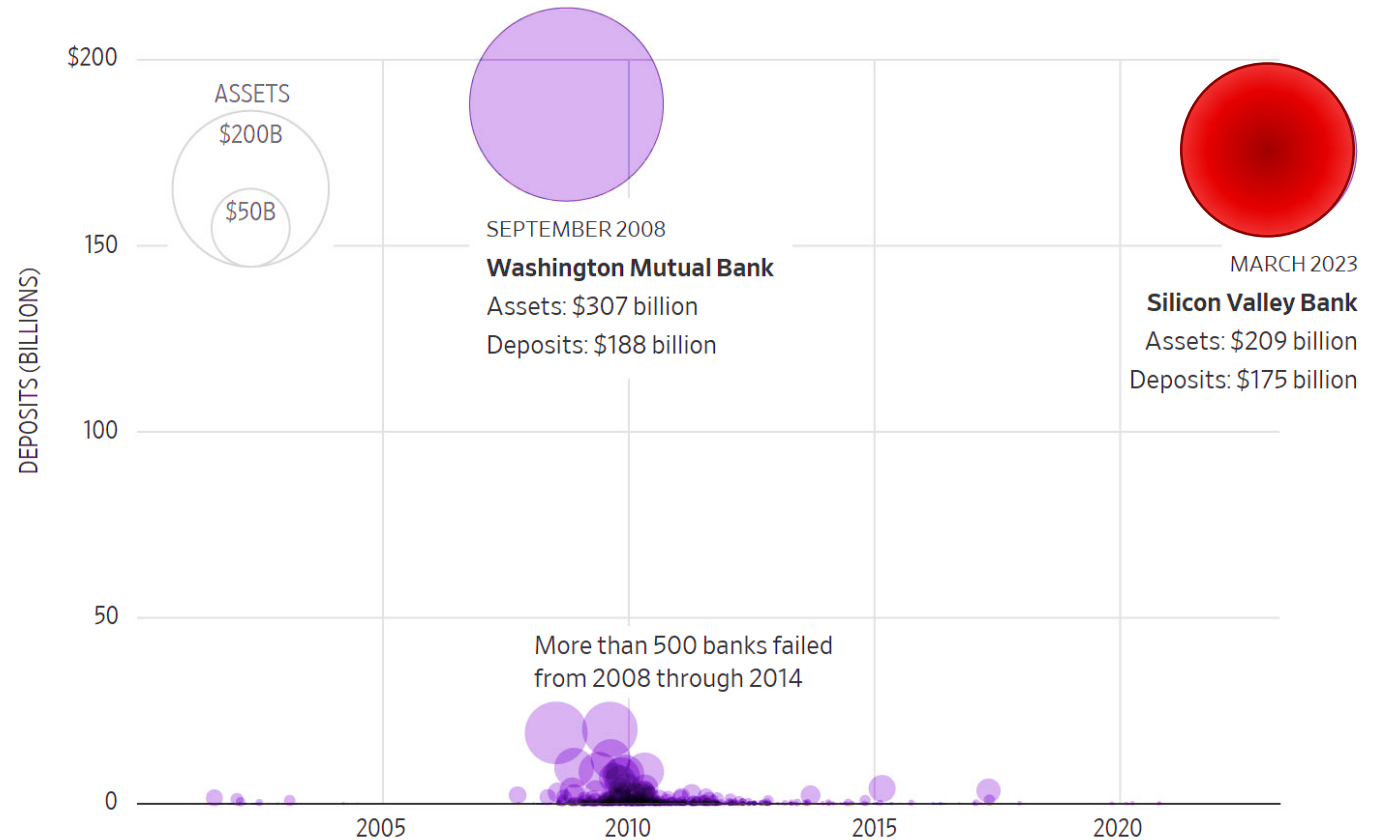


Monetary Tightening, Bank Fragility and Implications

Bank failures, 2001-23



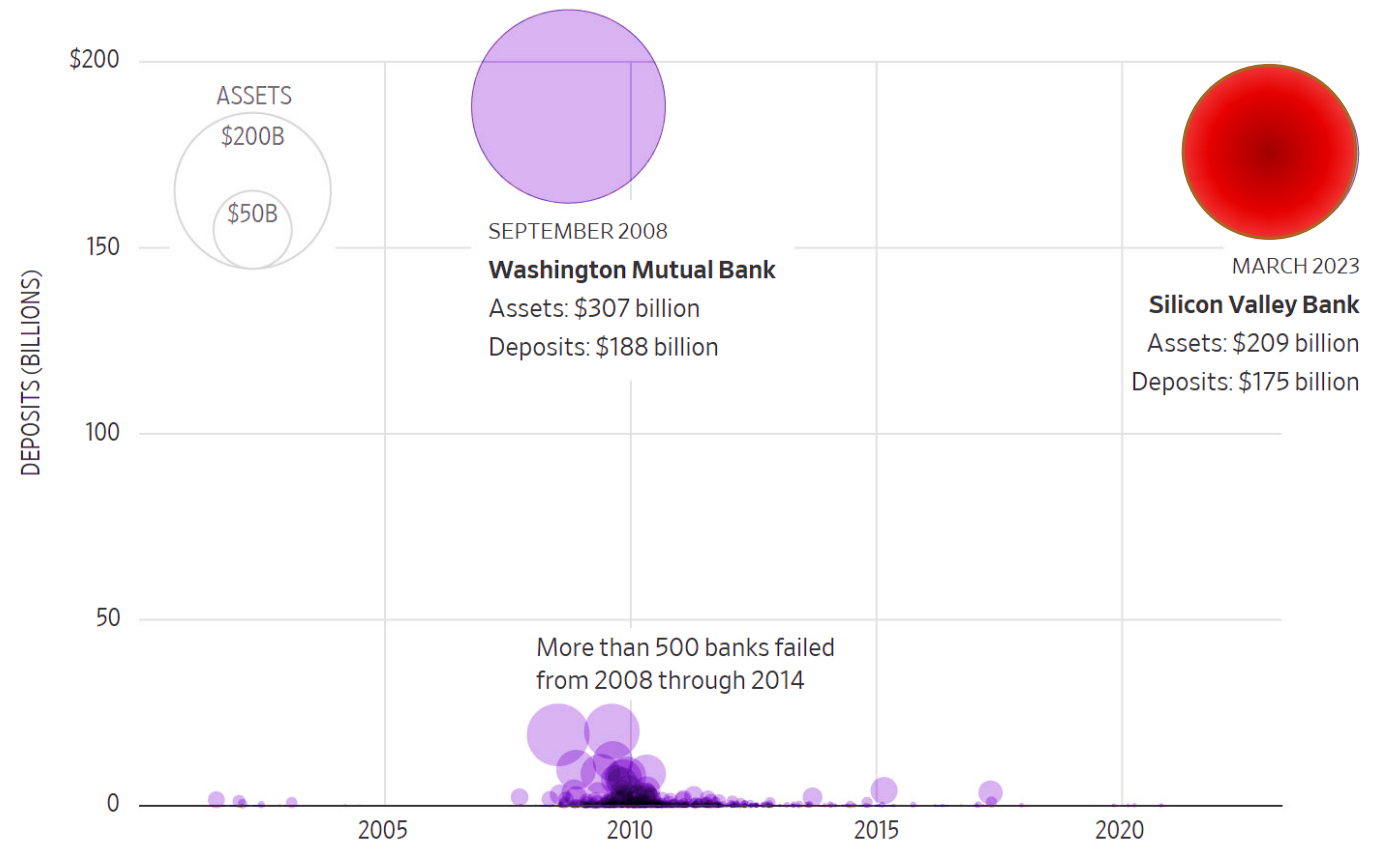
ABFER Annual Conference: Academic Luncheon Keynote

May 22, 2023

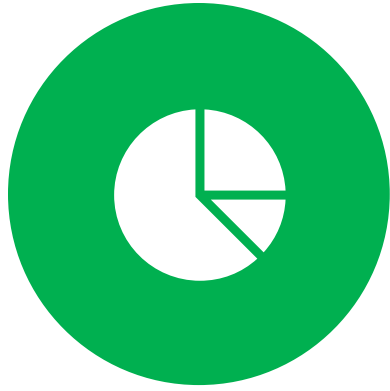
Banking 101

What
Happened to
SVB?

