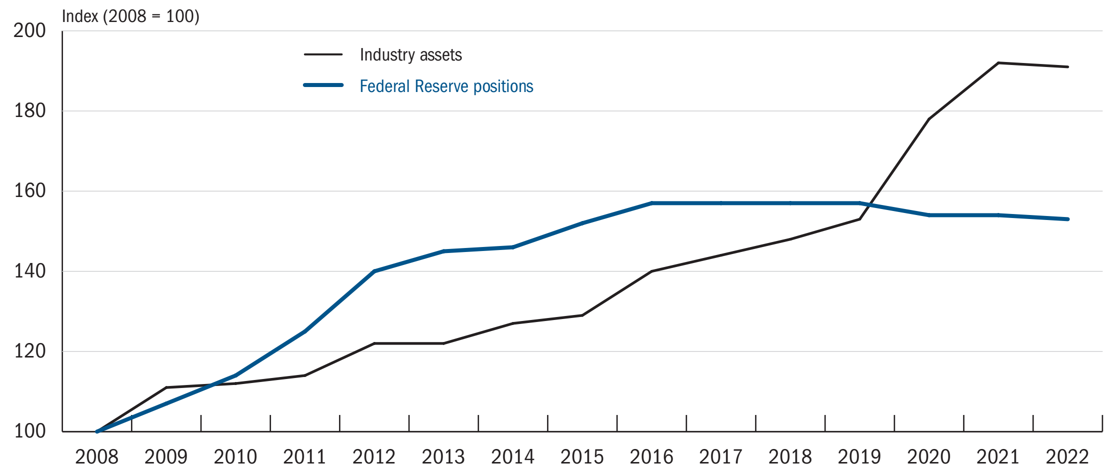
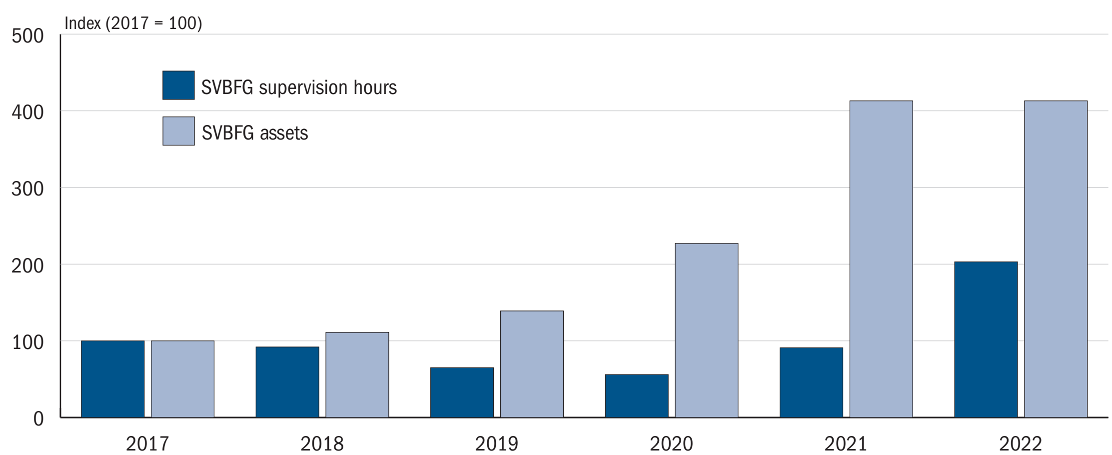
Figure 13. Supervision staffing relative to banking industry assets



Note: All values indexed to 100 in 2008. The positions shown combine different staffing statistics for the Federal Reserve Banks and the Board of Governors of the Federal Reserve System. Reserve Bank numbers presented include the average number of personnel (ANP) or full-time equivalents (FTE) conducting supervision and regulation functions, including consumer compliance. They are a proxy for staffing levels but do not reflect actual positions. Board numbers presented include filled positions in the Division of Supervision and Regulation, excluding consumer compliance. Banking industry assets include all top-holder firms.

Source: Internal Federal Reserve staffing databases, FR Y-9C, and Call Report.

Figure 14. SVBFG supervision hours relative to assets



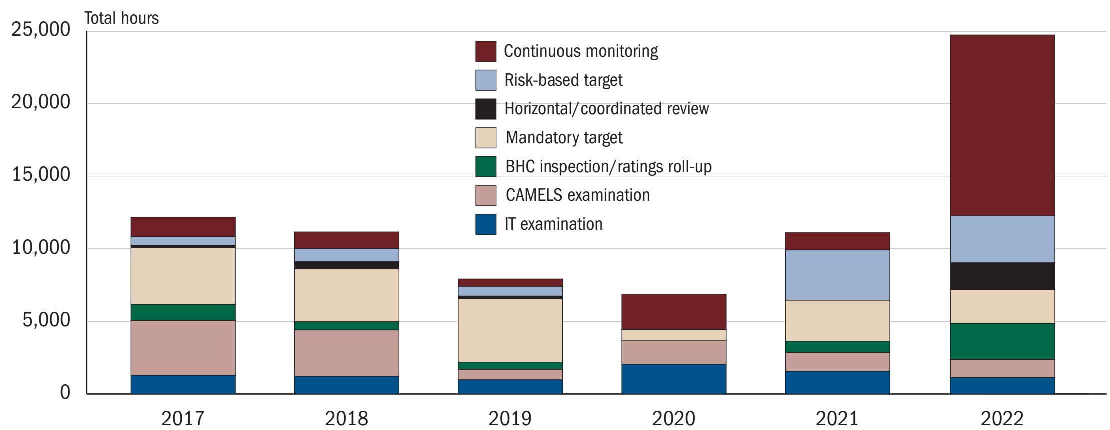
Note: The key identifies bars in order from left to right. All values indexed to 100 in 2017. SVBFG supervision hours reflect actual hours spent on scheduled supervisory activities of SVBFG.

Source: Internal Federal Reserve staff time databases and FR Y-9C.

hours were declining at the same time the firm was experiencing rapid growth. In 2020, decreased supervision hours reflect the impact of the COVID-19 pandemic. This is also the period when there was some pressure to reduce burden on firms under $100 billion. Hours dedicated to SVBFG did not increase until it moved into the LFBO portfolio, at which point hours increased dramatically.

Supervisors approached SVBFG differently as it grew and moved from the RBO to the LFBO portfolio. Consistent with the differing supervisory approach associated with each portfolio, the composition of supervisory activity conducted with respect to SVBFG shifted away from mandatory target exams and toward continuous monitoring in 2022 (figure 15).

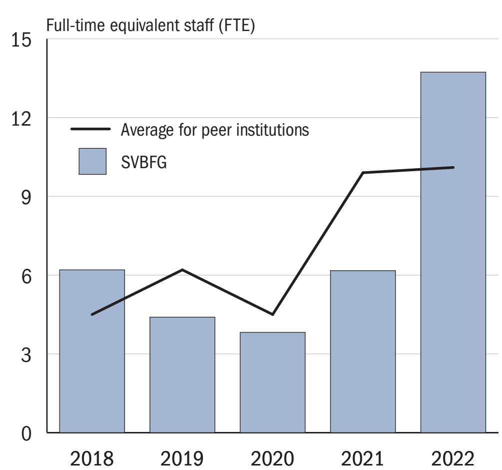
Figure 15. Actual hours spent on scheduled supervisory activities of SVBFG



Note: The key identifies bars in order from top to bottom.

Source: Internal Federal Reserve staff time databases.

Figure 16. Supervision resources for SVBFG compared with peer institutions



Source: Internal Federal Reserve staff time databases.

When SVBFG transitioned to the LFBO portfolio, FRBSF requested 12 additional staff in March 2021 for a total of 20 FTE resources. This request for additional resources reflected the size and complexity of SVBFG. The request was approved by Board staff in June 2021. As of December 2022, the DST was staffed with 15 full-time employees. On the financial resilience team, there were five dedicated staff. Nonetheless, SVBFG received fewer supervisory resources through 2021 relative to peer institutions (figure 16).

Overview of Supervisory Views

When SVBFG moved into the LFBO portfolio in 2021, staff initially focused on examinations covering key areas affected by the upcoming requirements of EPS, then pivoted to an examination of broader governance and risk management. Initial exams and post-transition meetings indicated to the team that risk management and controls had not kept pace with the growth of SVBFG.

Ratings

For SVBFG, the holding company, supervisors rated all components in the RFI rating system as "Satisfactory-2" for every year from 2017 to 2021. When SVBFG moved to the LFBO portfolio, supervisors rated it as "Broadly Meets Expectations" for Capital, "Conditionally Meets Expectations" for Liquidity, and "Deficient-1" for Governance and Controls under the LFI ratings system (table 5).

Table 5. RFI and LFI ratings for SVBFG

Report disposition date	RFI rating					LFI rating		
	Risk management rating	Financial condition rating	Impact rating	Composite rating	Depository institution rating	Capital rating	Liquidity rating	G&C rating
6/14/17	2	2	2	2	2			
6/13/18	2	2	2	2	2			
4/11/19	2	2	2	2	2			
5/8/20	2	2	2	2	2			
7/9/21	2	2	2	2	2			
8/17/22						BME	CME	D-1
10/11/22						BME		

Note: Shading indicates a change in ratings or ratings system.
Source: Internal Federal Reserve supervisory databases.

For SVB, the subsidiary bank, supervisors rated all components except liquidity as "Satisfactory-2" from 2017 to 2021. Liquidity was rated "Strong-1" from 2017 to 2021. After SVB moved to the LFBO portfolio, supervisors downgraded the management and composite ratings to "Less than Satisfactory-3" and the liquidity to "Satisfactory-2" (table 6).

Exam Timing

The Federal Reserve completed a large number of core exams for both SVB and SVBFG in the years prior to the failure of SVBFG (figure 17). This figure covers all safety-and-soundness exams mailed on or after January 1, 2017, that resulted in ratings as well as examinations in the areas of liquidity, interest-rate risk, governance, and risk management.

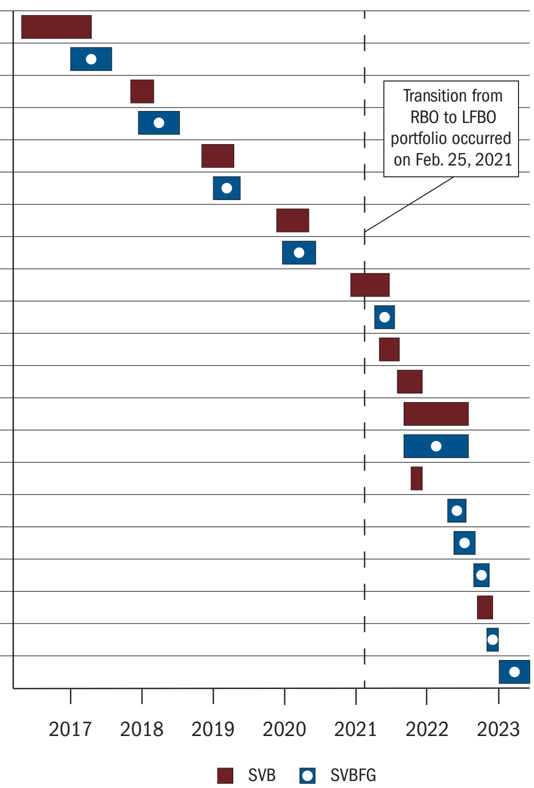
Table 6. CAMELS ratings for SVB

Report disposition date	Capital rating	Asset quality rating	Management rating	Earnings rating	Liquidity rating	Sensitivity to market risk rating	Composite rating
3/7/17	2	2	2	2	1	2	2
2/14/18	2	2	2	2	1	2	2
3/6/19	2	2	2	2	1	2	2
4/13/20	2	2	2	2	1	2	2
5/3/21	2	2	2	2	1	2	2
8/17/22	2	2	3	2	2	2	3

Note: Shading indicates a change in ratings.
Source: Internal Federal Reserve supervisory databases.

Figure 17. Timeline of supervisory activities

Start date	Report mailed date	Event
10/3/16	3/7/17	CAMELS exam of SVB
12/27/16	6/14/17	Holding company inspection of SVBFG
10/2/17	2/14/18	CAMELS exam of SVB
12/4/17	6/13/18	Holding company inspection of SVBFG
10/1/18	3/6/19	CAMELS exam of SVB
12/31/18	4/11/19	Holding company inspection of SVBFG
11/29/19	4/13/20	CAMELS exam of SVB
12/30/19	5/8/20	Holding company inspection of SVBFG
11/30/20	5/3/21	CAMELS exam of SVB
4/5/21	7/9/21	Holding company inspection of SVBFG
5/24/21	8/17/21	Asset quality and credit risk management target
8/16/21	11/2/21	Liquidity planning target
9/7/21	8/17/22	CAMELS exam of SVB
9/7/21	8/17/22	Holding company inspection of SVBFG
9/20/21	11/9/21	Capital planning target
3/14/22	5/31/22	Governance and risk management target
4/25/22	8/19/22	2022 LFBO horizontal capital review (HCR)
8/8/22	10/11/22	2022 LFBO dynamic rating roll-up—LFI Capital
8/22/22	11/15/22	CAMELS exam of SVB
10/3/22	12/27/22	Internal audit target exam
1/3/23		2023 LFBO Horizontal Liquidity Review (HLR)



Note: This figure shows all safety-and-soundness exams mailed on or after 1/1/2017 that resulted in ratings, as well as examinations in the areas of liquidity, interest rate risk, governance, and risk management.

CAMELS examinations of SVB: These examinations focused on evaluating and rating capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk. Risk management and composite ratings are also issued in CAMELS examinations. These exams were conducted with CDFPI.

Holding company inspections of SVBFG: Inspections that assessed the organization's overall risk management and consolidated financial condition, resulting in an RFI or LFI rating.

Source: Internal Federal Reserve supervisory databases.

Shortly after transitioning into LFBO supervision, capital and liquidity "readiness review" examinations were conducted to assess compliance with current expectations and preparation for the application of EPS. Note that these occurred after SVBFG had transitioned into the LFBO portfolio. These included

- **Capital planning target exam:** Baseline assessment of stress testing and capital planning capabilities against applicable expectations included in SR letter 12-7[59] and SR letter 12-17[60] to inform the LFI Capital rating. The November 9, 2021, supervisory letter conveyed that capital planning practices met applicable supervisory guidance.[61] Additionally, management's planned enhancements to the capital plan structure aligned with the mandatory elements described in the Capital Plan Rule.[62]
- **Liquidity planning target exam:** Baseline assessment of liquidity planning and stress testing capabilities against applicable expectations in SR letter 10-6[63] and SR letter 12-7 to inform the LFI Liquidity rating. The review focused on liquidity risk management practices separate from SVBFG's on-balance sheet liquidity positions. The November 2, 2021, supervisory letter conveyed that SVBFG's liquidity risk management practices were below supervisory expectations set forth in applicable guidance.[64]

The first, and perhaps the most critical, examination in 2022 was of governance and risk management. The examination resulted in three MRIAs identifying material weaknesses in the board of directors, risk management, and internal audit. The examination of internal audit in late 2022 provided additional confirmation that SVBFG struggled in this area.

- **Governance and risk-management target exam:**[65] SVBFG's governance and risk-management practices were found to be below supervisory expectations in May 2022. The firm's board had not provided effective oversight to ensure senior management implemented risk-management practices commensurate with the firm's size and complexity. Previously identified supervisory findings plus the material weaknesses identified in liquidity risk management indicated weaknesses in SVBFG's ability to self-identify internal control weaknesses and manage risks proactively. Supervisors found SVBFG's internal audit department had also not provided appropriate coverage of SVBFG's LFI readiness initiatives or independent risk function.

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59 Board of Governors of the Federal Reserve System, "Supervisory Guidance on Stress Testing for Banking Organizations with More Than $10 Billion in Total Consolidated Assets," SR letter 12-7 (May 14, 2012), https://www.federalreserve.gov/supervisionreg/srletters/sr1207.htm.

60 Board of Governors of the Federal Reserve System, "Consolidated Supervision Framework for Large Financial Institutions, SR letter 12-17 (December 17, 2012), https://www.federalreserve.gov/supervisionreg/srletters/sr1217.htm.

61 SVBFG Capital Planning Target Supervisory letter, November 9, 2021.

62 12 C.F.R. § 225.8.

63 Board of Governors of the Federal Reserve System, "Interagency Policy Statement on Funding and Liquidity Risk Management," SR letter 10-6 (March 17, 2010), https://www.federalreserve.gov/boarddocs/srletters/2010/sr1006.htm.

64 SVBFG Liquidity Planning Target Supervisory letter, November 2, 2021.

65 SVBFG and SVB Governance and Risk Management Target Supervisory letter, May 31, 2022.

- **Internal audit (IA) target exam:**[66] The FRBSF and CDFPI completed a joint target exam of SVBFG/SVB's Internal Audit Program in October 2022. SVBFG/SVB's internal audit function was deemed not fully effective. The overall assessment was driven by material weaknesses in the risk-assessment process, the process to define the IA audit universe, IA's continuous monitoring, and audit execution.

The issuing of the ratings was delayed for the 2021 supervisory cycle to allow for the governance and risk-management examination to occur. As a result, the supervisory ratings letter, which was based on supervisory work performed over the course of 2021 and the first half of 2022, was jointly issued by the FRBSF and CDFPI on August 17, 2022.[67] The letter formally communicated the ratings that had been presented to SVBFG's board on July 21, 2022, and represented the first set of LFI ratings issued to SVBFG. The letter conveyed the following ratings to SVBFG: Governance and Controls (G&C): "Deficient–1"; Liquidity (L): "Conditionally Meets Expectations"; Capital (C): "Broadly Meets Expectations."

The delay until August 2022 in issuing the 2021 supervisory ratings illustrates how the normal supervisory practices did not keep up with SVBFG's rapid expansion. The 2020 supervisory ratings had been communicated to SVB in May 2021. SVB's CAMELS Composite rating was a "Satisfactory-2,"its management rating was a "Satisfactory-2," and the RFI composite rating for SVBFG was also a "Satisfactory-2." The LFI team started vetting the 2021 LFI ratings in the October and November 2021 timeframe. Given the significant weaknesses identified during the liquidity examination and during continuous monitoring, the team considered rating Governance and Controls "Deficient-1." However, the DST, LFBOMG, Board staff, and Reserve Bank staff decided supervisors had not yet established the necessary support for such a downgrade given that only a few months had passed since the previous supervisory team had rated SVBFG as "Satisfactory-2" on a composite basis.

A broad view across the interviews was that the decision to postpone the initial ratings in 2021 or consider a downgrade was part of a shift that the burden of proof was on supervisors rather than firms, due process considerations that had been articulated by policymakers for several years, and reluctance to overturn a recent rating.

Memorandum of Understanding (MOU)

When any one of the three LFI ratings (Governance and Controls, Liquidity, or Capital) is rated "Deficient-1," there is a rebuttable presumption that an informal enforcement action will be undertaken. An MOU is an informal enforcement action. Shortly after the issuance of the August 2022

[66] SVBFG and SVB Internal Audit Target Supervisory letter, December 27, 2022.

[67] SVBFG and SVB 2021 Supervisory Ratings letter, August 17, 2022.

supervisory letter, FRBSF and CDFPI planned to develop and issue an MOU. The MOU provisions would have reflected concerns noted in the 2022 Governance and Risk Management and 2021 Liquidity exams. The MOU was still in draft form and was in process of being submitted to the CDFPI for another round of review when SVB failed. The MOU drafting process involves stakeholders across all agencies, including FRBSF, Board S&R, Board Legal, and CDFPI, and can be time consuming to complete. The SVBFG MOU was also delayed as stakeholders considered whether upcoming examinations would contribute to the content of the draft MOU.

Continuous Monitoring

One notable output of continuous monitoring was a SVBFG "recession readiness" memorandum written by the DST and provided to senior leadership at the FRBSF and the Board staff on December 1, 2022.[68] The memo discussed SVBFG's key exposures related to liquidity, credit, and operational risks and preparations for a possible recession. The memo conveyed that SVBFG's liquidity presented the greatest exposure in a recession. For year-to-date 2022, SVBFG had already incurred $49 billion of net client outflows, or 12.5 percent of total client balances. The magnitude of these outflows prompted SVBFG management to activate certain aspects of its contingency funding plan.

