Internal Vulnerability and External Volatility: A Study of the March 2023 Banking Crisis

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Abstract:

This paper examines March 2023 U.S. banking failure and its impact on financial stability. Through analysis of regulatory disclosures, literature, and financial data, it identifies a combination of internal and external factors behind the collapse. Internally, the bank relied on concentrated uninsured deposits from the tech sector, invested in long-term fixed-income securities, and suffered from governance failures, most notably the absence of a Chief Risk Officer. Externally, the Federal Reserve's rapid interest-rate hikes exposed these vulnerabilities, while regulatory reductions weakened oversight. The findings highlight how concentrated funding models and governance gaps can transform monetary policy shifts into systemic threats, underscoring the need for stronger protections to maintain banking stability.

Keywords: Interest Rate Risk, Funding Concentration, Liquidity Risk Management, Financial Stability, uninsured deposits

Jel Classification Codes: G21, G28, G01,E58.

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Introduction :

After the Covid-19 pandemic, the U.S. economy faced its highest inflation rates since the early 1980s, leading the Federal Reserve to implement rapid and aggressive interest rate hikes. These measures sharply reduced the market value of securities such as Treasury bonds, in which many banks, including Silicon Valley Bank (SVB), were heavily invested. As interest rates rose, unrealized losses on long-term securities became significant, a problem compounded by sudden and large-scale deposit withdrawals (Mustafa, p13, 2023). Several banks in 2023 encountered deposit runs, a bank run refers to a situation where a large number of depositors lose confidence in a bank's solvency, leading them to quickly withdraw their funds (Bales & Burghof, 2024, p2), that, by historical standards were exceptionally speedy and massive. One of the most noteworthy deposit runs in the US banking sector was Silicon Valley Bank's (SVB), as the run led to its collapse. At the time of its collapse, SVB was among the largest US banks. (Kabir & Winters, 2023, p40).

Silicon Valley Bank (SVB) was the first big US bank to fail since the Global Financial Crisis of 2007–2009, SVB, a commercial bank serving technology firms, venture capital, and life science companies, collapsed on March 10, 2023, just two days after the failure of Silvergate Bank. Within days, Signature Bank and First Republic also failed, and banking stocks worldwide dropped sharply, wiping out more than half of the market value of several U.S. lenders (Manda, 2023, p59; Azimli, 2023, p1). The runs in March 2023 were unusually fast and concentrated, with some banks losing up to 10% of their assets in a single day. Studies show these runs were driven mainly by large institutional depositors rather than retail clients, as high-value transfers dominated withdrawal patterns (Cipriani, Eisenbach & Kovner, 2023, p1). A crucial factor behind these collapses was regulatory policy. Since 2018, the U.S. has "tailored" prudential standards, exempting mid-sized banks like SVB from key post-crisis requirements such as stronger liquidity and interest-rate risk frameworks (Trapanese et al., 2024, p2). Feldberg (2025) notes that U.S. banks disclose interest rate sensitivity only annually and make little use of hedging tools like swaps, leaving them vulnerable to sudden monetary tightening. Post-mortem reviews largely criticized bank management and supervision but also revealed that stricter standards such as the Liquidity Coverage Ratio could have exposed SVB's weaknesses earlier (Feldberg et al., 2025, p.337; Trapanese et al., 2024, p.8).

Although contagion was contained, systemic fragility was clear. Early studies suggested that as many as 186 U.S. banks were at risk of collapse after SVB's failure. Analysts traced this vulnerability to three interconnected developments: the collapse of FTX in late 2022, which destabilized crypto-linked banks such as Silvergate and Signature; the Fed's rapid rate hikes, which triggered bond losses; and the concentrated business models of many banks, whose reliance on narrow depositor groups amplified the scale and speed of withdrawals once confidence faltered (Manda, 2023, p.59). Together, these factors demonstrate that the 2023 U.S. banking

crisis was not the result of a single failure but rather the convergence of aggressive monetary tightening, structural weaknesses in regulation, and fragile bank business models.

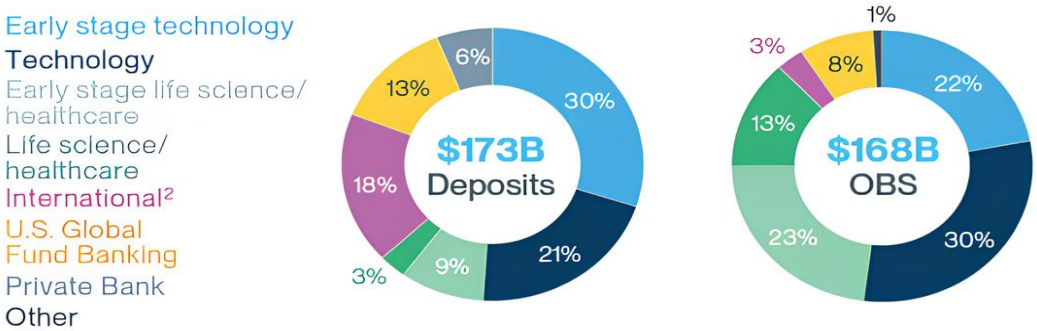
❖ **Research Gap:** The research highlights the lack of integrated studies examining how monetary policy normalization, concentrated funding, and duration risk jointly contributed to the collapse of Silicon Valley Bank

