB Internal Audit Target Supervisory Letter, December 27, 2022.

Summary of Results

Objective	Current examination assessment
1 - Internal audit risk assessment	**Below** supervisory expectations
2 - Audit universe	**Below** supervisory expectations
3 - Audit committee reporting and oversight	**Partially consistent** with supervisory expectations
4 - Independence, professional competence, and quality of the IA function	**Partially consistent** with supervisory expectations
5 - Quality assurance function	**Generally consistent** with supervisory expectations
6 - Continuous monitoring	**Below** supervisory expectations
7 - Audit execution	**Below** supervisory expectations
8 - Issues tracking and validation	**Generally consistent** with supervisory expectations

2023

In SVB's 2022 annual report, SVB stated that it was considered a Category IV organization and was subject to applicable requirements. "Category IV organizations are, among other things, subject to: (i) certain liquidity risk management and risk committee requirements, including liquidity buffer and liquidity stress testing requirements, (ii) requirements to develop and maintain a capital plan on an annual basis and (iii) supervisory capital stress testing on a biennial basis. "[58] Not much detail was disclosed about whether SVB had conducted internal liquidity risk management stress tests or what those results might have been.

SVB's 2022 annual report did disclose the important information that the bank had a decrease in deposits of about 8 ½%. "At December 31, 2022, our period-end total deposit balances decreased to $173.1 billion, compared to $189.2 billion at December 31, 2021."[59]

On February 14, 2023, a Supervisory and Regulation Quarterly confidential presentation by the Federal Reserve Bank of Kansas City and the Board of Governors cited Silicon Valley Bank as a bank with interest rate risk challenges and mentioned that examiners were being trained on this topic November and December 2022 and that more interagency training was being considered.[60]

In the Federal Reserve's Memorandum of Understanding between the Federal Reserve Bank of San Francisco, the California Department of Financial Protection and Innovation with SVB Financial Group and SVB Bank, the Board of SVB was ordered to take all necessary steps to comply with supervisory actions taken by federal and state regulators.[61]