In the short term, a higher cost of funds represented the most direct impact. The longer-term impact was noted to be material charges against earnings if SVBFG was forced to liquidate its securities portfolio to fund unexpected net deposit outflows. SVBFG's liquidity buffer to fund deposit outflows was comprised of cash reserves and U.S. government and agency investment securities. However, the prevailing interest rate environment had resulted in material unrealized losses in SVB's securities portfolio.

Conclusions

SVBFG was supervised as a regional banking organization for over 20 years by the Federal Reserve. Supervision of SVBFG proved inadequate to deal with the firm's unique business model and the rapid growth over the last four years. Supervisors recognized a gradual increase in liquidity and market risks, but they did not fully appreciate the risks associated with the concentrated deposit base or SVBFG's investment portfolio strategy.

These shortcomings likely reflect a range of factors. Resources for SVBFG seem to have been insufficient, which may reflect reallocation to face other demands (e.g., growth in the overall banking system or emerging risks like cybersecurity or fintech). Staffing of exams while SVBFG was in the RBO portfolio generally came from the community/regional bank pool of examiners,

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[68] Memorandum re Recession Readiness – Silicon Valley Bank, December 1, 2022. The memorandum was provided to the Deputy Director of the Division of Supervision and Regulation at the Board of Governors, FRBSF Head of Supervision, FRBSF SVP of Large Financial Institution Supervision, and FRBSF VP of LFBOs.

who may have lacked experience with governance and risk-management practices of more sizable and complex institutions like SVBFG. Finally, the transition from the RBO to the LFBO portfolio led to sizable cliff effects from the shifts in supervisory approaches and applicable regulation. This contributed to delays in assessments and allowed time to pass as LFBO supervisors built their understanding of SVBFG even as SVBFG's financial condition deteriorated. The COVID-19 examination pause and a shift in policy stance after 2018 added to the impact.

As a final observation, the evolution of supervision in the LFBO portfolio involves a structure where Board staff both participates in the supervisory process with the Reserve Bank and provides formal oversight. This creates a potential conflict that may lead Reserve Bank staff to defer to Board staff with oversight responsibilities.

Supervision of SVBFG by Critical Risk Areas

The three critical weaknesses of SVBFG were: governance and risk management; liquidity risk management; and interest rate risk and investment portfolio management. This section reviews these three aspects of SVBFG's operations and associated Federal Reserve supervision in greater detail.

A consistent theme across each area is that SVBFG's practices did not keep pace with its rapid growth in size and risk. The board of directors' and risk management's experience and capabilities were lacking for a firm that grew to over $200 billion in assets. With respect to both liquidity and interest rate risk, the management team was focused on short-term measures of risk and managing to profitability rather than understanding the longer-term risk exposure. Management was slow to address weaknesses in risk management and the riskiness of its balance sheet positions. Insufficiencies in the contingency funding plan, such as lacking sufficient capacity to monetize the liquidity buffer, were identified in November 2021 and remained only partially resolved when SVBFG failed.[69]

Supervision also failed to keep pace in these areas. Although supervisors issued a number of supervisory findings in the four years leading up to SVBFG's failure, they missed some key issues that would eventually coalesce and lead to the rapid demise of SVBFG in March 2023. This section highlights the problems at SVBFG that were identified by the review team, including what supervisors found, what they missed, and what actions were taken in each key area. This section of the report also provides perspective from the review team on areas where further supervisory action may have been justified.

Governance and Risk Management

Overview

Corporate governance is the system of rules, practices, and processes that drive the direction and control of a firm. In order for a firm to be resilient under a broad range of economic, operational, and other stresses, the board of directors should provide for effective corporate governance with the support of senior management.[70] Supervisors assess governance structures, practices, and processes to determine if they are effective on a stand-alone and collective basis. Supervisors also assess: the board of directors' oversight of management; management's execution of the

[69] SVBFG Liquidity Planning Target Supervisory letter, November 2, 2021.

[70] SR letter 12-17.

strategy and risk appetite; business lines' and finance's management and control of the risks they take; independent risk management's oversight of firmwide risks; and execution by internal audit of its assurance function.

SVBFG's growth far outpaced the abilities of its board of directors and senior management. They failed to establish a risk-management and control infrastructure suitable for the size and complexity of SVBFG when it was a $50 billion firm, let alone when it grew to be a $200 billion firm. The LFBO supervisory team recognized that governance and risk management were not sufficient for a firm of the size and risk of SVBFG in late 2021, conducted additional examination work in early 2022, and downgraded the Governance and Controls rating in August 2022.[71]

RBO Supervision of Governance and Risk Management

Supervisors assessed the board of directors and senior management as "effective" throughout SVBFG's time in the RBO portfolio despite clear signs that governance and risk management were not matching the growth of SVBFG. Even after supervisors began identifying and communicating issues with governance and risk management in 2018, the bank's CAMELS Management rating was "Satisfactory-2" for 2018, 2019, and 2020.

The CAMELS ratings letter dated March 6, 2019, states that "significant efforts are still needed to align risk-management practices with supervisory guidance (SR letter 16-11)."[72] The letter also indicates the existence of additional weaknesses in liquidity and interest rate risk management, but these weaknesses were not reflected in the ratings. Similar feedback appears in the ratings letter dated April 13, 2020, but the Management rating remained a "Satisfactory-2."[73] This letter highlights an immature independent risk-management function that lacked authority, tools, and resources to appropriately monitor and test controls.

On May 3, 2021, supervisors issued the final RBO-based supervisory ratings letter that provided the ratings for the 2020 supervisory cycle.[74] Management and the board of directors' oversight were again rated "Satisfactory-2" indicating they were largely effective. SVBFG was approaching the $100 billion average total consolidated asset size threshold at which point it would become subject to the requirements of Regulation YY, the EPS requirements of the Dodd-Frank Act, as modified by EGRRCPA in 2018, the Board's tailoring rule, and related rulemakings in 2019.

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71 SVBFG and SVB 2021 Supervisory Ratings letter, August 17, 2022.

72 SVB 2018 CAMELS Examination Report, March 6, 2019; See Board of Governors of the Federal Reserve System, "Supervisory Guidance for Assessing Risk Management at Supervised Institutions with Total Consolidated Assets Less than $100 Billion," SR letter 16-11 (June 8, 2016, revised February 17, 2021), https://www.federalreserve.gov/supervisionreg/srletters/sr1611.htm.

73 SVB 2019 CAMELS Examination Report, April 13, 2020.

74 SVB 2020 CAMELS Examination Report, May 3, 2021.

The “Management” section of the letter highlights several significant concerns that could have led to a consideration of downgrading the Management rating to “Less-than-Satisfactory-3.” First, the letter contains two MRAs regarding credit risk management and internal loan review. The nature of the findings is foundational with respect to credit risk management for a firm of SVB’s size. Second, the letter highlights that management continued to struggle in addressing the firm’s technology weaknesses. Finally, the Management rating commentary states “Management has been reactive as opposed to proactive in certain risk identification aspects but has demonstrated the ability and the willingness to address supervisory matters. An independent and effective LOD [line of defense] framework is fundamental to the Board and management’s ability to plan for and respond to risks arising from changing business conditions, new activities, accelerated growth, and increasing complexity.”[75]

These issues indicate that risk management was lacking in important and fundamental ways and, therefore, are a cause for more than normal supervisory attention. Further, management was not identifying issues. They were reacting to supervisors identifying the issues. Under the applicable ratings definition, the ratings for Risk Management and Management could have been downgraded to a “Less-than-Satisfactory-3.” Instead, supervisors maintained the “Satisfactory-2” rating given the strong financial performance of the firm at the time and the lack of realized risk outcomes from the risk-management weaknesses, a backward-looking perspective. A downgrade could have been justified in light of the potential for negative outcomes from identified risk-management deficiencies.

LFBO Supervision of Governance and Risk Management

The Liquidity Target examination in late 2021 provided some of the earliest insight to the new LFBO supervisory team that SVBFG’s risk-management practices had not kept pace with its growth.[76] Meetings with SVBFG management at the time supported this supervisory concern, according to interviews with members of the supervisory team. These concerns surfaced coincident with the timing of the annual ratings cycle, so the supervisory team considered the possibility of a downgrade. As a result of discussions with the DST, LFBOMG, and Board staff in November 2021, Board staff provided a waiver for issuing the 2021 rating to ensure sufficient support was assembled for a downgrade in the Governance and Control rating.

The examination of SVBFG’s governance and risk management began in the first quarter of 2022 and culminated in three matters requiring immediate attention (MRIAs), which were communicated on May 31, 2022 (table 7).[77] The examination identified fundamental weaknesses in board

75 SVB 2020 CAMELS Examination Report, May 3, 2021.

76 SVBFG Liquidity Planning Target Supervisory letter, November 2, 2021.

77 SVBFG and SVB Governance and Risk Management Target Supervisory letter, May 31, 2022.

Table 7. Synopsis of SVBFG supervisory findings from the May 2022 letter on the governance and risk-management examination

Issue type	Issue synopsis
MRIA	Board effectiveness—The board's oversight over the firm's risk-management practices is not adequate and has contributed to an ineffective risk-management program. The lack of an effective risk-management program increases the potential that emerging risks may go undetected or root causes for internal controls deficiencies are not addressed.
MRIA	Risk-management program—SVB's existing risk-management program is not effective. The existing risk-management structure and framework does not provide the firm with appropriate mechanisms to operate a fully integrated risk-management program and impedes management's ability to identify emerging risks and address root causes of internal control deficiencies.
MRIA	Internal audit effectiveness—The internal audit (IA) department's methodology and programs do not sufficiently challenge management, provide the audit committee with sufficient and timely reporting, or ensure the timely analysis of critical risk-management functions and the overall risk-management program. The deficiencies in IA's processes and reporting negatively affected its ability to provide timely, independent assurance that the firm's risk management, governance, and internal controls were operating effectively.

Source: Federal Reserve communications with SVBFG, May 31, 2022.

effectiveness, risk management, and internal audit—three areas critical to the safety and soundness of financial institutions.

The MRIAs reflected that SVBFG did not have the risk management and control infrastructure necessary for the safety and soundness of the institution and was falling short of the enhanced expectations of the EPS. SVBFG was required to respond to the MRIAs within 90 days, with the response to include gap assessments for risk management and internal audit to determine if there were further issues supervisors did not identify. Given the severity of issues, supervisors could have recommended an enforcement action that required compensating controls while the firm remediated the supervisory findings. Compensating controls could have included measures to constrain risk appetite, require additional reporting to the board of directors, or mandate the engagement of a third party to conduct an independent review.

The board, management, and chief risk officer (CRO) all failed to recognize that their year-long program for their risk-management framework to meet EPS was ineffective, until supervisors started identifying issues in late 2021. Consultants who did the initial 2020 EPS gap assessment with respect to SVBFG practices and helped execute the plan to close those gaps also failed to design an effective program. During the Governance and Risk Management examination, the Federal Reserve's CPC met with the incoming chair of the board of directors to communicate several observations from the examination. Observations included that the board had failed to establish appropriate risk management, internal governance structures were inadequate given SVBFG's growth, the board lacked large bank experience, and that internal audit coverage was inadequate.

The examination findings and the failure of management and the CRO to recognize the weaknesses in the consultant's gap assessment and plan led to supervisors' and SVBFG's conclusion that the CRO did not have the experience necessary for a large financial institution. The CEO indicated in February 2022 the intent to replace the CRO, who subsequently left SVBFG in April. While it is the responsibility of the businesses and functions like finance and treasury to manage risk in a safe and sound way in accordance with the board of directors' risk appetite, the vacancy in a post like CRO removes one layer of important internal oversight. Despite the CEO's active search for a new CRO, supervisors could have cited the violation of section 252.33(b) of Regulation YY using an MRIA.[78] In consultation with Board staff, supervisors decided not to issue the violation since the firm was actively searching for a CRO with the appropriate skills and experience.

The Governance and Risk Management examination highlighted a number of fundamental and critical weaknesses that provided the support for the downgrade of the LFI Governance and Control rating to "Deficient-1" and the CAMELS Management and Composite ratings to "Less-than-Satisfactory-3" on August 17, 2022.[79] These broad deficiencies contributed to the management failures highlighted in the liquidity and interest rate risk sections of this report. The difference between a Deficient-1 and Deficient-2 rating is whether the findings "put the firm's prospects for remaining safe and sound through a range of conditions at significant risk" (Deficient-1) or the findings instead "present a threat to the firm's safety and soundness, or have already put the firm in an unsafe and unsound condition" (Deficient-2).

The supervisory team, Reserve Bank leadership, Board staff, and the national LFBOMG agreed that SVBFG's safety and soundness did not appear threatened at the time of the rating. Financial performance was still considered satisfactory, so the risk-management deficiencies did not appear to threaten safety and soundness. They did not yet recognize the building liquidity and interest rate risk. By early 2023, when SVBFG's liquidity and interest rate risk profile had deteriorated, and risk management was not making sufficient impact, a Governance and Control rating of "Deficient-2" should have been considered.

SVBFG was responsive to concerns articulated in meetings and in the Governance and Risk Management examination report. In April 2022, the CRO left the organization. New risk officers with large bank experience were hired. While the search to fill the CRO position took until December 2022, independent risk management was run by a committee of the senior risk officers. Many of these officers were new and "still completing baseline assessments," according to the August 17, 2022, letter.[80]

SVBFG board of directors materials from August 29, 2022, provided a summary of gaps in the firm's risk-management program, two full years after the initial efforts to meet EPS (figure 18).

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78 12 C.F.R. § 252.33(b) requires a bank holding company to appoint a chief risk officer with appropriate experience to manage the risks of a large, complex firm.

79 SVBFG and SVB 2021 Supervisory Ratings letter, August 17, 2022.

80 SVBFG and SVB 2021 Supervisory Ratings letter, August 17, 2022.

Figure 18. SVBFG internal risk management gap assessment

Risk Management Gap Assessment: Executive Summary (1/2)

LFI Components	Summary of Gaps	Related RTP Workstreams (WS #) / Other Programs
Risk Appetite Statement I	• Given the lack of a formal **Risk Appetite Standard, evaluation of the** risk appetite statement ("RAS") and risk tolerance is not formalized for **annual review or ad hoc changes** due to emerging risks or strategic changes (e.g., acquisitions). *[Gap 1]* • **Enterprise-level risk tolerances** are not cascaded down to the line of business for all key applicable risks. *[Gaps 2, 3]*	• Risk Appetite and Limits Framework (WS 4)
Strategic Plan II	• The **strategic planning framework** does not have a defined process to review the impact of the business lines' strategic plans on SVB's risk profile, nor is there a mechanism to track the firm's progress against its strategic objectives. *[Gap 4]* • **Effective challenge by the 2nd LOD,** while present, does not demonstrate the outcome of its exercise. *[Gap 4]* • **Business unit strategic planning** is not supported by a documented process to demonstrate responsibilities, criteria and guidelines for approval. *[Gap 5]*	• Corporate Strategic Planning Process (WS 10)
Risk Identification and Assessment III	• The **Issues Management** process currently lacks mechanisms to track, escalate, report, determine root causes, ensure effective change management, and manage data quality on issues throughout the enterprise. *[Gaps 6, 7]* • The **Risk ID and Risk Acceptance** governing standards have not been implemented, and there is inconsistent application of the **Risk Taxonomy** across financial and non-financial risks. **Risk and Control Inventories ("RCI")** are at varying levels of maturity and data does not always map back to the Risk Identification Framework/Standard. *[Gaps 8, 9, 11]* • The scope of the **Compliance Monitoring and Testing program's risk assessments** do not consider the non-banking entities of SVBFG. *[Gap 9]* • SVB does not currently utilize a **centralized GRC tool** to manage and report on risk assessments across the enterprise. *[Gap 10]* • The governing risk management process for **New & Modified Products & Services** has not yet been finalized, leading to an inconsistent approach throughout the enterprise. *[Gaps 12, 13]*	• Issue Management (WS 9) • Risk Identification (WS 5), Risk Acceptance (WS 6) • GRC Platform (WS 8) • New & Modified Products & Services (WS 11) • Compliance-specific remediation will take place under regulatory remediation activities underway
Roles and Responsibilities IV	• Many **foundational standards of 2nd LOD** (e.g., issues management, risk ID, risk acceptance etc.) are not fully developed, and the execution and documentation of **2nd LOD's effective challenge** responsibilities are conducted inconsistently across 2nd LOD functional areas. *[Gap 14]* • The business units currently do not maintain clearly defined **roles and responsibilities** for key risk programs related to **1st LOD risk management.** *[Gap 15]* • There is **no framework or methodology** for assessing compliance **risk culture.** *[Gap 15]*	• Governance, Accountability & Culture (WS 1)

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Risk Management Gap Assessment: Executive Summary (2/2)

LFI Components	Summary of Gaps	Related RTP Workstreams (WS #)/ Other Programs
Governance and Escalation V	• There is a lack of governance process around **enterprise policies and procedures**, and no central repository to ensure awareness as to the existence of policies. *[Gap 16]* • The **Management-level Risk Committees** program governance, while established, does not clearly define a standard structure for hierarchy, information flow, and charter requirements. *[Gap 17]* • ERM has not implemented a **Risk Reporting Governance Program** and oversight framework, leading to disparate reporting practices across the enterprise. *[Gap 18]* • **Business Unit Quarterly Risk Reporting (QRR) and Monthly Reporting** lacks a structured risk framework around establishment of thresholds, limits and tolerances to conform with the Risk Appetite Standard. *[Gap 19]*	• Governance, Accountability & Culture (WS 1) • Management Committee Governance (WS 3) • Risk Reporting (WS 7)
Resources and Infrastructure VI	• While the 2nd LOD is currently actively hiring to meet its identified resource needs, it does not have a defined framework for identifying and assessing its resource needs. *[Gap 20]* • While the 1st LOD is currently actively hiring to meet its identified resource needs, it does not have a defined framework for identifying and assessing its resource needs. *[Gap 21]*	• Workforce Planning (WS 2)
Internal Control Framework VII	• There is no enterprise-wide **Internal Control Framework,** including no enterprise-wide standard for the various control testing programs, leading to limited standardized control data across the enterprise. *[Gap 22]* • **The Risk and Control Self-Assessment (RCSA) Program and related internal control testing** of key controls is inconsistent given the disparate scope of testing programs, and not at a state of maturity appropriate for a firm of SVB's size. *[Gap 22]* • Risk assessments for the Compliance Monitoring and Testing program considered a limited set of factors and conduct testing on inherent rather than residual risk. *[Gap 23]*	• ERM Controls Monitoring (WS 12) • Technology Risk Management (WS 13) • Compliance-specific remediation will take place under regulatory remediation activities underway
Talent and Incentive Management VIII	• HR has not established an enterprise-level **Talent Management framework** to govern the end-to-end employee lifecycle for Covered Employees, including **performance reviews** to monitor and enforce prudent risk-taking behaviors. *[Gaps 24, 25]* • The **Incentive Compensation plan design** does not include a process to ensure risk management and compliance objectives and practices are taken into consideration for Covered Employees. *[Gap 26]* • There are no documented processes to evidence standardized practices across the enterprise for **Succession Planning** and **maintaining job descriptions** for key employees. *[Gaps 27-30]*	• MRIA 1 • Workforce Planning (WS 2)

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Source: SVBFG internal material, August 29, 2022.

The review of these materials provides indications that management was only addressing issues in response to supervisory findings rather than being proactively focused on safe and sound operation of the firm. SVBFG's materials seemed focused on compliance with EPS or responding to supervisory findings, rather than managing the actual risks of the firm. They had not yet demonstrated that strong risk management, internal audit, and board oversight are critical to the safe and sound operation of an institution.

Conclusions

The supervisory record shows that the Federal Reserve supervisors identified many, but not all, of the relevant issues with respect to Governance and Controls. The SVBFG supervisory team detected concerns related to governance and risk management starting in late 2021 through a series of meetings and the risk-management findings of the liquidity examination. Based on the supervisory record and interviews, certain factors impacted the pace at which supervisors acted on those concerns.