❖ **Objective:** The study aims to analyze both internal and external determinants of the failure by exploring the role of interest rate increases, governance weaknesses, and deposit concentration. It also seeks to explain how monetary tightening transformed structural balance sheet vulnerabilities into severe liquidity pressure leading to the bank's collapse.

1- Silicon Valley Bank collapse

Silicon Valley Bank was founded with two main objectives: first, to support the growth of technical entrepreneurship and second, to provide "outside-the-box" commercial banking services to startups that were overlooked by the traditional banking system. By specializing in tailored solutions for technology firms and venture capitalists, it built expertise in high growth but risky business models, prioritizing long-term potential over immediate revenues. (Li et al, 2024, p25-26). SVB customer base was heavily concentrated in VC-backed technology and life sciences companies. venture capital (VC) backed companies accounted for more than half of SVB deposits at year-end 2022, and client funds that SVB placed off-balance-sheet were even more concentrated in the same client group, this concentration linked SVB funding growth directly to VC deal activity. As VC deal activity boomed in 2021 and early 2022, SVB clients received investment proceeds, which were then deposited at SVB, increasing SVB deposit levels (Barr, 2023, p19)

Fig 1: SVB client funds by client type

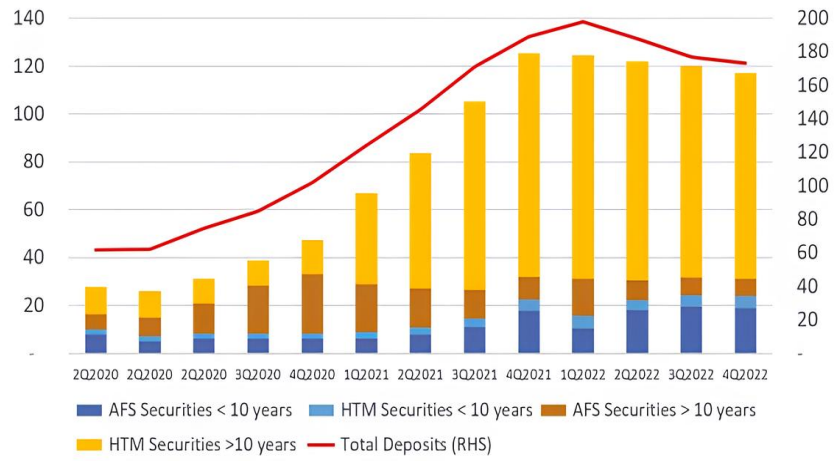


Source: Barr, 2023, p19.

Metrick (2024) points out that SVB's failure was not driven by credit risk. Its loan portfolio was concentrated in the ecosystem of startup technology firms, the venture capital firms that fund them. Although this portfolio was not well-diversified, SVB never faced serious concerns about the quality of its loans, but interest-rate risk since SVB's securities portfolio was almost exclusively comprised of government or agency-

backed bonds and thus had effectively zero credit risk (Metrick, 2024, p137). In early 2020, the global spread of the COVID-19 pandemic prompted the Federal Reserve to act in response to concerns about both public health and the economy. In March, they applied reductions in interest rates of 0.5% and 1% correspondingly, followed by initiating a new round of quantitative easing at the end of that (Chen, 2024, p3), including roughly $2.3 trillion in loans to ease the pandemic shock. These conditions pushed investors toward higher-return, riskier assets—especially startups—fueling a wave of VC investment. The resulting inflow of capital into the banking sector provided SVB with substantial uninsured deposits, which it profited from by lending at higher rates (Prieto, 2025, p17). In 2020, as SVB sought to preserve its startup-focused market share, the bank invested heavily in long-term U.S. Treasury bonds and residential mortgage-backed securities (MBS). While nearly risk-free in terms of credit, these assets were highly sensitive to interest rate changes (Al Sari, 2025, p3). Deposits rose 65% in 2020 and 85% in 2021, while MBS holdings surged 90% and 250% in those respective years. Most of these securities were classified as held-to-maturity (HTM) with maturities exceeding 10 years, complemented by a smaller available-for-sale (AFS) portfolio of shorter-term Treasuries. This strategy ultimately sowed the seeds of SVB's later vulnerability (Feldberg et al, 2025, p314).

Figure 2: SVB's Gamble on Long-Term Securities (USD billions)



Source: Feldberg et al, 2025, p314.

