

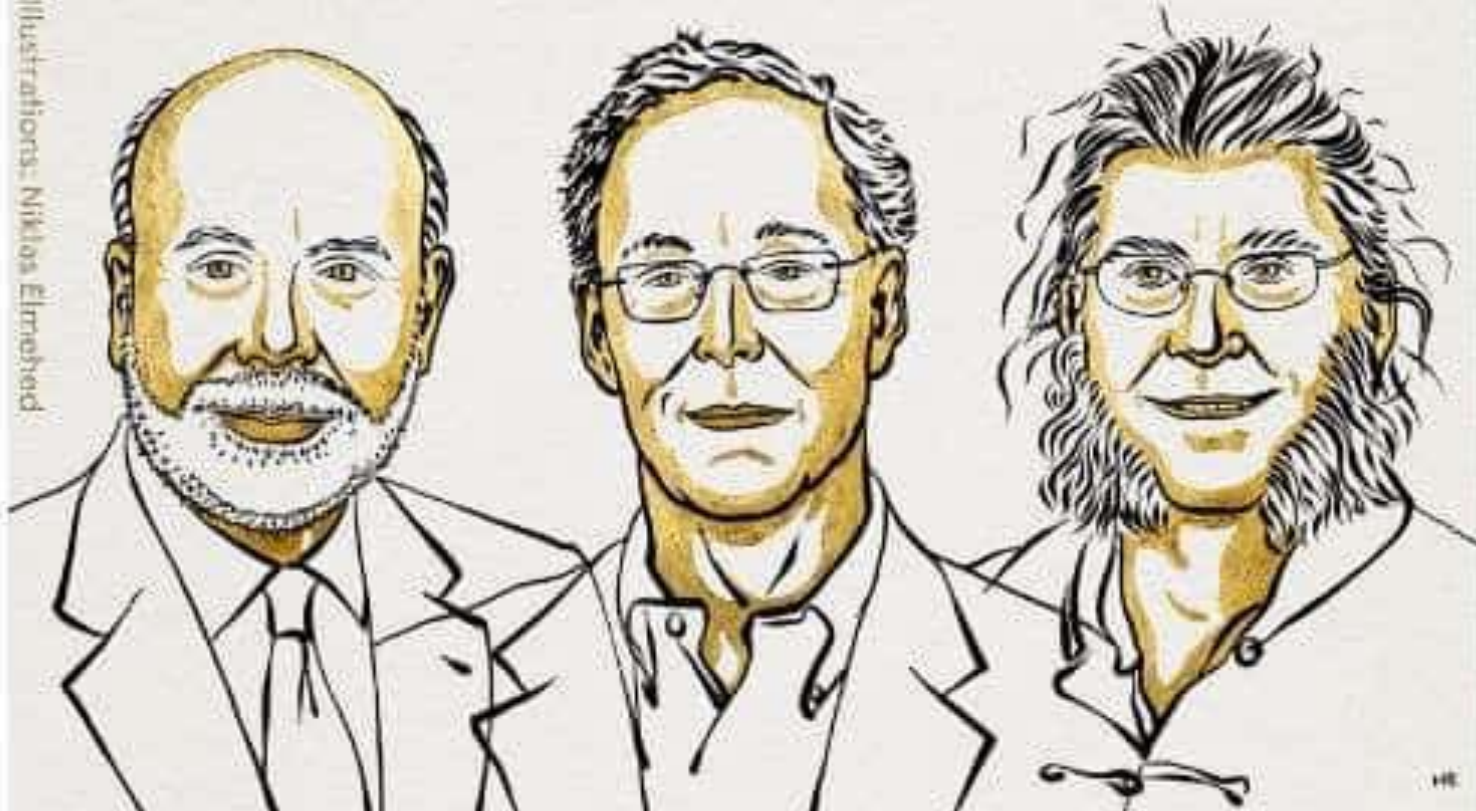
Why Do Banks Fail?