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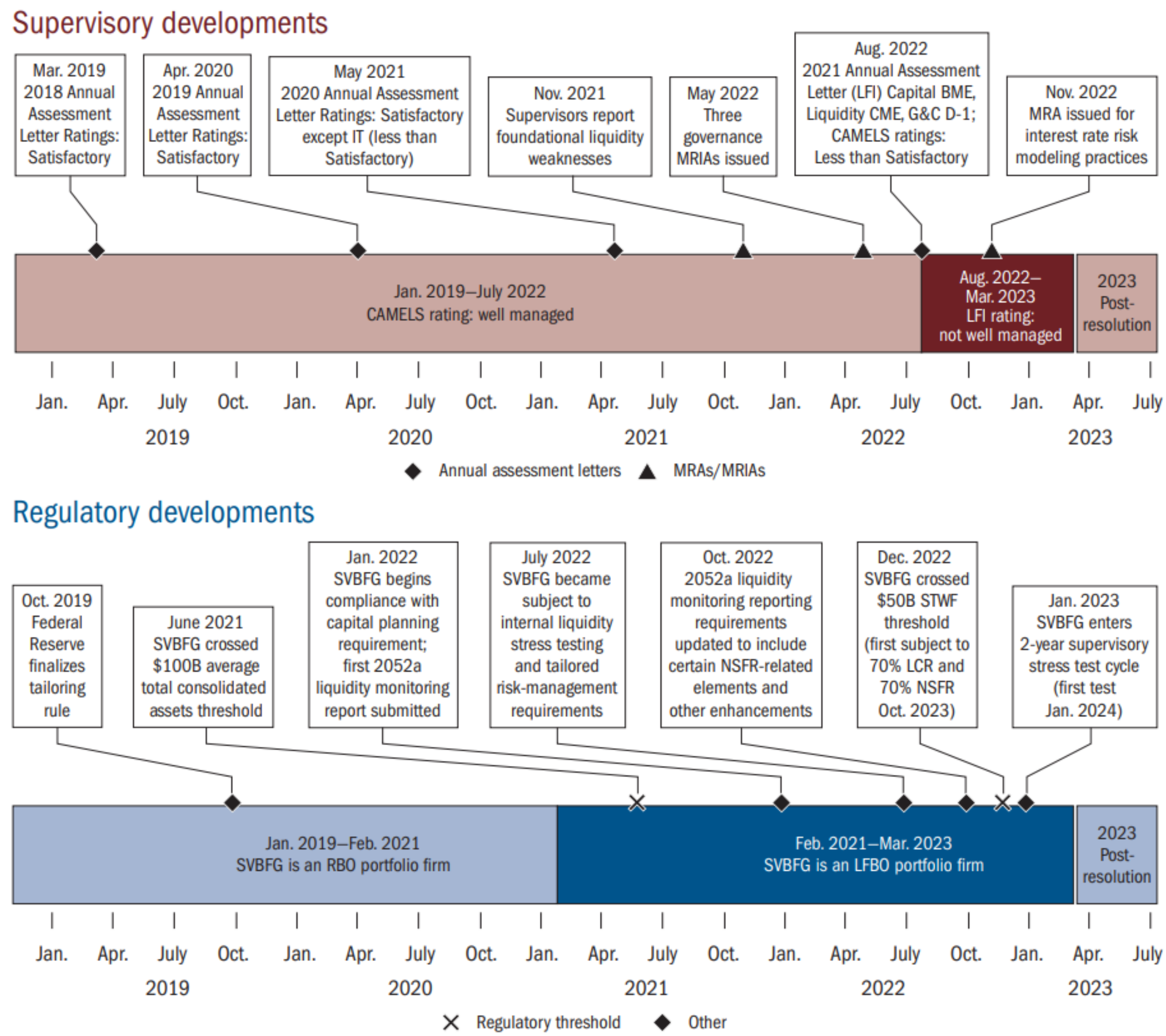
[58] SVB 2022 Annual Report.
[59] SVB 2022 Annual Report, p. 87.
[60] S & R Quarterly, February 14, 2023, 99. 8-9.
[61] Memorandum of Understanding, March 10, 2023.



Note: CAGR = compound annual growth rate. Mild deposit runoff (–8.5 percent CAGR) period calculated as January 2022 through December 2022.

Source: Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank[62]

[62] Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank p. 16.

RECOMMENDATIONS

I respectfully recommend the following legislative and supervisory process changes to Congress and to the Board of Governors of the Federal Reserve, respectively:

Order An Independent Investigation of Silicon Valley Bank Failure

The CAMELS and Supervisory Letters released by the Board of Governors and the Barr report helped give insight into SVB's problems. The Government Accountability Report was also a good start, but as per the hearing on May 11, 2023, the GAO needs more time to conduct an in-depth *post mortem* and to address questions posed by Senate Banking Committee members.

However, there is still significant information missing. Here is an initial list of questions that should be addressed in an independent investigation in a timely manner:

- After repeated MRAs and MRIAs, where is there documentation showing any SVB remediation plans?
  - Legislators and the public would benefit greatly from hearing from former and current chief risk officers of the regional banks that have failed recently.
- How many regulators knew about SVB's numerous audit, compliance, and risk identification and measurement shortcomings and failures?
  - A 2017 cover letter with the '2016 Report of Holding Company Inspection from the Federal Reserve of San Francisco' to SVB's Board of Directors was also sent to the Federal Deposit Insurance Corporation (FDIC) and the Consumer Financial Protection Bureau (CFPB).[63] The same was the case for the 2019 SVB CAMELS report.[64] Was it customary to send such letters and reports to those regulators? Did those regulators have any role or responsibility in ordering SVB to rectify its problems? Did they have a responsibility to notify the Financial Stability Oversight Council about SVB's problems?
- What documents exist that detail the exact relationship between the Board of Governors and Federal Reserve of San Francisco in all matters pertaining to SVB?
  - Does the Board of Governors select examiners at the Federal Reserve of San Francisco to write reports about banks? In the 2017 cover letter referenced preciously, it states that the 2016 Report of Holding Company Inspection was "prepared by an examiner selected or approved by the Board of Governors of the Federal Reserve System." Did this examiner participate in exams at SVB or is this someone who takes all the information and writes the report?[65]
- Did the Federal Reserve of San Francisco inform the Board about SVB challenges before December 1, 2022?