Table 1: Chronology of Events: The Collapse of Silicon Valley Bank

March 8, 2023	SVB announced a $1.8 billion loss from selling part of its bond portfolio and planned to raise $2 billion in equity to strengthen capital. The move sparked depositor concerns about the bank's stability. SVB secured $500 million from General Atlantic and aimed to issue $1.25 billion in common stock plus $500 million in depository shares. Moody's announces it is downgrading SVB from A3 to Baa1.
March 9, 2023	As soon as the markets opened, SVB's shares sank 30% (and subsequently 60% that day), more depositors began to withdraw their funds from the bank, on this day alone, withdrawals amounted to $42 billion, leaving the bank unable to meet these demands.
March 10, 2023	SVB faced a bank run leading to the largest bank failure in U.S. history. The California Department of Financial Protection and Innovation shut the bank, and the FDIC took over as receiver, citing insolvency. To safeguard insured

	deposits, the FDIC created a bridge bank and began seeking stabilization measures.
March 12, 2023	The Treasury, Federal Reserve, and FDIC issued a joint statement guaranteeing full protection of both insured and uninsured deposits at SVB. To contain the fallout, the Federal Reserve launched the Bank Term Funding Program (BTFP) to provide liquidity support to other banks and prevent the crisis from spreading.
March 13-15, 2023	Despite government intervention, the fallout from SVB's collapse began to impact other banks. Several regional and mid-sized banks experienced heightened scrutiny and deposit outflows as depositors sought safety in larger, more stable institutions.
March 26-27, 2023	the FDIC announced that it had sold most of SVB's assets to First Citizens Bank. According to the FDIC, the net costs of the SVB failure to the Deposit Insurance Fund to insure all deposits would be roughly $20 billion
April 28, 2023	The Fed Reserve released an in-depth review of its supervision and regulation of SVB. The report, led by Michael S. Barr, concluded that SVB's failure was a "textbook case of mismanagement." The bank's leadership failed to manage liquidity and interest rate risks effectively, and regulatory actions were insufficient to address these shortcomings

Source: Elaborated by the author based on: (Mustafa, 2023; p13; Roy,2025, p3-4; Kabir & Winters, p42 ; Reidenbach, 2023, p3; Gruenberg, 2023)

2- Methodology and data:

The collapse of SVB in 2023 demonstrates that market signals alone are insufficient to assess bank vulnerability, as stock price declines reflected sentiment rather than the true extent of risk exposure. Several affected institutions were not publicly traded, further limiting the reliability of market prices as a systemic risk indicator. Consequently, analyzing balance sheet structure, including assets, funding sources, and capital adequacy, provides a more accurate framework for understanding the origins of the bank's run and financial instability.

This study aims to investigate the underlying causes of SVB's failure by analyzing financial information obtained from annual reports, Federal Reserve supervision documents, and Federal Deposit Insurance Corporation (FDIC) records. The analysis focuses on key financial ratios over the period 2017–2022 to track the bank's performance evolution during these years. In addition, the study examines the effect of rising interest rates on unrealized losses, providing a clearer understanding of the financial mechanisms that contributed to the collapse. The research also includes a detailed assessment of the balance sheet structure, including both asset and liability components, to better explain the financial dynamics behind the failure.

Table 2: SVB Assets and Liabilities (2017- 2022)

		SVB Assets				
(Dollars in millions)	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Cash	2,923	3,571	6,781	17,675	$14,586	$13,803
Net loans	22,851	28,057	32,859	44,733	$65,854	$73,614
Investment securities	24,435	24,218	29,071	49,306	$127,959	$120,054
Other assets	1005	1081	2293	3797	$2,909	$4,322

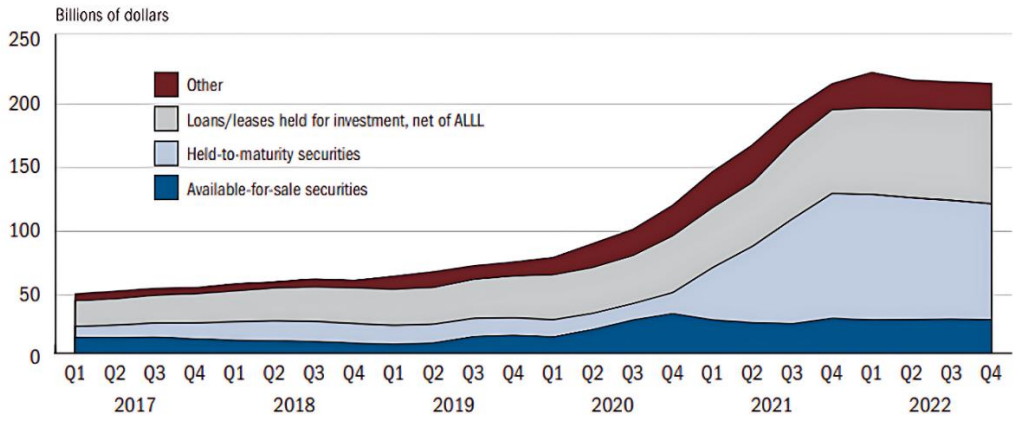
Total assets	**51,214**	**56,927**	**71,004**	**115,511**	**$211,308**	**$211,793**
		SVB Liabilities				
(Dollars in millions)	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Deposits	44,254	49,328	61,757	101,981	189,203	173,109
Short Term borrowings	1,033	631	17	20	71	13,565
Long Term debt	695	696	347	843	2,570	5,370
Other liabilities	913	1,008	2262	4230	2,855	3,454
Total liabilities	**46,895**	**51,663**	**64,383**	**107,077**	**194,699**	**195,498**