Bank failures, 2001-23



A story in 3 parts...



WHAT'S A BANK?



IT'S ABOUT "TIME"



WHAT BLEW UP?

What's a bank?

Assets

Cash	15
Gov't Bonds	25
MBS	85
<u>Loans</u>	<u>75</u>
Total	\$200



Liabilities

Deposits	185
+	
<u>Equity</u>	<u>15</u>
Total	\$200

"capital"

What's a bank?

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Liabilities

Deposits	185
+	
<u>Equity</u>	<u>15</u>
Total	\$200

Pay 1.0%

Earn 2.0%

$$\frac{4 - 1.85}{15} = 2.15 = 14\% \text{ roe}$$

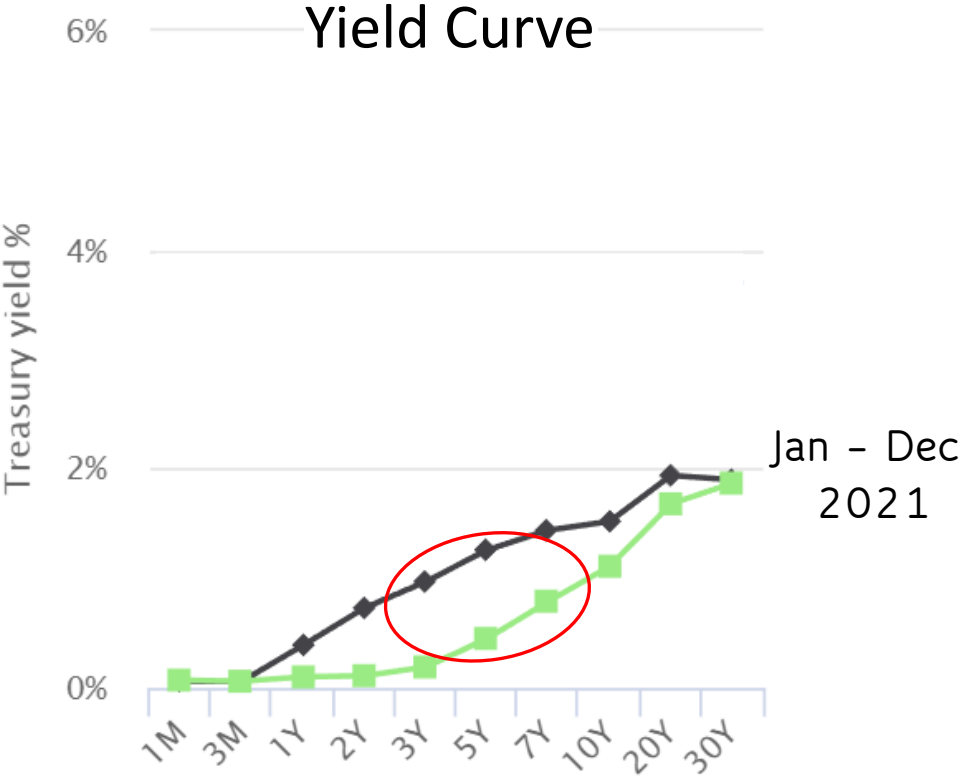
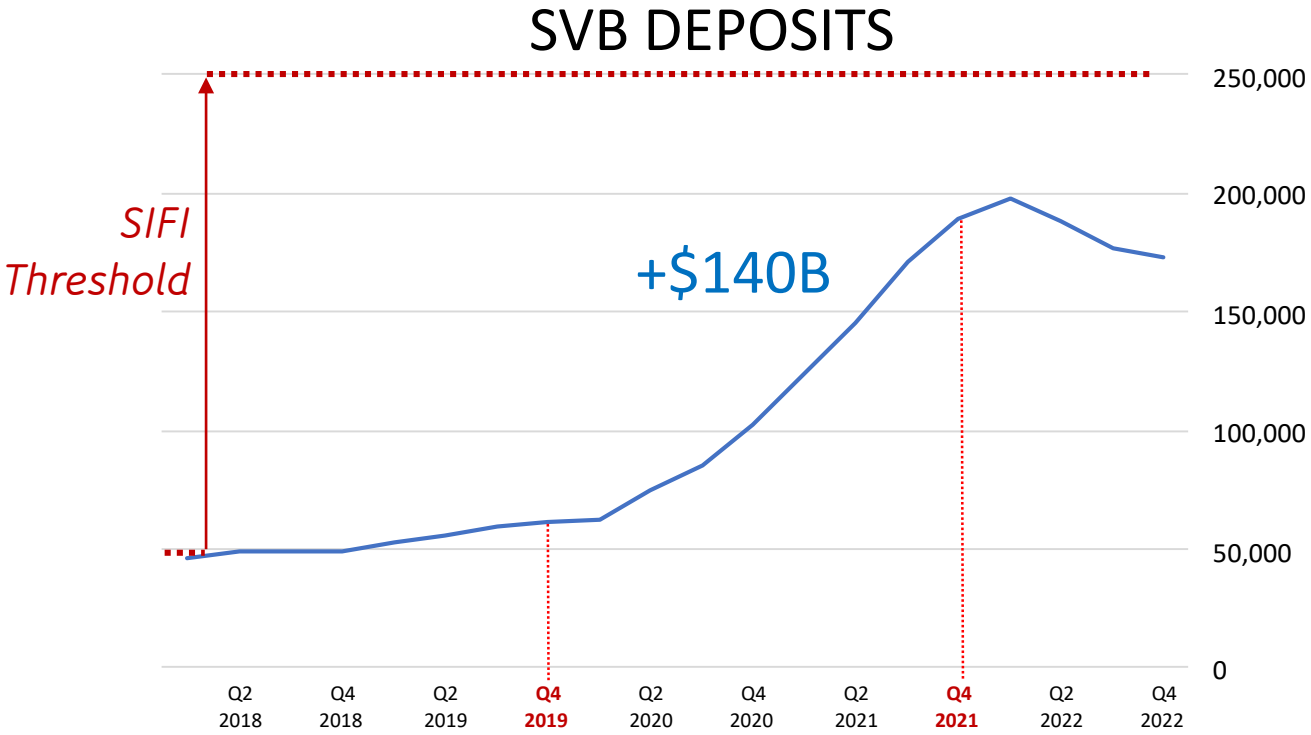
It's about "time"...



<u>Assets</u>			Duration (yrs)	<u>Liabilities</u>		Duration (yrs)
Cash	15	0.0		Deposits	185	0.2
Gov't Bonds	25	4.0		+		
MBS	85	6.0		<u>Equity</u>	<u>15</u>	
<u>Loans</u>	<u>75</u>	<u>2.0</u>		Total	\$200	
Total	\$200	3.8				

Duration Mismatch (indicated by a red arrow pointing from the 3.8 duration of Total Assets to the 0.2 duration of Deposits)