The increasing requirements and the supervisory portfolio transition were one set of key factors. Supervisors had rated SVBFG as "Satisfactory-2" in May 2021, only a few months before the larger, more experienced team took over. When the new team observed weaknesses in governance and risk management late in 2021, they were reluctant to issue a downgrade within seven months of the issuance of the prior rating without doing more examination work to support a change in view and related action.

A second factor was a focus on the apparent strong financial performance of SVBFG. Supervisors saw financial performance and the lack of realized risk outcomes during this period as offsets to underlying concerns related to governance and risk management.

Finally, in some instances, supervisors saw progress on remediation of supervisory findings or risk-management gaps as positive developments on a relative basis, rather than citing the gap that continued to exist relative to baseline expectations. An example of this is the CRO vacancy in 2022. Supervisors could have cited the absence of a CRO as a violation of the EPS but waited while SVBFG continued the ongoing search.

Liquidity Supervision

Overview

Liquidity is a financial institution's capacity to meet its cash and collateral delivery obligations at a reasonable cost.[81] Liquidity risk is the risk that an institution's financial condition or overall safety and soundness is adversely affected by an inability (or perceived inability) to meet its obligations.

81 SR letter 10-6.

For SVB, an acute liquidity risk event on March 9–10, 2023, rapidly led to failure as depositors lost faith in the ability of SVB to meet its obligations.

Liquidity risk is inherent in banking as a primary purpose of financial institutions is to serve as a credit intermediary through gathering of short-term deposits and lending longer-term funds. In performing this function, maturity transformation occurs as customer deposits are generally shorter-term in nature (e.g., demand deposit accounts) than the loans financial institutions make (e.g., 30-year mortgages). Although maturity transformation provides a key economic function, it also gives rise to liquidity risk as depositors may request their funds back in a timeframe that is not aligned with the timeframe within which a financial institution has invested the funds. SVBFG relied on a concentrated and largely uninsured deposit base to fund the bank, and when depositor faith was lost, SVB was not able to meet depositor withdrawal requests in part because of the maturity transformation inherent in its business activities.

Due to the materiality of liquidity risk to financial institutions, regulatory authorities have extensive requirements and expectations for the sound management of liquidity risk. SVBFG was subject to SR letter 10-6 and the EPS of Regulation YY during the period reviewed. These expectations and standards specify a range of sound liquidity risk-management practices, including board and senior management oversight, establishment of liquidity risk tolerances, internal liquidity stress tests (ILSTs), and contingency funding plans (CFPs), among other areas. SVBFG's liquidity risk-management practices were fundamentally flawed across multiple standards and were a direct contributing factor to SVBFG's failure.

Consistent with SVBFG's governance and risk-management weaknesses, SVBFG's capabilities for managing liquidity risk were not suitable for a $200 billion firm. SVBFG's funding inherently relied on large, concentrated, and uninsured deposits. This construct, coupled with broadly deficient liquidity risk-management practices, created an environment where SVBFG was neither prepared for nor capable of responding to the acute liquidity event in March 2023. Throughout the period of SVBFG's rapid growth while in the RBO portfolio, supervisors also did not consistently identify and communicate changes in SVBFG's risk profile and the weakness in SVBFG's liquidity risk management. Supervisory assessments after SVBFG's transition to the LFBO portfolio were more reflective of SVBFG's practices; however, shortcomings in judgment and a slow pace to further act on concerns led to missed opportunities for early intervention or to require timely remediation.

Liquidity Supervision of SVBFG in the RBO Portfolio

Supervisors communicated a consistently positive assessment of SVBFG's liquidity position and liquidity risk-management practices while SVBFG was in the RBO portfolio. This review found a combination of factors that contributed to the underappreciation of liquidity risks and material risk-management weaknesses that were not being appropriately identified.

Supervision of Liquidity Risk Positions

While in the RBO portfolio, SVBFG's balance sheet was growing and overwhelmingly skewed toward large, uninsured deposits in non-maturity accounts from VC-backed and private equity clients. Further, a substantial portion of SVBFG's assets consisted of unencumbered investment securities, with an increasing proportion designated as held-to-maturity (HTM) by 2021.

Liquidity risk analysis for firms in the RBO portfolio commonly relies on simple regulatory reporting-based metrics and firms' internal risk reporting. On the surface, SVBFG's liquidity risk appeared to be substantially mitigated by its growing deposit base and a large proportion of assets invested in low-credit risk securities. In the case of SVBFG, these regulatory reporting metrics and the firm's risk reporting were not suitable for assessing the risk profile of the specific deposit base.

Supervision of Liquidity Risk Management

Due in part to SVB's "Strong-1" Liquidity rating and the perceived low level of inherent risk, the examination of liquidity risk-management practices during the annual CAMELS and BHC exams was not extensive. RBO "risk-focusing guidelines" led staff to conduct lighter reviews of areas where either inherent risk was considered low or risk-management practices were satisfactory. Typically, one person would cover multiple assignments (e.g., liquidity, interest rate risk, and the investment portfolio).

Liquidity risk management was not thoroughly examined, and material gaps in supervisory conclusions occurred. Supervisory correspondence on liquidity risk management was consistently favorable and included direct references to SVBFG's practices being aligned with interagency guidance. Later discussion of the 2021 Liquidity Target examination shows that a more thorough and well-staffed examination by Federal Reserve subject matter experts revealed foundational issues.[82] The limited scope approach to liquidity risk-management reviews at SVBFG and a lack of horizontal perspectives may have contributed to the missed opportunities for more critical supervisory assessments.

The impact of these supervision weaknesses is that SVBFG's size and risk profile substantially outpaced liquidity risk-management practices, and SVBFG was materially unprepared for the EPS requirements that would come into effect.

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[82] SVBFG Liquidity Planning Target Supervisory letter, November 2, 2021.

Supervisory Work in the LFBO program

Foundational liquidity risk-management weaknesses were identified in the first key supervisory event after the transition to LFBO, the liquidity risk-management examination beginning in August 2021.[83] The review covered a baseline assessment of ILST, liquidity risk limits, and the CFP, relative to interagency guidance in SR letter 10-6 and Regulation YY EPS. The liquidity examination was led by the FRBSF and included a broader set of Federal Reserve System subject matter experts. Additionally, staff stated that use of work programs designed for LFBO firms, specifically documents used by the HLR program, aided their ability to assess practices and consider expectations for firms subject to Regulation YY.

The examination cited foundational liquidity risk-management weaknesses across all areas reviewed. Importantly, the weaknesses were assessed to be gaps relative to both interagency guidance—applicable to banks of all sizes—and Regulation YY EPS that reflect heightened standards for firms like SVBFG. In total, six supervisory findings were delivered in a November 2021 feedback letter: two MRIAs and four MRAs (table 8). These findings became the support for a liquidity rating of "Conditionally Meets Expectations" and a downgrade of the CAMELS Liquidity rating to "Satisfactory-2" in August 2022.

Table 8. Synopsis of SVBFG supervisory findings from the November 2021 letter on the liquidity examination

Issue type	Issue synopsis
MRIA	Develop a plan to improve liquidity risk management practices to meet supervisory expectations and regulatory requirements. The plan must address the supervisory findings, including liquidity stress testing and contingency funding plans.
MRIA	The independent liquidity risk function and internal audit provide insufficient oversight of risk management. SVBFG's liquidity risk profile has evolved, with recent inflows being concentrated in uninsured deposits. Independent review functions have not kept pace.
MRA	The primary ILST scenario does not sufficiently stress liquidity exposures and relies on assumptions that are not appropriate for the firm. Deposit assumptions rely on incomparable peer benchmarks. The scenario is designed to evolve over time rather than reflect a more immediate liquidity stress event.
MRA	The approach to assessing risk in deposits for ILST does not appropriately consider key risk attributes (e.g., product and customer type), which limits the ability to differentiate deposit risks in stress. The shortcomings in deposit segmentation negatively impact the reliability of SVBFG's liquidity buffer.
MRA	Liquidity risk limits and supporting processes are insufficient for the size and complexity of activities. The static measures used by SVBFG do not reflect correlations or stress outcomes.
MRA	Multiple CFP deficiencies, including the lack of assessing potential funding sources and needs in stress and insufficient testing of potential funding sources. Assumptions of available funding resources in a stress scenario are unrealistic.

Source: Federal Reserve communications with SVBFG, November 2, 2021.

[83] SVBFG Liquidity Planning Target Supervisory letter, November 2, 2021.

Supervisors, however, did not associate the foundational nature of the findings with concerns about the adequacy of SVBFG's liquidity position. Supervisors continued to assess SVBFG's inherent liquidity risk profile favorably in the August 2022 CAMELS and LFI ratings letter, stating "…actual and post-stress liquidity positions reflect a sufficient buffer…".[84] Supervisors primarily relied on the comparatively large percentage of the balance sheet held in cash reserves and investment securities, and SVBFG's estimated coverage relative to the U.S. LCR reduced requirements as drivers of the favorable liquidity position assessment.

Based on the severity of the six findings from the 2021 liquidity examination, however, a more negative assessment (e.g., "Deficient-1" for Liquidity) would have been supportable. For example, the severity of the concerns on ILST alone may have been sufficient to warrant a negative view on the adequacy of SVBFG's liquidity position. Since the Global Financial Crisis, ILST has become the industry and supervisory standard for measuring an individual firm's liquidity risk profile and determining required levels of liquidity. Without an acceptable ILST, it is difficult to determine whether a firm's liquidity position is adequate or deficient.

Evolution of Liquidity in 2022

In addition to monitoring SVBFG's remediation progress from the 2021 liquidity examination, supervisors were tracking developments impacting SVBFG's risk profile. The deterioration of SVBFG's liquidity profile was evident in reporting by SVBFG, such as the results of its ILST. Supervisors were moving toward including these adverse developments in supervisory communications (e.g., likely rating downgrades upon the completion of the 2023 HLR and the in-process MOU). However, these communications did not materialize in a timely manner, and at times assessments relied on supervisory judgment that did not show elevated concerns for the actual liquidity position, only risk-management practices.

Consistent with the weaknesses in liquidity supervision during the RBO period, multiple factors contributed to an underappreciation of liquidity risk and lack of timely communication of concerns.

- **Declines in client deposits in 2022:Q2.** Market conditions contributed to reductions in client deposits at SVB in the second quarter of 2022 as technology and venture clients were drawing down their balances. At a May 24, 2022, monthly liquidity continuous monitoring meeting, SVB management highlighted targeted actions, such as pricing promotions, to attract and retain deposits, but at this time there were no material signs of stress. The June and July information provided by SVB on the newly implemented ILST highlighted weakness in the liquidity risk profile.

[84] SVBFG and SVB 2021 Supervisory Ratings letter, August 17, 2022.

- **Shortfalls in internal liquidity stress tests in 2022:Q3.** In response to the 2021 Liquidity examination MRAs, SVBFG developed and implemented an updated ILST. SVBFG became subject to the Regulation YY EPS on July 1, 2022, including a 30-day liquidity buffer based on ILST results (figure 19).[85] SVBFG reports show there was not a sufficient balance of highly liquid assets that could be readily sold or "monetized." SVBFG management and supervisors characterized the 30-day deficit as an "operational shortfall" because of deficiencies in SVBFG's contingent funding options and current capabilities for executing these options. Conversely, the 90-day deficit was viewed as a "real shortfall" (i.e., SVBFG did not have sufficient liquidity to meet projected outflows in the timeframe). SVBFG management planned to undertake[86] actions by year-end 2022 to expand capacity for repurchase agreement funding and managing aspects of the funding structure and investment portfolio to remediate the modeled shortfalls. The 2022 LFI and CAMELS ratings letter assessed the liquidity position as adequate, and concerns were focused on the 2021 Liquidity examination issues. SVBFG, however, was apparently out of compliance with the Regulation YY 30-day liquidity buffer requirement and the modeled shortfalls represented a material safety-and-soundness concern. Given the apparent violation of Regulation YY, an MRIA providing a directive to the board and senior management to immediately take action to remedy the ILST deficit through

Figure 19. Summary of SVBFG internal liquidity stress test

Cumulative Liquidity Impacts as of May 31, 2022[(2)]

Scenario	Combined Scenario			
Time Horizon	O/N	D30	D90	1Y
Inflows	$23B	$67B	$113B	$114B
Outflows	$8B	$79B	$116B	$111B
Net Impact (Operational Shortfall)	$14B	$(12)B	$(4)B[(3)]	$4B

Source: SVBFG internal material, June 21, 2022.

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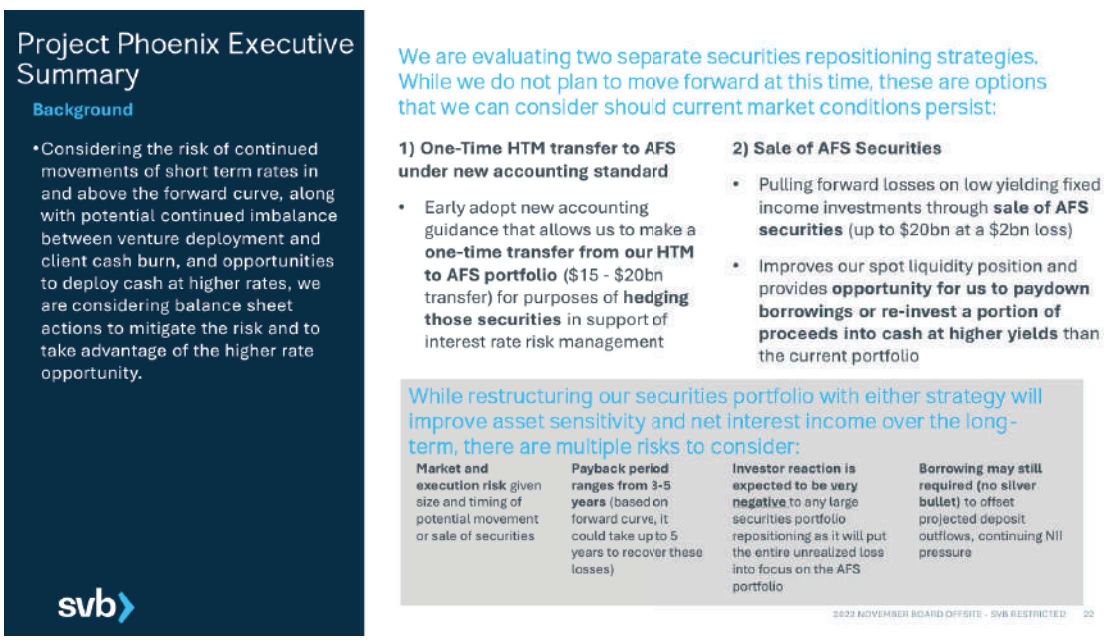
85 12 C.F.R. § 252.35(b).

86 Source: SVBFG internal materials.

raising additional liquidity would have been appropriate. The liquidity ratings should have been downgraded.

- **Deposit pressures continue to erode SVBFG's liquidity position in 2022:Q3.** As deposit outflows increased, the ILST shortfalls increased. Despite modeled shortfalls of roughly $18 billion for the 30-day point at August 31, 2022, and roughly $23 billion for the 90-day point at September 30, 2022, the supervisory record displays that the assessment of inherent liquidity risk did not materially change and the assessment of liquidity risk-management practices was improving.
- **Management recognizes liquidity risk in 2022:Q4.** Year-to-date deposit trends and potential risks heading into 2023 were first substantively reported by bank management to the SVBFG board of directors in 2022 in board materials.[87] They highlight the deposit trends and financial risks facing SVBFG and the actions being considered to restructure the balance sheet. The plan presented by bank management at the November 2022 board of directors strategy meeting indicates more significant measures were deemed necessary to improve SVBFG's liquidity and protect against the risk of continued deposit pressures and to meet modeled liquidity needs over the 30- and 90-day points (figure 20). Importantly, these materials and supporting

Figure 20. Presentation to the SVBFG board on potential balance sheet management actions



Source: SVBFG internal material, November 8–9, 2022.

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[87] Source: SVBFG internal materials.

discussions from the continuous monitoring meetings continued to characterize the ILST 30-day shortfalls as "operational" rather than substantive breaches of Regulation YY.

- **Management responses in 2022:Q4.** Most significantly, management began actions to address liquidity pressures by increasing Federal Home Loan Bank (FHLB) advances, initiating efforts to increase repurchase agreement capacity and incorporating new stress assumptions that lowered liquidity requirements, among other actions. Most substantively, management targeted changes to ILST assumptions in October 2022 that had the effect of reducing the size of the modeled liquidity shortfall. They updated methodologies for unfunded lending commitments and intraday liquidity that reduced requirements in the combined scenario at the 30-day horizon by approximately $8 billion and $5 billion, respectively. Supervisors were aware of these changes and planned to evaluate their reasonableness during the upcoming 2023 HLR assessment of ILST. Management's intent behind the changes is not clear from SVBFG governance materials or interviews with supervisors. However, based on the materially less-conservative nature of the changes and the timing coinciding with periods of severe ILST shortfalls, it would have been reasonable for supervisors to express concern with SVBFG's liquidity position and risk-management practices. Changing model assumptions, rather than improving the actual liquidity position, is not an appropriate way to restore compliance with limits.

2023 Horizontal Liquidity Review

HLR is the Federal Reserve System's horizontal program for evaluating liquidity risk at LFBO firms. HLR is an annual exercise to assess select liquidity risk-management practices, and SVBFG participated for the first time in 2023. Supervisors viewed this assessment as critical for the SVBFG liquidity rating. SVBFG was in-scope for the ILST and buffer monetization workstreams,[88] as well as a review of SVBFG's progress against outstanding supervisory issues from the 2021 Liquidity examination. The HLR team had not yet conducted internal vetting sessions to calibrate and finalize recommended supervisory feedback prior to SVBFG's failure, so these are not final conclusions.

The preliminary HLR assessment was that SVBFG's ILST did not meet supervisory expectations and an MRIA would be recommended. Specific areas of concern focused on SVBFG's insufficiently supported deposit outflow speed assumptions and, to a lesser degree, the recent changes to make lending commitments and intraday assumptions less conservative. Regarding the deposit outflow concerns, supervisors determined that SVBFG had insufficiently supported a key assumption that a material portion of deposit outflows in stress would not occur until days 31–90. To

[88] SVBFG 2023 LFBO Horizontal Liquidity Review Entry Letter, November 17, 2022. Buffer monetization refers to a firm's ability to sell high-quality liquid assets/highly liquid assets against regulatory requirements set forth in Regulation YY, Regulation WW (if applicable), and safety-and-soundness expectations established in SR letter 10-6.

remediate this concern, additional deposit outflows would likely have been incorporated inside 30 days, leading to further deterioration in the ILST 30-day metric.[89]

Regarding the buffer monetization workstream, the preliminary HLR assessment was that material weaknesses remained in SVBFG's CFP, particularly the quantification, evaluation, and operational testing of contingent funding sources. The most significant concerns related to SVB's insufficient monetization capacity and options for repurchase agreement funding as well as the lack of operational testing of all contingent funding sources, particularly the discount window. SVBFG's ILST shortfall remediation plan from July 2022 cited the need to expand capacity and options for repo funding, including increased bilateral relationships, FICC direct membership, tri-party, and the Federal Reserve's Standing Repurchase Agreement facility, among other sources.[90] These efforts were not complete by March 2023.

Liquidity in 2023

Supervisory engagement with SVBFG in January and February 2023 occurred through continuous monitoring meetings, and the supervisory record shows supervisors had limited concerns on the liquidity position. Only concerns with liquidity risk management practices were communicated to SVBFG, not the substantive liquidity positions. SVBFG's internal materials included incrementally more detailed updates on the heightened liquidity risk profile. SVBFG management highlighted to its board that the CFP remained activated on the lowest level, efforts continued to pursue the funding restructuring initiatives (i.e., FHLB advances, brokered CDs, and unsecured term debt) discussed in November 2022, and breaches persisted on some risk metrics. However, neither the January nor February 2023 board meeting materials indicate any increasing consideration of the restructuring options that would be enacted in March 2023.