Source: Elaborated by the author based on the SVB annual reports, available on:

(https://ir.svb.com/financials/annual-reports-and-proxies/default.aspx)

Between 2017 and 2022, SVB's balance sheet expanded rapidly, reflecting both deposit growth and rising exposure to investment securities. In 2017, total assets stood at $51.2 billion, composed mainly of $22.8 billion in loans and $24.4 billion in securities, with deposits of $44.3 billion making up the bulk of liabilities. By 2019, assets had already grown to $115.5 billion, more than doubling in just two years. The increase was driven by both loans and securities, while deposits surged to $101.8 billion, highlighting the bank's growing reliance on customer funding.

Fig 3: SVB assets compositions (2017-2022)

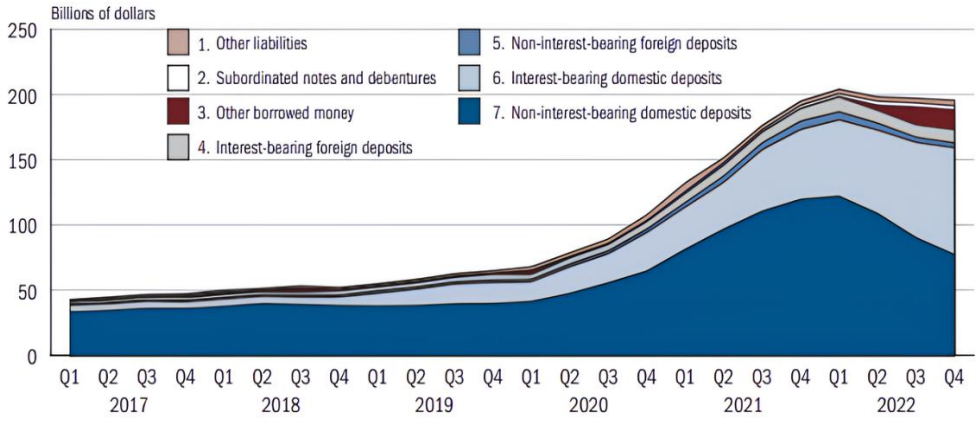


Source: Barr, 2023, p22.

The most critical phase occurred between 2020 and 2021, when deposits soared from $101.8 billion to $189.2 billion, reflecting the influx of liquidity into the tech sector during the pandemic. Total assets jumped from $115.5 billion in 2019 to $211.3 billion in 2021, with securities holdings expanding aggressively to $127.2 billion, far above historical averages. This rapid growth created a concentrated and unstable liability structure dominated by large, uninsured deposits. By the end of 2022, SVB's balance sheet had reached $211.8 billion in

assets, including $120.1 billion in securities and $73.6 billion in loans, while deposits slightly declined to $173.1 billion. Liabilities totaled $195.5 billion, leaving equity at $16.3 billion. The high proportion of long-term securities and the dependence on volatile deposit funding exposed the bank to severe liquidity and interest rate risks, setting the stage for its eventual collapse.

Fig 4: SVB liabilities compositions (2017-2022)



Source: Barr, 2023, p20

Table 3: SVB Investment Securities (2017- 2022)

(Dollars in millions)	2017	2018	2019	2020	2021	2022
AFS (Available-for-Sale) securities	11,120	7,790	14,014	30,913	$27,221	$26,069
HTM (Held-to-Maturity) securities	12,663	15,487	13,842	16,592	$98,195	$91,321
Non-marketable securities	651	941	1,213	1,802	$2,543	$2,664
Total Investment securities	**24,435**	**24,218**	**29,071**	**49,307**	**$127,959**	**$120,054**

Source: Elaborated by the author based on the SVB annual reports.

SVB's investment securities portfolio changed dramatically between 2017 and 2022, exposing the bank to significant interest rate risk.

In 2017, the portfolio stood at $24.4 billion, balanced between available-for-sale (AFS) with $11.1 billion and held-to-maturity (HTM) with $12.7 billion securities. This structure gave the bank a reasonable mix of liquidity and long-term stability.