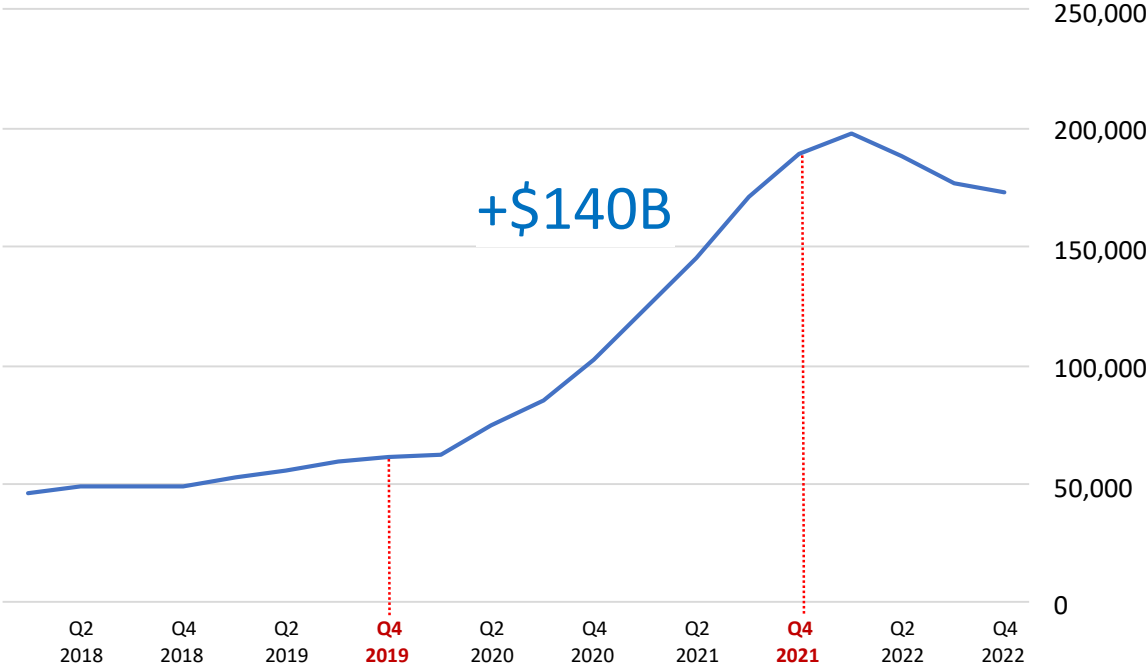
And timing...



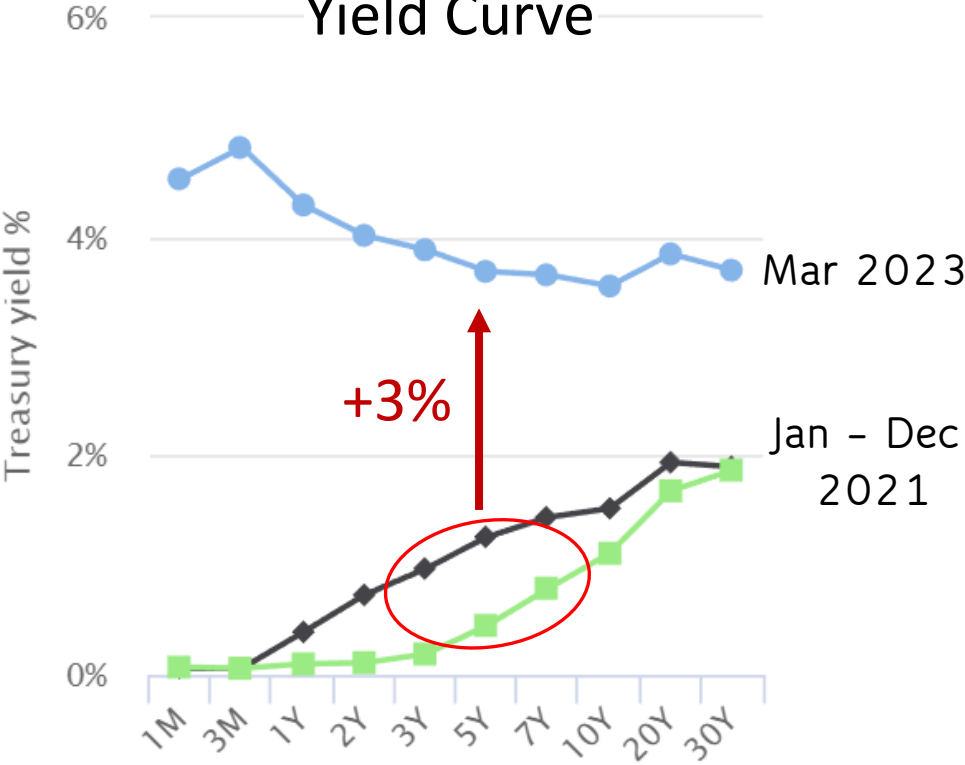
And timing...



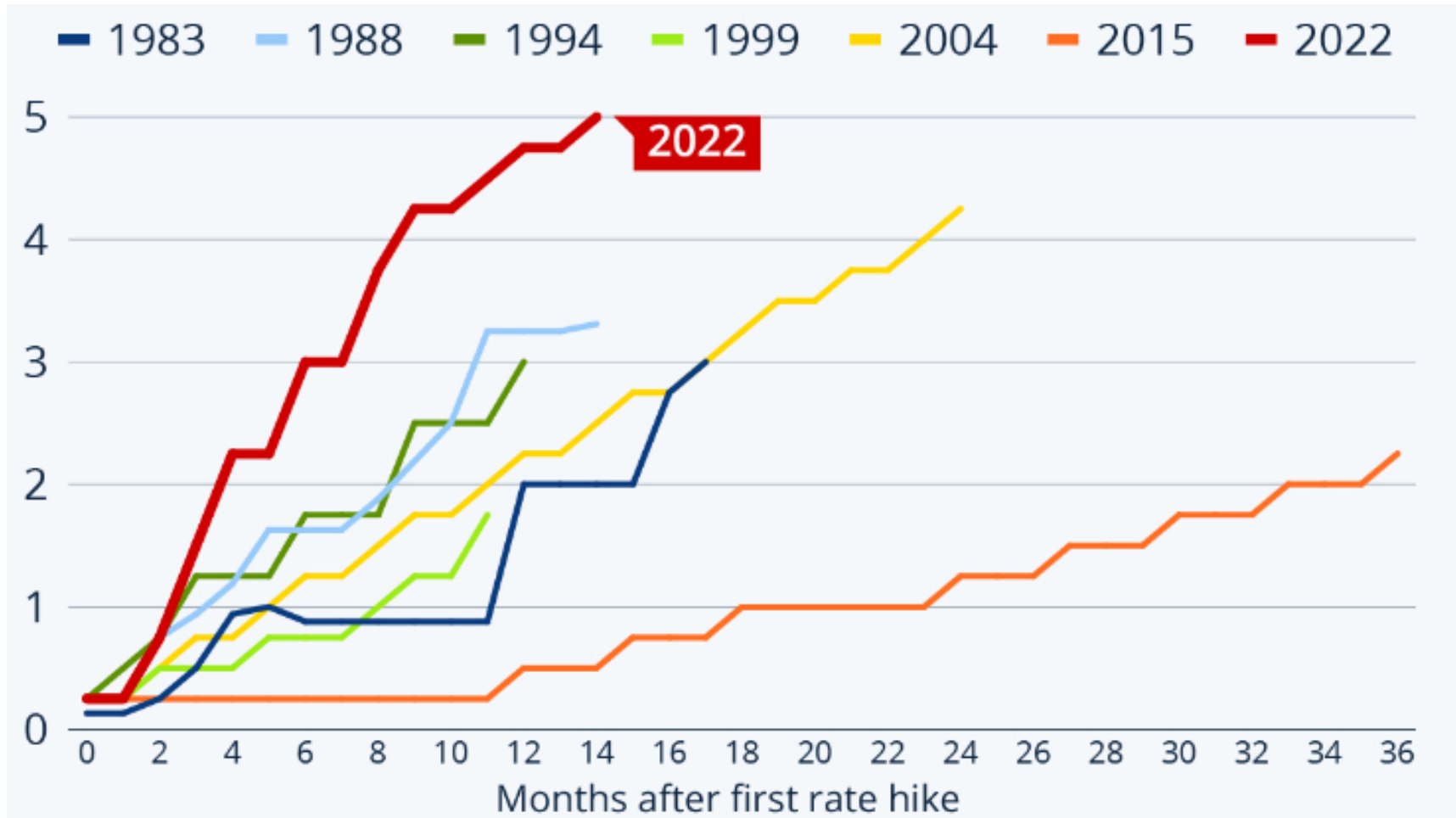
SVB DEPOSITS



Yield Curve



Recent Monetary Tightening



Source: U.S. Federal Reserve

What blew up?



