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 profile1. 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

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

---

1 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 generational lows in yields, forced asset sales and securities losses

Between Q4 2019 and Q1 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 or kept as cash. Banks designate these securities as being "available-for-sale" (AFS) or in "hold-to-maturity" (HTM) portfolios instead. SIVB 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.

The question for investors/depositors: 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 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 an explanation of our methodology). That's what is shown in the first chart: again, SIVB was in investment duration world of its own at the end of 2022, which is remarkable given its funding profile shown earlier, and its elevated share of uninsured depositors shown on the next page.

Impact of unrealized securities losses on capital ratios

Percent

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Common Equity Tier 1 Capital Ratio</th>
<th>Adjusted for unrealized losses on securities</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>6%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>9%</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>12%</td>
<td>13%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: JPMAM, Q4 2022. See page 3 for methodology

FDIC Q4 unrealized bank losses on investment securities

US$, billions

-750
-675
-600
-525
-450
-375
-300
-225
-150
-75
0
75
150

Held-to-Maturity Securities
Available-for-Sale Securities

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

0.55x
0.60x
0.65x
0.70x
0.75x
0.80x
0.85x
0.90x
0.95x
1.00x
1.05x


---

2 Marc Rubinstein, “The Demise of Silicon Valley Bank”, March 10, 2023
Other comments:

- 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.
- I wonder whether Fed models on systemic risk incorporate the possibility that some banks would be duped into thinking that QE-induced rates prevailing in 2020 represented fair value, and would load up on them.
- In the first chart on p.1, loans plus securities are more than 100% of deposits for SVB. After adding cash and subtracting assets pledged to the Fed or FHLB, it seems like the risk of loss for unsecured deposits will depend heavily on the value of the loan book, which is composed primarily of VC/PE capital lines of credit, private mortgages and C&I loans to tech companies.
- According to Fortune, SIVB’s Chief Risk Officer left in April 2022 and was not replaced for 8 months.
- 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.

---

**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 since AFS unrealized gains and losses are already reflected in reported capital ratios. As a result, only gains and losses in HTM portfolios are included in our adjustment. For these four banks, we tax-adjust the difference between amortized cost and fair value of the HTM securities assuming a tax rate of 24%, and subtract this amount from Common Equity Tier 1 Capital.

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

Direct hedging of interest rate risk in HTM portfolios is generally prohibited by rule ASC 320 since HTM treatment implies that a bank will not ever sell the bonds, in which case there is no reason to hedge variations in price as a function of changing rates. Direct hedging of interest rate risk is allowed in AFS portfolios. However, accounting treatment of these hedges requires quarterly recognition of gains and losses in the income statement and capital accounts. Therefore, under our working assumption in the chart that banks had to liquidate AFS portfolios, there would be no offsetting hedge gain to recognize at that time.

BAC Bank of America; C Citi; CFG Citizens Bank; CMA Comerica; COF Capital One; FHN First Horizon; FCNCA First Citizens; FITB Fifth Third; FRC First Republic; HBAN Huntington; JPM JP Morgan; KEY Keycorp; MTB M&T; PACW PacWest; PNC PNC Bank; RF Regions; SBNY Signature; SIVB Silicon Valley Bank; TFC Truist; USB US Bancorp; WAL Western Alliance; WFC Wells Fargo; ZION Zions.
Some comments on Schwab
Schwab is not comparable to the regional banks shown. As has been widely reported, Schwab has a large portfolio of underwater AFS and HTM securities which if marked to market (or sold), would render its Common Tier 1 equity ratio negative. However, Schwab’s loan to deposit ratio is a minimal 10%; Schwab’s uninsured deposits are only 20% which would be the lowest ratio of uninsured deposits on the chart on the prior page; and Schwab has $7.5 trillion in client assets that generate substantial profits for the firm. Of the 21 US banks and 11 European banks that we monitor, Schwab’s 1.39% ROA as of December 2022 would be the third highest.

Appendix charts

SIVB asset growth tracks the IPO cycle
US$, billions
Number of IPOs
Quarterly change in assets
IPOs
Source: Bloomberg, JPMAM. December 2022.

SIVB asset growth coincided with low yields
US$, billions
Quarterly change in assets
30-year mortgage rate
US 10-year

Drawdown of US commercial bank deposits
Percent, drawdown from peak levels
Source: Bloomberg, JPMAM. March 1, 2023.

