ARCTOS INSIGHTS

Recent Events Regarding Silicon Valley Bank

As of March 10, 2023
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RECENT EVENTS REGARDING SILICON VALLEY BANK

As has been widely reported, Silicon Valley Bank ("SVB") was closed today by the banking regulators and placed into receivership with the FDIC.

Over the past 48 hours, we have been following these ongoing developments at Arctos. Earlier, we provided an update on steps Arctos is taking to reduce deposit exposure to SVB. In conjunction with this, we have prepared the below primer for our team internally. We are sharing it with you as a background piece to offer context on SVB, its operations, recent events, and why this matters for the broader private equity and venture capital ecosystems.

This update includes six parts:

- **What is Silicon Valley Bank:** Overview of the former SVB business;
- **Recent Events at SVB:** Why SVB's business model - and correlation with tech - contributed to its receivership;
- **What SVB Tried to Do About This:** Steps SVB took to rectify the situation;
- **The Banking Spiral:** Liquidity and Credit Squeezes: How the SVB situation fits into historical bank runs;
- **Why SVB Matters to the PE / VC Industry:** The role SVB played in fund finance; and
- **Arctos Perspectives:** What we believe this means for limited partners.

We are happy to help you consider immediate next steps, review strategic alternatives, and formulate a long-term plan around the recent events at SVB that are specific to your individual situation.

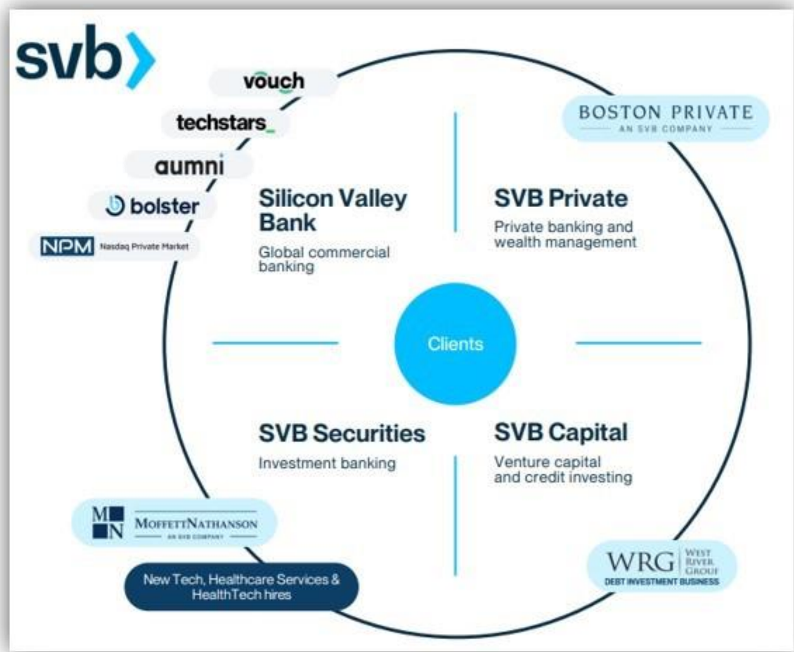
What is Silicon Valley Bank?

Silicon Valley Bank was a medium-sized (top-20) US regional bank:

Rank	Bank name	Headquarters location	Total assets (billions of US$)[2]	Market capitalization (billions of US$)[3]
1	JPMorgan Chase	New York City, New York	$3,773	$488.47
2	Bank of America	Charlotte, North Carolina	$3,072	$325.33
3	Citigroup	New York City, New York	$2,381	$123.94
4	Wells Fargo	San Francisco, California	$1,877	$197.00
5	Goldman Sachs	New York City, New York	$1,555	$100.70
6	Morgan Stanley	New York City, New York	$1,160	$182
7	U.S. Bancorp	Minneapolis, Minnesota	$600	$85.07
8	Charles Schwab Corporation	Westlake, Texas	$577	$105.62
9	PNC Financial Services	Pittsburgh, Pennsylvania	$559	$85.08
10	Truist Financial	Charlotte, North Carolina	$548	$84.69
11	TD Bank, N.A.	Cherry Hill, New Jersey	$513	N/A
12	Capital One	McLean, Virginia	$444	$45.71
13	The Bank of New York Mellon	New York City, New York	$427	$36.66
14	State Street Corporation	Boston, Massachusetts	$303	$25.65
15	HSBC Bank USA	New York City, New York	$231	N/A
16	Citizens Financial Group	Providence, Rhode Island	$225	$15.83
17	American Express	New York City, New York	$214	$93.52
18	SVB Financial Group	Santa Clara, California	$212	$26.65

SVB played an outsized role in the PE / VC industry due to a handful of fund-specific products it offered (more on that below). In recent years, SVB grew rapidly by raising deposits from, lending on the homes of, financing the businesses founded by, and backing the VC / PE funds raised by the tech sector. It also provided private banking services to that same ecosystem, as clients founded, financed, and sold their businesses, equity, and investment funds.

Until recent events, the bank served "clients primarily in the technology and life science / healthcare industries as well as global private equity and venture capital industries. The Bank provide[d] solutions to the financial needs of [its] commercial clients through credit, treasury management, foreign exchange, trade finance and other financial products and services." The bank operated four principal businesses:



Recent Events at Silicon Valley Bank

We believe there were two primary contributors to SVB's entering into receivership:

1. Deposit (liability) pressure from high correlation to a declining VC / tech sector and a rising rates environment; and
2. Balance sheet (asset) pressure from a decline in the market price of yielding assets driven by a contractionary policy environment.

1. Deposit (Liability) Pressure

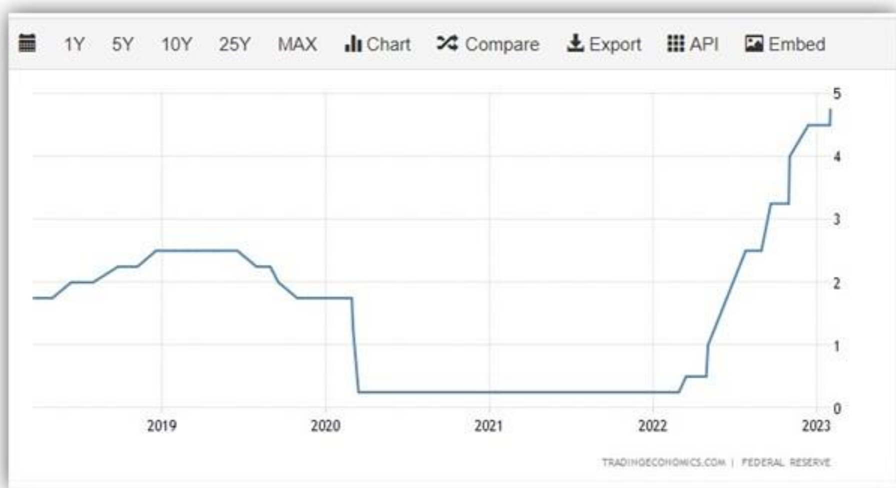
SVB built its client base on the Life Sciences / Healthcare and Technology sectors, where we believe an outsized share of its deposits were generated. It lent to these businesses; helped finance the growth aspirations of their employees and backers; managed their payrolls; handled their fx; and even financed their employee mortgages. In short, SVB faced deep, correlated exposure to the tech and startup ecosystems:

According to SVB's publicly-available financial statements, since December of 2021, SVB saw ~30% outflows of non-interest bearing deposits (~$36Bn), replaced by only ~$28Bn of more expensive, interest paying deposits. See below:

	Average balances for the				
	Three months ended			Year ended	
(Dollars in millions)	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Interest-bearing deposits	$ 87,784	$ 79,444	$ 60,273	$ 76,013	$ 48,486
Noninterest bearing demand deposits	86,969	106,112	122,789	109,676	99,461
Total average on-balance sheet deposits	$ 174,753	$ 185,556	$ 183,062	$ 185,689	$ 147,947
Sweep money market funds	$ 71,201	$ 81,726	$ 108,350	$ 89,305	$ 88,913
Managed client investment funds (2)	87,829	86,100	84,188	85,922	78,450
Repurchase agreements	13,795	15,033	15,040	13,888	13,830
Total average off-balance sheet client investment funds	$ 172,825	$ 182,859	$ 207,578	$ 189,115	$ 181,193

We believe this was driven by two factors, (A) and (B), as outlined below.

Factor (A): SVB customers moved some of their deposits toward higher returning liability accounts due to rising rates (see fed funds chart below). This pressured Net Interest Margin ("NIM"), the spread between the income generated by investing liabilities and the cost paid on those liabilities.



Factor (B): We believe SVB's tech-exposed clients saw pressure on both their personal and corporate balance sheets, driving net deposit outflows. A declining wealth effect and tech layoffs led to an increased need to redeem deposits (to pay for things like mortgages and cover margin accounts). Meanwhile, higher cash burn and constrained VC funding pressured corporate / startup balance sheets.

As AngelList notes: "Venture performance saw a slow, and then sudden, decline in 2022… In 3Q22, turbulence in the broader market trickled down to the early-stage market in a major way, with deal volume and positive activity dropping to levels not seen since the onset of the pandemic. While positive activity rebounded slightly in 4Q22, early-stage venture capital (VC) performance remained historically depressed at the end of 2022."

To summarize, SVB experienced concurrent pressure in three areas: (1) Net outflows from its tech-sensitive clients; (2) A rising rates environment; and (3) Client shifting of deposits into more expensive liability accounts. And as the liability side of SVB's balance sheet faced pressure, something else was happening on the asset side.

2. Balance Sheet Pressure

As all of this was happening on the liability side, SVB was beginning to face pressure from the investments it previously made with deposits received in a prior, more expansionary period. As the Financial Times reported, "SVB's core customers, tech start-ups, needed somewhere to put the money venture capitalists were shoveling at them. But SVB did not have the capacity, or possibly the inclination, to make loans (light blue line) at the rate the deposits were rolling in. So it invested the funds instead (pink line) — overwhelmingly in long-term, fixed-rate, government-backed debt securities."

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As you can see, the pink line in the chart above sat as an asset on SVB's balance sheet. Specifically, SVB's balance sheet was 50% invested in non-marketable securities ($120Bn of its $212Bn assets):

(Dollars in millions, except par value and share data)	December 31, 2022	December 31, 2021
Assets		
Cash and cash equivalents	$ 13,803	$ 14,586
Available-for-sale securities, at fair value (cost of $28,602 and $27,370, respectively, including $530 and $61 pledged as collateral, respectively)	26,069	27,221
Held-to-maturity securities, at amortized cost and net of allowance for credit losses of $6 and $7 (fair value of $76,169 and $97,227, respectively)	91,321	98,195
Non-marketable and other equity securities	2,664	2,543
Total investment securities	120,054	127,959
Loans, amortized cost	74,250	66,276
Allowance for credit losses: loans	(636)	(422)
Net loans	73,614	65,854
Premises and equipment, net of accumulated depreciation and amortization	394	270
Goodwill	375	375
Other intangible assets, net	136	160
Lease right-of-use assets	335	313
Accrued interest receivable and other assets	3,082	1,791
Total assets	$ 211,793	$ 211,308

And, of this $120Bn, the largest concentrations were in mortgage-backed securities (see below):

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The following table presents a profile of our investment securities portfolio at December 31, 2022 and December 31, 2021:

(Dollars in millions)	December 31, 2022	December 31, 2021
AFS securities, at fair value:		
U.S. Treasury securities	$ 16,135	$ 15,850
U.S. agency debentures	101	196
Foreign government debt securities	1,088	61
Residential MBS:		
Agency-issued MBS	6,603	8,589
Agency-issued CMO—fixed rate	678	982
Agency-issued CMBS	1,464	1,543
Total AFS securities	26,069	27,221
HTM securities, at net carry value:		
U.S. agency debentures	486	609
Residential MBS:		
Agency-issued MBS	57,705	64,439
Agency-issued CMO—fixed rate	10,461	10,226
Agency-issued CMO—variable rate	79	100
Agency-issued CMBS	14,471	14,959
Municipal bonds and notes	7,416	7,156
Corporate bonds	703	706
Total HTM securities	91,321	98,195
Non-marketable and other equity securities:		
Non-marketable securities (fair value accounting):		
Consolidated venture capital and private equity fund investments	147	130
Unconsolidated venture capital and private equity fund investments	110	208
Other investments without a readily determinable fair value	183	164
Other equity securities in public companies (fair value accounting)	32	117
Non-marketable securities (equity method accounting):		
Venture capital and private equity fund investments	605	671
Debt funds	5	5
Other investments	276	294
Investments in qualified affordable housing projects, net	1,306	954
Total non-marketable and other equity securities	2,664	2,543
Total investment securities	$ 120,054	$ 127,959

…And mortgage backed securities have also faced some recent pressure, evidenced by rising rates / falling prices:

To summarize, SVB saw net deposit outflows, a net increase in the cost of its deposits, and a net decrease in the value of the investments made with those deposits.

What SVB Tried to Do About This

As SVB faced this dual asset-liability pressure, it sought to undertake some very similar actions to what the large-cap banks did in 2007 / 2008: It (1) Embarked on a rapid sale of assets, and (2) Sought to raise equity / market-signaling capital from a blue chip investor (General Atlantic):

Strategic actions to strengthen our financial position and enhance profitability and financial flexibility now and in the future

- Today, we took strategic actions to strengthen our financial position – repositioning SVB's balance sheet to increase asset sensitivity to take advantage of the potential for higher short-term rates, partially lock in funding costs, better protect net interest income (NII) and net interest margin (NIM), and enhance profitability.
- We have sold substantially all of our Available for Sale (AFS) securities portfolio with the intention of reinvesting the proceeds, and commenced an underwritten public offering, seeking to raise approximately $2.25 billion between common equity and mandatory convertible preferred shares. As a part of this capital raise, General Atlantic, a leading global growth equity fund and longstanding client of SVB, has committed to invest $500 million on the same economic terms as our common offering.
- Our financial position enables us to take these strategic actions, which are intended to further bolster that position now and over the long term.
- We are taking these actions because we expect continued higher interest rates, pressured public and private markets, and elevated cash burn levels from our clients as they invest in their businesses.
- We are experienced at navigating market cycles and are well positioned to serve our clients through market volatility, with a high-quality, liquid balance sheet and strong capital ratios.

The Banking Spiral: Liquidity and Credit Squeezes

All of this fits within a broader context. First of all, SVB has noted that as asset values on its balance sheet declined amidst the rising rates environment, it effectively faced two options: (1) Take "drip-by-drip" earnings hits on its asset portfolio over several quarters, or (2) "Rip off the band-aid" by rapidly selling this portfolio and deploying the cash into floating rate, higher yielding assets.