<u>Assets</u>			Duration (yrs)	<u>Liabilities</u>			Duration (yrs)
Cash	15	0.0		Deposits	185	0.2	
Gov't Bonds	25	4.0		+			
MBS	85	6.0	Mark-to-Mkt Loss of \$21B	Equity	15		
<u>Loans</u>	<u>75</u>	<u>2.0</u>		Total	\$200		
Total	\$200	3.8					

$\$200 \times 3.8 \text{ yrs} \times 3\%$
 $\approx \$22.8\text{B loss}$

$\$185 \times 0.2 \text{ yrs} \times 4.8\%$
 $\approx \$1.8\text{B gain}$

- 90%+ of SVBs deposits were uninsured (> \$250k)
- Closely connected (VC Networks) - not “sleepy”

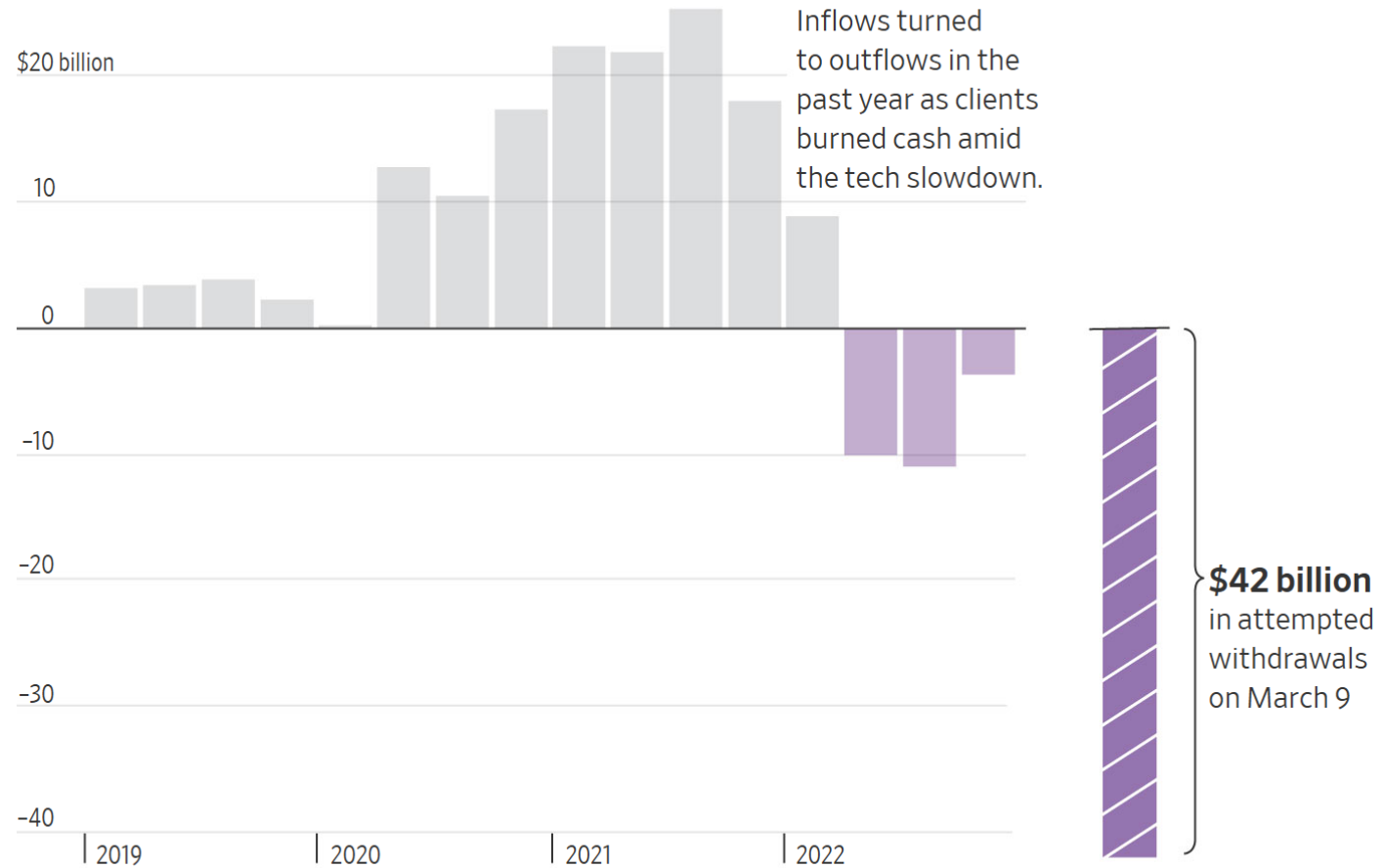


Run!



\$42 Billion in
attempted
withdrawals on
March 9th

SVB Financial deposits, quarterly net change



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

SVB Shareholders and
Creditors wiped out

FDIC extends coverage
to uninsured deposits

Bank Term Funding Program:
Banks can borrow against
assets at PAR value



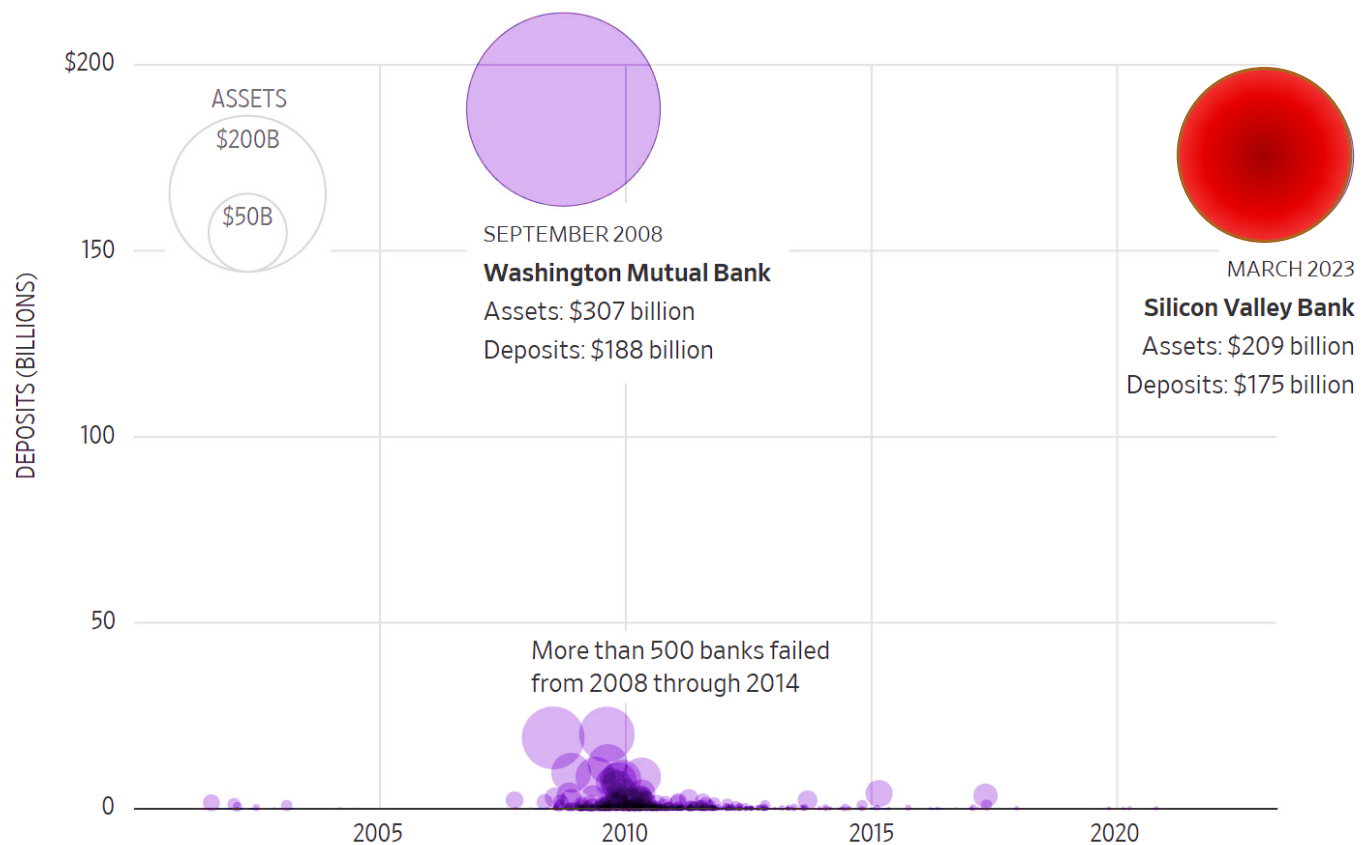
Mitigates short-term
“run risk” at other
similar banks

But: Actual losses remain
⇒ future moral hazard

And Then?