Sascha Steffen

October 2023

THE SVERIGES RIKSBANK PRIZE
IN ECONOMIC SCIENCES IN MEMORY
OF ALFRED NOBEL 2022

Illustrations: Niklas Elmehed



Ben S.
Bernanke

Douglas W.
Diamond

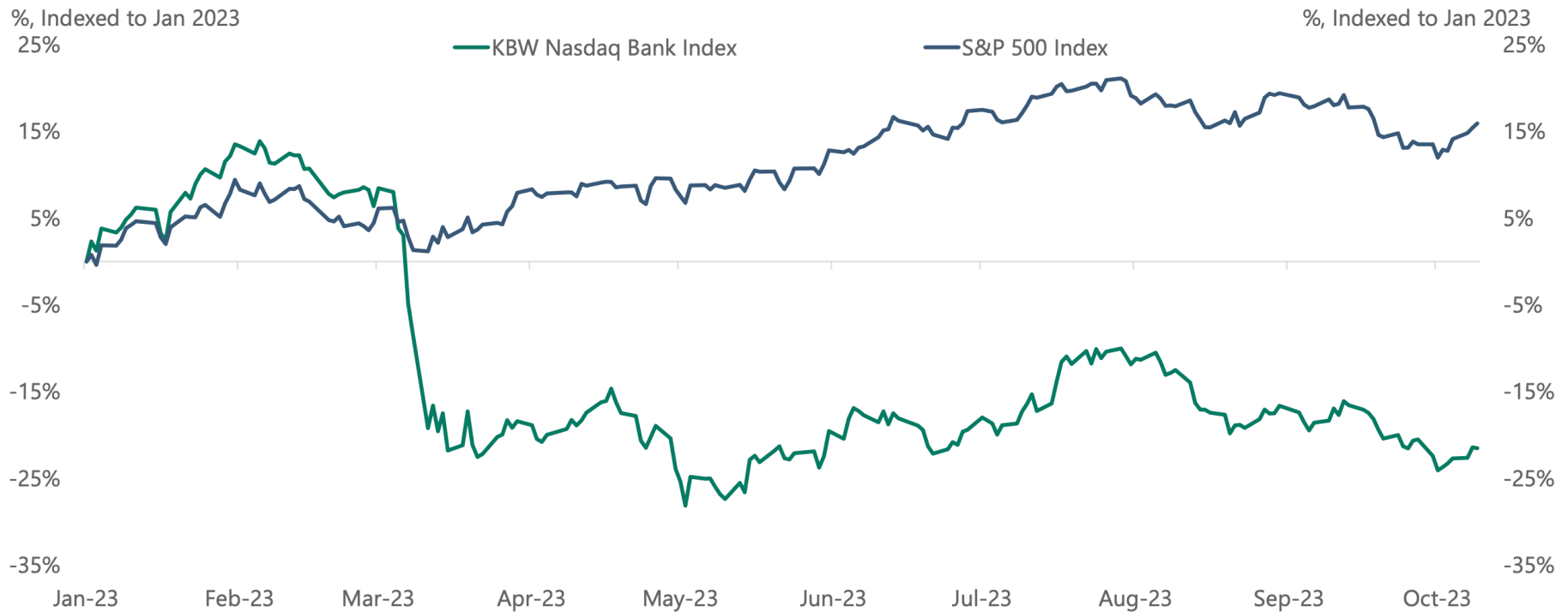
Philip H.
Dybvig

"for research on banks and financial crises"