From 2018 to 2019, growth was modest, reaching $29.1 billion, but in 2020 the portfolio expanded sharply to $49.3 billion as deposit inflows surged during the pandemic. At that point, AFS securities ($30.9 billion) were dominant, giving SVB some flexibility in case of liquidity needs.

The turning point came in 2021. Total investment securities skyrocketed to $128.0 billion, almost entirely due to the expansion of HTM securities, which reached $98.2 billion compared to only $27.2 billion in AFS. By shifting heavily into long-term HTM assets, SVB locked itself into low-yield securities purchased during the very low interest rate period.

In 2022, the portfolio fell slightly to $120.1 billion, but HTM securities still accounted for $91.3 billion. When the Federal Reserve began raising interest rates aggressively in 2022–2023 to curb inflation, the market value of these long-duration HTM securities declined sharply. Unlike AFS securities, which are marked to market, HTM securities are carried at book value, masking the scale of unrealized losses on SVB's balance sheet. However, once deposit withdrawals forced SVB to sell assets, these hidden losses became realized, directly undermining solvency.

Thus, the concentration of assets in HTM securities during a period of rising rates left SVB highly exposed. The Fed's rate hikes eroded the economic value of its bond portfolio, while limited liquidity from AFS holdings prevented the bank from absorbing the shock. This duration mismatch between long-term HTM assets and short-term volatile deposits was central to SVB's collapse.

Table 4: SVB's financial statement items

% of total assets	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2022–2019**
Cash	5.7	6.27	9.55	15.3	6.9	6.51	0.81
Investment Securities	47.71	42.54	40.94	42.68	60.55	56.68	8.97
Net Loans	44.61	49.28	46.27	38.72	31.16	34.75	- 9.86
Other Assets	1.96	1.89	3.22	3.28	1.37	2.04	0.08
Deposits	86.4	86.64	86.98	88.28	89.54	81.73	- 4.67
Total Liabilities	91.56	90.75	90.67	92.70	92.13	92.3	0.74

Source: Elaborated by the author based on the SVB annual reports.

*The values are in percent.

Table 4 presents a summary of SVB's financial statement ratios from 2017 to 2022. Among asset items, the ratio of cash to total assets increased from 5.7% in 2017 to 15.3% in 2020, reflecting the defensive liquidity build-up during the COVID-19 crisis and the Federal Reserve's near-zero rate policy. However, this ratio declined again to 6.5% in 2022. The bank's net loans to total assets ratio fell markedly from 44.6% in 2017 to 34.8% in 2022, while the share of investment securities rose significantly from 47.7% to 56.7% over the same period., this expansion in securities holdings coincided with the Fed's extended low-rate policy, which encouraged banks to seek higher yields in longer-term debt instruments, while on the liabilities side, deposits remained the principal funding source (87–90% of total assets) until 2021, before declining to 81.7% in 2022, indicating customer

withdrawals. Total liabilities stayed above 90% of assets, indicating the structural dependence on liabilities to fund assets (bank's high leverage).

In general, the results point to a structural transformation: SVB grew increasingly dependent on investment securities funded by concentrated deposits—a strategy that proved unsustainable when the Federal Reserve implemented sharp interest rate increases in 2022, leading to considerable unrealized losses on securities and accelerated depositor withdrawals.

SBV Fianacial Ratios (%)	**2019**	**2020**	**2021**	**2022**
Held to Maturity/Total Assets	19.792	14.575	47.081	43.692
Available for Sale/Total Assets	19.887	27.084	12.989	12.427
Total Debt Securities /Total Assets	39.679	41.659	60.07	56.119
Amount of Deposit Accounts < $250,000/Total Deposit	3.482	2.307	2.724	2.724
Amount of Deposit Accounts > $250,000/Total Deposit	87.305	89.494	89.274	89.377
Estimated Insured Deposits/ Total Deposit	9.598	6.015	4.89	5.696

Table 5 : SVB's assets and liabilities management.

Selected items	**2019**	**2020**	**2021**	**2022**	**2021/2019**	**2022/2019**
Held to Maturity (Book Value)	$13,842,94	$16,592,544	$98,201,000	$91,327,000	709 %	660 %
Available for Sale (Fair Market Value)	$13,909,810	$30,832,033	$27,093,000	$25,976,000	195 %	187 %
Total Debt Securities	$27,752,756	$47,424,577	$125,094,000	$117,303,000	451 %	423 %
Amount of Deposit accounts < $250,000	$2,505,935	$2,415,957	$4,416,000	$4,778,000	176 %	191 %
Number of Deposit Accounts < $250,000	52,166	56,087	95,238	106,420	183 %	204 %
Amount of Deposit Accounts > $250,000	$54,953,157	$92,352,297	$139,629,000	$156,747,000	254 %	285 %
Number of Deposit Account > $250,000	18,785	23,331	34,727	37,466	185 %	199 %
Estimated Insured Deposits	$6,041,321	$6,206,736	$9,361,000	$9,990,000	155 %	165 %