Money market net yield vs bank deposit rates
Percent

Deposits by type for large select banks
Percent
IMPORTANT INFORMATION
This report uses rigorous security protocols for selected data sourced from Chase credit and debit card transactions to ensure all information is kept confidential and secure. All selected data is highly aggregated and all unique identifiable information, including names, account numbers, addresses, dates of birth, and Social Security Numbers, is removed from the data before the report’s author receives it. The data in this report is not representative of Chase’s overall credit and debit cardholder population.

The views, opinions and estimates expressed herein constitute Michael Cembalet’s judgment based on current market conditions and are subject to change without notice. Information herein may differ from those expressed by other areas of J.P. Morgan. This information in no way constitutes J.P. Morgan Research and should not be treated as such.

The views contained herein are not to be taken as advice or a recommendation to buy or sell any investment in any jurisdiction, nor is it a commitment from J.P. Morgan or any of its subsidiaries to participate in any of the transactions mentioned herein. Any forecasts, figures, opinions or investment techniques and strategies set out are for information purposes only, based on certain assumptions and current market conditions and are subject to change without prior notice. All information presented herein is considered to be accurate at the time of production. This material does not contain sufficient information to support an investment decision and it should not be relied upon by you in evaluating the merits of investing in any securities or products. In addition, users should make an independent assessment of the legal, regulatory, tax, credit and accounting implications and determine, together with their own professional advisers, if any investment mentioned herein is believed to be suitable to their personal goals. Investors should ensure that they obtain all available relevant information before making any investment. It should be noted that investment involves risks, the value of investments and the income from them may fluctuate in accordance with market conditions and taxation agreements and investors may not get back the full amount invested. Both past performance and yields are not reliable indicators of current and future results.

Non-affiliated entities mentioned are for informational purposes only and should not be construed as an endorsement or sponsorship of J.P. Morgan Chase & Co. or its affiliates.

For J.P. Morgan Asset Management Clients:
J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide. To the extent permitted by applicable law, we may record telephone calls and monitor electronic communications to comply with our legal and regulatory obligations and internal policies. Personal data will be collected, stored and processed by J.P. Morgan Asset Management in accordance with our privacy policies at https://am.jpmorgan.com/global/privacy.

ACCESSIBILITY
For U.S. only: If you are a person with a disability and need additional support in viewing the material, please call us at 1-800-343-1113 for assistance. This communication is issued by the following entities: In the United States, by J.P. Morgan Investment Management Inc. or J.P. Morgan Alternative Asset Management, Inc., both regulated by the Securities and Exchange Commission; in Latin America, for intended recipients’ use only, by local J.P. Morgan entities, as the case may be; in Canada, for institutional clients’ use only, by JPMorgan Asset Management (Canada) Inc., which is a registered Portfolio Manager and Exempt Market Dealer in all Canadian provinces and territories except the Yukon and is also registered as an Investment Fund Manager in British Columbia, Ontario, Quebec and Newfoundland and Labrador. In the United Kingdom, by JPMorgan Asset Management (UK) Limited, which is authorized and regulated by the Financial Conduct Authority; in other European jurisdictions, by JPMorgan Asset Management (Europe) S.à r.l. in Asia Pacific (“APAC”), by the following issuing entities and in the respective jurisdictions in which they are primarily regulated: JPMorgan Asset Management (Asia Pacific) Limited, or JPMorgan Funds (Asia) Limited, or JPMorgan Asset Management Real Assets (Asia) Limited, each of which is regulated by the Securities and Futures Commission of Hong Kong; JPMorgan Asset Management (Singapore) Limited (Co. Reg. No. 197601586K), which this advertisement or publication has not been reviewed by the Monetary Authority of Singapore; JPMorgan Asset Management (Taiwan) Limited; JPMorgan Asset Management (Japan) Limited, which is a member of the Investment Trusts Association, Japan, the Japan Investment Advisers Association, Type II Financial Instruments Firms Association and the Japan Securities Dealers Association and is regulated by the Financial Services Agency (registration number “Kanto Local Finance Bureau (Financial Instruments Firm) No. 330”); in Australia, to wholesale clients only as defined in section 761A and 761G of the Corporations Act 2001 (Commonwealth), by JPMorgan Asset Management (Australia) Limited (ABN 55143832080) (AFSL 376919). For all other markets in APAC, to intended recipients only.

For J.P. Morgan Private Bank Clients:
J.P. Morgan is committed to making our products and services accessible to meet the financial services needs of all our clients. Please direct any accessibility issues to the Private Bank Client Service Center at 1-866-265-1727.