THE ROYAL SWEDISH ACADEMY OF SCIENCES

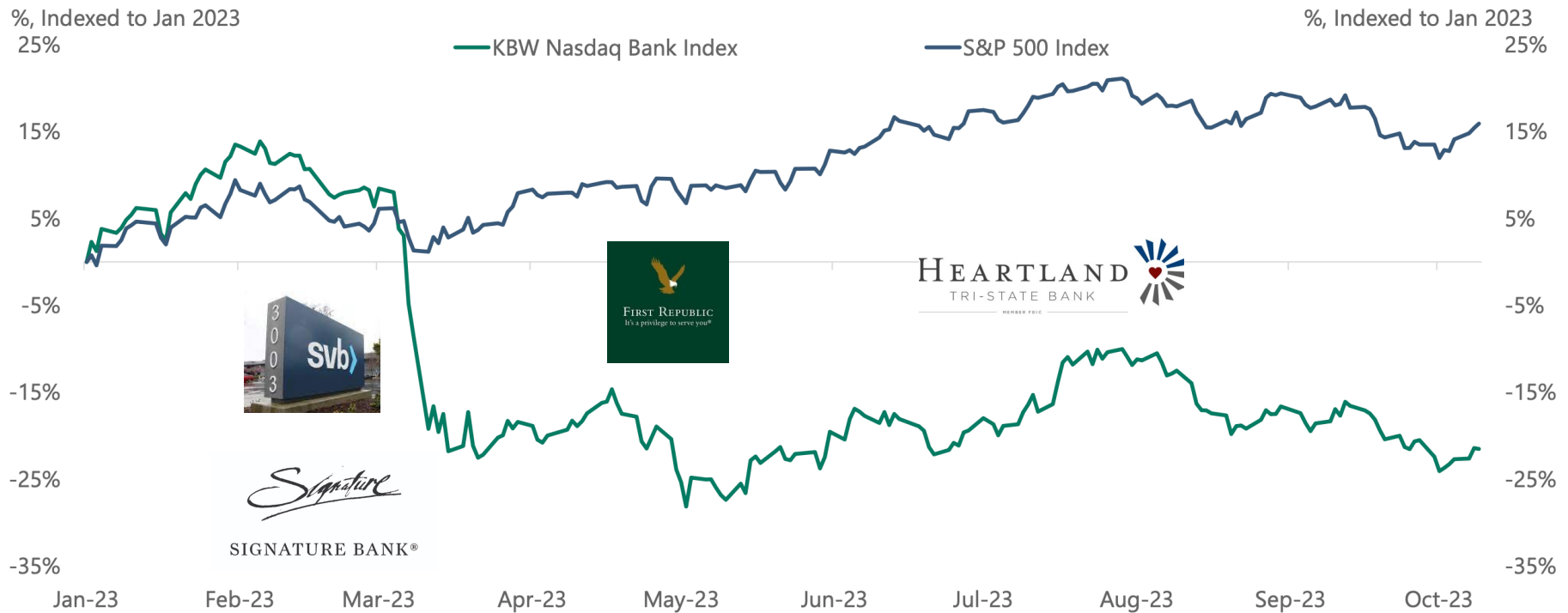
Motivation: Bank stock crash in 2023

Bank stocks underperforming



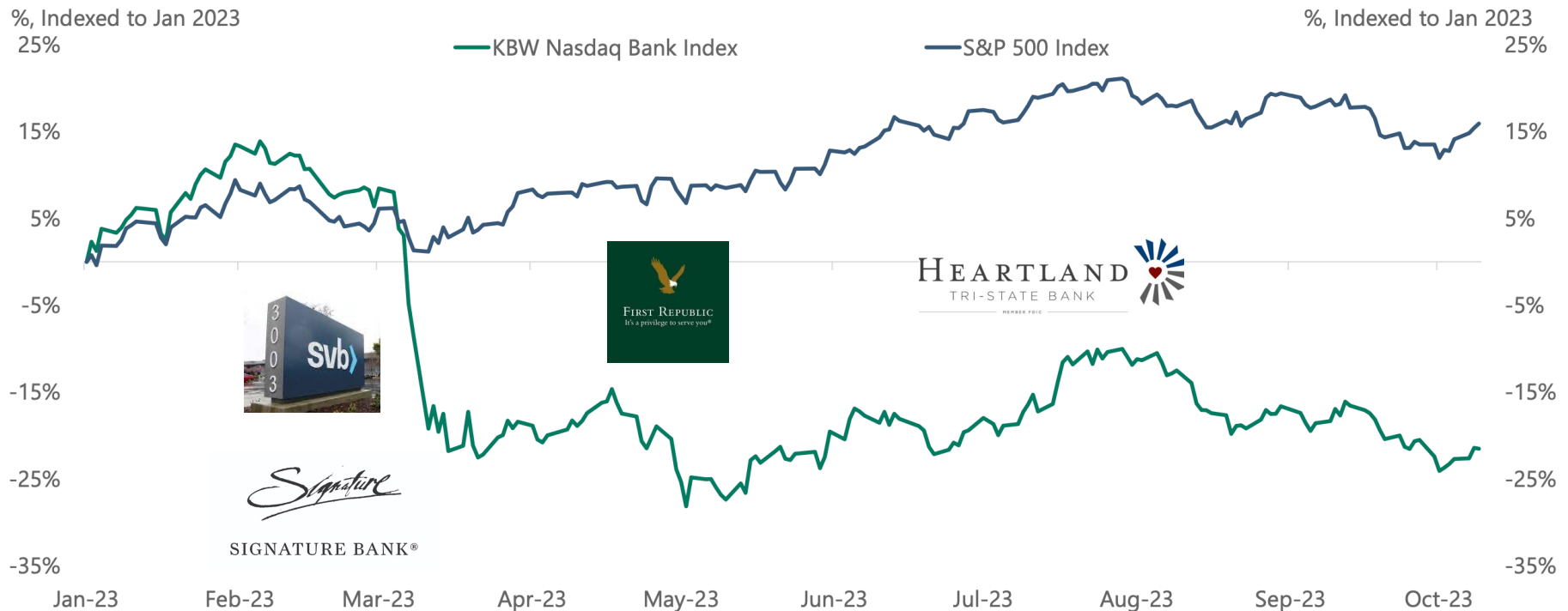
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(Short) Agenda

What are most salient features of bank failures?

1. Bank runs (“Diamond—Dybvig” type bank runs)
2. Is a bank insolvent or illiquid?
3. Case study: Silicon Valley Bank (SVB)

Finally: How to delve deeper into this topic

Key intermediation function of banks: *Create liquidity*

BANKING SECTOR	
Assets	Liabilities
	<u>Short Term</u> Deposits
<u>Long Term</u> Loans	Capital

- Banks are fragile due to the very nature as to why banks exist:
Providing liquidity subjects the bank to runs.
- If a run is feared, it might become a self-fulfilling prophecy and an otherwise solvent bank might fail.

Diamond-Dybvig type bank run



“Coordination” problem
among depositors!!