Source: Van Vo & Le, 2023, p8

The table 5 shows that SVB's failure stemmed from a two-pronged strategy that left the bank exposed to both interest rate and liquidity risk. The bank made a risky bet on long-term bonds while simultaneously relying on a highly concentrated, uninsured deposit base for funding, the table 5 sheds light on the main causes of SVB collapse:

- **Excessive risk exposure**: Between 2019 and 2021, SVB dramatically shifted its balance sheet composition. The ratio of Total Debt Securities to Total Assets rose from 39.7% to 60.1%, signaling a strong pivot away from traditional lending. By 2022, the ratio remained elevated at 56.1%, confirming that securities had become the bank's primary operating strategy. This asset mix left the bank highly vulnerable to market fluctuations.
- **Overinvestment in HTM Securities:** the data shows a striking 709% increase in Held-to-Maturity (HTM) securities from 2019 to 2021, climbing to $98 billion. Even after a small decline in 2022, HTM still accounted for 44% of total assets. This accounting choice was a crucial misstep; it allowed the bank to hold long-term bonds at cost, obscuring mounting unrealized losses as interest rates rose, and widening the gap between its reported book value and its actual economic value.
- **AFS Securities Reduction:** Available-for-Sale (AFS) securities followed a different path growing to $27 billion in 2021 before contracting to $26 billion in 2022. Their share of assets dropped to just 12.4%, reflecting the bank's overreliance on long-term HTM securities rather than maintaining flexibility in its portfolio.
- **Deposit Concentration:** The data highlights the concentrated deposit structure. By 2022, deposits above $250,000 made up 89.4% of total deposits, while insured deposits accounted for only 5.7%. Small accounts doubled in number since 2019, but they remained of negligible impact, providing little cushion of stable retail funding.
- **Systemic Fragility:** SVB's deposit base was highly fragile, with nearly 90% of accounts uninsured by 2022 and less than 6% insured. This heavy reliance on large, uninsured deposits left the bank extremely vulnerable to confidence shocks, where even small doubts could trigger rapid withdrawals. Combined with its long-term interest rate exposure, this funding structure proved unsustainable once investor trust eroded, turning liquidity stress into a systemic failure (Bales & Burghof, 2024, p5).

3- Results and discussion:

Prieto (2025) studied the impact of changes in interest rates on net interest income (NII) through The gap analysis (if the bank had not collapsed). By analyzing the accumulated gap, we can estimate how changes in interest rates would have affected NII over different time horizons. This approach is crucial because as the bank's assets and liabilities mature, they are replaced with new instruments reflecting adjusted interest rates, which perpetuates the impact over time.

(Dollars in millions)	One year or less	More than one year to five years	More than five years

Total assets (RSA)	$ 60,951	$ 33,771	$ 114,668
Total liabilities (RSL)	$ 104,454	$ 88,669	$ 2,375
Gap (–)	**$ -43,503**	**$ -54,898**	**$ 112,293**
Gap (/)	**0.58**	**0.38**	**48.28**

Table 5: SVB Gap Analysis (December 31, 2022)

Source: Prieto, 2025, p30.

To determine the effect of 0.1% increase in interest rates, we calculate:

$$\underline{\Delta NII = Accumulated\ Gap * \Delta\ Interest\ rate}$$

$$\Delta NII_{\leq 1\ year} = -43,503 * 0.001 = -\$43.50\ million$$

$$\Delta NII_{Between\ 1-5\ years} = (-43,503 - 54,898) * 0.001 = -\$98.40\ million$$

The gap analysis showed SVB's strong short- and medium-term liability sensitivity, with shortfalls of $43,503 million (≤1 year) and $54,898 million (1–5 years), exposing it to rising funding costs without matching asset returns. An interest rate increase of 0.10% would have reduced NII by $43.50 million in the short term and $98.40 million in the medium term, while only slightly improving long-term NII by $13.89 million due to a positive accumulated gap, this imbalance revealed the bank's extreme exposure to interest rate risk.

The cost of its liabilities increased more rapidly than the returns on its assets, as the bank's limited ability to reprice its assets (SVB's asset base was concentrated in fixed-rate, long-maturity securities) limited its capacity to adjust its asset yields, this mainly contributed to SVB's collapse before its long-term assets could be revalued at higher returns. According to the 2022 Annual Report, the weighted average AFS securities' duration is 3.6, and HTM securities' duration is 6.2, the estimated change in market value due to a 0.1% increase in interest rates is as follows: (Prieto, 2025, p31-32).

$$\Delta AFS = -3.6 * 26,069 * 0.001 = -\$93.85\ million$$

$$\Delta HTM = -6.2 * 91,321 * 0.001 = -\$566.19\ million$$

$$Total\ additional\ unrealized\ losses = -(93.85 + 566.19) = -\$660.04\ million$$