LEGAL ENTITY, BRAND & REGULATORY INFORMATION
In the United States, bank deposit accounts and related services, such as checking, savings and bank lending, are offered by JPMorgan Chase Bank, N.A. Member FDIC.
JPMorgan Chase Bank, N.A. and its affiliates (collectively “JPMCB”) offer investment products, which may include bank managed investment accounts and custody, as part of its trust and fiduciary services. Other investment products and services, such as brokerage and advisory accounts, are offered through JPMorgan Securities LLC (“JPMSE”), a member of FINRA and SIPC. Insurance products are made available through Chase Insurance Agency, Inc. (CIA), a licensed insurance agency, doing business as Chase Insurance Agency Services, Inc. in Florida. JPMCB, JPMSE and CIA are affiliated companies under the common control of JPM. Products not available in all states.

In Germany, this material is issued by J.P. Morgan SE, with its registered office at Taunustor 1 (TaunusTurm), 60310 Frankfurt am Main, Germany, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB). In Luxembourg, this material is issued by J.P. Morgan SE – Luxembourg Branch, with registered office at European Bank and Business Centre, 6 route de Treves, L-2635, Senningerberg, Luxembourg, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE – Luxembourg Branch is also supervised by the Commission de Surveillance du Secteur Financier (CSSF); registered under R.C.S Luxembourg B265938. In the United Kingdom, this material is issued by J.P. Morgan SE – London Branch, registered office at 25 Bank Street, Canary Wharf, London E14 5JP, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE – London Branch is also supervised by the Financial Conduct Authority and Prudential Regulation Authority. In Spain, this material is distributed by J.P. Morgan SE, Sucursal
en España, with registered office at Paseo de la Castellana, 31, 28046 Madrid, Spain, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE, Sucursal en España is also supervised by the Spanish Securities Market Commission (CNMV); registered with Bank of Spain as a branch of J.P. Morgan SE under code 1567. In Italy, this material is distributed by J.P. Morgan SE – Milan Branch, with its registered office at Via Cordusio, n.3, Milan 20123, Italy, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE – Milan Branch is also supervised by Bank of Italy and the Commissione Nazionale per le Società e la Borsa (CONSOB); registered with Bank of Italy as a branch of J.P. Morgan SE under code 8076; Milan Chamber of Commerce Registered Number: REA MI 2536325. In the Netherlands, this material is distributed by J.P. Morgan SE – Amsterdam Branch, with registered office at World Trade Centre, Tower B, Strawinskylaan 1135, 1077 XX, Amsterdam, The Netherlands, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE – Amsterdam Branch is also supervised by De Nederlandsche Bank (DNB) and the Autoriteit Financiële Markten en diensten (AFM) in the Netherlands. Registered with the Kamer van Koophandel as a branch of J.P. Morgan SE under registration number 72610220. In Denmark, this material is distributed by J.P. Morgan SE – Copenhagen Branch, filial of J.P. Morgan SE, Tyskland, with registered office at Kalvebod Brygge 39-41, 1560 København V, Denmark, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE – Copenhagen Branch, filial of J.P. Morgan SE, Tyskland is also supervised by Finanstilsynet (Danish FSA) and is registered with Finanstilsynet as a branch of J.P. Morgan SE under code 29010. In Sweden, this material is distributed by J.P. Morgan SE – Stockholm Bankfilial, with registered office at Hamngatan 15, Stockholm, 11147, Sweden, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE – Stockholm Bankfilial is also supervised by Finansinspektionen (Swedish FSA); registered with Finansinspektionen as a branch of J.P. Morgan SE. In France, this material is distributed by JPMorgan Chase Bank, N.A.–Paris Branch, registered office at 14, Place Vendome, Paris 75001, France, registered at the Registry of the Commercial Court of Paris under number 712 041 334 and licensed by the Autorité de contrôle prudentiel et de résolution (ACPR) and supervised by the ACPR and the Autorité des Marchés Financiers. In Switzerland, this material is distributed by J.P. Morgan (Suisse) SA, with registered address at rue du Rhône, 39, 1204, Geneva, Switzerland, which is authorised and supervised by the Swiss Financial Market Supervisory Authority (FINMA) as a bank and a securities dealer in Switzerland.