However, as SVB was attempting to reposition its balance sheet, these actions began to appear to the market as something else. When banks see a major change in deposit patterns (inflows / outflows) or the cost of those deposits (rate shifts), they often need to adjust the asset side of their balance sheets accordingly. At SVB, those deposits were being used to invest in loans, investment securities, CapEx projects, revolvers and the like. And if the duration of those investments (assets) is different from the duration of those deposits (liabilities), banks may face a liquidity squeeze. Further, if the value of those assets falls relative to the value of the liabilities used to fund them, banks may also face a credit squeeze as well. One often leads to another, and that appears to be what happened at SVB:

1. Declining asset values (due either to a market correction, as in the case of SVB, or loan losses, as in the mortgage crisis of 2007 / 2008) cause depositors / regulators to worry about the solvency of a bank;
2. This then causes customers / regulators to withdraw capital (deposits) or increase required equity capital (regulatory capital);
3. This causes banks to either sell more assets (forced sales) or raise emergency regulatory capital (General Atlantic style infusions, as in the case of SVB);
4. This need for capital may lower depositor / regulator confidence in the bank, causing more withdraws;
5. This, in turn, forces the bank to sell even more assets, at even lower prices, requiring even more regulatory capital;
6. …if left unchecked, and if a bank is large enough, contagion may ensue.

This is why SVB tried to rationalize its asset-liability match funding, to better align deposit levels and costs with its asset exposures. As noted previously, Net Interest Margins are incredibly important to depository institutions. If a bank sees its cost of funds rise above the return on those funds, all else equal, it can quickly begin losing equity and regulatory capital:

Why SVB Matters to the Private Equity / Venture Capital Industry

The reason SVB mattered so much to the PE / VC community today is because of its Global Fund Banking business. SVB provided lines of credit, subscription lines and cash / treasury / deposit management to the industry, among other financial services. As you can see in the 10-K disclosure below, Global Fund Banking represented >50% of SVB's total lending business ($42Bn on a $74Bn lending book).

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	December 31,			
	2022		2021	
(Dollars in millions)	Amount	Percentage	Amount	Percentage
Global fund banking	$ 41,269	55.6 %	$ 37,958	57.3 %
Investor dependent:				
Early stage	1,950	2.6	1,593	2.4
Growth stage	4,763	6.4	3,951	5.9
Total investor dependent	6,713	9.0	5,544	8.3
Cash flow dependent - SLBO	1,966	2.6	1,798	2.7
Innovation C&I	8,609	11.6	6,673	10.1
Private bank	10,477	14.1	8,743	13.2
CRE	2,583	3.5	2,670	4.0
Premium wine	1,158	1.6	985	1.5
Other C&I	1,019	1.4	1,257	1.9
Other	433	0.6	317	0.5
PPP	23	—	331	0.5
Total loans	$ 74,250	100.0 %	$ 66,276	100.0 %

Arctos Perspectives

To say that the last 24 hours have been disruptive to private equity funds, firms, and operations would be a massive understatement. Your managers are undoubtedly working relentlessly to establish new banking procedures to minimize any potential damage or losses in their broader ecosystem. Many firms using SVB fund facilities that have near-term deal closings (less than 10 days) may breach their contractual closing timeline obligations without some concession from their counterparties. Funds that were planning on using their credit lines to fund near-term deals and firms being overly cautious about liquidity will likely be calling capital from their investors in the coming days.

Luckily, we are in a period of below-average deal activity broadly, and a simple estimate of the quantum of this risk could be framed as follows:

- The current environment, similar to other historical market slowdowns, has an expected drawdown rate as a portion of outstanding unfunded of ~10-15% / quarter of total outstanding unfunded.
- Breaking this rough estimate down into an expected draw down over the next 10-15 days of 2-4%, however, some funds may call capital from LPs out of an abundance of caution (even if they have no SVB exposure).
- Given SVB's fund financing market share, the current deployment environment and other related factors, a broad market capital call draw down of 2-8% of outstanding uncalled capital over the next few weeks is a reasonable scenario for investors to prepare for.

Obviously, each investor's experience will be very different but we think this is a reasonable estimate of the broad industry's drawdown exposure over the coming days / weeks. We hope you have found this research note helpful, insightful and worth your time. We will work to provide material market updates if it feels warranted or necessary.

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