This calculation shows that a 0.1% rise in interest rates would have caused almost a $94 million decrease in the market value of the AFS securities portfolio and around a $566 million decrease in the HTM securities portfolio. In other words, the market price of AFS securities would have dropped to around $25,975 million, while HTM securities would have declined to $90,755 million, leading to a total of $660 million in additional unrealized losses., by the end of 2022, SVB's balance sheet was highly exposed to interest rate risk, as evidenced by both the gap analysis and duration analysis, a 0.1% rise in interest rates would have reduced the

market value of SVB's securities portfolio by about $660 million, with losses of roughly $94 million on AFS securities and $566 million on HTM securities. By year-end 2022, the bank had already reported $17.7 billion in unrealized losses, meaning the total would have climbed to around $18.35 billion once the additional losses were considered—surpassing SVB's $16.3 billion equity base. Importantly, only AFS losses were recognized in reported equity, masking the true scale of risk if forced sales occurred.

By September 2022, with the Fed funds rate around 4%, SVB's unrealized losses reached nearly 15% of its $125 billion debt securities portfolio, effectively wiping out its equity capital on a market-value basis. (Van Vo & Le, 2023, p8), Further exacerbating the situation, the Fed Funds Rate increased from 4.33% to 4.57% (+ 0.24%) between January 1, 2023, and March 8, 2023 (the day SVB announced its balance sheet restructuring), assuming the bank maintained its securities holdings (if the bank had not collapsed), the additional unrealized losses would be: (Prieto, 2025,p33)

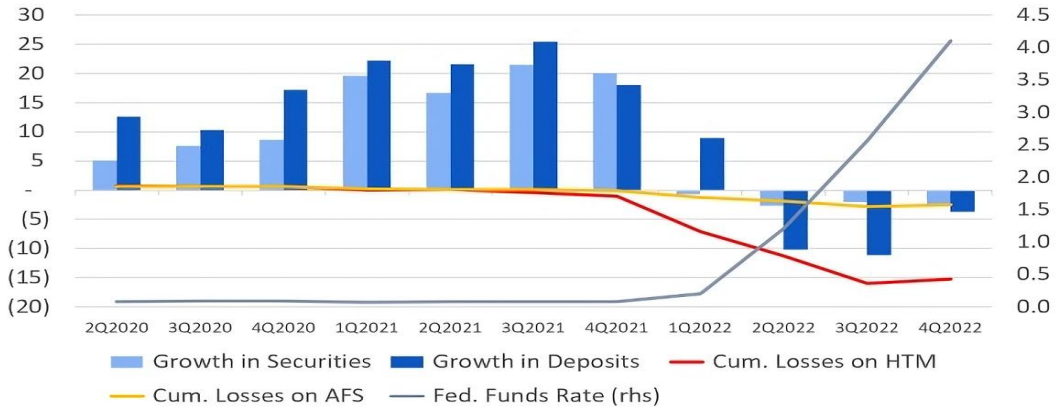
$$\Delta AFS = -3.6 * 26,069 * 0.0024 = -\$225.24\ million$$

$$\Delta HTM = -6.2 * 91,321 * 0.0024 = -\$1,358.86\ million$$

$$Total\ additional\ unrealized\ losses = -(225.24 + 1,358.86) = -\$1,584.10\ million$$

As a result, the total unrealized losses on SVB's securities portfolio, which reached $19.28 billion in March 2023 ($17.7 billion + $1.584 billion), critically exceeded the bank's total equity of $16.30 billion, this capital deficit rendered the bank economically insolvent, as its potential losses exceeded its capital base, this vulnerability, although not fully reflected on the balance sheet due to HTM accounting rules (not fully visible on main financial statement), although the bank initially avoided realizing these losses by not selling its securities, during the second half of 2022 and the first months of 2023, liquidity conditions of the affected banks weakened, unrealized losses accumulated on the securities holdings, and performance outlook deteriorated significantly. In an effort to avoid the materialization of risks on the balance sheet, therefore SVB planned a number of "last-minute" mitigating actions: selling available for sale (AFS) securities; increasing term borrowing; booking after-tax loss; raising capital on the markets (Trapanese, et al, 2024, p5), investors and depositors quickly recognized the imbalance. This triggered declining share prices and growing depositor concern, ultimately culminating in the bank run of March 2023 that led to its collapse.

Fig 6: SVB's Accumulating Unrealized Losses (USD billions)



Source: Feldberg et al, 2025, p315.

The literature indicates that SVB collapsed for two main reasons. The first is internal, related to ineffective management of interest rate risk and miscalculation of liquidity and profitability requirements. The **second** factor is external, represented in the Fed's policy of raising interest rates to counter inflation. Raising interest rates harmed SVB's long-term bond portfolio (securities or T-bills). As SVB liquidated T-bills to meet the high demand for liquidity, its market value decreased and caused losses. (Mustafa, 2023, p13).