Supervisors had limited interaction with SVBFG management about the proposed restructuring prior to the events of March 8 and after. After the public announcement on March 8, the DST increased the frequency of communication as SVBFG provided updates on its rapidly evolving liquidity situation. Supervisors focused on the potential for the firm to pledge additional collateral to the FHLB or the discount window, but SVBFG's inadequate preparedness to access contingent funding sources likely contributed to the failure of the bank on the morning of Friday, March 10.

The acute liquidity stress on March 9 was far beyond historical precedents for how quickly a large financial institution can fail. Still, weaknesses in SVBFG's preparedness for a contingent liquidity

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89 Supervisors noted that sensitivity analysis was conducted to assess the potential impact on ILST if additional deposit outflows from days 31–90 were included inside 30 days; results indicated a worst-case scenario of an additional $27 billion of deposit outflows within 30 days.

90 Source: SVBFG internal materials.

event may have contributed to SVBFG's inability to access contingent funding sources in a time of need. SVBFG was not able to monetize (immediately raise funds against) its investment securities. SVBFG had not arranged for enough access to repo funding and had not signed up for the Federal Reserve's Standing Repurchase Agreement facility. SVBFG had limited collateral pledged to the Federal Reserve's discount window, had not conducted test transactions, and was not able to move securities collateral quickly from its custody bank or the FHLB to the discount window. While contingent funding may not have been able to prevent the failure of the bank after the historic run on the bank, the lack of preparedness may have contributed to how quickly it failed.

Conclusions

This review of the supervisory record shows that the Federal Reserve supervisors identified some, but not all, of the liquidity risk-management issues that proved pivotal in the failure of SVBFG. Moreover, supervisory responses, in hindsight, were not rapid enough given the widespread deficiencies at SVBFG, deteriorating financial conditions, and the specific combination of shocks that SVBFG faced.

From the perspective of RBO supervision, supervisors relied heavily on asset liquidity to evaluate liquidity risk, which led to an underappreciation of the inherent risks in SVBFG's distinctive deposit base and growing investment in HTM securities. Moreover, standard liquidity risk metrics and the risk-focusing guidelines routinely used in the RBO portfolio proved inadequate for SVBFG. Because of the perception of a strong liquidity position, supervisors did not pursue extensive risk-management reviews and supervisory staffing remained relatively light, despite the rapid growth of SVBFG.

From the LFBO perspective, supervisors did not appropriately assess the liquidity impacts of emerging signs of liquidity stress and SVBFG's increasingly material balance sheet restructuring efforts. Supervisors did not accurately reflect the implications of ILST liquidity shortfalls in the assessment of liquidity. As a result, liquidity ratings for SVB and SVBFG were not appropriately updated in 2022 and 2023 to reflect the multiple data points that displayed fundamental weaknesses in the liquidity position and risk-management practices. This combination left SVBFG acutely vulnerable to the shocks that materialized.

Interest Rate Risk and Investment Portfolio Supervision

Background

Sensitivity to market risk reflects the degree to which changes in interest rates, foreign exchange rates, commodity prices, or equity prices can adversely affect a financial institution's earnings or capital.[91] For SVB and SVBFG, market risk primarily reflects exposure to changing interest rates.

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91 Board of Governors of the Federal Reserve System, *Commercial Bank Examination Manual*.

Supervisors and regulators recognize that some degree of interest rate risk (IRR) is inherent in the business of banking.[92] At the same time, however, institutions are expected to have sound risk-management practices in place to measure, monitor, and control IRR exposures. SR letter 10-1 emphasizes the importance of effective corporate governance, policies and procedures, risk-measuring and monitoring systems, stress testing, and internal controls related to the IRR exposures of institutions. The framework begins with sound corporate governance and covers strategies, policies, risk controls, measurements, reporting responsibilities, independent review functions, and risk-mitigation processes. Importantly, effective IRR management not only involves the identification and measurement of IRR, but also provides for appropriate actions to control this risk.

The key metrics used to measure IRR include

- **Earnings at risk (EaR) or net interest income (NII) at risk:** This is an IRR metric that captures short-term exposure to interest rate movements. It measures NII volatility generally over a one-year horizon based on yield curve shocks. For example, firms will shock interest rates by 100, 200, or more basis points (bps) in either direction then estimate the impact to NII. A variety of different yield curve shocks and twists can be used for this exercise. Deposit assumptions are important for this analysis as firms must assume the amount of the market rate movement they will pass through to deposit accounts (also known as "deposit betas").
- **Economic value of equity (EVE):** This is an IRR metric that estimates the structural mismatches of a bank balance sheet relative to yield curve movements. It is often viewed as a longer-term measure as it is a discounted cash flow approach that estimates the present value (PV) of balance sheet cashflows to estimate economic equity (PV of assets – PV of liabilities = economic value of equity). The IRR portion of this exercise comes from shocking interest rates by various amounts (e.g., +/– 100, 200, or more bps) to estimate exposures as cashflow paths change. Deposit assumptions are important in this exercise, so cashflows must be estimated based on customer characteristics.

Interest Rate Risk Management at SVBFG

SVBFG had fundamental weaknesses in risk management. SVBFG management was focused on a short-term view of IRR through the NII metric and ignored potential longer-term negative impacts to earnings highlighted by the EVE metric. Management believed that SVBFG was asset sensitive, meaning NII would increase in rising rate environments, but did not consider idiosyncratic risks to SVBFG or the uniqueness of its customer base and the manner in which it could be impacted by rate increases. SVBFG had risk-measurement weaknesses as highlighted by SVBFG's internal audit weaknesses and lack of governance and controls. SVBFG did not conduct back-testing, had

[92] Board of Governors of the Federal Reserve System, "Interagency Advisory on Interest Rate Risk," SR letter 10-1 (January 11, 2010), https://www.federalreserve.gov/boarddocs/srletters/2010/sr1001.htm.

limited sensitivity testing, and did not have an adequate second line function to provide review and challenge to decisions and model assumptions.

SVBFG's interest rate risk policy, which is a firm's governing document for the management and measurement of IRR, exhibited many weaknesses.[93] The policy did not specify scenarios to be run, how assumptions should be analyzed, how to conduct sensitivity analysis, or articulate model back-testing requirements. Further, there was no description of how limits were set and calibrated. It was also not apparent that limits had been reviewed for potential recalibration or that the current level of the limits had been supported since at least 2018. Management should ensure limits are appropriate for a firm's business model, earnings base, and capital position. Lastly, the policy did not specify the ongoing reporting requirements for threshold breaches over prolonged periods.

Interest Rate Risk Modeling, Limits, and Reporting

SVBFG's risk appetite statement (RAS) set by the board, which sets limits within which the bank controls the risk, only included the NII metric and not the EVE metric. Further, the NII metric was included only as a down 100 bps 12-month ramp instead of a range of plausible shocks. Ramp scenarios gradually adjust rates and are less stressful than an immediate rate shock. The NII metric is a short-term view of risk. In the 2017 RAS, it states that managing interest rate risk within defined policy limits allows the firm to achieve a level of profitability that enhances shareholder value.[94] It is clear that NII and profitability were the focus for SVBFG.

As EVE was not part of the risk appetite, there is no evidence that the full board was aware of the status of the EVE metric or that it was breaching limits for years. Communication of the EVE limit breaches did, however, go to the Risk Committee of the board. The board of directors is responsible for overseeing the establishment, approval, implementation, and annual review of IRR management strategies, policies, procedures, and risk limits. The full board should understand and regularly review reports that detail the level and trend of the institution's IRR exposure.

SVBFG only used the most basic IRR measurement. Only parallel rate curve changes were modeled. Non-parallel shifts were not being reported to the Asset/Liability Committee (ALCO). Non-parallel shifts allow management to understand the sensitivity of the portfolio to different movements in the shape of the yield curve and are an important piece in understanding IRR sensitivity. The ALCO was provided with sensitivity analysis that showed the impact of shifts in key model assumptions only on an infrequent basis.

SVBFG's IRR results showed that there was a mismatch between the repricing of assets and liabilities on the bank's balance sheet. The results showed that SVBFG had historically been

93 Source: SVBFG internal materials.
94 Source: SVBFG internal materials.

asset sensitive, which means that NII increased as rates increased. This was due to the nature of SVBFG's balance sheet that had consisted of predominantly non-interest-bearing deposits on the liability side and a mix of floating rate loans and fixed rate securities on the asset side. SVBFG expected to benefit in a rising rate environment, as it generally assumed that deposit betas would be low.

In response to EVE breaches, SVBFG made model changes that reduced the level of risk depicted by the model. In similar fashion to the response to liquidity shortfalls, management changed assumptions rather than the balance sheet to alter reported risks. In April 2022, SVBFG made a poorly supported change in assumption to increase the duration of its deposits based on a deposit study conducted by a consultant and in-house analysis.[95] Under the internal models in use, the change reduced the mismatch of durations between assets and liabilities and gave the appearance of reduced IRR; however, no risk had been taken off the balance sheet.[96] The assumptions were unsubstantiated given recent deposit growth, lack of historical data, rapid increases in rates that shorten deposit duration, and the uniqueness of SVBFG's client base.

Balance Sheet Mismanagement

In early 2022, at a time when rates were rising rapidly, SVBFG became increasingly concerned with decreasing NII if rates were to decrease, rather than with the impact of rates continuing to increase. This was based on observed yield curve inversion that could be an indication of an impending recession and a subsequent decrease in rates. The bank began positioning its balance sheet to protect NII against falling interest rates but not rising ones. SVBFG was very focused on NII and profits and the NII sensitivity metrics were showing that NII was exposed to falling rates. Rising rates were seen as an opportunity to take profits on hedges, and the bank began a strategy to remove hedges in March 2022, which were designed to protect NII in rising rate scenarios but also would have served to constrain NII if rates were to decrease. Protecting profitability was the focus.

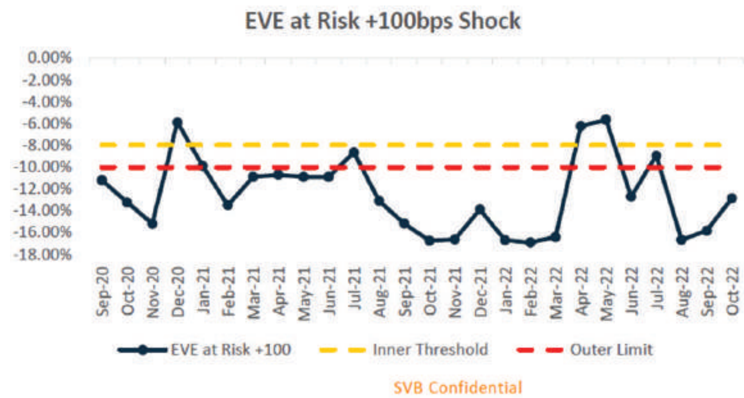
This strategy of removing hedges extended the duration of the securities portfolio and caused the EVE metric to worsen throughout 2022 (figure 21). SVBFG was expecting the deposit duration lengthening would be an offset to the increasing investment portfolio duration, but this only provided temporary relief from the EVE metric breaching limits. Instead, rates rose, investment portfolio duration lengthened, deposits shifted from non-interest bearing to interest bearing, and liability duration fell.[97] This mismatch of durations on the asset and liability sides of the balance sheet caused the EVE metric to worsen and breach SVBFG's EVE limits once again. Importantly, there

95 Source: SVBFG internal materials.

96 Source: SVBFG internal materials.

97 Source: SVBFG internal materials.

Figure 21. SVBFG EVE sensitivity in a +100bp shock scenario



Note: Data as of October 2022.

Source: SVBFG internal material, December 16, 2022.

was no evidence that management made the full board aware that the EVE metric was breaching limits for years.

SVBFG's margins were getting squeezed and the models were not able to keep pace. As SVBFG experienced non-interest-bearing deposit outflows in 2022, it shifted to more costly interest-bearing deposits and wholesale borrowings. In July 2022, firm management stated that this shift in funding mix was actually a good thing because it gave interest expense some room to fall in a down-rate scenario. In July 2022, SVBFG removed the rest of the hedges protecting NII from rising rates, and management started to think about adding hedges to gain NII if rates were to decrease. SVB remained steadfast in its commitment to protecting NII in down-rate scenarios but did not protect against rising rate environments.

Compounding the poor balance sheet management was a lack of oversight by independent risk management and internal audit. SVBFG had a Financial Risk Management group, but it acted more in collaboration than as an effective challenge to the business. Internal audit had findings related to incorrect data inputs, inadequate governance of IRR models, and inaccurate NII position dating back to December 2020 but did not have the internal stature to drive remediation.

Federal Reserve Supervision

SVB's CAMELS rating for Sensitivity to Market Risk was "Satisfactory-2" from 2018 until the 2022 CAMELS vetting on November 1, 2022, when it was planned to be downgraded to "Less-than-Satisfactory-3." The downgrade was not finalized or issued because SVB failed before the letter was sent to the firm. During the initial vetting of the 2022 CAMELS exam on October 11, 2022, the Sensitivity rating remained "Satisfactory-2".

Subsequent to that vetting, SVBFG's models were no longer showing an increase in NII from rising rates as was previously reported. SVBFG management indicated that NII and NIM would decline in the fourth quarter of 2022, and net income would decline substantially by year-end 2022. Based on this new information, there was a follow-up vetting for the Sensitivity rating on November 1, 2022. Supervisors issued an MRA on IRR simulation and modeling (table 9).[98]

Table 9. Synopsis of SVBFG supervisory finding from the November 2022 letter on interest rate risk

Issue type	Issue synopsis
MRA	SVBFG's interest-rate risk simulations are unreliable. The simulation forecasts are directionally inconsistent with actual performance. Net interest income and the net interest margin both fell, while the model predicted increases.

Source: Federal Reserve communications with SVBFG, November 15, 2022.

Conclusions

A review of the supervisory record shows that Federal Reserve supervisors identified some but not all of the interest rate risk-management issues that contributed to the failure of SVBFG. Supervisory responses for IRR were not rapid or severe enough given the fundamental issues in this area that actually drove poor decisions at SVBFG.

Beginning in the RBO portfolio, Federal Reserve supervisors did not conduct an in-depth review of IRR and investment portfolio management. Instead, IRR and the investment portfolio were assessed through CAMELS exams that focused on key assumption changes and new models, versus reviewing IRR models and risk-management practices. Only one examiner was responsible for reviewing IRR and the investment portfolio, and, in some cases, would also review liquidity and model risk management (MRM) during a two-to-three-week timeframe. That level of resources proved insufficient.

Examiners' conclusions with respect to SVBFG's IRR practices highlighted several areas of concern that were either not raised as findings or were communicated as written advisories or verbal observations. Limit breaches with respect to the EVE metric were evident in the 2020, 2021, and 2022 CAMELS exams. In the 2020 CAMELS exam, the examiner proposed an advisory on the lack of escalation, monitoring, and taking actions to remediate breaches. Additionally, in several CAMELS exams (2020, 2021), examiners identified issues related to lack of sensitivity testing,

[98] SVB 2022 CAMELS Examination Supervisory letter, November 15, 2022.

back-testing, gaps with policies, ineffective control functions, and lack of oversight from senior management and the board of directors. During the 2021 CAMELS exam, the examiner proposed an observation related to lack of sensitivity testing of key assumptions. Still, the lack of controls and oversight demonstrate fundamental weaknesses in risk management that should have been communicated to SVBFG through an MRIA.

SVBFG's transition from RBO into the LFBO portfolio did not materially increase the level of supervisory scrutiny of interest rate risk for some time. The LFBO supervisors conducted quarterly monitoring meetings with corporate treasury and the CFO, some of which should have raised supervisory concern. In January 2022, SVBFG discussed increasing the duration of its deposit assumptions. The proposed change was not aligned with SVBFG's actual experience. In April 2022, SVBFG presented a gap assessment against SR letter 10-1, highlighting fundamental weaknesses, such as limited scenarios, limited behavioral models, lack of timely reporting, data quality issues and limited data quality controls, and limited formal governance and review of results. At that time, supervisors did not document any supervisory concerns, changes to ratings, or changes to the 2022 supervisory plan.

After the firm transitioned to the LFBO portfolio, the supervisory team discussed conducting an IRR exam during 2022 but decided to defer this to the third quarter of 2023 in order to prioritize governance and liquidity exams. During 2022, coverage of SVBFG's management of IRR was mainly through continuous monitoring and the 2022 CAMELS exam with limited scope on IRR where one examiner was responsible for multiple risks. In the fall of 2022, management identified that internal IRR models were unreliable, and supervisors issued an MRA. Supervisors should have conducted comprehensive IRR and investment portfolio reviews, with adequate resources, and communicated findings through MRIAs. Exams staffed with limited resources, high-level scope, lack of IRR regulations, and the high-level nature of existing guidance (SR letter 10-1) all impeded supervisors from conducting a thorough assessment.

Overall, Sensitivity to market risk had been rated Satisfactory for many years, which reduced the urgency to conduct a deep-dive IRR review because supervisory planning is risk-focused, and areas with findings or that are poorly rated garner more supervisory focus.

Additional Topics

Federal Reserve Surveillance and Risk Analysis

The Federal Reserve System (FRS), including the Board of Governors and Reserve Banks, produces a wide range of surveillance, analysis, and reports related to supervised institutions and the broader financial system that are available to examiners and staff around the FRS. These reports provide context for bank-specific supervision by identifying industry trends and emerging risks.

Internal Surveillance Reports

Internal surveillance reports issued during 2022 and early 2023 highlighted several fundamental risks that were central to SVBFG's failure, including rising interest rate risk and liquidity risk, as well as more idiosyncratic risks to SVBFG such as its technology-sector focus and deposit concentration.[99]

Several reports produced by the Board of Governors across portfolios cited rising interest rate risk throughout 2022. For example, the Board produces a broad *Supervision Risk Report* twice a year, which includes "top risks" and "watch list" risks. Interest rates and inflation became "watch list" issues in mid-year 2022 and "top risks" by the year-end 2022 report. In particular, the year-end 2022 report identified the potential impact of higher rates on asset values, liquidity and earnings, and credit conditions (figure 22).

The theme of higher rates was the focus of a special report on risks associated with unrealized losses on investment securities in June 2022. SVBFG was included in a list of banks with the highest ratios of unrealized losses relative to common equity tier 1 (CET1) capital and was larger than any bank ranked higher. Other reports during the second half of 2022 continued to warn of interest rate risk and added rising concerns around liquidity risk, more generally.

A separate set of reports focuses on the LFBO portfolio, and several included SVBFG-specific commentary. A 2021:Q4 report indicated SVBFG was in breach of internal policy limits for economic value of equity (EVE) at risk and a modest outlier on the benefit to EVE from a –100bps rate shock. During 2022, LFBO reports cited interest rate risk and liquidity risk as elevated and identified deposit competition and post-pandemic outflows as challenges for LFBOs including SVBFG, which was identified alongside others as experiencing outflows. Two reports noted risk-management concerns at SVBFG as well.

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[99] Surveillance reports may contain confidential supervisory information related to other institutions that are continuing to operate.

Figure 22. Summary from year-end 2022 Supervision Risk Report

Supervision Risk Report
Year-end 2022

This report, compiled by the Risk function of the Federal Reserve Board under oversight of the System Risk Council, provides a summary of the leading risk issues facing the banking system and consumers.It assists System staff in understanding risks, coordinating supervisory approaches, and prioritizing supervisory and policy activities. Subject matter experts throughout the Federal Reserve System contributed to this report.

Summary of Risk Issues

Issue	New or Repeat	Description
		Top Risk Issues
Cybersecurity	Repeat	*The cybersecurity landscape continues to evolve and present unique threats challenging banks' operational and cyber resilience capabilities*
Interest rates and Inflation	Repeat	*High inflation has necessitated interest-rate hikes, adversely affecting asset values, liquidity and earnings, and credit conditions*
Commercial Real Estate (CRE)	Repeat	*CRE credit risk remains material, as higher interest rates, structural shifts in office demand and economic uncertainties present headwinds*
Commercial Lending	Repeat	*Corporate borrowers are facing inflation, rising interest rates, already elevated debt burdens and macroeconomic/geopolitical uncertainty*
		Watch List Issues
Cryptocurrencies and Digital Assets	Repeat	*Significant turmoil in broader crypto markets has not substantially affected the banking sector, although a few smaller banks are impacted*
LIBOR Transition	Repeat	*Firms continue to say they will be prepared when LIBOR rates cease in June 2023, but they are facing significant challenges to meet deadlines*
Energy Lending	Repeat	*Cyclical credit risk remains low, but challenges continue for banks from anticipated secular/structural changes in energy markets*
Third-party Risk Management	Repeat	*Third-party risk management continues to be an area of risk for banks, especially for security and operational activities*
Market Misconduct & Reputational Risk	Repeat	*Firms still have areas for improvement for reputational risk reviews, authorized communications platforms, and trade surveillance coverage*

Source: Internal Federal Reserve report.

