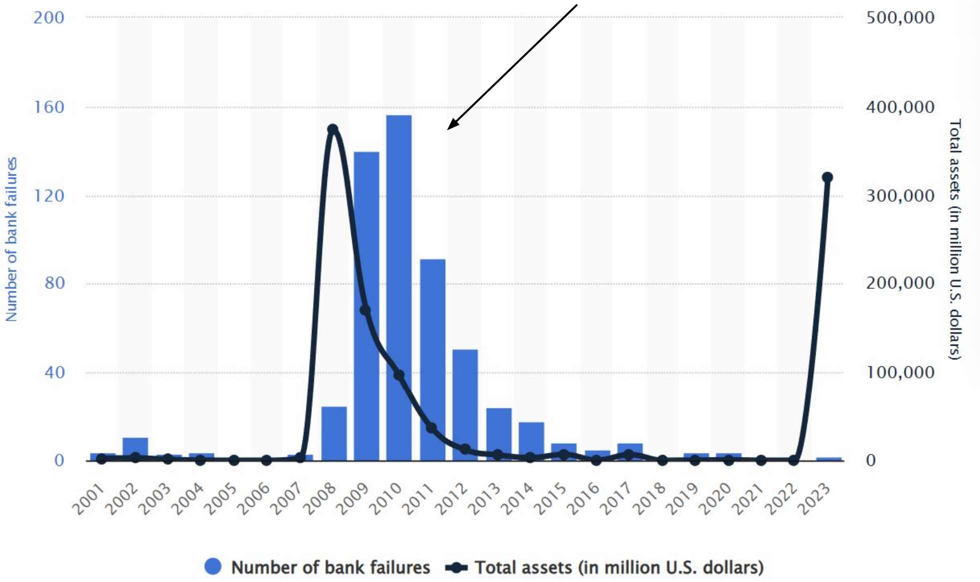
Silicon Valley Bank and Signature Bank

Group 4

Why important

Subprime mortgage crisis

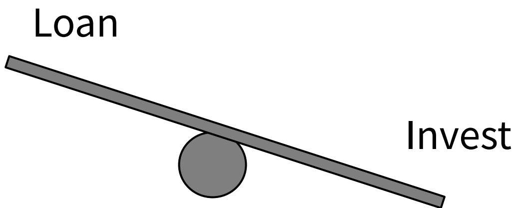


Silicon Valley Bank and Signature Bank became the second and third largest bank failures in U.S. history.

The failures created a ripple effect on small and mid-sized U.S. banks. Example: RF, Zion, WAL, and PACW.

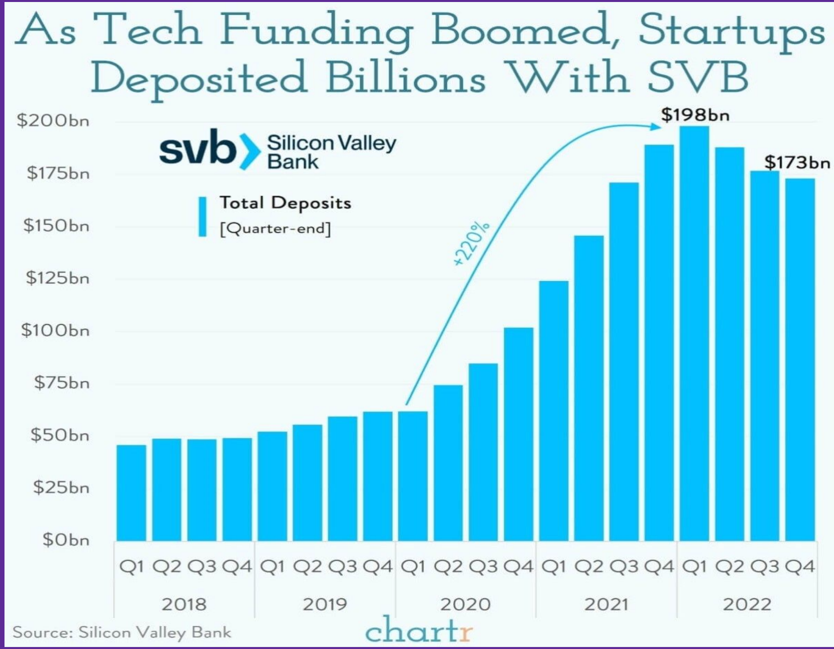
Silicon Valley Bank

- Founded in San Jose, California, USA in 1982 and listed on NASDAQ in 1988.
- SVB primarily served start-up companies in Silicon Valley for deposit and loan business.
- Deposits increased from $60 billion in 2020 to $190 billion in 2021 due to excess liquidity in high-risk investments.
- SVB prioritized investment in long-term fixed-income securities due to rapid deposit volume increase.