[63] SVBG 2016 Report of Holding Company Inspection, June 14, 2017, p. 2.
[64] SVB CAMELS 2019 Examination Report, April 13, 2020, p. 2.
[65] Ibid. Foot note 1, p. 2.

  - The documents released by the Federal Reserve Board on April 28 show one letter from the Federal Reserve of San Francisco to the Division of Supervision and Regulation of the Board of Governors dated December 1, 2022.[66] The letter listed several liquidity, credit, and operational risks to which SVB was exposed. What did the Board do upon receipt of this letter?
  - We know that the Board of Governors and The Federal Reserve Bank of Kansas used SVB as an example of a troubled institution in a February 14, 2023, presentation.[67] Who else at the Board or any of the Fed Districts knew about SVB's problems and what steps did they take to get SVB executives, management and Board to rectify the problems?
- What is the exact supervisory process at the Federal Reserve Bank of San Francisco?
  - Once examiners uncovered problems at SVB, did they tell middle and senior managers? Who decided to give SVB scores of 2s and 1s in the CAMELS exam, despite many of the issues being unresolved for numerous years? If any examiner was dissatisfied that matters were not being escalated to the level of enforcement, what recourse did they have?
- How did the California and Fed regulators work together? How did they divide off-site supervision and on-site bank examination responsibilities, information sharing, and decision making about scores?
- Was a draft CAMELS report sent to former SVB CEO Becker and his executives before being finalized? If so, did they respond? Was there more back and forth? Did SVB intervene in any way with the CAMEL score assignation?
- Where is the response to the San Francisco Fed's and California regulators from SVB's Board and internal auditors? Both were sent the CAMELS examination reports and supervisory letters.
- Where is SVB's internal audit documentation of the bank's challenges as well as external auditor KPMG's[68] documentation? Both could shed light into the extent of SVB problems. Did either set of auditors liaise with Fed and California regulators at any point?

Appoint an Independent Inspector General for the Federal Reserve System

An Inspector General should be appointed by the President of the United States and confirmed by the Senate. This individual should be allocated the necessary human and technological resources to be able to successfully fulfill all responsibilities. The Inspector General should testify before the House and Senate at least semi-annually.

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[66] Recession Readiness Silicon Valley Bank, December 1, 2022.
[67] Impact of Rising Rates on Certain Banks and Supervisory Approach Background Materials, February 14, 2023.
[68] McKenna, Francine. "Where was KMPG while Silicon Valley Bank, and the rest, were teetering?" The Dig, May 13, 2023.

Revise Title IV of S2155 to Reinstate Dodd-Frank's Definition of Systemically Important

S2155 gutted essential parts of Dodd-Frank's Title I, such those that designated banks over $50 billion as domestically systemically important. S2155 also influenced the supervisory culture and tone at regulatory entities. By designating banks above $50 billion as domestically systemically important, much more of the banking sector would be better regulated and supervised. This would send a strong signal to regulators to impose enhanced prudential standards to these types of banks to strengthen these banks and minimize systemic risk if they were to fail.

