Hiding in Plain Sight: How Fundamental Risks Caused a Banking Crisis

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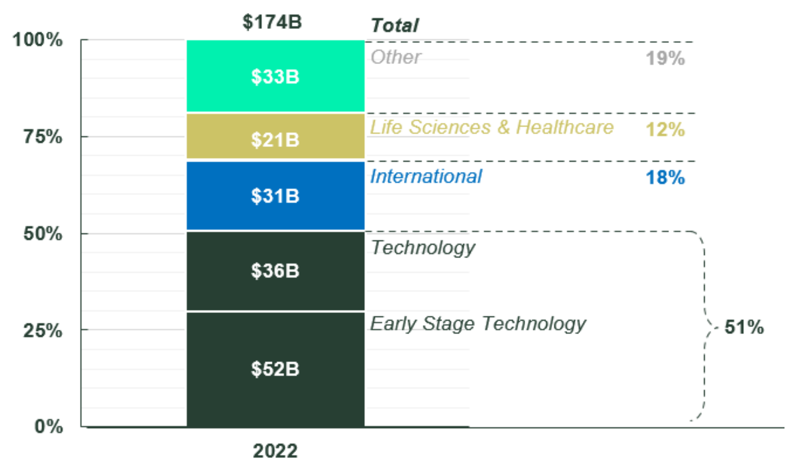
In contrast to the global financial crisis (GFC) of 2007-2009, which was primarily driven by large financial institutions that engaged in complex trading products that were not widely understood, the recent U.S. banking turmoil was triggered by institutions that are on the opposite end of the risk spectrum. In this recent crisis, the failed regional banks inappropriately managed some of the most elementary banking risks, which should have been well understood by management and regulators.

Problems plaguing the recent bank failures were business concentration, fundamental asset-liability mismatch, and a failure to understand the impact of digital finance on banks' balance sheets. While there are notable differences between the GFC and the recent bank failures, there are core similarities — namely complacency and the neglect of certain fundamental risk factors that contributed to both events.

Rethink Stability of Deposit Funding

Deposits are viewed as the safest and least expensive form of bank funding. There are various types of deposit funding. The collapse of Silicon Valley Bank (SVB) brought uninsured deposits (above the $250k FDIC insurance limit) into the spotlight.

Figure 1: SVB Depositor Concentration (FYE 2022)



Source: Silicon Valley Bank 10-K.

While not as sticky as retail deposits, uninsured deposits were not viewed as a high-risk factor in the past. Largely consisting of operating cash accounts of companies and corporations, uninsured deposits are deemed relatively stable given their operational nature. However, when a large amount of operational deposits are heavily concentrated from certain sectors or clients, these deposits can turn out to be not as stable as expected.

As observed in SVB's funding composition, 96% of its $174 billion of deposits was uninsured and almost two-thirds of its deposits (Figure 1) were concentrated in highly unstable early-stage technology and life science companies. As the operating environment for clients in these industries deteriorated, SVB experienced significant deposit outflows, resulting in pressure on its business model. Between the first quarter and the fourth quarter of 2022, SVB saw a 12% outflow in its deposit base, compared to only a 1.4% outflow in the U.S. banking system on an aggregate basis. Diversification of its client base would have been a key risk mitigant.

Technology Accelerating Deposit Flight

Social media and digitized finance, factors which were not as widespread during the GFC as they are today, also impacted depositor behavior and deposit stability. While mobile banking offers the benefit of convenience by transacting from the office, the home, or on mobile devices, it effected the withdrawal of funds at an accelerated pace. Rapid deposit outflows directly affect banks' funding, asset-liability matching, and ultimately can contribute to a bank failure.

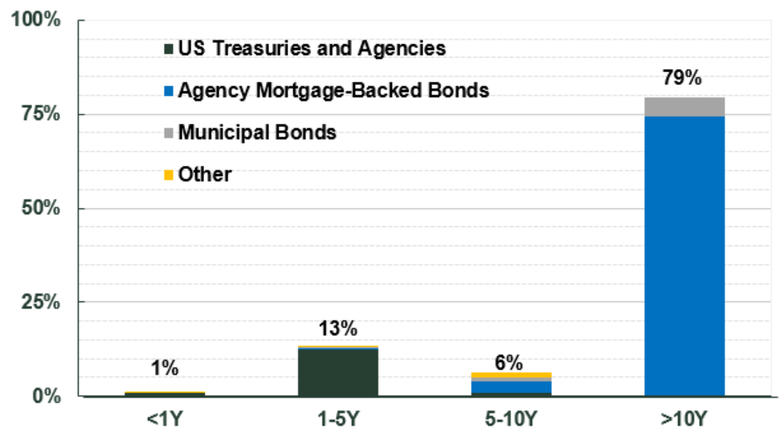
Further, the modern architecture of open banking introduced account aggregators and other technological developments in the banking sector. Bank customers can manage all of their accounts among various financial institutions through a single platform, which facilitates quicker financial decisions.

Moreover, in the world of social media and digital marketing, information sharing and targeted advertisements are now much faster, easier, and scalable as result of automated algorithms. The combination of these digital advancements enable expedited financial transactions, including balance transfers and account openings.

Myths of Risk-Free Assets

Complex financial instruments backed by risky underlying assets contributed to banking sector stress during the GFC. AAA-rated and highly liquid US government and agency securities caused investor unease during the recent banking turmoil.

