



### Silicon Valley Bank failure

Silicon Valley Bank (SIVB) has been shut down by regulators who cited both inadequate liquidity and insolvency. According to the FDIC, insured SIVB depositors will have access to their funds no later than Monday morning. SIVB’s \$209 bn in assets are roughly 2/3 of Washington Mutual (not adjusted for inflation), which failed in 2008. The mid-day closure of the bank was unusual, and is something we are still evaluating.

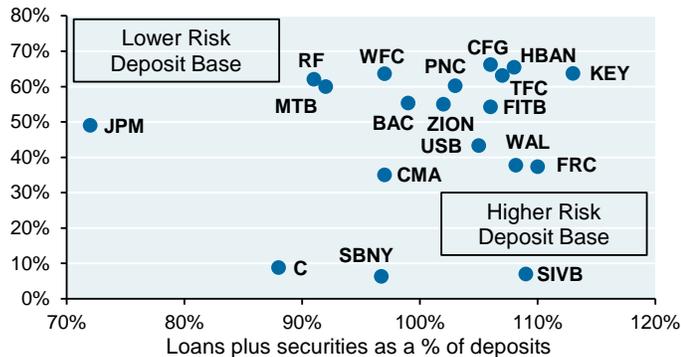
#### The liability issue: **extreme reliance on institutional/VC funding** rather than traditional retail deposits

While capital, wholesale funding and loan to deposit ratios improved for many US banks since 2008, there are exceptions. **As shown in the first chart, SIVB was in a league of its own:** a high level of loans plus securities as a percentage of deposits, and **very low reliance on stickier retail deposits as a share of total deposits.** Bottom line: **SIVB carved out a distinct and riskier niche than other banks,** setting itself up for large potential capital shortfalls in case of rising interest rates, deposit outflows and forced asset sales. [Note: This chart appeared in our 2023 Outlook in a discussion on risks related to deposits, rising rates and quantitative tightening].

A further look at SIVB funding (pie charts) shows **unusually high reliance on corporate/VC funding;** only the small red private bank slice looks like traditional retail deposits to us. Out of **SIVB’s \$173 billion of customer deposits** at the end of 2022, \$152 billion were reportedly uninsured (i.e., over the \$250,000 FDIC insurance threshold) and **only \$4.8 billion were fully insured.** It’s fair to ask about the underwriting discipline of VC firms that put most of their liquidity in a single bank with this kind of risk profile<sup>1</sup>. At the end of 2022, SIVB only offered 0.60% more on deposits than its peers as compensation for the risks illustrated below; in 2021 this premium was 0.04%.

#### US bank loan-to-deposit ratios

Estimated retail deposit share of total deposits



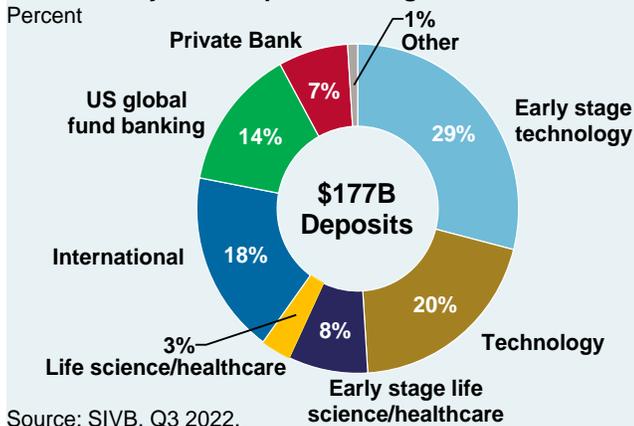
Source: JPMAM. Securities include Hold to Maturity and Available for Sale categories. Q3 2022.