Finally, several reports produced by the FRBSF surfaced relevant risk themes. The materials highlighted the 12th District as having a higher share of non-maturity deposits (NMDs) than pre-pandemic and that the level of NMDs/total assets exceeded that of other Federal Reserve Districts. By 2022:Q4, it was reported that 12th District banks' outflows of NMDs were more rapid than in other Districts and that this may be explained by the higher exposure to NMDs exceeding $250,000. FRBSF also runs LFBO surveillance screens on a quarterly basis. SVBFG failed earnings screens from 2022:Q1 onwards and began failing the screen for liquidity as of 2022:Q4. Finally, a 2022:H1 monitoring report noted that SVBFG may face higher credit risk given its start-up focus, was ranked medium risk on unrealized losses/accumulated other comprehensive income (AOCI), and was viewed as high risk on deposit mix and competition.

Supervision Committee

The Federal Reserve Supervision Committee (SC) includes senior staff from the Federal Reserve Board and the officer in charge of supervision at each Reserve Bank and leads the execution of the Federal Reserve's supervisory responsibilities, including the identification of significant supervisory issues.

In late 2021 and then again in September 2022, the SC heard presentations around supervisory planning that included SVBFG. In September 2022, the committee heard the results of an LFBO foundational supervisory plan project. This presentation discussed the framework utilized for supervisory resource allocation decisions and noted SVBFG was assigned to cohort 4 (the lowest tailoring category), resulting in a lower level of examination resources.

The 2021 *System Risk Report*, reviewed by the SC, did not include interest rate risk or liquidity risk as "top risks" and was more focused on risks from the low interest rate environment at that time. By late 2022 and early 2023, however, the SC meetings featured liquidity and interest rate risk on numerous occasions. Presentations in September and October focused on risks from rising rates, including unrealized securities losses, negative tangible common equity (TCE), FHLB lending limits, and the supervisory approach to managing these issues.

Discussions around liquidity risk intensified in February 2023 and included a report on LISCC and LFBO high-quality liquid asset trends, RBO and CBO loan to deposit ratios, and discount window use; a roundtable discussion focused on tightening liquidity conditions, including liquidity profiles, liquidity risk management, the link between unrealized losses and non-core funding sources and held-to-maturity classifications, and the potential impact on minority depository institutions; a discussion of the effectiveness of supervision and examiner training related to elevated liquidity risk; and an update on inflation and rising rates moving from "watch list" to "top risks" and enhanced monitoring efforts in these areas.

Large and Foreign Banking Organization Management Group (LFBOMG)

A review of meeting documents from 2021, 2022, and 2023 showed several instances where SVBFG and related risks were discussed by the LFBOMG. This section focuses on horizontal perspective and broader risk issues.

The LFBOMG first discussed SVBFG in May 2021 when the group received an initial overview as SVBFG joined the portfolio. A discussion of the 2022 horizontal liquidity review (HLR), which did not include SVBFG, noted that internal liquidity stress testing was a heightened area of focus in light of removal or relaxation of the liquidity coverage ratio (LCR) for some banks in 2019.

In August 2022, the LFBOMG reviewed horizontal capital exam (HCE) and HCR results. SVBFG was part of the HCR that included current expected credit losses (CECL), Internal Audit, and several idiosyncratic elements (Risk Identification, Scenario Design, Capital Plan). The results for SVBFG were weaker than average with SVBFG described as "partially consistent with expectations" for CECL and Internal Audit and generally consistent with expectations for the idiosyncratic elements.[100] The material included a discussion around AOCI, but only for banks that were covered under the HCE, which did not include SVBFG because of its size.

The LFBOMG also held an August 2022 discussion on supervisory planning around proposed risks for 2023. Within a plan to cover the "top risks" of the macroeconomic and geopolitical environment, post-pandemic surge deposit flows and interest rate risk (IRR) management were listed as "watch list" items for focus within cross-portfolio discussion groups. It was noted in August 2022 that the System Risk Council would be including interest rate risk as a watch area for 2022.

In January 2023, the LFBOMG met to discuss supervisory assessments. Staff noted that SVBFG's Governance and Controls rating would remain at "Deficient-1," that SVB's CAMELS "S" rating would be downgraded for interest rate sensitivity, and the group had no concerns regarding these ratings. It was noted that the Liquidity rating could be up- or downgraded going forward, depending on the future path of deposit outflows. The notes also include a mention of a February 14, 2023, meeting with the Board on supervision topics (discussed below), including the impact of rising rates on AOCI and FHLB borrowing with specific reference to SVB.

Federal Reserve Board Briefing

The Board of Governors received an informational briefing on February 14, 2023, entitled "Impact of Rising Rates on Certain Banks and Supervisory Approach."[101] This presentation highlighted the range of impacts of rising rates on banks, including rising net interest margins for most banks, but potentially large unrealized market value losses in investment securities for some. The report concluded that banks with large unrealized losses "face significant safety and soundness risks." The briefing concluded with a discussion of supervisory next steps, including conducting internal training and raising industry awareness through an "Ask the Fed" session and external articles.

Staff identified SVBFG as an example of financial risks including a discussion of SVBFG executing its CFP, a planned downgrade of SVB's CAMELS "S" sensitivity rating to "Less-than-Satisfactory-3," a supervisory MRA around IRR modeling, and heightened supervisory attention. SVBFG was chosen as an example of supervisory concerns at a large bank with substantial exposure to interest rate risk.

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[100] SVBFG 2022 LFBO Horizontal Capital Review Supervisory letter, August 19, 2022.

[101] Board of Governors of the Federal Reserve System, "Impact of Rising Rates on Certain Banks and Supervisory Approach," S&R Quarterly Presentation, February 14, 2023.

External Federal Reserve Risk Perspective

The Federal Reserve Board of Governors publishes a semiannual *Supervision and Regulation Report* each May and November to inform the public and provide transparency about its supervisory and regulatory policies and actions, as well as current banking conditions.

The May 2022 report assessed banking system conditions as strong, even as geopolitical tensions and associated risks were rising.[102] Capital and liquidity were assessed as strong and ample, and the report noted technology and innovation-related risks as priorities.

The November 2022 report assessed the financial condition of banks as generally sound.[103] Expanding net interest margins were noted as a positive factor as interest rates rose, balanced by declining values of investment securities and the potential for rising credit risk associated with floating rate loans. A box on the “Effects of Securities Depreciation on Banks’ Capital and Liquidity Positions” showed the impact of higher rates on securities valuations and the associated risks. Finally, the report noted that supervisors were focused on remediation of supervisory findings as well as monitoring the potential effects of the current economic environment on banks’ operations and condition.

Federal Reserve Banks also periodically release information relating to top risks and areas of focus for supervision in their respective Districts. These assessments are not uniform across Districts and include presentations made to local bankers and banking associations, banking conference materials, speeches by senior supervisory officers, and periodic reports for use by the public and banking community. Given the range of formats, the level of detail provided on each risk varies considerably.

A review of this material shows that core banking risks such as liquidity, capital, asset quality, commercial real estate, and interest rate risk featured most prominently across Reserve Banks. The figure below reports the number of Reserve Banks where a publication cited a specific risk; for example, liquidity risk was included in documents published by seven separate Reserve Banks.[104] Secondary topics included crypto, earnings (related to compressing margins), cyber risk, and balance sheet trends (figure 23).

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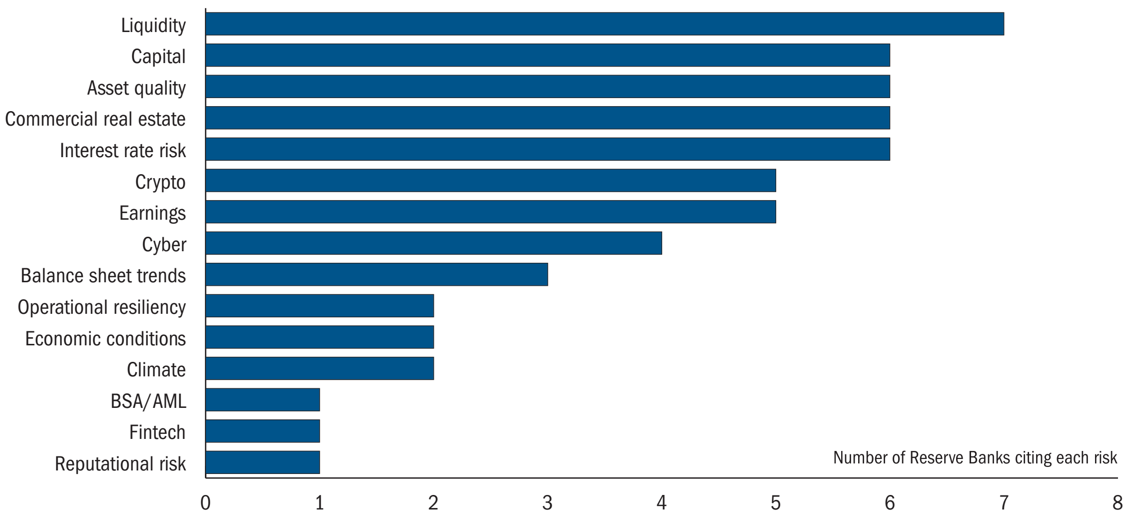
[102] Board of Governors of the Federal Reserve System, *Supervision and Regulation Report* (Washington: Board of Governors, May 2022), https://www.federalreserve.gov/publications/files/202205-supervision-and-regulation-report.pdf.

[103] Board of Governors of the Federal Reserve System, *Supervision and Regulation Report* (Washington: Board of Governors, November 2022), https://www.federalreserve.gov/publications/files/202211-supervision-and-regulation-report.pdf.

[104] Where a Reserve Bank provided multiple published documents and the same risks were included, only one instance of the risk is recorded for purposes of the figure. This reflects material from 10 Reserve Banks. Two Reserve Banks did not publish risk information.

Figure 23. Risks highlighted in Reserve Bank publications



Source: Review of public Reserve Bank risk-related reports, presentations, and speeches between March 2022 and March 2023. List is indicative and not necessarily exhaustive.

Conclusions

This review of the Federal Reserve surveillance and analysis shows a broad-based approach that considers a wide range of traditional risks across portfolios. Overall, this analysis appears largely fit for purpose and consistent with the mandate of the Federal Reserve with a strong appreciation of how macroeconomic and financial topics can impact traditional banking risks. The issues most relevant to the failure of SVBFG—rising interest rates, impact on securities valuation, and liquidity pressure—were identified, analyzed, and escalated. The reviews did not consider the potential for extreme tail events like a rapid outflow of deposits or the systemic implications of broad runs on uninsured deposits.

It is unclear how these assessments actually informed the supervisory process or outcomes. The discussion with the Board of Governors on February 14, 2023, for example, was informational in nature rather than focused on the significant risks to safety and soundness or systemic risks.

Incentive Compensation

Supervision of performance management and incentive compensation (PM/IC) programs of large financial institutions is typically covered as part of the evaluation of a firm's board effectiveness. This can include governance exams with a board effectiveness component or horizontal examinations of board effectiveness. Supervisors may also conduct targeted exams to review the PM/IC programs at large firms. Additionally, incentive compensation programs are covered under compliance exams (to ensure misconduct or policy violations are being reflected in compensation) and material business line exams.

The overarching assessment of board effectiveness at a firm informs its overall Governance and Controls rating.

Supervisory Expectations for Incentive Compensation Policies

Examiners use several supervisory guidance documents for supervision of performance management and incentive compensation, assessing if a firm's programs pose safety and soundness concerns. The Board, together with the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC), has outlined its supervisory expectations for incentive compensation arrangements in the 1996 Interagency Guidelines Establishing Standards for Safety and Soundness (1996 Safety and Soundness Guidelines) and the 2010 Interagency Guidance on Sound Incentive Compensation Policies (2010 Incentive Compensation Guidance). Under the 1996 Safety and Soundness Guidelines, the Board has noted that compensation involving amounts paid that are "unreasonable or disproportionate to the services performed by an executive officer, employee, director, or principal shareholder" is prohibited as an unsafe and unsound practice.[105]

Similarly, the 2010 Incentive Compensation Guidance was designed to help ensure that incentive compensation policies do not encourage irresponsible risk-taking and are consistent with safe and sound banking practices.[106] The 2010 Incentive Compensation Guidance applies to all Board-supervised firms and is based on three main principles.[107] First, a firm's incentive compensation arrangements should not incentivize employees to take risks that are beyond the firm's ability (or willingness) to effectively identify and manage. Second, incentive compensation arrangements should be compatible with effective risk management and controls. Finally, incentive compensation arrangements at firms should be supported by strong corporate governance practices, including active and effective oversight by boards of directors.

In addition to the 1996 Safety and Soundness Guidelines and 2010 Incentive Compensation Guidance, supervisory expectations regarding incentive compensation governance arrangements

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[105] 12 C.F.R. pt. 208, app. D-1.

[106] Guidance on Sound Incentive Compensation Policies, 75 Fed. Reg. 36,395 (June 25, 2010), https://www.federalregister.gov/documents/2010/06/25/2010-15435/guidance-on-sound-incentive-compensation-policies.

[107] Guidance on Sound Incentive Compensation Policies. If incentive compensation payments are too closely tied to short-term revenue or profits, without appropriate adjustments for the risks associated with the business generated, the potential for the incentive compensation arrangement to encourage irresponsible risk-taking may be strong. In addition, incentive compensation arrangements should be implemented so that actual payments vary based on risks or risk outcomes.

and practices for certain institutions are contained in the Board's Supervisory Guidance on Board of Directors' Effectiveness.[108]

The Board also has issued regulations with specific requirements for the compensation of individuals performing certain roles at Board-regulated institutions.[109] Further, the Board, together with five other federal financial regulatory agencies, issued proposals in 2011 and 2016 to implement the incentive compensation provisions in section 956 of the Dodd-Frank Act. An implementing rule, however, has not yet been finalized.

Coverage of Incentive Compensation at SVBFG

The RBO and LFBO exam teams did not conduct a dedicated examination of PM/IC practices at SVBFG since 2017. However, the exam teams covered PM/IC indirectly through governance examinations. The RBO exam team conducted a Corporate Governance Exam in 2019,[110] and the LFBO exam team conducted a Governance and Risk Management Exam in 2022.[111] During the 2022 exam, the exam team identified major weaknesses in SVBFG's incentive compensation program and board oversight of the program that had not been uncovered in the 2019 exam, and this resulted in the issuance of an MRIA on board effectiveness.

Supervisors concluded that SVBFG's incentive compensation decisions were primarily based on SVBFG's financial performance, with minimal to no linkage to risk management and control factors. For example, the team found that "risk management deficiencies, identified by independent risk functions or through regulatory examinations, have not been meaningfully considered by [SVBFG's] incentive compensation decisions."[112] In relation to the 2021 year-end self-assessment of several executives—including the chief executive officer (CEO) and chief financial officer (CFO)—compensation and incentives remained unchanged with their cash bonuses and equity awards being based on return on equity (ROE), allowing for certain adjustments, and total shareholder return (TSR) despite the executives not achieving the objective of building out the risk-management program to LFI standards.[113]

The LFBO exam team also noted weaknesses regarding the board Compensation & Human Capital Committee's (Compensation Committee) oversight of the incentive compensation program. The Compensation Committee did not receive the appropriate performance evaluation documentation that the CEO used to inform compensation recommendations. The Compensation Committee

[108] Board of Governors of the Federal Reserve System, "Supervisory Guidance on Board of Directors' Effectiveness," SR letter 21-3 (February 26, 2021), https://www.federalreserve.gov/supervisionreg/srletters/SR2103.htm.

[109] See, e.g., 12 C.F.R. § 252.22(b)(3)(i); 12 C.F.R. § 248.4(a)(2)(v).

[110] SVBFG Target Corporate Governance/Global Risk Management Supervisory letter, November 19, 2019.

[111] SVBFG and SVB Governance and Risk Management Target Supervisory letter, May 31, 2022.

[112] SVBFG and SVB Governance and Risk Management Target Supervisory letter, May 31, 2022.

[113] The only executive who received a reduction in pay in the 2021 performance year due to not meeting risk-management expectation was the chief risk officer (CRO).

relied solely on the CEO's recommendations regarding operating committee executive compensation.[114] Supervisors' interviews with the Compensation Committee chair indicated that the Compensation Committee decided not to reduce incentive compensation, despite the known weakness in the enterprise risk-management program, fearing this would lead to increased attrition of senior executives due to executives' compensation already being lower than peer firms.

The May 31, 2022, MRIA required SVBFG to develop "mechanisms to hold senior management accountable for meeting risk management expectations."[115] In response, SVBFG's board committed to enhancing its incentive compensation program and performance management process to better hold senior management accountable for risk-management expectations. In the proposed plan submitted in August 2022, SVBFG's board outlined proposed enhancements to the PM/IC program, including incorporating goals related to risk management and risk metrics into the performance evaluation process and incentive compensation decisions.

In January 2023, the Compensation Committee of SVBFG's and SVB's boards of directors approved stock incentive bonuses to executives and employees for 2022 performance. The Compensation Committee also approved cash incentive bonuses to senior executives for their 2022 performance. Despite SVBFG's deteriorating condition and SVBFG's negative cash balance, cash bonuses were paid to several SVBFG executives and staff for their 2022 performance on March 10, 2023, despite the failure of SVB that day.

When SVBFG failed, it was in the process of redesigning its incentive compensation program in response to supervisory criticisms and identified deficiencies in the 2022 LFBO governance and risk-management exam. SVBFG's new Chief Human Resources Officer and the Compensation Committee of the board of directors had begun approving action items to implement reforms to the incentive compensation policies and were in the preliminary stages of developing procedures to correct the identified issues.

Conclusions

The incentive compensation arrangements and practices at SVBFG encouraged excessive risk taking to maximize short-term financial metrics. SVBFG's compensation practices also did not adequately reflect longer-term performance, nonfinancial risks, or unaddressed audit or supervisory issues. Nor did they include sufficient opportunities for SVBFG's internal control functions to provide feedback or challenge. Stronger or more specific supervisory guidance or rules on incentive compensation for firms of SVBFG's size, complexity, and risk profile—or more rigorous enforcement of existing guidance and rules—may have mitigated these risks.

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114 Based on review of the Compensation Committee package, the board received the CEO's compensation recommendations without any supporting documentation (e.g., performance evaluation results).

115 SVBFG and SVB Governance and Risk Management Target Supervisory letter, May 31, 2022.

Assessment of the Federal Reserve Approval of SVB Financial Group Applications

Background

The Federal Reserve, in its role as a primary federal regulator, reviews applications submitted by a wide range of financial institutions for approval to undertake various transactions, including mergers and acquisitions (M&A), and to engage in new activities. The Federal Reserve reviews and acts on proposals filed under a wide range of provisions of law.

Applications are filed with the responsible Reserve Bank. The Board has delegated authority to the Reserve Banks to act on most applications that do not raise significant policy, legal, or supervisory issues.[116] The Board acts on proposals that raise significant policy, legal, or supervisory issues or otherwise do not meet the criteria for delegation established by the Board.