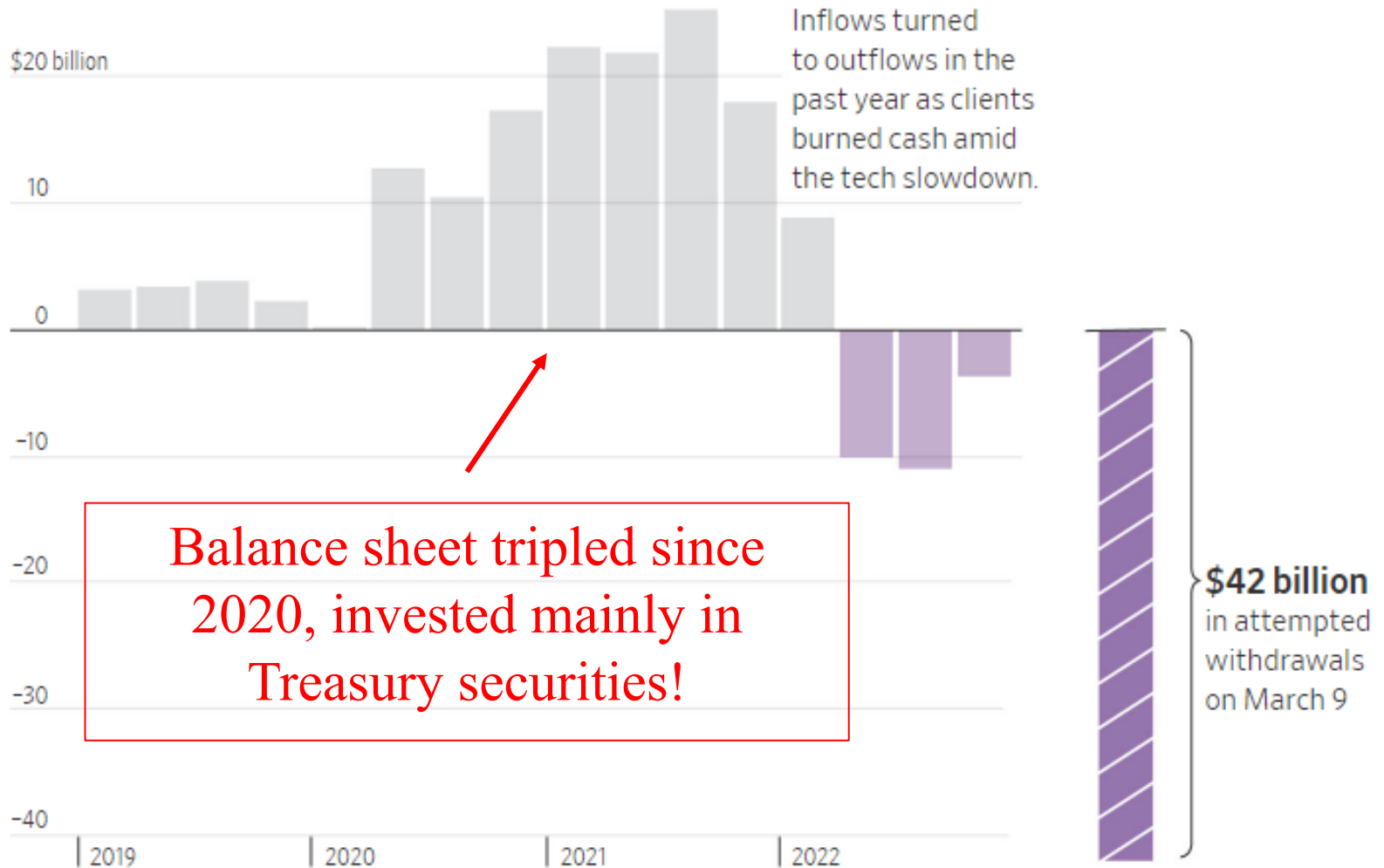
Deposit insurance as solution to the coordination problem

BANKING SECTOR	
Assets	Liabilities
	<u>Short Term</u> Deposits (insured) Deposits (uninsured)
<u>Long Term</u> Loans	Capital

- Deposit insurance solves the coordination problem but increases bank risk taking (moral hazard)
 - Minimum capital requirements
- Why do depositors (still) run? Depositors are concerned with the *solvency of the bank!*

SVB Case Study

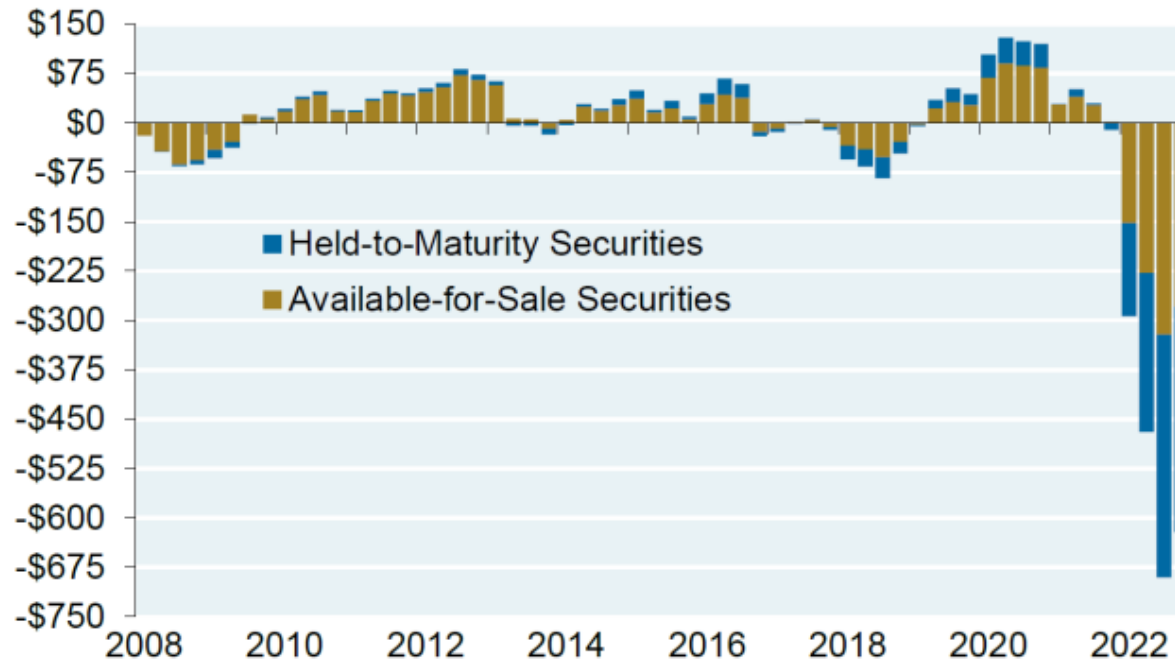
SVB (*uninsured*) deposits, quarterly net change