Figure 2: SVB Securities Portfolio by Maturity (FYE 2022)



Source: Silicon Valley Bank 10-K.

Seeking a market return on customer deposits, banks such as SVB invested in long-dated bonds issued by the U.S. government or agencies, which are deemed "risk free" if held to maturity. While US government securities carry very limited credit risk, interest rate risk is embedded in securities with longer duration. The long-dated securities in SVB's investment portfolio (average duration of 6.2 years), mismatched by short-term deposits, became problematic. Interest rate hedging as a tool to mitigate interest rate risk was not prevalent.

The complexity of accounting and regulatory rules often mask the risks hiding in fixed income securities. Of SVB's $117 billion securities portfolio, held-to-maturity (HTM) securities represented 78% and available-for-sale (AFS) represented 22% of the total.

As interest rates rose sharply in 2022, the fair value of SVB's investment portfolio decreased, resulting in sizeable unrealized losses. However, none of these unrealized losses were reflected in SVB's income statement or regulatory capital ratios due to accounting rules and regulatory treatment. Consequently, substantial losses were hidden in SVB's so-called highly liquid investment portfolio until the bank ran into funding and liquidity issues.

Role of Banking Regulation

Can future bank failures be avoided through strengthening of the Dodd-Frank Act? In 2011, the Federal Reserve Board started conducting a quantitative assessment of banks' capital positions as a critical supervisory tool. The Dodd-Frank stress test measures an institution's ability to absorb losses during stressful conditions.

Recent bank failures have sparked accusations of the effectiveness of the Federal Reserve's annual stress test, which became mandatory following the GFC. The test currently applies to banks with total consolidated assets of greater than $250 billion. However, none of the tests examined higher interest rates. Furthermore, the Basel regulatory framework only requires banks to protect themselves for a scenario of deposit loss at a rate of 10% per day, or less, given the historical pattern of bank runs. If the Federal Reserve had conducted exploratory interest rate shocks, it may have better understood interest rate risk on banks' balance sheets.

Other lessons surrounding the recent bank failures include weak corporate governance and poor execution of contingency plans. Banks overlooked internal risk appetite limits. Signature Bank of New York (SBNY) breached a key risk indicator associated with digital asset deposit growth. Instead of managing the risk, SBNY increased the limit from 10% to 35% of total assets.[1] Additionally, beginning in 2019, bank examiners issued multiple supervisory recommendations to SBNY associated with poor liquidity planning, which were never adequately addressed.

As an enhancement, supervisory regulation may consider reversing the stress test. Instead of applying the same stress scenario across banks, a different approach would be to ask the institution what it would take to breach the individual institution's capital position. This process would force management to think more about qualitative issues alongside quantitative ones when judging risk.

Limited Contagion to Europe

The U.S. banking turmoil had limited spillover into Europe. There are several reasons why the contagion was muted, including differences in monetary policy, market structure, and regulatory standards.

The pace of interest rate increases and quantitative tightening was faster in the US than in Europe. For example, the U.S. Federal Reserve raised interest rates seven times in 2022, lifting its benchmark rate to a range of 4.25-4.5%. Meanwhile, the European Central Bank increased its main policy rate just four times last year, to 2.5%. The pace of quantitative tightening, which drains liquidity from the banking system, was also notably faster in the U.S., at $95 billion per month versus €15 billion ($16 billion) per month in the eurozone.

Another geographical difference is the lower prevalence of money market funds (MMFs) in Europe compared to the U.S. In Europe, the MMF industry is not as developed and is less than one-half the size of America's MMF industry, based on assets under management.

This differential helps to explain the relatively muted deposit outflows from the banking sector into European MMFs amid rising interest rates. It contrasts sharply with the U.S., where MMF inflows reached record levels in the first quarter of 2023. Taken together, this helps to explain why U.S.

[1] Federal Deposit Insurance Corporation (FDIC) supervision of Signature Bank, April 2023.

banks experienced four successive quarters of deposit outflows prior to SVB's collapse in March 2023, while European bank deposit trends[2] remained broadly positive.

All European banks, irrespective of size, must report a liquidity coverage ratio of 100% or greater while only the largest banks in the U.S. must disclose this liquidity measure. At the same time, all European banks must reflect unrealized gains and losses on AFS securities in their Common Equity Tier 1 (CET1) capital, whereas this rule applies only to the largest U.S. banks.

Figure 3: Differences Between Europe and the U.S.

Description		Europe	United States
Monetary Policy*	Number of Interest Rate Rises in 2022	4	7
	Pace of Monthly Quantitative Tightening	$16B	$95B
Market Structure	Money Market Fund Inflows in March 2023	$20B	$399B
	Bank Deposits, Avg. QoQ %Δ (1Q22-1Q23)	+0.3%	-0.9%
Regulatory Standards	Liquidity Coverage Ratio	All Banks	Largest Banks
	AFS Losses to CET1 Capital		

Source: European Fund and Asset Management Association, Federal Reserve Bank of St Louis. * Europe = European Central Bank.

Conclusion

Nearly 15 years have passed since the GFC. While many banking risks remain the same, new risks continue to emerge. Few expected the most fundamental aspects of banking to cause the second largest banking failure in U.S. history.

As digital finance fostered innovation in the financial sector, the shock of this banking crisis should be seen as an opportunity to continue innovating and advancing. It should act as a warning on the dangers of inertia and merely ticking a box.

[2] European bank deposits reflect a combination of the United Kingdom, Italy, Germany, France, and Spain.

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