Overview of SVB Financial Group and SVB Applications Activity 2018–23

During the review period, the Federal Reserve approved an application filed by SVBFG under the Bank Holding Company Act (BHC Act) to merge with Boston Private Financial Holdings, Inc. (Boston Private). The Federal Reserve also acted on three prior notices under Regulation K to make foreign investments and 69 requests for prior approval to make public welfare investments filed by SVB under Regulation H. Given the nature of public welfare investments, they are not considered part of the internal review.[117] SVBFG and SVB also submitted a request for an exemption from Regulation L to allow a prohibited management interlock that was ultimately withdrawn. Because Greg Becker, CEO of SVB and president and CEO of SVBFG, also served as a director on the board of the FRBSF starting on January 1, 2019, the three Regulation K prior notices (and the public welfare investments) were not eligible to be acted upon by FRBSF and instead were acted on by the Secretary of the Board (table 10).[118]

[116] Reserve Banks may consult with Board staff on proposals that raise policy, legal, or supervisory issues prior to acting. In instances where a Reserve Bank could act on an application except for the fact that the Reserve Bank may not act because a director, senior officer, or principal shareholder of any company or bank involved in the transaction is a director at that Reserve Bank, the Board has delegated authority to the Secretary of the Board to act on these applications. See 12 C.F.R. § 265.5(c)(2). The Board also has delegated authority to act on certain types of applications to Board staff.

[117] Public welfare investments made in compliance with Regulation H, 12 C.F.R. § 208.22, generally are not viewed as risky and often provide tax benefits to the banks involved. Further, these investments are considered beneficial to communities and individuals in underserved areas. SVB's aggregate public welfare investments represented less than 10 percent of the bank's capital and surplus.

[118] In cases where the Reserve Bank may not act because of a Reserve Bank director interlock, the Secretary of the Board has delegated authority to take actions that would otherwise have been acted upon by the Reserve Bank. 12 C.F.R. § 265.5(c)(2).

Table 10. Applications related to SVBFG and SVB, 2018–23					
Filing ID	Filing received date	Filing disposition date	Applicant	Applicant assets	Proposal description
101145	8/29/2019	9/25/2019	Silicon Valley Bank	$62.4 billion	Silicon Valley Bank to invest an additional $35 million in SPD Silicon Valley Bank Co., Ltd., Shanghai, People's Republic of China, pursuant to section 211.9(f) of Regulation K.
103866	1/29/2021	2/26/2021	Silicon Valley Bank	$113.8 billion	Silicon Valley Bank to invest an additional $39 million in SPD Silicon Valley Bank Co., Ltd., Shanghai, People's Republic of China, pursuant to section 211.9(f) of Regulation K.
104030	2/24/2021	6/10/2021	SVB Financial Group Silicon Valley Bank	$142.4 billion $140.3 billion	(1) SVB Financial Group to merge with Boston Private Financial Holdings, Inc. (total consolidated assets of $10.5 billion), and thereby indirectly acquire Boston Private Bank & Trust Company; both of Boston, Massachusetts; (2) Boston Private Bank & Trust Company to merge with and into Silicon Valley Bank; (3) Silicon Valley Bank to acquire 19 branch offices of Boston Private Bank & Trust Company; and (4) Silicon Valley Bank to exercise trust powers.
105380	10/21/2021	2/2/2022	Silicon Valley Bank	$188.3 billion	Silicon Valley Bank to invest an additional $1.8 billion in SVB UK, Ltd., London, United Kingdom, pursuant to section 211.9(f) of Regulation K.

Source: Federal Reserve applications records.

Filing to Merge with Boston Private Financial Holdings, Inc.

For applications filed under section 3 of the BHC Act[119] and the Bank Merger Act (BMA),[120] the Federal Reserve must assess several statutory factors, including factors such as competitive effects; financial and managerial resources; convenience and needs of the community; anti-money laundering issues; and the extent to which a proposed acquisition, merger, or consolidation would result in greater or more concentrated risks to the stability of the U.S. banking or financial system.

On February 24, 2021, SVBFG filed a section 3 application requesting approval to merge with Boston Private Financial Holdings, Inc. (Boston Private), a bank holding company with approximately $10.5 billion in total consolidated assets, and thereby indirectly acquire Boston Private Bank & Trust Company (BP Bank). SVB also requested approval to merge with BP Bank.[121] The Board of Governors was required to act on the proposal because it exceeded the delegation criteria for financial stability.[122] The Board approved the proposal on June 10, 2021.

[119] 12 U.S.C. § 1842.

[120] 12 U.S.C. § 1828(c).

[121] SVB also requested approval to establish branches at the locations of BP Bank's branches and to change the general character of its business to engage in trust activities.

[122] The delegation criteria require Board action for any proposal where (1) the consolidated assets of the pro forma organization equal or exceed $100 billion, and (2) the consolidated assets of the target exceed $10 billion.

The Board's Division of Research and Statistics (R&S) is responsible for completing the financial stability analysis related to applications acted on by the Board. R&S staff concluded that the proposed merger would not result in meaningfully greater or more concentrated risks to the financial stability of the United States.

The Board's Division of Supervision and Regulation (S&R) is responsible for assessing the financial and managerial considerations and future prospects for applications acted on by the Board. In its evaluation of this proposal, S&R mergers and acquisitions staff's analysis focused on the supervisory record and financial condition of SVBFG and Boston Private and their subsidiary banks and the pro forma financial condition and financial projections of the combined organization. SVBFG was rated as "Satisfactory-2" at the time of the application.

The S&R mergers and acquisitions recommendation memorandum states that SVBFG transitioned from the RBO portfolio to the LFBO portfolio in the first quarter of 2021. There is no assessment of the bank's readiness to move into the LFBO portfolio or the planned supervisory strategy.

Regulation K Notices

For prior notices to make foreign investments under Regulation K, the investor "shall at all times act in accordance with high standards of banking or financial prudence, having due regard for diversification of risks, suitable liquidity, and adequacy of capital."[123]

SVB submitted several notices under Regulation K for foreign investments. These included (i) a $35 million investment in August 2019 and a $39 million investment in January 2021 in SPD Silicon Valley Bank Co., Ltd, Shanghai, China and (ii) a $1.8 billion investment in October 2022 in SVB UK Ltd, London, England. The supervisory CPC highlighted supervisory issues that SVB needed to remediate at the time of the October 2022 notice and recommended that it not be approved. The Board LFBO analyst had a similar recommendation due to recent liquidity risk management issues and outstanding information technology and European exchange rate mechanism issues. Ultimately, however, staff decided that there were not sufficient grounds to object to the notice.

Tying

SVB's loan agreements with certain borrowers required them to use other services of SVB or an SVB affiliate, including maintaining their primary operating deposit accounts with SVB.[124] The agreements did not, however, prohibit these borrowers from obtaining similar accounts or services

[123] 12 C.F.R. § 211.8(a).

[124] Some borrowers also were required to maintain their operating and securities accounts with SVB and to obtain asset management, letters of credit, and cash management services from SVB or an SVB affiliate.

from other providers. The types of covenants included in SVB's loan agreements are often seen as prudent credit risk management tools because they provide lenders insight into a borrower's financial condition and ability to repay a loan. As part of its standard supervision, Federal Reserve staff reviewed SVB's loan portfolio. During general discussions with SVB of its loan agreements, staff became aware of the requirement to use other services of SVB or SVB's affiliates. Federal Reserve staff is not aware of any requirements SVB imposed on its borrowers to obtain services other than those identified in this report.

Banking law generally prohibits "tying arrangements," under which a bank extends credit or provides other services on the condition or requirement that the customer obtain some other product or service from the bank or an affiliate.[125] However, the law permits a bank to condition the availability or price of any product on a requirement that the customer obtain a "loan, discount, deposit, or trust service" from the bank or an affiliate of the bank.[126] SVB's arrangement qualifies for this exception.[127]

Volcker Rule

The Volcker rule generally prohibits any banking entity from engaging in proprietary trading (the proprietary trading provisions) or from acquiring or retaining an ownership interest in, sponsoring, or having certain relationships with a hedge fund or private equity fund (covered funds) subject to certain exemptions.[128] The Board, OCC, FDIC, Securities and Exchange Commission (SEC), and Commodity Futures Trading Commission (CFTC) share authority for implementing the Volcker rule and issued a final rule implementing these provisions in December 2013 and amendments in 2019 and 2020.[129]

One of the main purposes of the Volcker rule is to prohibit banking entities from engaging in "high-risk proprietary trading," which includes "leveraged, short-term speculation."[130] As discussed

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125 See 12 U.S.C. § 1972(1)(A)–(B).

126 12 U.S.C. § 1972(1)(A); 12 C.F.R. § 225.7(b)(1).

127 See Board of Governors of the Federal Reserve System, "Legal Interpretations: Frequently Asked Questions about Regulation Y," last updated December 30, 2021, https://www.federalreserve.gov/supervisionreg/legalinterpretations/reg-y-frequently-asked-questions.htm.

128 12 U.S.C. § 1851.

129 Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5,535 (January 31, 2014), https://www.federalregister.gov/documents/2014/01/31/2013-31511/prohibitions-and-restrictions-on-proprietary-trading-and-certain-interests-in-and-relationships-with; Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 84 Fed. Reg. 61,974 (November 14, 2019), https://www.federalregister.gov/documents/2019/11/14/2019-22695/prohibitions-and-restrictions-on-proprietary-trading-and-certain-interests-in-and-relationships-with; Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 85 Fed. Reg. 46,422, 46,442–8 (July 31, 2020), https://www.federalregister.gov/documents/2020/07/31/2020-15525/prohibitions-and-restrictions-on-proprietary-trading-and-certain-interests-in-and-relationships-with.

130 See 156 Cong. Rec. S5894 (daily ed. July 15, 2010) (statement of Sen. Merkley), https://www.govinfo.gov/content/pkg/CREC-2010-07-15/html/CREC-2010-07-15-pt1-PgS5870-2.htm.

above, SVBFG's losses arose from SVBFG's long-term holding of long-duration securities, the very "long-term, multi-year investments" that were excluded from the scope of the Volcker rule. Moreover, the vast majority of SVBFG's securities were U.S. Treasuries and agency-issued or guaranteed mortgage-backed securities that are excluded from the prohibition on proprietary trading.[131] The activities that led to SVBFG's failure were not the activities that the Volcker rule was intended to address.

Other provisions of the Volcker rule likely were relevant to the operations of SVBFG. For example, SVB hedged its interest rate exposure in 2021 by holding certain financial instruments. These financial instruments were held for approximately one year and thus would have been presumed to not be subject to the proprietary trading provisions.[132] Similarly, SVBFG held investments in certain venture capital funds that may have been covered funds subject to the restrictions of the Volcker rule. The Volcker rule excludes "qualifying venture capital funds," as defined by the SEC regulations from the restrictions of the covered fund provisions.[133]

SVBFG was presumed to be in compliance with the Volcker rule because it had limited trading assets and liabilities, and SVBFG had no obligation to affirmatively demonstrate compliance with the regulation on an ongoing basis.[134] This presumption, along with the reduced recordkeeping requirement for SVBFG's fund investments,[135] resulted in limited documentation that Federal Reserve staff could review to determine whether SVBFG would have been in compliance with the Volcker rule or met the requirements of any applicable exceptions, including without the presumption of compliance or absent the changes to the regulations.[136]

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[131] Both the statute and all versions of the Volcker rule regulations exclude from the prohibition on proprietary trading purchase or sale of Treasury securities, certain agency-issued MBS, and state and municipal securities. See 12 U.S.C. § 1851(d)(1)(A); 12 C.F.R. § 248.6(a).

[132] See 12 C.F.R. § 248.3(b)(4). This change reversed the presumption in the 2013 rule, which provided that positions held for fewer than 60 days were presumed to be subject to the trading provisions. 12 C.F.R. § 248.3(b)(2) (2018).

[133] Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 85 Fed. Reg. 46,422, 46,442–8 (July 31, 2020); 12 C.F.R. § 248.10(c)(16). These revisions became effective October 1, 2020.

[134] See 12 C.F.R. § 248.20(g). SVB had less than $1 billion in trading assets and liabilities.

[135] See 12 C.F.R. § 248.20(e) (imposing recordkeeping requirement only for firms with the largest amount of trading).

[136] SVBFG sought and received an extension of the date by which the firm was required to conform or divest legacy illiquid fund investments. See https://www.federalreserve.gov/newsevents/pressreleases/bcreg20170607a.htm. See also https://www.federalreserve.gov/newsevents/pressreleases/bcreg20161212b.htm. There is no evidence that these fund investments had a material impact on SVBFG's financial condition.

Federal Reserve Regulation

Regulatory Framework

Background

The Global Financial Crisis in 2008–09 had a profound impact on the U.S. banking system and the Federal Reserve's oversight framework. To address weaknesses in the banking sector that were evident in that period, the Board established a set of enhanced prudential standards (EPS) for large banking organizations. These standards implemented elements of section 165 of the Dodd-Frank Act, which directed the Board to establish EPS for bank holding companies and foreign banking organizations with total consolidated assets of $50 billion or more.[137] This included liquidity, capital, stress testing, and resolution planning requirements. Regulations implementing these standards were issued in order to improve the resilience of large banking organizations as well as reduce the impact of a large banking organization's failure on U.S. financial stability.

As mentioned earlier, the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA) amended section 165 of the Dodd-Frank Act by raising the $50 billion minimum asset threshold for general application of EPS to $250 billion. Additionally, EGRRCPA provided the Board with discretion to rebut the statutory presumption and apply EPS to bank holding companies with total assets of $100 billion or more but less than $250 billion.

In response, the Board established categories for determining application of the EPS to large U.S. banking organizations and foreign banking organizations in the 2019 tailoring rule.[138] The rule established four categories of standards (Category I through IV) based on risk-based indicators (a banking organization's total assets and levels of cross-jurisdictional activity, off-balance sheet exposure, nonbank assets, and weighted short-term wholesale funding)[139] with increasingly stringent requirements for larger and more complex firms whose failure could impact U.S. financial stability.[140] The banking agencies also issued updates to the capital and liquidity rules that aligned with the Board's 2019 tailoring rule.[141]

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137 Dodd-Frank Act § 165, 12 U.S.C. § 5365.

138 See Tailoring Rule Visual, footnote 24.

139 Short-term wholesale funding is defined in the instructions to the FR Y-15 report. Instructions for Preparation of Banking Organization Systemic Risk Report, https://www.federalreserve.gov/reportforms/forms/FR_Y-1520160930_i.pdf.

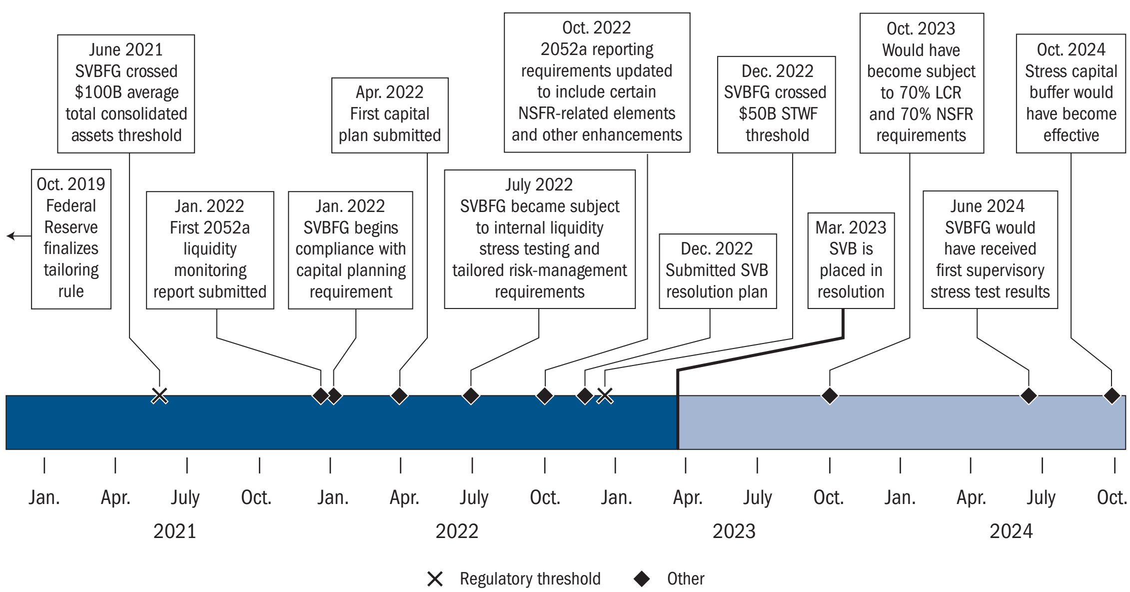
140 Prudential Standards for Large Bank Holding Companies, Savings and Loan Holding Companies, and Foreign Banking Organizations, 84 Fed. Reg. 59,032 (November 1, 2019), https://www.federalregister.gov/documents/2019/11/01/2019-23662/prudential-standards-for-large-bank-holding-companies-savings-and-loan-holding-companies-and-foreign.

141 Changes to Applicability Thresholds for Regulatory Capital and Liquidity Requirements, 84 Fed. Reg. 59,230 (November 1, 2019), https://www.federalregister.gov/documents/2019/11/01/2019-23800/changes-to-applicability-thresholds-for-regulatory-capital-and-liquidity-requirements.

The changes due to EGRRCPA, the 2019 tailoring rule, and related rulemakings had a significant impact on the level of requirements to which SVBFG was subject in 2018 and beyond.[142] Had these changes not been made to the framework, SVBFG would have been subject to enhanced liquidity risk management requirements, full standardized liquidity requirements (i.e., LCR and NSFR), enhanced capital requirements, company-run stress testing, supervisory stress testing at an earlier date, and tailored resolution planning requirements. Further, the enhanced requirements that did apply to SVBFG were not immediately effective because of lengthy transition periods prescribed by the relevant regulations.

The "Regulations that Applied to SVBFG" section describes the requirements that applied to SVBFG prior to its failure (see figure 24). In addition, the "Pro Forma Impact of EGRRCPA and Tailoring" section presents analysis of the requirements that would have applied to the firm in the absence of EGRRCPA, the 2019 tailoring rule, and related rulemakings and notes whether SVBFG would have met those requirements.

Figure 24. Regulatory timeline



[142] On July 2, 2018, the Federal Reserve granted SVBFG an extension of time to comply with certain prudential requirements. The substantive effect of this action was superseded by the Federal Reserve's July 6, 2018, public statement on EGRRCPA, and the 2019 tailoring rule.

Regulations that Applied to SVBFG

Liquidity

SVBFG became subject to liquidity risk management and internal liquidity stress testing (ILST) requirements that apply to Category IV firms starting in the third quarter of 2022. Key requirements included the following:

- SVBFG's board was required to approve on an annual basis and review on a semi-annual basis the level of risk that SVBFG could assume, as well as review SVBFG's liquidity risk policies and procedures.
- SVBFG's risk committee was required to approve SVBFG's CFP outlining SVBFG's strategy for dealing with liquidity needs during a stress event.
- SVBFG was also required to conduct cash flow projections, implement a CFP, and establish an independent review function tasked with assessing the effectiveness of its liquidity risk management framework.
- SVBFG was required to conduct quarterly ILSTs that included an overnight, 30-day, 90-day, and one-year timeframe and hold a buffer of highly liquid assets to meet its projected net stressed cash flow need over a 30-day period.

SVBFG was also subject to monthly liquidity reporting under the Federal Reserve Board's FR 2052a Complex Institution Liquidity Monitoring Report (FR 2052a). SVBFG began submitting these reports in January 2022.

In addition to the EPS for liquidity risk management, there are two standardized liquidity requirements for certain large banking organizations: the LCR and NSFR. The LCR seeks to strengthen firms' short-term resilience to funding shocks by requiring large firms to hold a minimum amount of high-quality liquid assets to meet total net cash outflows in a 30-day stress period. The NSFR rule seeks to mitigate the risks of firms supporting their assets with insufficient amounts of stable funding by requiring them to maintain a minimum level of stable funding to support their assets, funding commitments, and derivative exposures over a one-year time horizon. Category IV firms were not subject to the LCR or NSFR unless they had $50 billion or more in average weighted short-term wholesale funding. SVBFG crossed the $50 billion threshold in average weighted short-term wholesale funding in December 2022 and would have been required to comply with reduced LCR and NSFR requirements at a 70 percent calibration at the start of the fourth quarter of 2023.[143]

[143] For both the reduced LCR and reduced NSFR applicable to Category IV firms, the denominator is multiplied by 70 percent, thereby reducing the amount of high-quality liquid assets or available stable funding needed to meet the LCR and NSFR, respectively. 12 C.F.R. § 249.30(c), Table 1; 12 C.F.R. § 249.105(b), Table 1. Unlike other firms subject to the LCR or NSFR, Category IV firms' depository institution subsidiaries are not subject to either requirement. All other requirements of the LCR rule apply to such firms, including the rule's maturity mismatch requirement.