#### Some history on losses imposed on uninsured depositors when banks fail:

- 1980-1987: losses imposed at 24% of resolutions
- 1988-1991: losses imposed at 14% of resolutions
- 1992-2007: losses imposed at 65% of resolutions
- 2008: despite deposit insurance limit increase from \$100,000 to \$250,000 and a temporary guarantee program for uninsured noninterest-bearing transaction accounts, losses still imposed at 28% of resolutions
- 2009-2013: losses imposed at 6% of resolutions

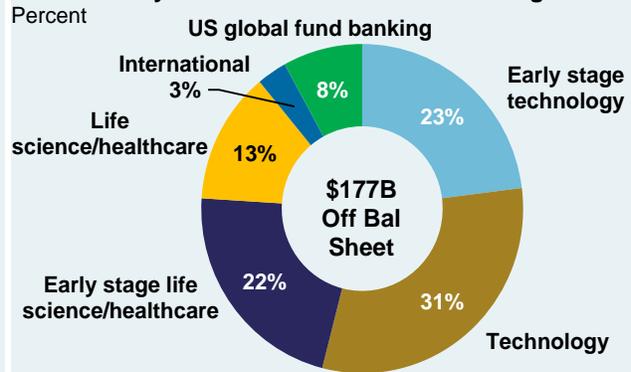
Source: FDIC Resolution Tasks and Approaches: Comparison of the 1980 to 1994 and 2008 to 2013 Crises

#### Silicon Valley Bank deposit funding



Source: SIVB. Q3 2022.

#### Silicon Valley Bank Off Balance Sheet funding



Source: SIVB. Q3 2022.

<sup>1</sup> In an article on TechCrunch this week, Mark Suster from LA-based Upfront Ventures referred to the existence of **deposit exclusivity arrangements** required by SIVB for some of its customers that borrowed from it

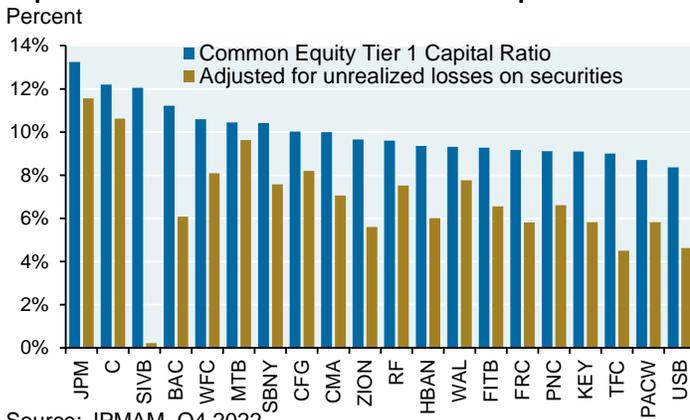


**The asset issue: buying bonds at generation lows in yields, forced asset sales and securities losses**

Between Q4 2019 and the first quarter of 2022, deposits at US banks rose by \$5.4 trillion and due to weak loan demand, only ~15% was lent out; the rest was invested in securities portfolios or kept as cash<sup>2</sup>. Banks can designate these securities as being “available-for-sale” (AFS) or in “hold-to-maturity” (HTM) portfolios instead. SIVB was one of the banks that relied extensively on HTM treatment for its growing securities portfolio: since 2019, its AFS book grew from \$14 to \$27 bn while its HTM book grew from \$14 to \$99 bn. Selling HTM securities is complicated, since it results in larger parts of the portfolio being suddenly marked to market, which can in turn then result in the need for a capital raise.

So, the big question for investors and depositors is this: **how much duration risk did each bank take in its investment portfolio during the deposit surge, and how much was invested at the lows in Treasury and Agency yields?** As a proxy for these questions now that rates have risen, we can examine the impact on capital ratios from an assumed immediate realization of unrealized securities losses (see next page for a full explanation of our methodology). That’s what is shown in the first chart: again, **SIVB was in investment duration world of its own as of the end of 2022**, which is remarkable given its funding profile shown earlier.

**Impact of unrealized securities losses on capital ratios**



Source: JPMAM. Q4 2022.

**FDIC Q4 unrealized bank losses on investment securities**  
US\$, billions



Source: FDIC. Q4 2022.

Here’s a look at aggregate Tier 1 capital ratios and loan to deposit ratios for US banks. To reiterate what we wrote in the Eye on the Market Outlook this year, Tier 1 capital ratios are exaggerated on the high side due to the high level of unrealized losses in hold-to-maturity portfolios. As a reminder however, our adjusted Tier 1 capital methodology is also exaggerated by assuming the entire liquidation of HTM and AFS portfolios.