Remove Heads of Banks From Federal Reserve District Boards

While there is debate as to the extent of power of district boards over off-site supervision or on-site bank examinations, it cannot be denied that board members meet repeatedly with presidents and other key members of the Federal Reserve district banks. According to Becker's response to Senator Hagerty during the 'Examining the Failures of Silicon Valley Bank and Signature Bank,' Becker met with the Federal Reserve Bank of San Francisco monthly and sometimes more frequently.[69]

To avoid even the appearance of conflicts of interest, boards would be better served without these individuals on these boards. The boards would be better served by ensuring that they have a diversity of skills sets on their boards that could support them in providing oversight over Federal Reserve district banks.

Reform Remuneration for CEOs and Key Bank Professionals

Despite multiple financial crises in my lifetime, not much has been accomplished in reforming how executives and key bank professionals are remunerated. As I know from having worked at two banks, a bank's profitability influences not only how executives are paid, but also, often all the way down to the most junior employees. This means that even when professionals know of wrongdoing at a bank, no one wants to stand up and inform any boss or even more difficult, bank regulators. Remuneration that is tied to bank profitability also influences risk managers and traders about hedging strategies and asset-liability management. Implementing hedges and reallocating portfolios often means reduced profits for banks; when this is the case, too many professionals prefer not to change things so that their bouses are not impacted.

Legislators and not-for-profit organizations are proposing different ways in which remuneration should be reformed. Clawing bank executives' bonuses when their banks fail should be explored. The bi-partisan bill *Failed Bank Executives Clawback Act* correctly points out that "currently, the Federal Deposit Insurance Corporation's (FDIC) ability to claw back executive compensation in the event of a bank failure is limited. The *Failed Bank Executives Clawback Act* would give federal bank regulators the tools they need to hold executives of failed banks responsible for the

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[69] "Examining the Failures of Silicon Valley Bank and Signature Bank," Senate Banking Hearing, May 16, 2023.

costs those failures exact on the rest of the banking system and the economy and require the FDIC to act to prevent the unjust enrichment of bank executives."[70]

Additionally, it is important to remember that Section 956 was not finalized. As explained by Public Citizen "the regulators wisely proposed that a significant portion of senior executive bonus pay be deferred into a fund. In the case of misconduct or failure, this fund would be forfeited, either to help pay for the resolution of the bank, or to pay fines associated with the misconduct (instead of having shareholders effectively pay the fines). This dynamic would essentially deputize and incentivize all bankers to police one another."[71]

Require Transparency from Banks About Their Assets and Liabilities

Large banks should disclose the amount and concentrations of assets as well as liabilities at least once a month to the public, if not more frequently. We know they can do this, because there is a Federal Reserve weekly report 'H8' that shows assets and liabilities at a high, anonymized level. Banks of the size of Silicon Valley Bank should have the technological and professional capacity to report asset and deposit levels on a weekly basis to the public.

Utilize All of the Federal Reserve's Existing Powers to Escalate Identified Risks at Banks and Impose Enforcement Actions on Non-Compliant Banks

According to Barr's report "the Federal Reserve generally does not require additional capital or liquidity beyond regulatory requirements for a firm with inadequate capital planning, liquidity risk management, or governance and controls."[72] Since its inception, national discretion is built into The Basel Accord framework, so that adopting countries have some flexibility in implementing rules that are most appropriate to their own circumstances.[73] As a member of the Basel Committee on Banking Supervision, the Federal Reserve can recommend stricter rules for our banks if it is appropriate for our circumstances.

In 2011, the Government Accountability Office recommended that the Federal Reserve and other bank regulators modify the existing Prompt Corrective Action Framework. The GAO recommended that.

> "to improve the effectiveness of the PCA framework, the heads of the Federal Reserve, FDIC, and OCC should consider additional triggers that would require early and forceful regulatory actions tied to specific unsafe banking practices and also consider the other

[70] "Warren, Hawley, Cortez Masto, Braun Introduce Bipartisan Bill to Claw Back Compensation From Failed Bank Executives," Failed Bank Executives Clawback Act, March 29, 2023.
[71] Naylor, Bart, "Letter to Senate Banking Committee Re Banker Accountability for Recent Bank Failures - Public Citizen," May 3, 2023.
[72] Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank, April 28, 2023, p. 2.
[73] Basel Capital Framework National Discretions. Basel Committee on Banking Supervision, November 2014.