Based on the liquidity data reported by SVBFG, SVBFG would have met the reduced LCR requirement at the 70 percent calibration in the months leading up to its failure (see table 11).[144] Internal analysis also indicates that SVBFG would have been able to meet the 70 percent reduced NSFR requirement. However, SVBFG did not maintain a sufficient liquidity buffer to meet its own ILST prior to its failure. It should be noted that for the time period displayed in table 11, SVBFG was not subject to the LCR requirement, and it is possible that SVBFG would have managed its liquidity position differently and had different ratios had it been subject to the LCR requirement, including quarterly public disclosures.

Table 11. SVBFG reduced liquidity coverage ratio (LCR)
Percent

	3/31/22	4/29/22	5/31/22	6/30/22	7/29/22	8/31/22	9/30/22	10/31/22	11/30/22	12/30/22	1/31/23	2/28/23
Reduced LCR	102.1%	102.1%	102.2%	101.8%	102.1%	102.0%	102.5%	102.5%	102.4%	103.1%	102.7%	102.5%

Source: FR 2052a and Federal Reserve calculations.

Capital

Pursuant to the 2013 capital rule,[145] banking organizations, including SVBFG and SVB, are subject to several risk-based and leverage-based standards, including minimum requirements and buffers.[146] These requirements remained unchanged as SVBFG and SVB crossed the $100 billion threshold.

SVBFG and SVB were required to maintain minimum risk-based ratios and the tier 1 leverage capital ratio.[147] They were also required to hold additional capital of 2.5 percent of risk-weighted assets (capital conservation buffer) on top of the minimum risk-based regulatory capital ratios in order to avoid limitations on capital distributions (e.g., dividends and share buybacks) and discretionary bonus payments.

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144 Federal Reserve staff's estimates of the firm's LCR and NSFR (both full and reduced figures) are based on the data the firm reported in its 2052a filing.

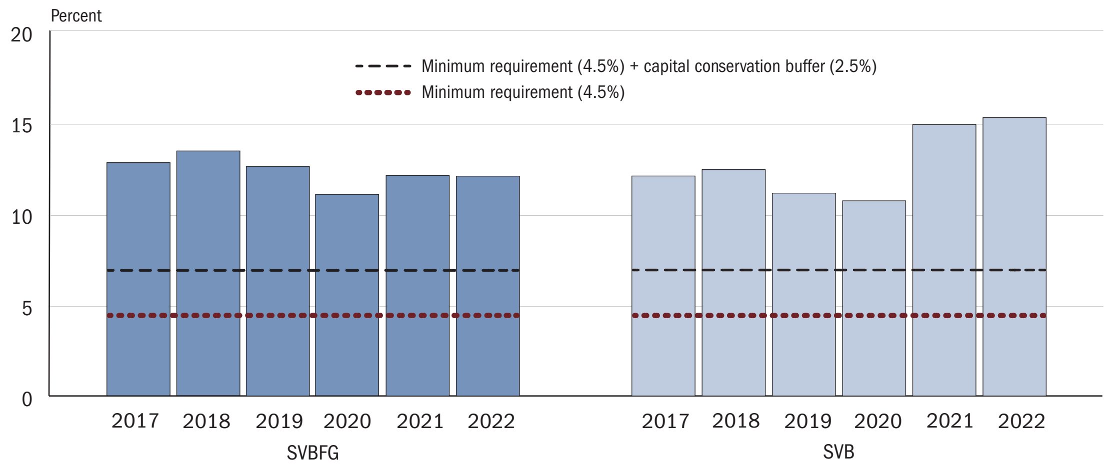
145 Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62,017 (October 11, 2013), https://www.federalregister.gov/documents/2013/10/11/2013-21653/regulatory-capital-rules-regulatory-capital-implementation-of-basel-iii-capital-adequacy-transition.

146 Risk-based capital standards are calculated as a ratio of a firm's regulatory capital (numerator) to risk-weighted assets (denominator), which take into account the underlying risk of a firm's assets. By contrast, the tier 1 leverage ratio uses regulatory capital as the numerator and a measure of total assets (unweighted) as the denominator. Leverage-based requirements treat all assets equally and are generally meant to serve as a backstop to risk-based requirements. See 12 C.F.R. §§ 217.10–11.

147 SVBFG and SVB were subject to the following minimum regulatory capital requirements: a common equity tier 1 capital ratio of 4.5 percent, a tier 1 capital ratio of 6 percent, a total capital ratio of 8 percent of risk-weighted assets, and a leverage ratio of 4 percent. The leverage ratio (or tier 1 leverage ratio) is calculated as tier 1 capital to total on-balance sheet assets.

SVBFG and SVB exceeded the minimum and capital conservation buffer requirements for the CET1 ratio consistently from 2017 to 2022 (see figure 25).[148] SVBFG and SVB also exceeded the minimum plus buffer requirements for the tier 1 and total risk-based capital ratios, as well as the minimum tier 1 leverage ratio for the same period.[149]

Figure 25. SVBFG and SVB common equity tier 1 (CET1) capital ratios



Note: Values are as of year-end.

Source: FR Y-9C and Call Report.

Stress Testing and Capital Planning

SVBFG was required to comply with the capital plan rule beginning on January 1, 2022, and to submit its first capital plan by April 5, 2022.[150] The capital plan must include an assessment of the expected uses and sources of capital over the subsequent nine quarters, assuming both expected and stressful conditions.

In addition to the capital plan submission, SVBFG was also subject to the supervisory stress test on a two-year cycle and to the stress capital buffer requirement, which would be provided every other year to align with the two-year supervisory stress test cycle. The stress capital buffer requirement uses the results of the supervisory stress test to resize a firm's 2.5 percent capital

[148] SVBFG would have been subject to a stress capital buffer calculated based on its supervisory stress test results; however, given the transition period in the stress test rule, the stress capital buffer would not have applied until 2024.

[149] Staff used regulatory reporting data from the FR Y-9C, Schedule HC-R, Part 1, item 47 and FFIEC 031, Schedule RC-R, Part 1, item 49.

[150] 12 C.F.R. § 225.8.

conservation buffer. Due to the transition period, SVBFG's first supervisory stress test would have occurred in 2024.[151] SVBFG would have received notice of its first stress capital buffer requirement by June 30, 2024, which would have become effective on October 1, 2024.[152] Finally, from 2014 to 2018, SVBFG and SVB were required to conduct an annual company-run stress test.[153] After 2018, following the enactment of EGRRCPA, they were no longer required to conduct company-run stress tests.

Resolution

Under the 2019 revisions to the resolution planning rule, SVBFG was not subject to a resolution plan requirement when it became a Category IV firm.[154]

The FDIC requires certain IDIs to submit plans detailing how they could be resolved in an efficient manner in the event of their failure (the IDI rule).[155] SVB became subject to the IDI rule in 2021 when its total assets on a four-quarter average basis breached $100 billion and submitted its IDI plan on December 1, 2022, with an as-of date of December 31, 2021. EGRRCPA did not impact the IDI rule.

Pro Forma Impact of EGRRCPA and Tailoring

EGRRCPA, the 2019 tailoring rule, and related rulemakings changed the requirements applicable to certain firms. Prior to passage of EGRRCPA and the 2019 tailoring rule, a number of additional requirements, such as the full LCR requirement, recognizing unrealized gains and losses on AFS securities in capital, advanced approaches capital requirements, and a supplementary leverage ratio, applied to firms with total consolidated assets of at least $250 billion or consolidated total on-balance sheet foreign exposure of at least $10 billion.

The firm had more than $10 billion in on-balance sheet foreign exposure starting in the second quarter of 2020, so it would have been subject to these rules prior to its failure absent changes to

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151 Under the supervisory stress test rules, a firm that crosses the $100 billion threshold by September 30 must comply with the stress test rules beginning on January 1 of the second calendar year after the bank holding company crosses the threshold. 12 C.F.R. § 252.43(b)(1). For Category IV firms, the Board conducts a supervisory stress test and publishes the results in even-numbered years. 12 C.F.R. § 252.44(d)(1), table 1. Even though the firm was not yet subject to the supervisory stress test, SVBFG began reporting the stress test regulatory reports to the Board in 2021. See Board of Governors of the Federal Reserve System, "Instructions for the Capital Assessments and Stress Testing information collection (Reporting Form FR Y-14Q)," 5–8, modified September 2022, https://www.federalreserve.gov/apps/reportingforms/Download/DownloadAttachment?guid=c4ef7d8e-9242-4384-bd8c-fe458e753bb2.

152 See 12 C.F.R. §§ 225.8(c)(1), (h); 12 C.F.R. § 252.43(b)(1); 12 C.F.R. § 252.44(d)(1).

153 12 C.F.R. §§ 252.14-17 (2019).

154 The 165(d) resolution planning requirements apply when a domestic bank holding company meets the relevant asset threshold as determined based on the average of the company's four most recent FR Y-9Cs. See 12 C.F.R. § 243.2. (defining "covered company"); Resolution Plans Required, 84 Fed. Reg. 59,194 (November 1, 2019), https://www.federalregister.gov/documents/2019/11/01/2019-23967/resolution-plans-required.

155 12 C.F.R. § 360.10.

its business model in response to the requirements.[156] This section outlines the requirements that would have applied under the previous regulatory framework (see table 12). It should be noted that had the prior criteria been in place for the application of heightened requirements, SVBFG may have proactively managed its asset size and on-balance sheet foreign exposure to avoid becoming subject to these additional requirements.

Table 12. Key requirements for SVBFG and SVB

SVBFG/SVB's requirements as a Category IV firm as of March 1, 2023	Requirements for a firm with SVBFG/SVB's March 1, 2023, profile in absence of EGRRCPA/2019 tailoring rule/ related rulemakings
• U.S. risk-based and leverage capital requirements – No advanced approaches risk-based capital requirements – Can make a one-time election to opt out of the requirement to reflect AOCI in regulatory capital – No supplementary leverage ratio – Capital conservation buffer – No countercyclical capital buffer	• U.S. risk-based and leverage capital requirements – Advanced approaches risk-based capital requirements – AOCI reflected in regulatory capital – Supplementary leverage ratio – Capital conservation buffer – Countercyclical capital buffer
• Stress testing and capital planning – No company-run stress testing requirement – Biennial supervisory stress test and stress capital buffer requirement calculation in even-numbered years (would have applied in 2024 after phase-in) – Annual capital plan	• Stress testing and capital planning – Annual and mid-cycle company-run stress test – Annual supervisory stress test and stress capital buffer requirement calculation – Annual capital plan
• Liquidity and risk management – No LCR or NSFR requirement – Quarterly internal liquidity stress test – Tailored liquidity risk management standards – Monthly liquidity data reporting – Enhanced risk management and risk committee requirements	• Liquidity and risk management – Full LCR and NSFR requirements – Monthly internal liquidity stress test – Full enhanced liquidity risk management standards – Monthly liquidity data reporting – Enhanced risk management and risk committee requirements
• Resolution planning – No holding company resolution plan – IDI-level plan requirement under FDIC's IDI resolution planning rule on a three-year cadence	• Resolution planning – Holding company resolution plan: after initial filing, tailored plan (with plans generally due every two years) – IDI-level plan requirement under FDIC's IDI resolution planning rule

Note: The left-hand column lists requirements for SVBFG/SVB, as applicable, as of March 1, 2023, as a firm subject to Category IV standards following adoption of the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA), the related 2019 tailoring rule, and related rulemakings. The right-hand column lists the requirements SVBFG/SVB, as applicable, would have been subject to in the absence of EGRRCPA/2019 tailoring rule/related rulemakings.

Liquidity

In absence of EGRRCPA, the 2019 tailoring rule, and related rulemakings, SVBFG would have been subject to additional liquidity risk management, ILST, and standardized liquidity requirements. The

[156] Federal Reserve Board staff analyzed the FFIEC 009 regulatory reporting data submitted by SVB to determine the date it would have crossed the $10 billion foreign exposure threshold. Based on the data, SVB crossed the $10 billion foreign exposure threshold in the second quarter of 2020. SVBFG likely also crossed $10 billion at the same time.

additional liquidity risk management requirements include establishing specific liquidity risk limits, weekly collateral monitoring, and requirements for monitoring intraday exposures. Rather than a quarterly ILST, SVBFG would have been subject to this requirement on a monthly basis[157] as well as monthly liquidity reporting to supervisors.

In addition, SVBFG would have been subject to the full LCR requirement and the full NSFR requirement.[158] SVBFG also would have been subject to quarterly public disclosures of its LCR and of its NSFR.

Based on SVBFG's liquidity reporting to Federal Reserve supervisors, SVBFG would not have met the full LCR requirement over the time periods shown below. For example, SVBFG's December 2022 full LCR would have been approximately 91 percent, a shortfall relative to the 100 percent requirement (see table 13). To meet the full LCR requirement, SVBFG would have had to obtain approximately $8 billion in additional high-quality liquid assets. The estimates for February 2023 show an even larger shortfall of approximately $14 billion. The shortfall numbers likely understate SVBFG's need because firms generally maintain a buffer above the minimums to account for potential volatility in the ratio and peer comparisons related to public disclosure.

Table 13. SVBFG full liquidity coverage ratio (LCR)
Percent

	3/31/22	4/29/22	5/31/22	6/30/22	7/29/22	8/31/22	9/30/22	10/31/22	11/30/22	12/30/22	1/31/23	2/28/23
Full LCR	99.3%	97.8%	92.6%	89.5%	90.7%	83.9%	73.2%	87.3%	97.0%	90.8%	87.2%	82.6%

Source: FR 2052a and Federal Reserve calculations.

The LCR rule also requires a firm to have the operational capability to monetize its liquid assets and to test this capability periodically. In addition, the LCR rule places limits on the composition of assets that qualify as high-quality liquid assets. If SVBFG had been subject to the LCR, it may have adopted more proactive monitoring or managing of its liquidity position and mix of liquid assets.

Based on SVBFG's liquidity reporting to Federal Reserve supervisors, estimates for SVBFG's NSFR suggest that it would have been above the 100 percent requirement under the NSFR rule.

[157] See 12 C.F.R. § 252.34–35 (2019).

[158] See 12 C.F.R. § 249.1(b)(1) (2019). The NSFR rule was proposed but not finalized prior to issuance of the 2019 tailoring rule and related rulemakings. The proposed scope of application of the NSFR aligned with the scope of the LCR, and for the purposes of this review this analysis assumes that in the absence of the tailoring rule and related rulemakings, the NSFR's scope would have been finalized to align with the LCR's.

Capital

In the absence of EGRRCPA, the 2019 tailoring rule, and related rulemakings, SVBFG would have been subject to the advanced approaches capital framework.[159] These additional capital standards include recognizing unrealized gains and losses on AFS securities in capital, using advanced approaches methodologies to calculate risk-based capital requirements, and a supplementary leverage ratio requirement.

Recognizing unrealized gains and losses on AFS securities in its CET1 capital would have reduced SVBFG's capital by $1.9 billion. This would have resulted in a drop in the CET1 capital ratio from 12.1 percent to 10.4 percent as of the end of the fourth quarter of 2022 (table 14 and table 15).[160]

Table 14. SVBFG impact of accumulated other comprehensive income (AOCI) opt-out removal
Millions of dollars

Regulatory capital input	2022:Q4
Available-for-sale securities—amortized cost	28,602
Available-for-sale securities—fair value	26,069
Available-for-sale securities—unrealized gains/losses	–2,533
Impact of AOCI opt-out removal	–1,880

Source: FR Y-9C and Federal Reserve calculations.

Table 15. SVBFG impact of accumulated other comprehensive income (AOCI) opt-out removal on common equity tier 1 (CET1)
Millions of dollars

CET1 capital and ratio	Actual 2022:Q4	Adjusted
CET1 capital	13,697	11,817
CET1 ratio	12.1%	10.4%

Source: FR Y-9C and Federal Reserve calculations.

The decrease in its regulatory capital may have led SVBFG to operate differently. For example, SVBFG may have raised additional capital or may have made different business decisions.

Under the pre-2019 capital rule, SVBFG would have been required to calculate its risk-based capital ratios using both the standardized and advanced approaches where the higher requirement would apply. SVBFG was never required to calculate its advanced approaches ratios, so it is unknown whether its capital would have been impacted based on this metric.

159 The firm crossed the $10 billion foreign exposure threshold in the second quarter of 2020, meaning that it would have had to comply with SLR and AOCI recognition starting in 2021. Due to transition arrangements, SVBFG would not yet have been required to calculate its risk-weighted assets using advanced approaches methodologies before its failure in March 2023. See 12 C.F.R. § 217.100(b)(1)(i)(B)(2) (2019) for advanced approaches applicability for SVBFG and 12 C.F.R. § 217.100(b)(1)(ii)(B) and (C) (2019) for advanced approaches applicability for SVB prior to 2019 tailoring rule and related rulemakings. See also 12 C.F.R. § 217.121(a)(1) (2019).

160 SVBFG's unrealized losses started in early 2022 and peaked in the third quarter of that year. The $1.9 billion impact reflects the adjustment to capital through the opt-out from recognition of AOCI, which primarily reflects unrealized gains and losses adjusted for taxes, and certain other adjustments.

In addition, SVBFG would have been subject to a minimum supplementary leverage ratio of 3 percent starting in 2021. SVBFG would have met this requirement based on regulatory report estimates available.[161]

Stress Testing and Capital Planning

Under the pre-2019 regulatory framework, SVBFG would have been subject to additional stress testing requirements as follows: (1) annual and semiannual company-run stress test requirements and (2) annual supervisory stress test, capital planning, and stress capital buffer requirements effective in 2020. The removal or delay of these requirements may have contributed to SVBFG having weaker capital planning and stress testing processes.

In the absence of EGRRCPA and the Board's 2019 tailoring rule, and after SVBFG crossed the $50 billion asset threshold and transition periods, SVBFG would have been subject to annual and mid-cycle company-run stress tests and would have had to explore its own idiosyncratic stress scenarios in its company-run stress test.[162] This may have helped it to identify firm-specific risks. SVBFG also would have been subject to continued controls and oversight of its stress testing processes.

Prior to EGRRCPA and the Board's 2019 tailoring rule, firms with a four-quarter average of $50 billion in total consolidated assets or more were subject to annual supervisory stress tests.[163] SVBFG would therefore have been subject to its first supervisory stress test in 2020, and annually thereafter.[164] In addition, SVBFG would have submitted its first capital plan by April 5, 2019, and would have been subject to its first stress capital buffer requirement in 2020, and annually thereafter.

Resolution Planning

Under the 2011 rule, barring the passage of EGRRCPA and the Board's rules implementing it, SVBFG would have been required to submit a resolution plan to the agencies beginning in July 2019.[165] In administering the 2011 rule, however, the agencies extended plan filing deadlines to at least two years to permit sufficient time for plan review, development of meaningful feedback,

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[161] SVB does not report the SLR or total leverage exposure information in its regulatory reporting filings.

[162] See 12 C.F.R. § 252.55 (2019).

[163] 12 C.F.R. §§ 252.43(a)(1)(i), 252.44 (2019).

[164] Starting in 2018, SVBFG also would have been required to submit the Capital Assessments and Stress Testing reports (FR Y-14), which provides data that inform the Board's stress testing process. See Instructions for the Capital Assessments and Stress Testing information collection. See footnote 151.

[165] See Resolution Plans Required, 76 Fed. Reg. at 67,323 (November 1, 2011), https://www.federalregister.gov/documents/2011/11/01/2011-27377/resolution-plans-required.

and for firms to address the feedback.[166] The 2011 rule also permitted certain firms to file less detailed tailored plans after filing their initial plan absent the agencies' objection.[167] Given its bank-centric profile, SVBFG would likely have been able to file a tailored resolution plan after its initial resolution plan filing on at least a two-year cadence. As noted above, SVB became subject to the IDI rule in 2021 and submitted its IDI plan on December 1, 2022. More than 98 percent of SVBFG's assets were in SVB.

