

Princeton University Bendheim Center for Finance Presents:

Banks in Crisis?

Panel Discussion

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Some Opening Question

- Is it like 2007/8 or more like S&L crisis in the 1980s?
 - Default/credit risk vs. interest rate risk
- Which inning? Bear Stearns or Lehman moment?
- Run from small to large banks?
 - Signature bank, SVB, First Republic (?), ...
 - Credit Suisse
- Does this limit central banks' inflation fighting (Financial Dominance)?
- Hard landing now? Recession? What about my job prospects?
Tech industry

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Skeletal bank balance sheet

Assets

Reserves

Loans to customers

Securities

available for sale

held to maturity (smaller)

Liabilities

Deposits

insured

uninsured

Loans from Fed (≈ 0)

Net worth

A little more detail: the problem

Assets

Reserves

Loans to customers

Securities

available for sale

held to maturity (many sold)

Liabilities

Deposits

insured

uninsured

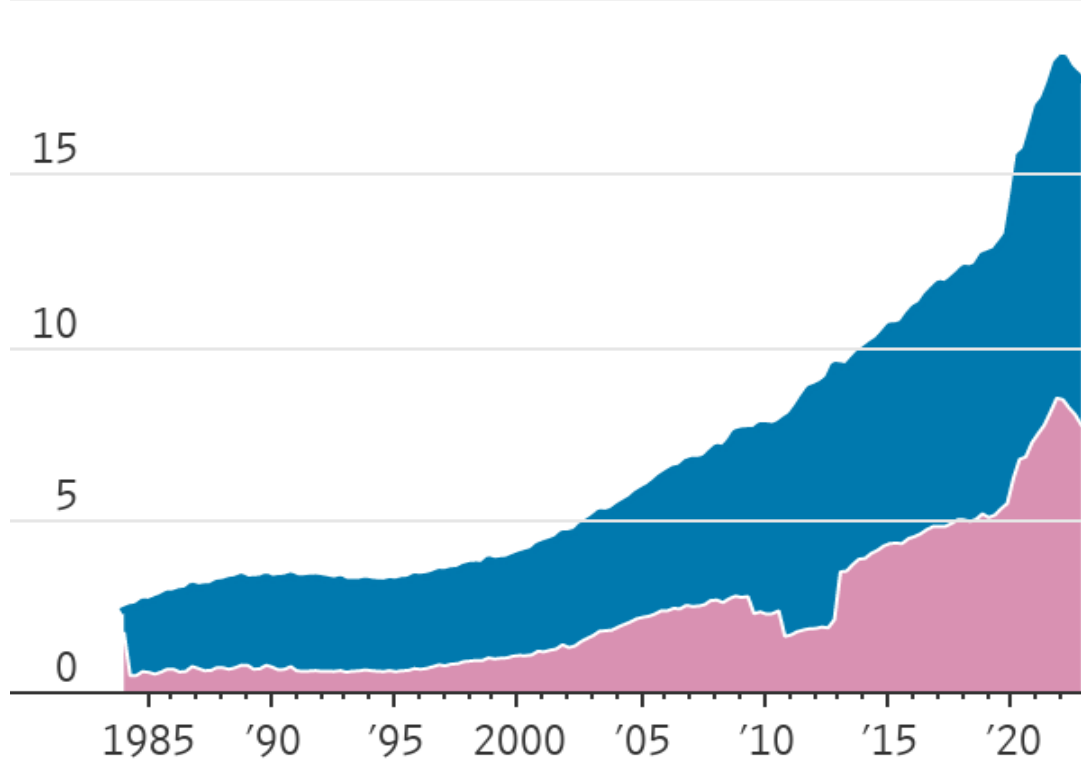
Loans from Fed (≈ 0)

Net worth (shrunk)

Deposits at FDIC-reporting U.S. banks

■ Insured deposits ■ Uninsured deposits

\$20 trillion



Note: Uninsured deposits calculated by subtracting estimated insured deposits from total domestic deposits

Source: Federal Deposit Insurance Corp.

A little more detail: the quick fix

Assets

Reserves

Loans to customers

Securities

available for sale

held to maturity (smaller)

Liabilities

Deposits

insured

~~uninsured~~

Loans from Fed

Net worth (still too small)

The big question: Who goofed?

- Or rather how do you apportion the blame between *poor management* and *poor supervision*?
- We don't know yet. (There were several “matters requiring attention” and “matters requiring immediate attention.”)
- A relevant fact: In 2018, Congress amended Dodd-Frank (2010) to raise the line defining which banks are large enough to be *systemically important*, and hence subject to tougher standards and closer supervision, from \$50 billion to \$250 billion in assets.
- SVB was about \$212 billion.