4- Conclusion

This study provides an in-depth analysis of the causes and consequences of the collapse of SVB. Which was the result of both internal mismanagement and external regulatory and macroeconomic pressures.

Internally, the bank relied heavily on uninsured deposits from the volatile tech and venture capital sector, pursued an undiversified business model, and mismanaged its balance sheet by investing pandemic-driven inflows into long-term, interest rate–sensitive securities while removing hedges as rates rose. Weak governance further magnified these risks: SVB operated without a Chief Risk Officer for months, suffered from poor board oversight, and prioritized short-term profits over long-term stability.

Externally, the Federal Reserve's rapid interest rate hikes sharply reduced the value of SVB's securities, while the deregulation introduced under the 2018 Economic Growth, Deregulation, and Consumer Protection Act delayed stricter oversight. The Fed reclassified SVB as a large bank only in 2021, yet regulators postponed delivering critical findings and never subjected the bank to a stress test before its failure. These regulatory gaps, combined with broader monetary tightening, left SVB highly vulnerable. Ultimately, the convergence of weak internal risk management and external regulatory shortcomings, particularly the failure of Fed supervision, drove one of the fastest bank collapses in modern U.S. history

5. References:

1. Al-Sari, A. (2025). The collapse of Silicon Valley bank: a critical analysis of regulatory shortcomings and risk management under Basel III. Journal of Banking Regulation, 1-17. Doi: https://doi.org/10.1057/s41261-025-00281-2

2. Bales, S., & Burghof, H. P. (2024). Public attention, sentiment and the default of Silicon Valley Bank. The North American Journal of Economics and Finance, 69, 102026. Doi: https://doi.org/10.1016/j.najef.2023.102026

3. Barr, M. (2023). Review of the Federal Reserve's supervision and regulation of Silicon Valley Bank. https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=4955&context=ypfs-documents2

4. Cipriani, M., Eisenbach, T. M., & Kovner, A. (2024). Tracing bank runs in real time. FRB of New York Staff Report, (1104). Doi: https://dx.doi.org/10.2139/ssrn.4834983

5. Chen, H. (2024). An Study on the Causes and Consequences of the SVB Collapse. In SHS Web of Conferences (Vol. 188, p. 01018). EDP Sciences. Doi: https://doi.org/10.1051/shsconf/202418801018

6. Feldberg, G., Mott, C. K., & Cetina, J. (2025). How US Bank Regulation Failed SVB and Its Supervisors. Journal of Financial Crises, 7(2), 313-355.https://elischolar.library.yale.edu/journal-of-financial-crises/vol7/iss2/12

7. Gruenberg, M.J. (2023). Lessons Learned from the U.S. Regional Bank Failures of 2023, Lessons Learned from the U.S. Regional Bank Failures of 2023 | FDIC.gov.

8. Kabir, S., & Winters, D. (2023). An event study on the collapse of Silicon Valley Bank. Journal of Finance Issues, 21(2), 40-50. Doi: https://doi.org/10.58886/jfi.v21i2.6777

9. Leyún Prieto, O. (2025). Silicon Valley Bank's collapse: interest rate risk and liquidity risk mismanagement. http://hdl.handle.net/10810/73639

10. Manda, V. K. (2023). The Collapse of Silicon Valley Bank. MAR-Ekonomi: Jurnal Manajemen, Akuntansi Dan Rumpun Ilmu Ekonomi, 2(1), 59-70. Doi**:** https://doi.org/10.58471/mar-ekonomi.v2i1.232

11. Metrick, A. (2024). The failure of silicon valley bank and the panic of 2023. Journal of Economic Perspectives, 38(1), 133-152. Doi: 10.1257/jep.38.1.133

12. Mustafa, O. A. O. (1819). SVB Failure: Causes and Results on Banking Industry. History, 2(1).Doi: https://doi.org/10.32861/ijefr.92.9.19

13. Reidenbach, L. (2023). BRIEFING DOCUMENT The Collapse of Silicon Valley Bank: What Happened and What it Means for Banking Regulation, California Assembly Banking & Finance Committee.https://share.google/zHdxf9BkV1agoTMBp

14. Roy, S. (2025). From Success to Collapse: The SVB Crisis Through a Distant Lens. Available at SSRN 5083150.http://dx.doi.org/10.2139/ssrn.5083150

15. Trapanese, M., et al. (2024). The 2023 US Banking Crises: Causes, Policy Responses, and Lessons. Bank of Italy Occasional Paper, (870). http://dx.doi.org/10.2139/ssrn.5246545

16. Van Vo, L., & Le, H. T. T. (2023). From hero to zero: The case of Silicon Valley Bank. Journal of Economics and Business, 127, 106138. DOI: 10.1016/j.jeconbus.2023.106138