> two options--adding a measure of risk to the capital category thresholds and increasing the capital ratios that place banks into PCA capital categories--identified in this report to improve PCA. In considering such improvements, the regulators should work through the Financial Stability Oversight Council to make recommendations to Congress on how PCA should be modified."[74]
>
> In response to GAO's recommendation, the "FDIC, OCC, and the Federal Reserve began to consider the option of adding non-capital triggers to the prompt corrective action (PCA) framework in a January 2013 Federal Financial Institutions Examination Council (FFIEC) meeting, among other options to improve PCA. Following this meeting, the three agencies established a working group under the FFIEC Task Force on Supervision entitled Corrective Program Best Practices to review the regulators' enforcement practices and tools and to consider these options. As of June 2015, the regulators were still considering the pros and cons of options for modifying PCA but had not taken any further action related to adding non-capital triggers. Also, during 2013, FDIC, OCC, and the Federal Reserve adopted final rules related to regulatory capital that included increasing the capital ratios that place banks into PCA capital categories, another option GAO recommended that the regulators consider. Since these actions to date did not require legislative changes, the regulators have not approached Congress with proposals to modify PCA. While these actions address our recommendation that the regulators consider options to improve PCA, we continue to believe that incorporating non-capital triggers would enhance the PCA framework by encouraging earlier action and giving the regulators and banks more time to address deteriorating conditions before capital is depleted."[75]

The Federal Reserve has guidance for how examiners communicate findings to supervised banks. Matters Requiring Attention (MRAs) and Matters Requiring Immediate Attention (MRIA).[76] Yet, there is no define timeline for either. Hence, the tone at the top of bank supervision is critical. If the tone is to not be strict with banks, this filters down to examiners and enforcement. "In some cases, when follow-up indicates the organization's corrective action has not been satisfactory, the initiation of additional formal or informal investigation or enforcement action may be necessary. In such cases, examiners should consult with enforcement staff. Such consultation should be made in accordance with existing guidance to Reserve Bank supervisory staff on the processing of enforcement actions, which provides that recommendations concerning formal enforcement actions should be submitted simultaneously to both the Board's Legal Division and Division of Banking Supervision and Regulation."[77]

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[74] "Bank Regulation: Modified Prompt Corrective Action Framework Would Improve Effectiveness," Government Accountability Office, June 23, 2011.

[75] Ibid.

[76] Supervisor y Considerations for the Communication of Supervisory Findings,

[77] Ibid, p. 3.

Require Improvements In the Monitoring of Banks' Interest Rate Risk Models

Regulators need to take a closer look at models, especially those for interest rate and liquidity risk measurements. According to the last SVB annual report, the bank was measuring interest rate risk by using Economic Value Equity, which uses market values of assets and liabilities.[78] It did not disclose what assumptions for discount rate it was using. If this information were disclosed, we could determine what SVB's net economic value of equity was. In its Net Interest Income simulation, SVB disclosed that applied interest rate shocks of 100 and 200 basis points hikes and decreases.[79] Given federal funds rate hikes by that time in 2022, SVB should have been applying larger shocks, more like 300 or even 400 basis points. Regulators need to require that relevant discount rates and interest rate shocks are applied to these interest rate risk measurements. Banks should be transparent about interest rate risk. I have worked with community banks that conduct gap analysis to test when they may have more liabilities than assets. There is no reason bigger banks cannot calculate this.

Reinstate The Liquidity Standard for All Large Bank Organizations

Bank regulators should require that banks that are $50 bn calculate and report the Liquidity Recovery Ratio.[80] Had SVB been required to calculate and report this measure, regulators and market participants would have seen that hiqh-quality liquid assets, declining in market value, would not cover net stressed cash outflows. Under the LCR, banks must test the effect of deposit decreases on their liquidity. Banks that are $100 billion in asset size should disclose their LCR at least once a month if not more often. Presently, our G-SIBs report LCR to their district Fed daily. This information is incredibly useful to bank regulators. And making it public through Basel III Pillar III's risk disclosures would help the market discipline banks.