SVB: An Outlier?

Bank failures, 2001-23



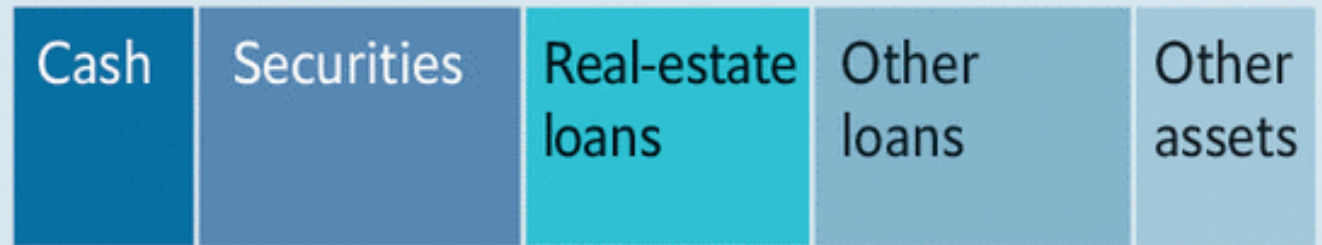
Jiang, Matvos, Piskorski, Seru 3/13/23

Monetary Tightening and U.S. Bank
Fragility in 2023: Mark-to-Market
Losses and Uninsured Depositor Runs?