Fed cuts interest rates and print cash to stimulate economy in 2020

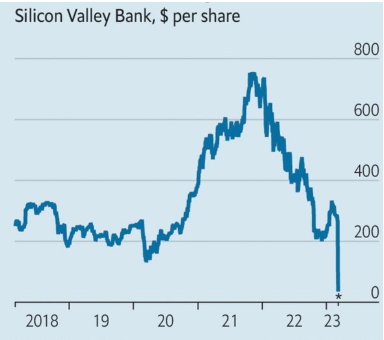
Deposit Graph



SVB's Interest Rate Risk and Losses

2022 Inflation
- Fed raising interest rate
- Liquidity crunch

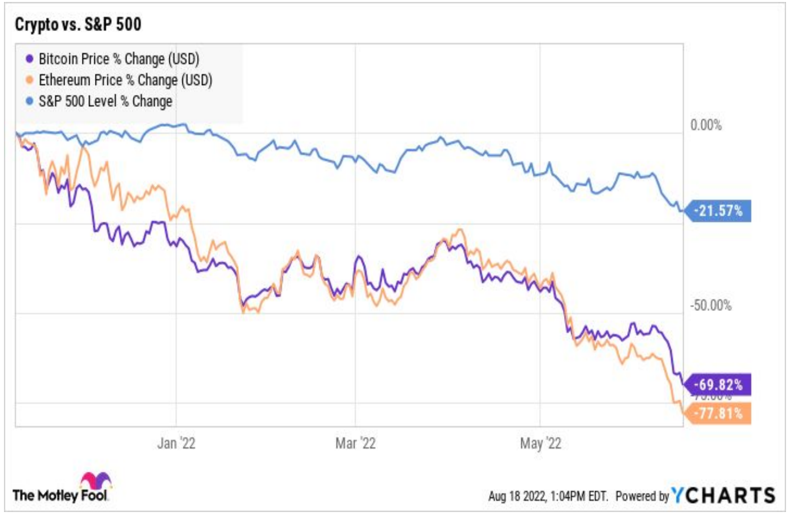
- Stock and Bond market decline
- Technology and start up company layoff employee plus withdraw deposit from SVB



AFS Portfolio Sale	**AFS Sale Size**	$21 billion
	Securities Sold	US Treasuries and Agency securities
	Yield of Securities Sold	1.79% 3.6-year Duration
	Preliminary Estimated Realized Loss[1]	$(1.8) billion (after-tax)
Capital Offerings (Base Size)	**Common Stock**	$1.25 billion
	Concurrent Private Placement	$500 million commitment from General Atlantic to purchase restricted common stock at the public offering price in a separate private transaction
	Mandatory Convertible Preferred Stock	$500 million

Signature Bank and Collapse

- Founded in New York City, New York, USA in 2001.
- Had over $110 billion in assets and nearly $89 billion in deposits at the end of 2022.
- Provide banking services to businesses and individuals.



- Signature Bank had a significant exposure to cryptocurrency through its lending and investment activities.
- In 2022, the bank had $16.5 billion in digital asset-related client deposits and $1.8 billion in loans to cryptocurrency companies.
- This exposure to cryptocurrency made the bank vulnerable to the decline in the value of cryptocurrency in 2023.

A loss of confidence among depositors, who withdrew billions of dollars from the bank in the days leading up to its collapse.

How SVB/Signature Collapse could have been Prevented

- Most simple solution is investing in shorter-term assets
  - Lower interest/duration risk
  - Average debt portfolio has a lifespan of 5.7 years
    - Fixed rate
    - Vulnerable to raising FED rates
      - Sold bonds at $2 billion loss
  - Has drawbacks

$$\text{Bond Price Formula} = C \times \frac{1-(1+r)^{-n}}{r} + \frac{F}{(1+r)^{n}}$$