The Fed should also require these banks to calculate and report on the Net Stable Funding Ratio. This liquidity measure gives insight into whether a bank has the necessary stable funding for a twelve-month period.

Provide Strong Protections for On-site Examiner and Off-Site Supervisors

If off-site supervisors or on-site examiners discover that their findings about risks at banks are not being escalated, they need to be able to report this to the head of bank supervision without fear of reprisal.

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[78] SVB Annual Report 2022, pp. 89-90
[79] SVB Annual Report 2022, p. 90.
[80] Frequently Asked Questions on the Tailoring Rules Effective January 13, 2020.

Appendix I

Requirements for Domestic and Foreign Banking Organizations*

	Category I U.S. GSIBs	Category II ≥ \$700b Total Assets or ≥ \$75b in Cross-Jurisdictional Activity	Category III ≥ \$250b Total Assets or ≥ \$75b in nonbank assets, wSTWF, or off-balance sheet exposure	Category IV Other firms with \$100b to \$250b Total Assets	Other Firms \$50b to \$100b Total Assets
Capital	**TLAC/Long-term debt** **Stress Testing** • Annual company-run stress testing • Annual supervisory stress testing • Annual capital plan submission **Risk-Based Capital** • GSIB surcharge • Advanced approaches • Countercyclical Buffer • No opt-out of AOCI capital impact **Leverage capital** • Enhanced supplementary leverage ratio	**Stress Testing** • Annual company-run stress testing • Annual supervisory stress testing • Annual capital plan submission **Risk-Based Capital** • Advanced approaches • Countercyclical Buffer • No opt-out of AOCI capital impact **Leverage capital** • Supplementary leverage Ratio	**Stress Testing** • Company-run stress testing every other year • Annual supervisory stress testing • Annual capital plan submission **Risk-Based Capital** • Countercyclical Buffer • Allow opt-out of AOCI capital impact **Leverage capital** • Supplementary leverage ratio	**Stress Testing** • Supervisory stress testing (two-year cycle) • Annual capital plan submission **Risk-Based Capital** • Allow opt-out of AOCI capital impact **Leverage capital**	**Risk-Based Capital** • Allow opt-out of AOCI capital impact **Leverage capital**
SCCL	**Single-counterparty credit limits (SCCL)** • BHC/IHC level SCCL • FBOs: Meet home country requirement	**SCCL** • BHC/IHC level SCCL • FBOs: Meet home country requirement	**SCCL** • BHC/IHC level SCCL • FBOs: Meet home country requirement	**SCCL** • FBOs: Meet home country requirement if global assets≥\$250B	**SCCL** • FBOs: Meet home country requirement if global assets≥\$250B
Liquidity (Holding Company)	**Standardized** • Full daily LCR (100%) • Proposed full daily NSFR† (100%)	**Standardized** • Full daily LCR (100%) • Proposed full daily NSFR† (100%)	**Standardized** • If wSTWF < \$75b: Reduced daily LCR and NSFR† (85%) • If wSTWF ≥ \$75b: Full daily LCR and proposed NSFR† (100%)	**Standardized** • If wSTWF < \$50b: No LCR • If wSTWF ≥ \$50b: Reduced monthly LCR and proposed NSFR† (70%)	
Liquidity (Combined U.S. Operation)	**Reporting** • Report FR 2052a daily **Internal** • Liquidity stress tests (monthly) • Liquidity risk management	**Reporting** • Report FR 2052a daily **Internal** • Liquidity stress tests (monthly) • Liquidity risk management	**Reporting** • If wSTWF < \$75b: Report FR 2052a monthly • If wSFWF ≥ \$75b: Report FR 2052a daily **Internal** • Liquidity stress tests (monthly) • Liquidity risk management	**Reporting** • Report FR 2052a monthly **Internal** • Liquidity stress tests (quarterly) • Tailored liquidity risk management	
Holding Company	**U.S. IHC Requirement**	**U.S. IHC Requirement**	**U.S. IHC Requirement**	**U.S. IHC Requirement**	**U.S. IHC Requirement**