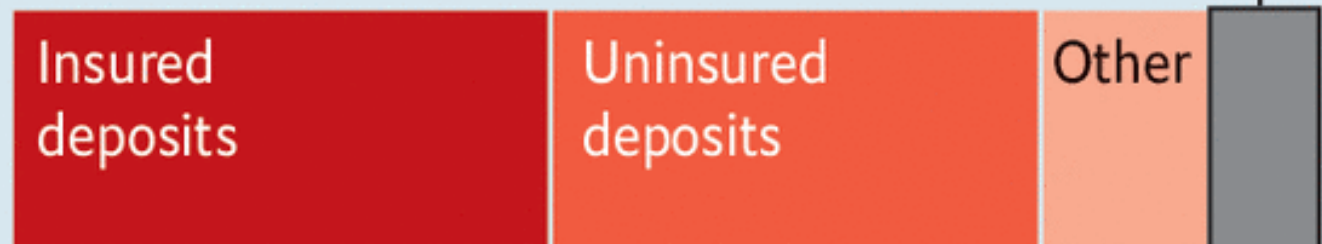
Between the balance-sheets

US banks, aggregate balance-sheet, Q1 2022, \$trn

Total assets



Total liabilities



Total equity



0

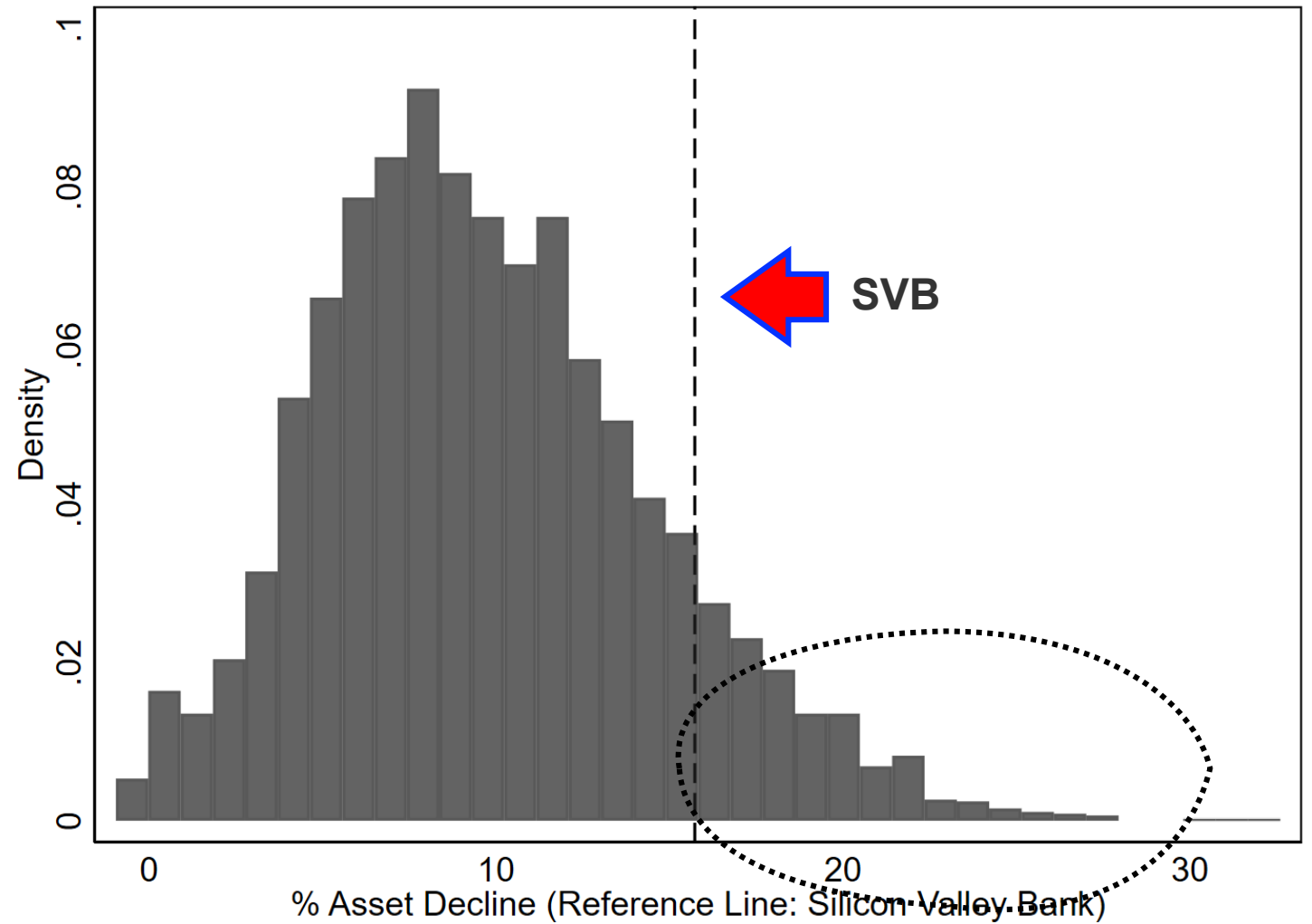
6

12

18

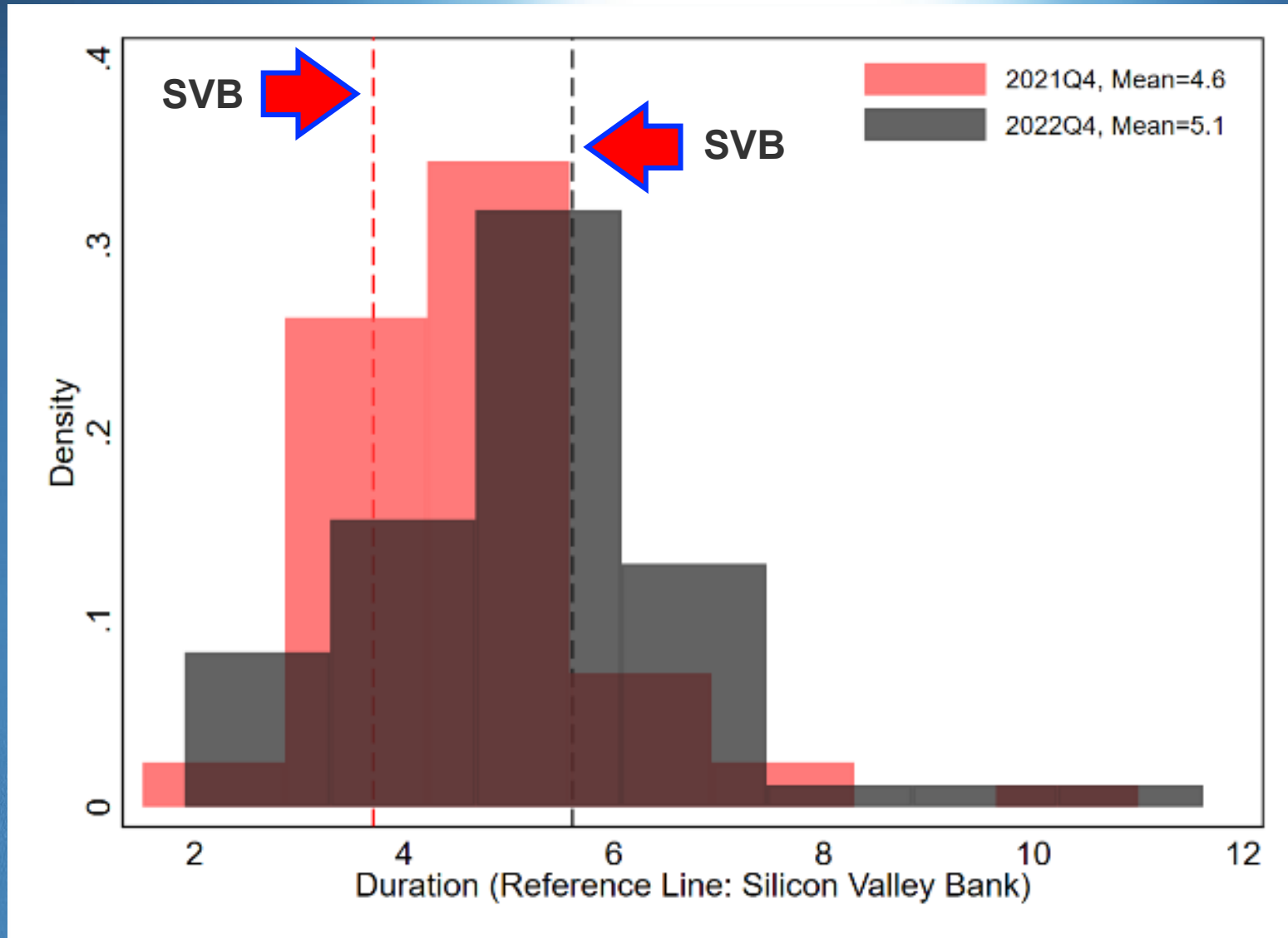
24

Unrealized Losses

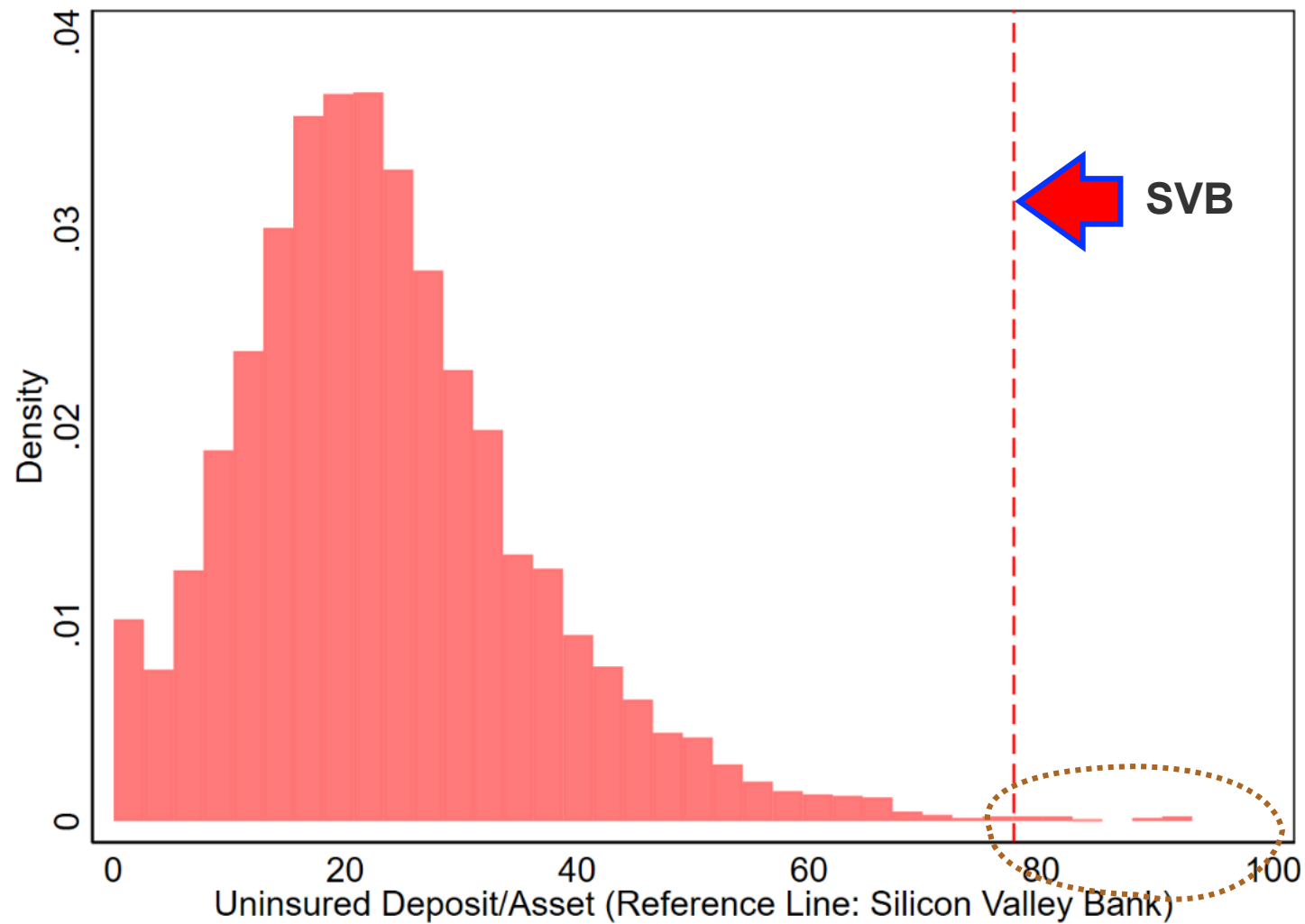


	Total	RMBS	Non-RMBS Security	Residential Mortgage	Other Loans
MTM Loss	2.2	1.0	0.3	0.6	0.3