**US bank tier 1 capital ratios**

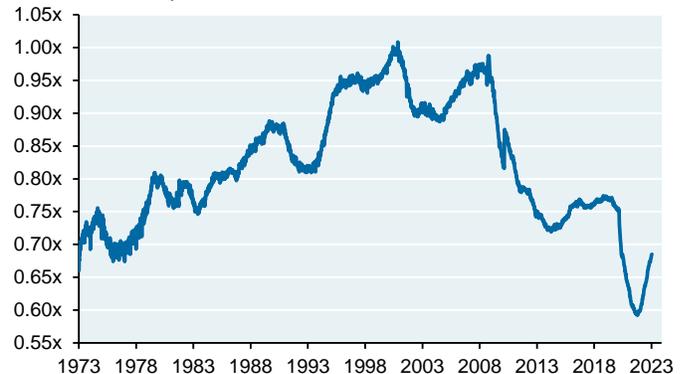
Tier 1 capital as a % of risk-weighted assets



Source: FDIC, Bloomberg, JPMAM. Q4 2022.

**US loan-to-deposit ratio, all commercial banks**

Ratio, loans / deposits



Source: St. Louis Fed, Bloomberg, JPMAM. February 22, 2023.

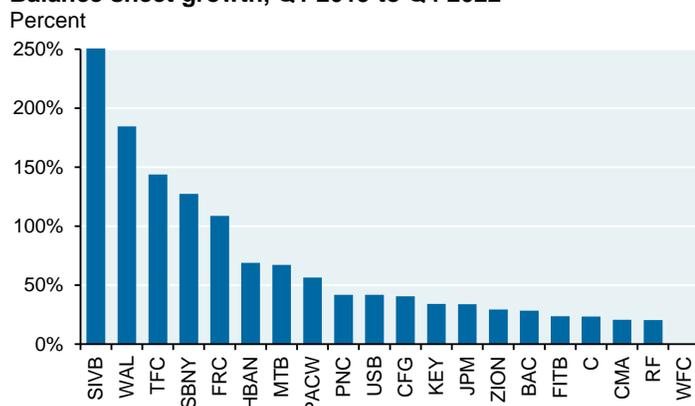
<sup>2</sup> Marc Rubinstein, “The Demise of Silicon Valley Bank”, March 10, 2023



Other comments:

- Circle stablecoin reportedly has \$3.3 billion of its \$40 billion in reserves tied up in SIVB deposits. This is part of a broader issue we’ve written on before: lack of fully audited disclosures on stablecoin reserves
- When interest rates increase, holding long duration mortgages can be riskier than Treasuries due to their convexity exposure (i.e., slowing prepayments extends duration)
- The irony of SIVB is that most banks have historically failed due to credit risk issues. This is the first major one I recall where the primary issue was a duration mismatch between high quality assets and deposit liabilities. As shown below, being flooded with deposits from fast-money VC firms and other corporate accounts at a time of historically low interest rates might have been more of a curse than a blessing

**Balance sheet growth, Q1 2019 to Q4 2022**



Source: JPMAM. Q4 2022.

Michael Cembalest, JP Morgan Asset Management

**Methodology for capital adjustment chart**

The goal of the chart is to illustrate the theoretical capital impact of an immediate liquidation of a bank’s entire investment securities portfolio, both HTM and AFS.

For systemically important banks, no adjustment for AFS is needed because all AFS unrealized gains and losses are already reflected in their reported capital ratios. As a result, only gains and losses in the HTM portfolio need to be included in our adjustment. For these four banks, we tax-adjust the difference between amortized cost and fair value of the held to maturity securities portfolio, assuming a tax rate of 24%, and then subtract this amount from Common Equity Tier 1 Capital.

The regional banks shown have elected to add back certain capital losses to their regulatory capital (an option not available to the larger banks). For purposes of this analysis, to make regional bank capital ratios comparable to the four larger banks, we have reversed add-backs associated with unrealized losses in the AFS portfolio since the four larger banks have already reflected them.

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