Schroders

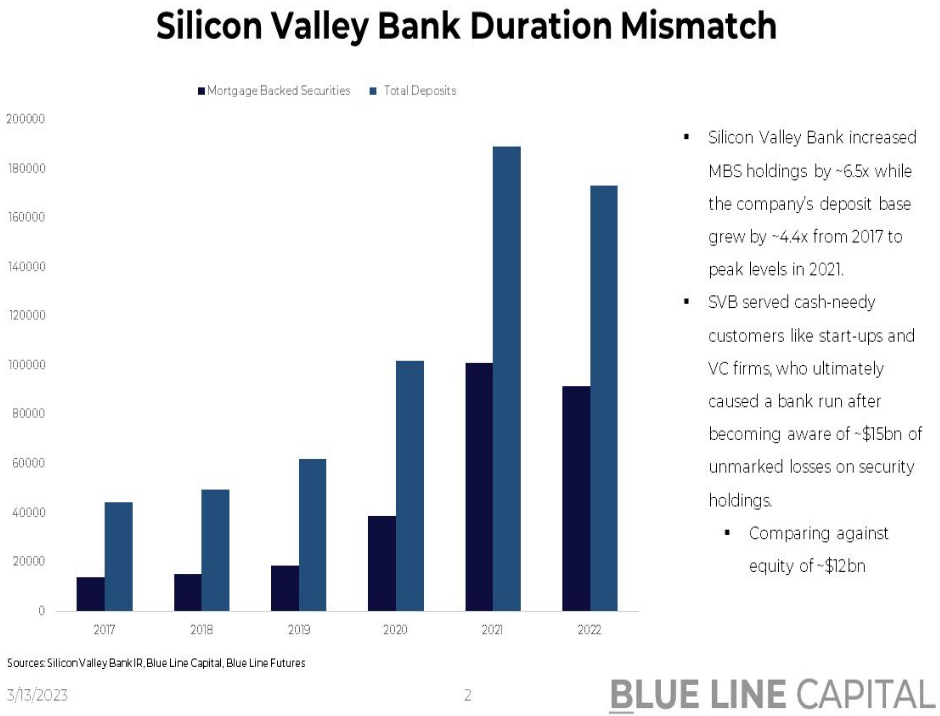
Dollars in millions

	Total	
	Net carry value	Weighted average yield
US agency debentures	$486	1.91%
Residential MBS:		
Agency-issued MBS	57,705	1.56%
Agency-issued CMO – fixed rate	10,461	1.48%
Agency-issued CMO – variable rate	79	0.74%
Agency-issued CMBS	14,471	1.63%
Municipal bonds and notes	7,416	2.82%
Corporate bonds	703	1.86%
Total	**$91,321**	**1.66%**

Source: Silicon Valley Bank financial statements, 31 December 2022. 607978

Preventing Collapse Continued

- Maintain Hedge position in interest rate swaps
  - $15 billion in hedge position at end of 2021
  - $600 million by 2023
- Funding mismatch
  - Shorter-term assets?
- Swaptions
  - Option to enter into an interest Rate swap



Preventing Collapse with Treasury Futures

- SVB could have lowered their duration by using Treasury futures
  - Standardized contracts, traded on the CBOT exchange, for the purchase or sale of Treasury Bonds or Notes for future delivery
  - Long position receives a security in the future, short position delivers it
  - Range of acceptable maturities for deliverable bonds/notes

Table 1: CBOT U.S. Treasury futures contract details

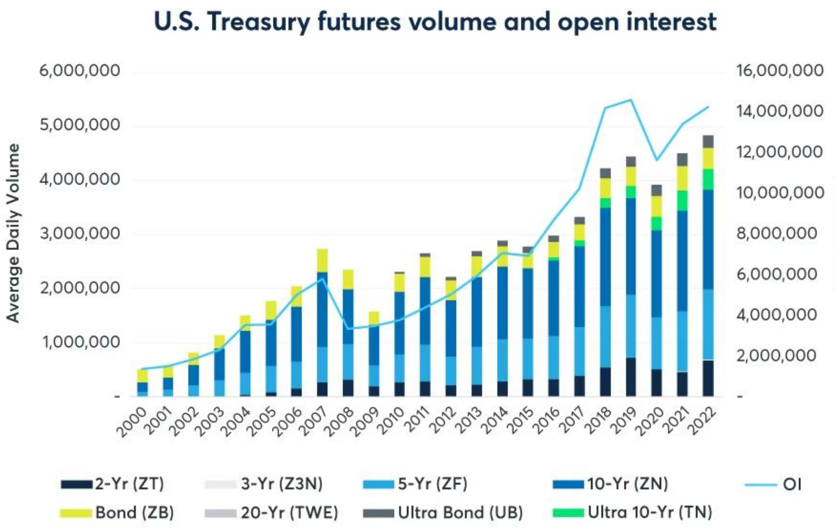
	2-Year T-Note	3-Year T-Note	5-Year T-Note	10-Year T-Note	Ultra 10-Year T-Note	T-Bond	20-Year T-Bond	Ultra T-Bond
Face Amount	$200,000	$200,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Deliverable Maturities	1 3/4 to 2 years	2 9/12 to 3 years	4 1/6 to 5 1/4 years	6 1/2 to 7 3/4 years*	9 5/12 to 10 Years	15 years up to 25 years	19 2/12 to 19 11/12 years	25 years to 30 years
Contract Months	March quarterly cycle: March, June, September, and December							
Trading Hours	Electronic: 5:00 pm - 4:00 pm, Sunday - Friday (Central Time)							
Last Trading & Delivery Day	Last business day of contract month; delivery may occur on any day of contract month up to and including last business day of month			Day prior to last seven (7) business days of contract month; delivery may occur on any day of contract month up to and including last business day of month				
Minimum Tick	In percent of par to one-eighth of 1/32nd of 1% of par	In percent of par to one-eighth of 1/32nd of 1% of par	In percent of par to one quarter of 1/32nd of 1% of par	In percent of par to one-half of 1/32nd of 1% of par	In percent of par to one-half of 1/32nd of 1% of par	In percent of par to 1/32nd of 1% of par	In percent of par to 1/32nd of 1% of par	In percent of par to 1/32nd of 1% of par