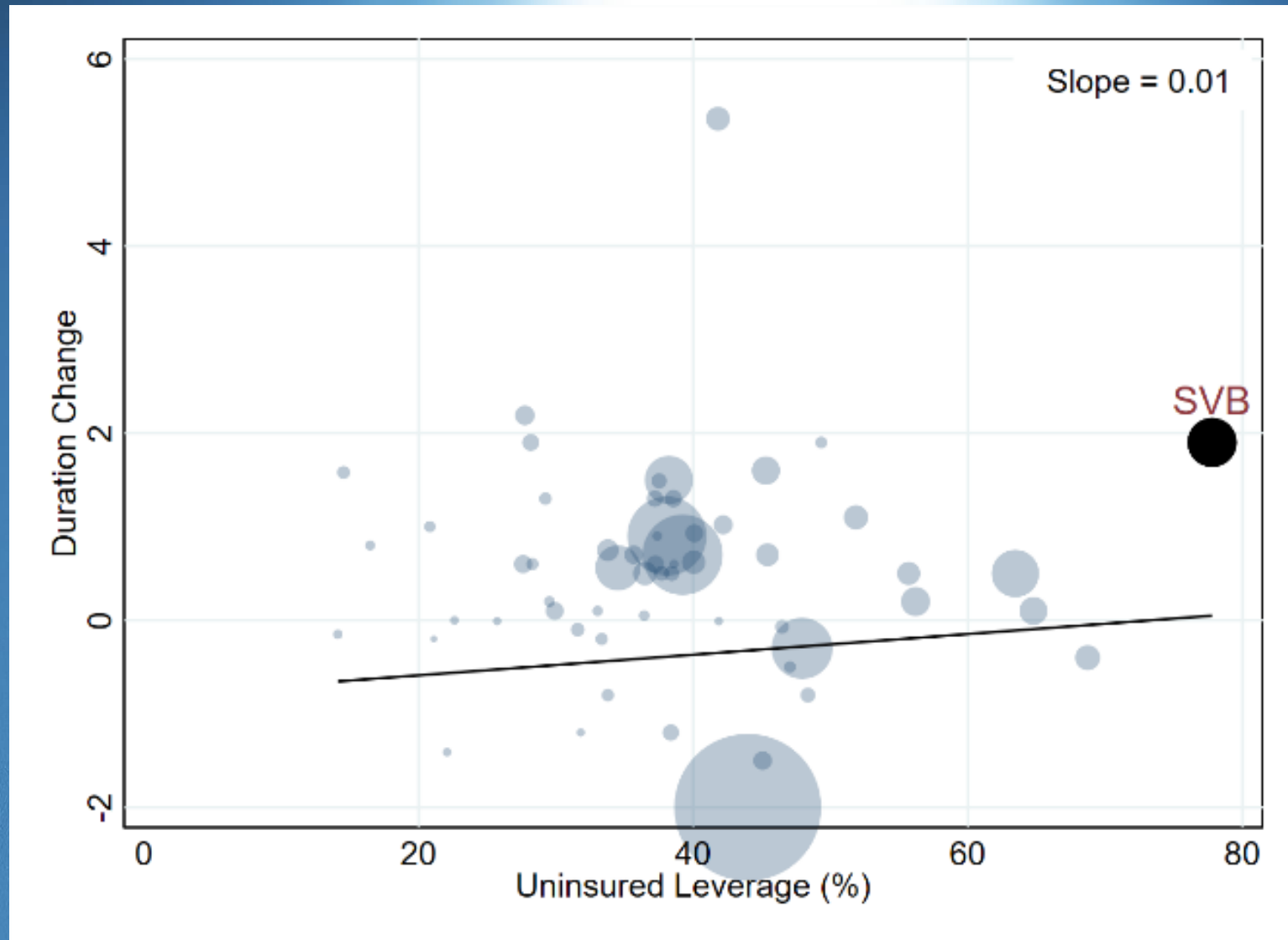
Hedging?



Uninsured Leverage

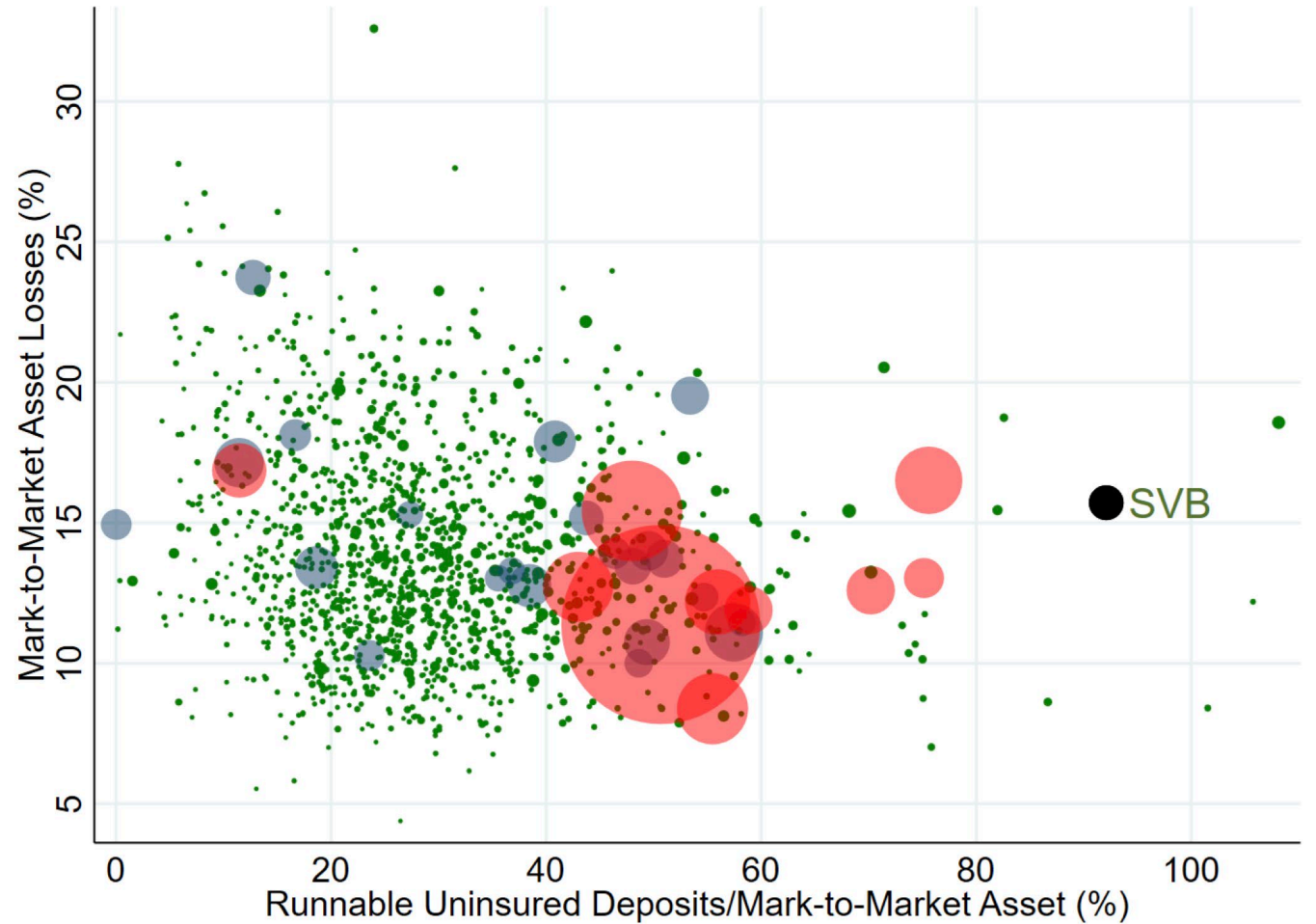


Hedging?