Conclusions

A comprehensive assessment of changes from EGRRCPA, the 2019 tailoring rule, and related rulemakings show that they combined to create a weaker regulatory framework for a firm like SVBFG. In the absence of these changes, SVBFG would have been subject to enhanced liquidity risk management requirements, full standardized liquidity requirements (i.e., LCR and NSFR), enhanced capital requirements, company-run stress testing, supervisory stress testing at an earlier date, and tailored resolution planning requirements. These requirements may have resulted in SVBFG's having increased capital and liquidity that would have bolstered its resilience. The requirements may also have encouraged closer scrutiny of the firm's financial position, and SVBFG may have more proactively managed its liquidity and capital positions or maintained a different balance sheet composition. Further, the long transition periods provided by the rules that did apply further delayed the implementation of requirements such as stress testing that may have contributed to the resiliency of the firm.

[166] See Federal Reserve Board, Agencies Extend Next Resolution Plan Filing Deadline for Certain Domestic and Foreign Banks, September 28, 2017, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20170928a.htm (extending the deadline for U.S. global systemically important banks); and Federal Reserve Board, Agencies Extend Deadline for 38 Resolution Plan Submissions, August 2, 2016, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20160802a.htm (extending the deadline for other domestic firms).

[167] Resolution Plans Required Rule. To file a tailored plan, a domestic firm needed to have less than $100 billion in total nonbank assets and be bank-centric (that is, their total IDI assets comprised 85 percent or more of the firm's total consolidated assets). Tailored resolution plans focused on the nonbanking operations of the firm and on the interconnections and interdependencies between the nonbanking and banking operations.

Observations for Federal Reserve Oversight

This section outlines policy and implementation issues that could be considered to enhance the Federal Reserve's oversight program in order to promote the safety and soundness of individual financial institutions and the stability of the financial system. They are informed by recent events related to SVBFG and SVB, but they are not meant to be narrowly reactive to the specific combination of vulnerabilities and shocks that led to the failure of SVBFG. Rather, the SVBFG experience offers an opportunity for a broad assessment of how Federal Reserve oversight functions in theory and in practice.

Lessons Learned from Earlier Bank Failures

Following the Global Financial Crisis in 2008 and 2009, the Federal Reserve Board conducted an evaluation of how it carries out its regulatory and supervisory responsibilities. That review contributed to fundamental changes to the oversight of the largest, most systemically important institutions. For example, SR letter 12-17 set out a new framework for the consolidated supervision of large financial institutions that was designed to both enhance the resiliency of banks to lower the probability of failure and to reduce the impact on the broader economy in the event of failure or distress.

It is instructive to review the lessons learned from that evaluation. An internal, non-final report entitled "Enhancing the Effectiveness of Supervision"[168] outlined several issues that are pertinent to the SVBFG experience:

- supervisors did not provide a comprehensive picture of large firms' vulnerabilities;
- a realization that financial institutions of all types were more vulnerable to a rapid erosion in market liquidity than was recognized;
- historical focus on firm-specific risks rather than systemic issues;
- experience with rapid growth in size and complexity that might not be appropriately managed under existing prudential standards;
- supervisors who identified deficiencies but did not always demand swift corrective action or hold managers accountable when deficiencies were identified and communicated; and
- too little focus on low probability/high severity events.

[168] Board of Governors of the Federal Reserve System, *Enhancing the Effectiveness of Supervision*, April 2010 (draft).

Similarly, the Federal Reserve Bank of New York (FRBNY) commissioned an external review to draw on lessons learned from the Global Financial Crisis and make recommendations to the FRBNY.[169] The non-final report, *Report on Systemic Risk and Bank Supervision*, focused on systemic risk issues but also had relevant insights for bank supervision that link to the SVBFG experience:

- a focus on recognition of risks rather than actions;
- an observation that banks' internal risk-management processes were sometimes ineffective and trumped by profit pressures;
- an excessive risk aversion and deference from supervisors, particularly during profitable periods;
- a shift toward reviewing risk processes rather than the risk itself;
- misaligned incentive compensation frameworks;
- delay from a consensus-driven culture that smooths over complex issues;
- a focus on relative rather than absolute assessments; and
- a need for independent analysis to challenge supervised firms.

These reviews focused on the largest, most systemically important firms, which are now supervised as part of the LISCC program. The fact that smaller institutions such as SVBFG can drive systemic disruptions suggests that one might consider lessons from these reviews and development of the LISCC portfolio for a broader range of firms where distress could have systemic implications.

These reviews after the Global Financial Crisis had a significant impact on the structure of supervision in the Federal Reserve System, but both were conducted and circulated largely within the Federal Reserve and never formally completed.

The Federal Reserve's Office of Inspector General (OIG) is required to complete a review of the agency's supervision of a failed institution when the projected loss to the Deposit Insurance Fund is material. In 2011, the OIG reviewed 35 state member bank failures that occurred between 2009 and 2011 to identify common themes related to the cause of failure and the role of Federal Reserve supervision.[170]

169 David Beim and Christopher McCurdy, "Report on Systemic Risk and Bank Supervision" (New York: FRBNY, August 2009), Draft, https://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2009-08-05%20FRBNY%20Report%20on%20Systemic%20Risk%20and%20Supervision%20Draft.pdf.

170 Board of Governors of the Federal Reserve System, Office of Inspector General, "Summary Analysis of Failed Bank Reviews" (Washington: Board of Governors, September 2011), 1, https://oig.federalreserve.gov/reports/Cross_Cutting_Final_Report_9-30-11.pdf.

While the driving force behind these small bank failures was largely related to asset quality and economic deterioration, some findings echo the SVBFG experience:

- management pursuing robust growth exceeded the banks' risk management and funding strategies;
- strategic choices that proved to be poor decisions; and
- incentive compensation programs that inappropriately encouraged risk taking.

Moreover, the OIG noted that many "examiners identified key safety and soundness risks, but did not take sufficient supervisory action in a timely manner to compel the Boards of Directors and management to mitigate those risks. In many instances, examiners eventually concluded that a supervisory action was necessary, but that conclusion came too late to reverse the bank's deteriorating condition."[171]

Issues for Consideration

This report identified a number of issues relevant for how the Federal Reserve designs and implements its supervisory and regulatory program. As discussed throughout the report, the failure of SVBFG reflects a complex interaction of many factors, some of which were idiosyncratic to the management and business model of SVBFG and how oversight was executed, while others were broader, with the potential to impact the effectiveness of the oversight program.

The observations are organized around four broad themes: (1) enhance risk identification, (2) promote resilience, (3) change supervisor behavior, and (4) strengthen processes. The ideas are meant to be feasible in that they fall within the Federal Reserve's existing authorities and support the Federal Reserve's existing mandates. These are not full-fledged proposals and are not intended as a checklist of specific actions. Rather, they represent ideas that may warrant further consideration by policymakers based on observations related to the failure of SVBFG and broader environmental changes, such as technological innovations that impact the pace of financial flows. Many options involve difficult trade-offs that must be considered carefully by policymakers; e.g., a more forceful oversight program may increase resilience but may also add burden or hinder financial intermediation.

Enhance Risk Identification

A foundational piece of any risk-management framework is the ability to identify material risks. This is true for both firms and for supervisors, and a substantial portion of risk management is dedicated to effective risk identification.

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171 Board of Governors of the Federal Reserve System, Office of Inspector General, Summary Analysis of Failed Bank Reviews (Washington: Board of Governors, September 2011), 1, https://oig.federalreserve.gov/reports/Cross_Cutting_Final_Report_9-30-11.pdf.

The SVBFG experience shows that weak risk identification can have severe consequences: SVB failed to identify its true liquidity risk and interest rate risk, and supervisors failed to appreciate how those shortcomings created a much more vulnerable firm in the current economic and financial environment. Supervisors can reconsider what types of foundational exams are most relevant for firms of all sizes to ensure appropriate identification of risks.

Supervisors can also consider how to develop a more robust understanding of the risks banks face and how those might be evolving with the economic, financial, and technological environment. For example, a "portfolio entrance exam" as firms grow quickly and prepare for heightened supervisory standards would allow supervisors to make informed judgments more quickly. This is particularly true for some smaller institutions with distinctive business models where traditional metrics are potentially less relevant. More detailed data on depositor concentration and net stressed liquidity positions through a review of liquidity would provide greater insight into liquidity risk and possible depositor dynamics in the current environment. A reassessment of the drivers of systemic risk could facilitate development of a stronger tailoring regime that reflects the current economic environment and the drivers of systemic impact.

Promote Resilience

The goal of risk management is not to eliminate risk but to understand risks and to control them within well-defined and appropriate risk tolerances and risk appetites. From society's perspective, resilient firms are more likely to provide financial services across a range of potential outcomes, and prudential oversight helps mitigate well-known market failures that might lead the private sector to under-invest in resilience. This is a question about how much ex ante self-insurance against extreme events is required and ultimately reflects policymaker objectives.

The need for resilience is particularly important in periods of rapid change and heightened uncertainty when shocks can materialize in unexpected ways, such as the unprecedented pace of deposit flows. As indicated in the previous reviews mentioned above, rapid growth itself is often a sign of increased risk where additional oversight and mitigants are needed. The supervisory and regulatory program could consider ways to promote resilience of firms with well-identified, material risk-management weaknesses, rapid growth, or substantive business model changes. This could be through, for example, higher capital or liquidity buffers or activity restrictions. By contrast, SVBFG had a long runway to meet higher standards even as it was growing rapidly.

To further strengthen resilience, supervisors could consider a number of specific steps. Stronger incentives to manage risk effectively linked to compensation or activity restrictions could further align private and social objectives for a safe and sound banking system. Requirements for stronger operational capacity to access alternative forms of funding in stress could help cushion shocks. Supervisors could reconsider how to best reflect interest rate risk in regulatory capital assessments.

Change Supervisor Behavior

Supervision requires consequential judgments about issues that directly impact individual firms and the broader financial system. These judgments must be forward-looking and are necessarily made with imperfect information, particularly in the case of potential tail events with systemic consequences, but also must be fair, evidence-based, and consistent. The SVBFG experience suggests a supervisory program that was overly focused on oversight requirements rather than the underlying risks. In some cases, significant risks were treated by SVBFG more as a process to fix than as a clear and present threat to the viability of a firm.

The supervisory record on SVBFG shows a focus on consensus-building and a perceived need to form ironclad assessments about what had already gone wrong and less on judgments with a more open mind about what could go wrong. This hesitancy to move decisively is particularly difficult to overcome during periods of strong economic growth and business performance. To complement the more structured stress testing program, supervisors could also engage in narrative-based "pre-mortem" exercises or reverse stress testing to think critically about idiosyncratic scenarios and tail events that could lead to acute distress at individual firms.

This experience also suggests an opportunity to shift the culture of supervision toward a greater focus on inherent risk, and more willingness to form judgments that challenge bankers with a precautionary perspective. Individual examiners and supervisors often identified core issues but then failed to take collective action. This could include additional training and portfolio rotations to better understand a range of perspectives. Moreover, supervisors in other jurisdictions have developed approaches based in behavioral science that incorporate data on institutional attitudes and norms related to risk factors, such as complacency, overconfidence, short-term focus, and lack of effective challenge that can reveal institutional blind spots and contribute to vulnerabilities like those seen at SVB.[172] The Federal Reserve could investigate these tools through a pilot program.

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[172] See, e.g., Australian Prudential Regulation Authority, "Transforming Governance, Culture, Remuneration and Accountability: APRA's Approach," APRA (2019), https://www.apra.gov.au/sites/default/files/Transforming%20governance,%20culture,%20remuneration%20and%20accountability%20-%20APRA%E2%80%99s%20approach.pdf; Australian Prudential Regulation Authority, "No Room for Complacency on Bank Risk Culture," APRA (2022), https://www.apra.gov.au/news-and-publications/no-room-for-complacency-on-bank-risk-culture; "Culture and Behaviour Risk Guideline," Office of the Superintendent of Financial Institutions, last modified February 28, 2023, https://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gl-ld/Pages/cbrsk_dft.aspx#:~:text=OSFI%27s%20Culture%20and%20Behaviour%20Risk%20Guideline%20is%20principles-based,scope%2C%20complexity%20of%20operations%2C%20strategy%2C%20and%20risk%20profile; Central Bank of Ireland, *Behaviour and Culture of the Irish Retail Banks* (Dublin: Central Bank of Ireland, July 2018), https://www.centralbank.ie/docs/default-source/publications/corporate-reports/behaviour-and-culture-of-the-irish-retail-banks.pdf?sfvrsn=2; De Nederlandsche Bank, *Supervision of Behaviour and Culture* (Amsterdam: De Nederlandsche Bank, 2015), https://www.dnb.nl/media/1gmkp1vk/supervision-of-behaviour-and-culture_tcm46-380398-1.pdf; De Nederlandsche Bank, *Moving from Reflex to Reflection* (Amsterdam: De Nederlandsche Bank, January 2023), https://www.dnb.nl/media/chhehw04/moving-from-reflex-to-reflection.pdf; Monetary Authority of Singapore, "Culture and Conduct Practices of Financial Institutions," Monetary Authority of Singapore (2020), https://www.mas.gov.sg/-/media/MAS/MPI/Guidelines/Information-Paper-on-Culture-and-Conduct-Practices-of-Financial-Institutions.pdf; Financial Stability Board, *Guidance on Supervisory Interaction with Financial Institutions on Risk Culture* (Basel: FSB, April 2014), https://www.fsb.org/wp-content/uploads/140407.pdf; Financial Stability Board, *Strengthening Governance Frameworks to Mitigate Misconduct Risk: A Toolkit for Firms and Supervisors* (Basel: FSB, April 2018), https://www.fsb.org/wp-content/uploads/P200418.pdf.

Strengthen Processes

The report shows a complex oversight program that involves multiple categories, triggers, phase-in periods, rule sets, runways, and supervisory expectations. This complexity has evolved with the complexity of the banking sector and is undoubtedly warranted in parts, but it is also an impediment to both firms and their supervisors as they navigate through a challenging rule set with discrete cliff effects.

A simpler and stronger oversight program and tailoring framework could be both more efficient and more effective. For example, greater clarity on portfolio expectations, well-defined internal governance over ratings, an explicit supervisory plan for firms transitioning between portfolios, and reduced complexity of the regulatory structure could shift some bandwidth at both supervised firms and the Federal Reserve away from the supervisory process and more toward understanding and effectively managing the fundamental risk itself. Supervisors could also systematically elevate focus on long-dated, material issues to promote more rapid remediation.

Conclusions

These considerations reflect initial observations drawn from a review of the failure of SVBFG and SVB. Further development and consideration will require careful discussion of trade-offs, costs and benefits, potential unintended consequences, and practical implication issues.

The goal of such an exercise is to learn the general lessons from this particular experience and to help meet the Federal Reserve's safety and soundness objectives across a wide range of potential risks.

Glossary

ALCO – Asset/Liability Committee

Committee within a bank responsible for overseeing its funding strategy and interest rate risks.

AOCI – Accumulated Other Comprehensive Income

Accounting term for an account on a bank's balance sheet that includes unrealized gains and losses for certain investment securities not included in net income.

BME – Broadly Meets Expectations

One of the four categories within the Federal Reserve's Large Financial Institution (LFI) supervisory rating system. The Broadly Meets Expectations rating indicates that the firm's financial resources, practices, and capabilities are viewed as generally being in safe and sound condition.

CAMELS – Capital, Asset Quality, Management, Earnings, Liquidity, and Sensitivity to Market Risk

Confidential supervisory rating system for insured depository institutions (e.g., banks).

CBO – Community Banking Organization

Banking organizations with less than $10 billion in total assets.

CDFPI – California Department of Financial Protection and Innovation

State of California bank regulator.

CECL – Current Expected Credit Losses

Accounting term for the methodology used by banks to establish reserves for credit losses.

CET1 – Common Equity Tier One

CET1 is primarily qualifying common stock and related surplus and retained earnings, plus or minus regulatory deductions or adjustments (such as AOCI) as appropriate.

CME – Conditionally Meets Expectations

One of the four categories within the LFI supervisory rating system. The Conditionally Meets Expectations rating indicates that the aspects of the firm's practices and capabilities are viewed as generally being in safe and sound condition, but there are certain material financial or operational weaknesses in a firm's practices or capabilities that need to be addressed.

CSI – Confidential Supervisory Information

Confidential bank-specific information given to examiners, supervisory views, or assessments of examiners. CSI is generally confidential by law unless public release is specifically authorized.

D-1 – Deficient-1

One of the four categories within the LFI supervisory rating system. The Deficient-1 rating indicates that financial or operational deficiencies in a firm's practices or capabilities put the firm's prospects for remaining safe and sound at significant risk.

D-2 – Deficient-2

One of the four categories within the LFI supervisory rating system. The Deficient-2 rating indicates that financial or operational deficiencies in a firm's practices or capabilities present a threat to the firm's safety and soundness or have already put the firm in an unsafe and unsound condition.

DST – Dedicated Supervisory Team

Team of examiners focused on a single bank.

EGRRCPA – Economic Growth, Regulatory Relief, and Consumer Protection Act

Law passed by Congress in May 2018.

EPS – Enhanced Prudential Standards

Regulatory requirements for large and complex banking organizations that are heightened relative to requirements for smaller, less complex institutions.

FRBSF – Federal Reserve Bank of San Francisco

One of the 12 Federal Reserve Banks in the Federal Reserve System. It covers the states of Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington, and serves American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands.

G-SIB – Global Systemically Important Bank

A banking firm whose failure would cause the most harm to the U.S. financial system and the broader economy.

HCE – Horizontal Capital Exam

Annual exam of capital position and risk-management practices of certain large banking organizations with at least $250 billion in assets at the same time.

HCR – Horizontal Capital Review

Annual exam of capital position and risk-management practices of certain large banking organizations with less than $250 billion in assets at the same time.

HLR – Horizontal Liquidity Review
Annual exam of liquidity position and risk-management practices of certain large regional banking organizations with more than $100 billion in assets at the same time.

HQLA – High-Quality Liquid Assets
Assets that can easily and immediately be converted to cash at little to no loss in value.

IDI – Insured Depository Institution
Any bank or savings association of which the public's deposits are insured by the Federal Deposit Insurance Corporation (FDIC).

ILST – Internal Liquidity Stress Test
A firm's internally generated liquidity stress test based on risks determined by the firm.

LCR – Liquidity Coverage Ratio
Regulatory liquidity requirement that requires certain large firms maintain a minimum level of high-quality liquid assets.

LFBO – Large and Foreign Banking Organization
Supervisory portfolio that includes U.S. firms with total assets of $100 billion or more and all foreign banking organizations (FBOs) operating in the U.S. regardless of size. Does not include U.S. firms identified as G-SIBs, which are in the LISCC supervisory portfolio.

LFBOMG – Large and Foreign Banking Organization Management Group
An advisory group within the Federal Reserve System that helps to coordinate supervisory activities for the LFBO portfolio.

LFI – Large Financial Institutions Rating System
Confidential holding company rating system for bank holding companies $100 billion and above in size.

LISCC – Large Institution Supervision Coordinating Committee
Supervisory portfolio that includes U.S. firms identified as G-SIBs.

MIS – Management Information Systems
Information used for decisionmaking at a bank.

MRA – Matter Requiring Attention
Calls for action to address weaknesses that could lead to deterioration in a bank's soundness.

MRIA – Matter Requiring Immediate Attention
Calls for immediate action and priority attention to address important or lingering weaknesses that could lead to further deterioration in a bank's soundness.

RBO – Regional Banking Organization
Banking organizations with total consolidated assets between $10 billion and $100 billion.

RBOMG – Regional Banking Organization Management Group
An advisory group within the Federal Reserve System that helps to coordinate supervisory activities for the RBO portfolio.

RFI – Risk Management, Financial Condition, and Impact Bank Holding Company Rating System
Confidential holding company rating system for banking holding companies less than $100 billion in size.

RWA – Risk-Weighted Assets
A bank's assets or off-balance-sheet exposures, weighted according to risk.

SC – Supervision Committee
An advisory committee to the directors of the Federal Reserve Board's Divisions of Supervision and Regulation and the Division of Consumer and Community Affairs, composed of the heads of supervision from each Reserve Bank and senior officers from the Board.

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