Sources: company filings (quarterly); California regulators (March 9)

Impact of rising short-term interest rates

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



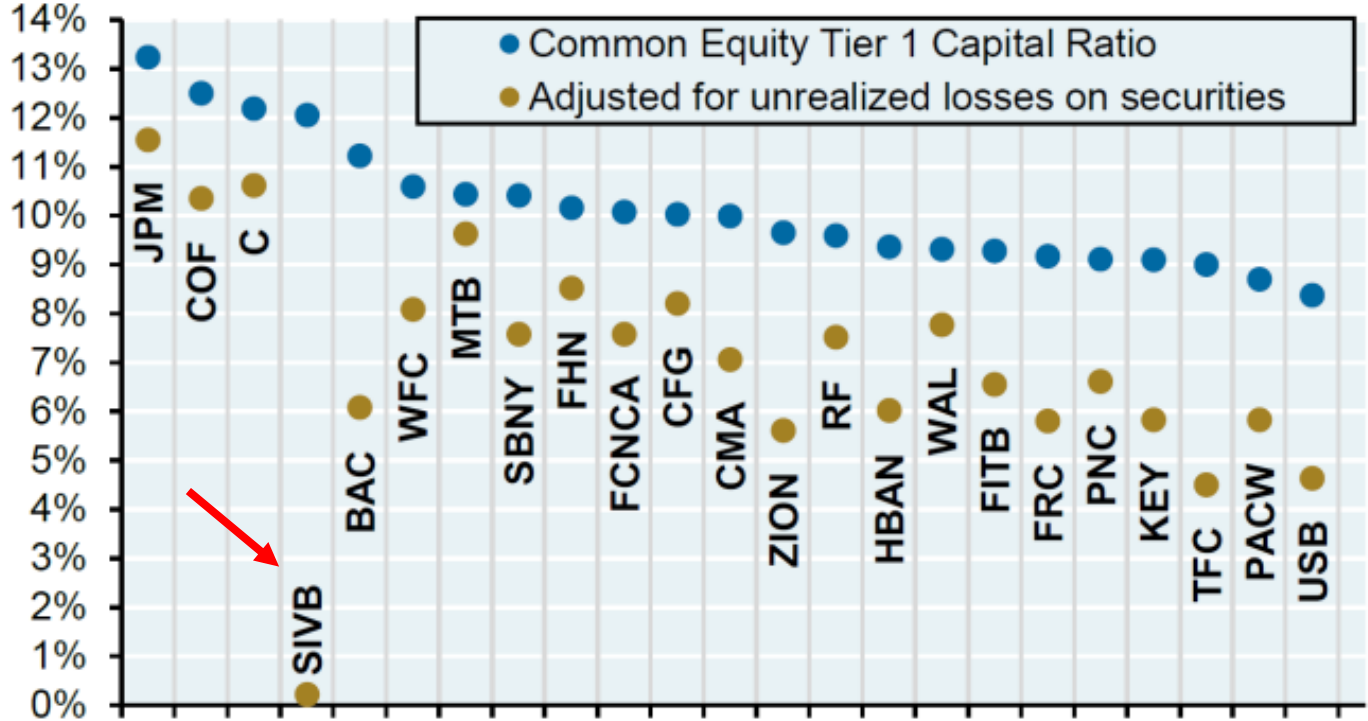
Source: FDIC. Q4 2022.