* Certain requirements for a foreign bank are determined by the risk profile of its intermediate holding company, whereas other requirements are determined by the risk profile of the firm's combined U.S. operations. Capital and standardized liquidity standards are determined by the risk profile of the intermediate holding company and other standards are determined by the risk profile of the firm's combined U.S. operations. Other foreign banks with limited U.S. presence and global assets of \$100 billion or more would be subject to certain minimum standards.† The proposed net stable funding ratio (NSFR) rule will not be finalized as a result of the tailoring final rule.

Glossary: wSTWF – weighted short-term wholesale funding; HCs –bank, savings and loan, or intermediate holding company; CUSO – combined U.S. operations; AOCI – accumulated other comprehensive income; CCAR – Comprehensive Capital Analysis and Review; LCR – liquidity coverage ratio.

Appendix II

Interest Rate Risk Management

Cash Flow Hedges

To manage interest rate risk on our variable-interest rate loan portfolio, we enter into interest rate swap contracts to hedge against future changes in interest rates by using hedging instruments to lock in future cash inflows that would otherwise be impacted by movements in the market interest rates. We designate these interest rate swap contracts as cash flow hedges that qualify for hedge accounting under ASC 815 and record them in the line items "accrued interest receivable and other assets" and "other liabilities" on our consolidated balance sheet. For qualifying cash flow hedges, changes in the fair value of the derivative are recorded in AOCI and recognized in earnings as the hedged item affects earnings. Derivative amounts affecting earnings are recognized consistent with the classification of the hedged item in the line item "loans" as part of interest income, a component of consolidated net income.

We assess hedge effectiveness under ASC 815 on a quarterly basis to ensure all hedges remain highly effective and hedge accounting under ASC 815 can be applied. If the hedging relationship no longer exists or no longer qualifies as a hedge per ASC 815, any amounts remaining as gain or loss in AOCI are reclassified into earnings in the line item "loans" as part of interest income, a component of consolidated net income. As of March 31, 2020, all derivatives previously classified as hedges with notional balances totaling $5.0 billion and a net asset fair value of $228 million were terminated. As of December 31, 2022, the total unrealized gains on terminated cash flow hedges remaining in AOCI is $60 million, or $43 million net of tax. The unrealized gains will be reclassified into interest income as the underlying forecasted transactions impact earnings through the original maturity of the hedged forecasted transactions. The total remaining term over which the unrealized gains will be reclassified into earnings is approximately two years.

Appendix III

CAMELS 2016 SVB Joint Examination Report[81]

Matters Requiring Attention (MRA)

Compliance Program

The compliance department does not consistently meet supervisory expectations of SR 16-11 which requires management to ensure that appropriate policies, controls, and risk monitoring systems are in place to comply with laws, regulations, and supervisory requirements. Systems do not consistently ensure that key assumptions and procedures used in measuring and monitoring risks are sufficiently documented to allow for effective challenge and validation. The compliance function currently relies on business units to self-regulate and assess their own compliance to policy and regulatory requirements. The system is prone to errors and omissions, evidenced by four apparent violations of Regulation O, inconsistent documentation, several outdated policies, and instances where the business unit was not fully compliant with internal policies and regulatory guidance.