Preventing Collapse with Treasury Futures continued

By taking a short position in Treasury Futures, there are two strategies SVB could have used to hedge their interest rate risk.

Strategy #1: Short 20 year - Ultra Treasury Futures with the latest delivery date → when delivery date arrives, deliver a long-term low-coupon bond → less high-duration assets on balance sheet, positive cashflow

Strategy #2: Short Treasury Futures in early 2022 as inflation rises → close out positions before delivery → profit from high interest rate increases in 2022 → short new Treasury Futures as value of Treasury Bonds continues to decline



Impact on Investors

- Substantial losses for investors in SVB and Signature Bank due to plummeting share prices
- Contagion effect on the broader market as investor confidence declined
- Concerns about stability in other banks and financial institutions, leading to a reevaluation of investment portfolios
- Venture capital firms and private equity companies relying on SVB for funding faced slowdown

Impact on Borrowers

- Borrowers involved in syndicated credit facilities with SVB or Signature Bank faced uncertainty
- Collapse raised questions about the status of the bridge banks as "defaulting lenders"
- FDIC clarified that bridge banks were not considered defaulting lenders
- Borrowers had to navigate legal and practical implications of their loan agreements to recover from their losses

Impact on Co-lenders

- Co-lenders participating in syndicated credit facilities with SVB or Signature Bank affected by the panic
- Collapse highlighted the importance of robust **"defaulting lender" provisions**
  - Now in credit agreements for protection against lenders who fail to perform their funding commitments or default
- Co-lenders had to reevaluate risk exposure and review credit agreements

Impact on Regulatory Bodies

- Federal Reserve, Department of the Treasury, and FDIC had to take quick action
- Efforts included creating bridge banks, guaranteeing depositors' funds, and finding buyers for collapsed banks' assets
- Highlighted the need for ongoing regulatory oversight and stress testing

More Impacts on Regulatory Bodies

- The Fed also had to act on this situation.
    - Instead of continuing interest rate hikes at the rate they had been, the Fed lowered the hike and only increased by ¼ a percentage point.
- This crisis put the Fed in a tough situation.
    - Job market strong.
    - Inflation going down.
    - Desire continue raising rates.
- Ultimately, the Fed “hit pause” to allow the markets to recover.
    - Fed is still in tough spot because the reduction in rate hike won’t likely offset the decrease in GDP growth caused by stricter lending regulations.

Impact on Smaller Banks

- Highlighted the risk of small and mid-size banks having exposure to high risk clients.
    - Will likely lead to increased scrutiny from regulators.
    - Could cause a decrease in profits for banks - high risk lending is generally more lucrative.

- Overall, concerns are being raised about the stability of small and mid-size banks and what the future regulatory environment will look like for them.

- Other impacts on small banks could include a reduction in lending.
    - Significant because - small/ mid-size banks makeup 50% of commercial/ industrial lending, 60% of housing related lending, and 80% of commercial real estate lending.
- Researchers estimate a potential decrease in FDIC majority uninsured small bank lending by 40%.
    - Overall, expecting a roughly 2.5% decrease in total lending

Thank you!