How could SVB merit the “systemic risk exception”?

- By itself, certainly not.
- But many other large (but not giant) banks have lots of uninsured deposits and absorbed large capital losses on bonds.
- SVB was an extreme case, but not unique.
- If the dominos start falling,....

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What led to downfall of SVB and Signature Bank?

Unstable sources of funding:

- Around 95% of SVBs deposits uninsured
- Concentrated in particular industry (e.g., fintech and crypto)
- Insufficient liquidity to meet outflows without selling assets

Undercapitalized interest rate risk on the banking book:

- Large positions in US treasuries, valued at cost
 - E.g., SVB announcement of emergency sale of assets to meet liquidity requirements triggered large mark to market losses
 - Viscous cycle with further incentive to run for both banks as capital appeared to be insufficient

Other villains à la Blinder:

- **Governance flaws:** Bank boards, Boards of uninsured business deposits
- **Regulatory failures:** deficient capital and liquidity regulations for medium-sized banks
 - much stricter rules in place in other countries
- **Supervisory shortcomings:** MRAs, MRIAs too slow

Was Fed intervention a bailout?

Goal of BTPF: reduce risks associated with unrealized losses in the US banking system (estimated at \$600 Billion)

Terms:

Loans up to one year

Collateral includes US treasuries, MBS, agency debt valued at par

Eligible borrowers – banks, savings ass., credit unions, etc

Backstopped by Treasury funds from the Exchange Stabilization Fund (\$25 Billion)

Was this a bailout?

“No losses will be borne by taxpayers”

- President Biden, 13 March
- FDIC losses borne by surviving banks (special assessments), equity and debt holders not bailed out
- DoJ and SEC opened investigations into SVB

Still...TBTF subsidy and moral hazard

- Effectively removing deposit insurance limit
- Fed lending not fully collateralized (not following Bagehot)
- FIs that had insufficient capital and liquidity benefited from TBTF

What might this mean for the crypto ecosystem?

Fallout was mixed:

- Failures weren't related to crypto per se, although the rout in crypto over last year was one trigger for liquidity issues (i.e., prompted deposit withdrawals)
- Some stablecoins broke peg (e.g., Circle's USDC) on worries about exposures of reserve fund to SVB
 - e.g., Circle held 8% of reserve fund in SVB
- Bitcoin and other unbacked crypto gained
 - Could be in part because of changed expectations for FF rate

Fundamentals same, but conditions more difficult:

- This was a classic bank run, so doesn't change potential advantages/risks of crypto
- "Be your own bank" is an illusion, as many have found out the hard way (from Mt. Gox onwards)
- But, crypto still needs safe bridges to TradFI, and these may become more difficult to achieve
 - safe DeFi that serves the real economy may have long development lags

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Question:

How to allocate the interest rate risk across members?

- Framework: Diamond-Dybvig (1983) + Uncertain future interest rate [M. Hellwig(1994)]
- Each faces private idiosyncratic **preference shock**:
$$U_0 = pu(c_1) + (1 - p)u(c_2)$$
- **Two technologies (assets):**
 - Return on **short-term** asset r_t is known between 0 and 1 , but not between 1 and 2
 - Return on **long-term** asset R is relatively high and known between 0 and 2
- There are **two undiversifiable risks**
 - Valuation risk of long-term asset
 - Reinvestment opportunity risk of short-term asset
- Incentive constraint of the late consumers not withdrawing early : $c_2 \geq r_1 c_1$

Effects of short-term interest rate hike

	Early consumers	Late consumers
Capital loss on long-term assets	↓	0
Income gains on short-term assets	0	↑
Incentive constraint	↓	↑

Numerical example: Return on those who deposited 100 at date 0

$$r_0 = 1.2, \quad r_1 = \begin{cases} 1.2 \\ 1.3 \end{cases}, \quad R = 1.5, \quad p = 0.2$$

	withdrawn early	Withdrawn late
Low rate: $r_1 = 1.2$	120	150
High rate: $r_1 = 1.3$	116.3	151.2

- Incentive constraint is critical with alert depositors with access to financial market
- When early consumers have to bear the risk of capital loss on long-term assets, they need to hold both safe deposit and equity
- In the medium run, income gains on assets can compensate the initial capital loss on long-term assets → equity price of banks may rise
- Numerical example:
 - Bank with 80% of total asset in long-term asset
 - The value of long-term assets falls by 10% with short-term interest rate hike
→ capital loss is 8% of total asset
 - Suppose the interest rate spread between asset and liability rises by 1.5% annual
→ bank can recover the loss in $8/1.5 = 5.3$ years