- Total unrealized losses in this rate-hike cycle relative to the previous highlight saliently the “scale” of the problem

Insolvent or illiquid?

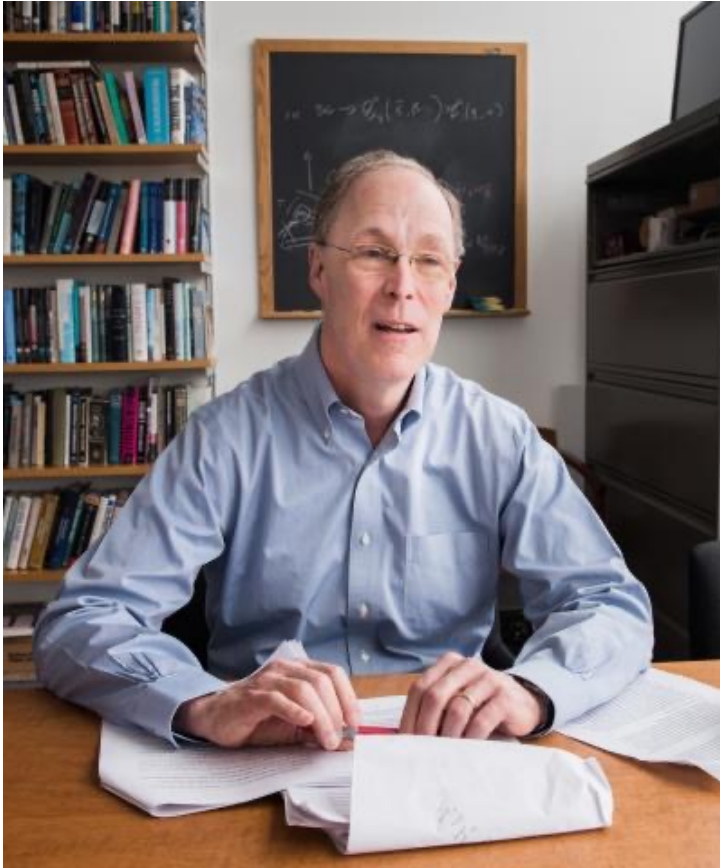
Impact of unrealized securities losses on capital ratios

Percent



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

SVB was *insolvent*



SVB was not a DD
type bank run. All
following bank runs
were.

Regulatory response was about *restoring confidence*

- Friday (March 10, 2023): SVB closed
- Sunday: Signature bank closed
- Sunday: FDIC insured all deposits of both banks
- Sunday: Fed announced Bank Term Funding Program
 - Lend to banks, savings associations, and credit unions
 - Collateral must be government-guaranteed securities (Treasuries and MBS)
 - Securities valued at par with no haircut → loans are undercollateralized
 - Treasury provides a backstop for Fed losses
- Resolution of First Republic Bank: Sale to JPMorgan Chase

Conclusion / Wrap-up

- Why do banks fail?
 - DD-type bank run: Coordination failure among depositors
 - Depositor beliefs regarding the solvency of a bank lead to a run (SVB)
- Banks get run:
Slow at first, and then fast...

You want to know more?

- How can you monitor (i.e., supervise) banks to safeguard against bank failures?
 - Haldane 2012 Jackson Hole Speech: [The dog and the frisbee](#)
 - CAMEL ratings, [Link](#) to Moody's bank rating methodology
- Role of supervisory failures and [regulatory exemptions](#)
- How can central banks as [“lenders of last resort”](#) mitigate liquidity shocks to banks?
- Have bank runs changed in the social media age?
 - [IMF Global Financial Stability Review](#), October 2023