Required Action: Management is required to evaluate and improve processes to comply with all internal policies, regulations, and regulatory guidance. These processes must include:

- Ensuring full compliance with internal policies. For example, management should:
  - Require the review and approval of the capital planning framework by the Asset Liability Committee (ALCO) per the Capital Planning and Management Policy.
  - Comply with Treasury policies requiring the annual review of model assumptions and quarterly back-testing of the interest rate risk (IRR) model.
- Implementing effective internal controls and monitoring processes, including:
  - Documenting key assumptions and limitations of the capital buffer methodology to allow for effective challenge and testing.
  - Ensuring that procedures prevent overdraft payments in conformance with Regulation O.
- Updating internal policies and procedures to comply with supervisory guidance, including:
  - Memorializing informal processes into written procedures to ensure ongoing monitoring of municipal bonds per SR 98-12.
  - Requiring the reporting of net counterparty credit risk exposure to ALCO at a frequency commensurate with the materiality and complexity of exposures per SR 11-10.
  - Incorporating SR 10-1 guidance into internal policies to ensure management sufficiently measures and understands IRR as well as underlying assumptions.

Management Response: *Management agreed with these recommendations and has taken initial steps to review, assess, and improve the compliance department and its processes. Management committed to develop an updated compliance framework and address weaknesses noted during this examination by 9/30/17.*

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[81] 2016 CAMELS Joint Examination Report, p. 6.

Appendix IV

Interest Rate Risk Measurement MRA[82]

MRA: IRR Simulation and Modeling

Issue: SVB's IRR simulations are unreliable. The firm's latest forecasts for 4Q 2022 and 2023 show notable contractions in the net interest margin and net interest income as a result of current interest rate levels and other market conditions, leading to significant adverse impacts on earnings. Importantly, the forecasted changes are directionally inconsistent with dynamic IRR simulations and projections, which modeled and reported the balance sheet as asset sensitive. These inconsistencies call into question the reliability of the firm's IRR modeling and the effectiveness of risk management practices.

Impact: Unreliable IRR modeling outputs impair management and the board's ability to make important asset liability management decisions. In the firm's case, simulation results gave a false sense of safety in a rising rate environment and masked the need to take actions earlier in the rate cycle.

Required Action: By June 30, 2023, the board and senior management is required to:

- Backtest IRR simulations against actual results and compare against latest forecasts to determine driver(s) of inconsistency and reasonableness of assumptions
- Correct deficiencies identified through the backtest
- Perform an analysis of deposit mix shifts and run-offs across different rate and VC funding scenarios
- Incorporate deposit mix shifts and run-offs into IRR simulations, either directly or as part of sensitivity analysis

[82] 2022 CAMELS Exam Letter to CEO Gregory Becker, November 15, 2022.

Appendix V

Recent Articles by Mayra Rodríguez Valladares

Regional Bank Turmoil in the U.S. Is Far From Over

PacWest Bancorp's Imminent Demise Shows Bank Turmoil Is Widening To Smaller Banks

The Federal Reserve's Interest Rate Increases Create Default Risk In Major Sectors

With First Republic Takeover, JPMorgan Is America's Most Globally Systemically Important Bank

To Know Why Silicon Valley Bank Failed, Congress Should Ask Former CEO Greg Becker

First Republic Bank's Earnings Call Did Not Inspire Confidence

First Republic Bank's Financial Ratios Will Reveal Serious Trouble

Regional Banks' Financial Results Fail To Impress Investors

What To Watch For With U.S. Regional Banks This Week

Big U.S. Banks Are Preparing For An Impending Recession

Investors Eyes Should Be On Leveraged Finance Markets

Deutsche Bank Should Disclose Its Current Liquidity Levels To Investors

From Ferdinand Marcos To Russian Oligarchs, Troubled Credit Suisse Is A Repeat Offender

How Trump's Deregulation Sowed the Seeds for Silicon Valley Bank's Demise

Warning Signals About Silicon Valley Bank Were All Around Us

High Interest Rates Will Continue To Challenge Most Sectors Of The Economy

Leveraged Loan Default Volume In The U.S. Has Tripled This Year

Probability Of Default Is Rising For High Yield Bonds And Leveraged Loans

The U.S. Leveraged Finance Market Is At A Record $3 Trillion