This communication is an advertisement for the purposes of the Markets in Financial Instruments Directive (MiFID II) and the Swiss Financial Services Act (FinSA). Investors should not subscribe for or purchase any financial instruments referred to in this advertisement except on the basis of information contained in any applicable legal documentation, which is or shall be made available in the relevant jurisdictions (as required). In Hong Kong, this material is distributed by JPMCB, Hong Kong branch. JPMCB, Hong Kong branch is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission of Hong Kong. In Hong Kong, we will cease to use your personal data for our marketing purposes without charge if you so request. In Singapore, this material is distributed by JPMCB, Singapore branch. JPMCB, Singapore branch is regulated by the Monetary Authority of Singapore. Dealing and advisory services and discretionary investment management services are provided to you by JPMCB, Hong Kong/Singapore branch (as notified to you). Banking and custody services are provided to you by JPMCB Singapore Branch. The contents of this document have not been reviewed by any regulatory authority in Hong Kong, Singapore or any other jurisdiction. You are advised to exercise caution in relation to this document. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice. For materials which constitute product advertisement under the Securities and Futures Act and the Financial Advisers Act, this advertisement has not been reviewed by the Monetary Authority of Singapore. JPMorgan Chase Bank, N.A., a national banking association chartered under the laws of the United States, and as a body corporate, its shareholder’s liability is limited. With respect to countries in Latin America, the distribution of this material may be restricted in certain jurisdictions. We may offer and/or sell to you securities or other financial instruments which may not be registered under, and are not the subject of a public offering under, the securities or other financial regulatory laws of your home country. Such securities or instruments are offered and/or sold to you on a private basis only. Any communication by us to you regarding such securities or instruments, including without limitation the delivery of a prospectus, term sheet or other offering document, is not intended by us as an offer to sell or a solicitation of an offer to buy any securities or instruments in any jurisdiction in which such an offer or a solicitation is unlawful. Furthermore, such securities or instruments may be subject to certain regulatory and/or contractual restrictions on subsequent transfer by you, and you are solely responsible for ascertaining and complying with such restrictions. To the extent this content makes reference to a fund, the Fund may not be publicly offered in any Latin American country, without previous registration of such fund’s securities in compliance with the laws of the corresponding jurisdiction. Public offering of any security, including the shares of the Fund, without previous registration at Brazilian Securities and Exchange Commission is completely prohibited. Some products or services contained in the materials might not be currently provided by the Brazilian and Mexican platforms.

References to “J.P. Morgan” are to JPM, its subsidiaries and affiliates worldwide. “J.P. Morgan Private Bank” is the brand name for the private banking business conducted by JPM. This material is intended for your personal use and should not be circulated to or used by any other person, or duplicated for non-personal use, without our permission. If you have any questions or no longer wish to receive these communications, please contact your J.P. Morgan team.

© 2023 JPMorgan Chase & Co. All rights reserved. JPMorgan Chase Bank, N.A. (JPMCBNA) (ABN 43 074 112 011/AFS Licence No: 238367) is regulated by the Australian Securities and Investment Commission and the Australian Prudential Regulation Authority. Material provided by JPMCBNA in Australia is to “wholesale clients” only. For the purposes of this paragraph the term “wholesale client” has the meaning given in section 761G of the Corporations Act 2001 (Cth). Please inform us if you are not a Wholesale Client now or if you cease to be a Wholesale Client at any time in the future.

JPMS is a registered foreign company (overseas) [ARBN 109293610] incorporated in Delaware, U.S.A. Under Australian financial services licensing requirements, carrying on a financial services business in Australia requires a financial service provider, such as J.P. Morgan Securities LLC (JPMS), to hold an Australian Financial Services Licence (AFSL), unless an exemption applies. JPMS is exempt from the requirement to hold an AFSL under the Corporations Act 2001 (Cth) (Act) in respect of financial services it provides to you, and is regulated by the SEC, FINRA and CFTC under US laws, which differ from Australian laws. Material provided by JPMS in Australia is to “wholesale clients” only. The information provided in this material is not intended to be, and must not be, distributed or passed on, directly or indirectly, to any other class of persons in Australia. For the purposes of this paragraph the term “wholesale client” has the meaning given in section 761G of the Act. Please inform us immediately if you are not a Wholesale Client now or if you cease to be a Wholesale Client at any time in the future.

This material has not been prepared specifically for Australian investors. It:

- may contain financial information which is not prepared in accordance with Australian law or practices;
- may not address risks associated with investment in foreign currency denominated investments; and
- does not address Australian tax issues.