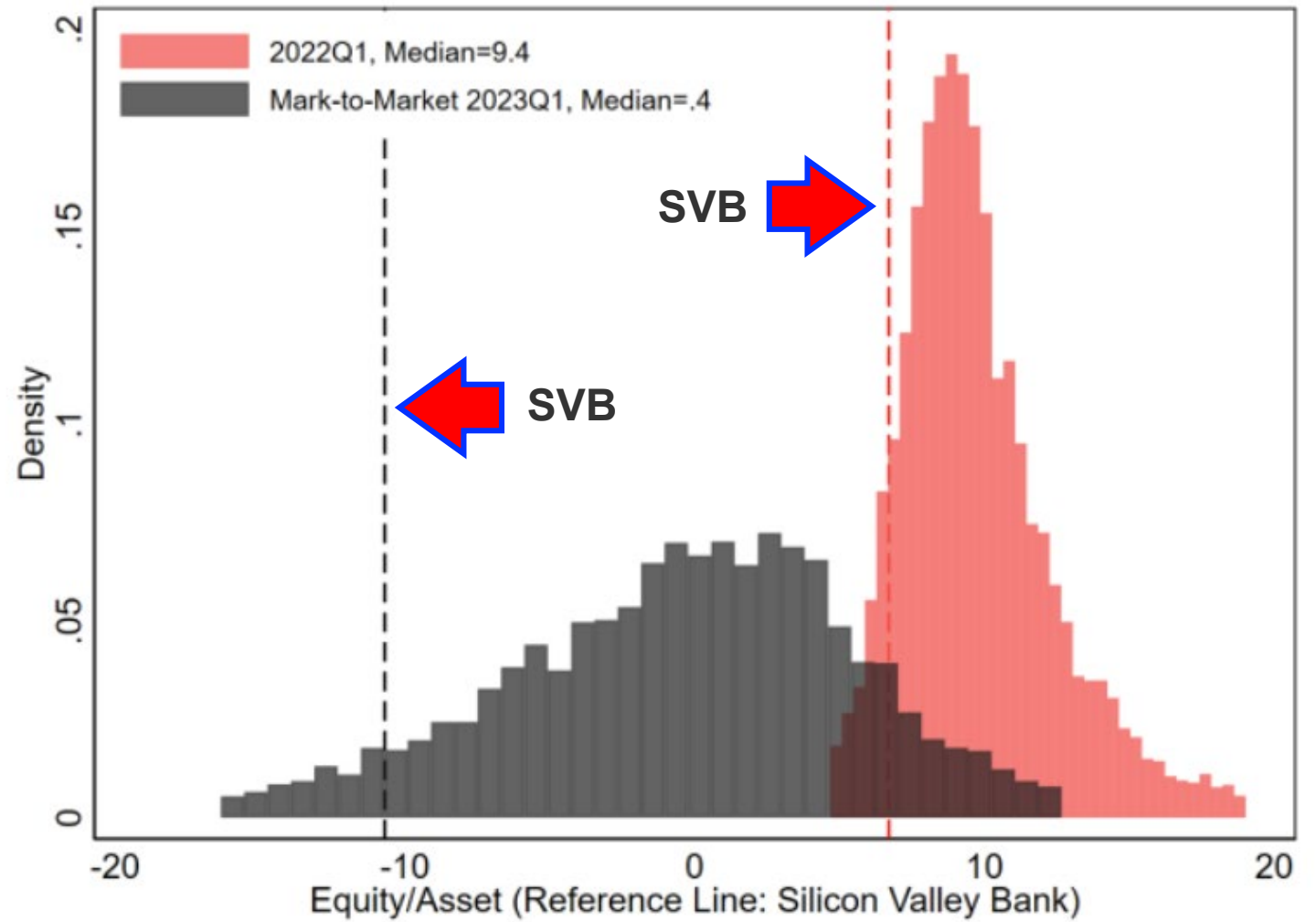


Uninsured Leverage & Unrealized Losses

Flight risk v turbulence



Equity/Assets



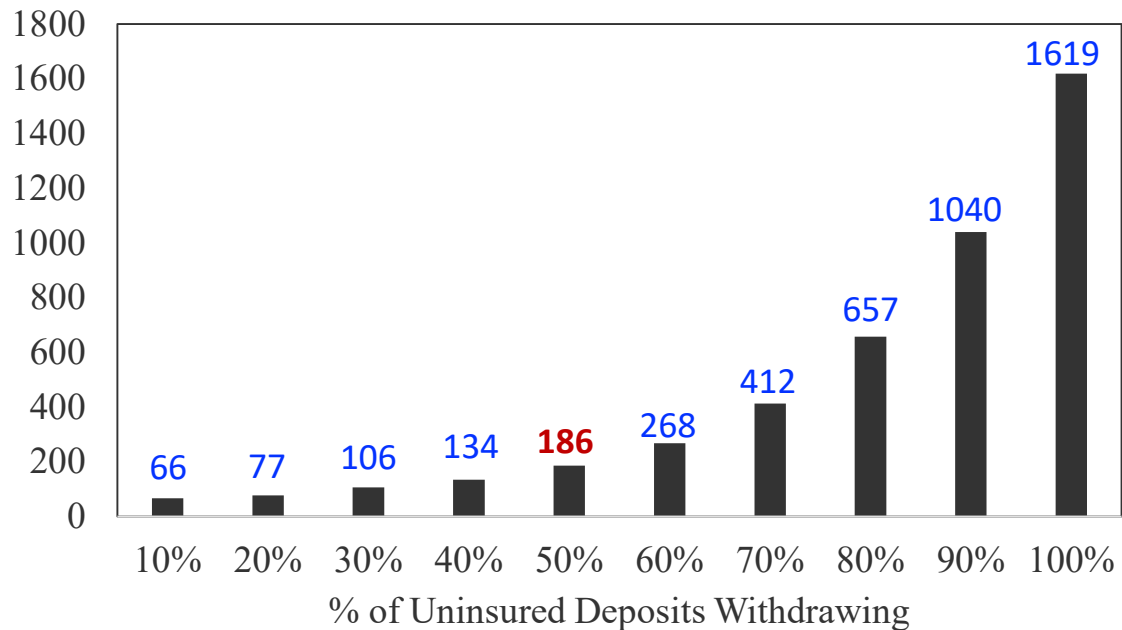
A Solvency Run...

- ❑ When interest rate increases sufficiently, a “solvency run” is possible

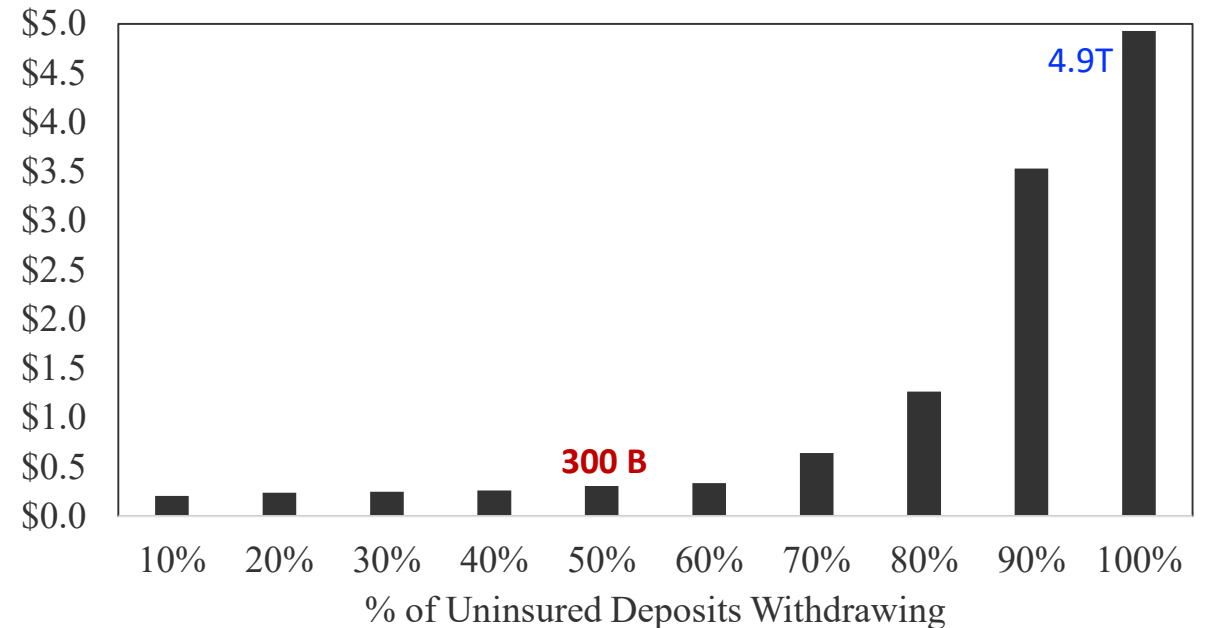
- ❑ Banks at a higher risk of solvency run:
 - Lower initial capitalization (**Equity**)
 - **Higher uninsured leverage**
 - **More awake uninsured depositors**

Where are self-fulfilling solvency runs possible?

Number of Insolvent Banks



Aggregate Assets of Insolvent Banks (in Trillions)



What about Regulators?



Liquidity

Fed report on SVB “liquidity” appears 320 times, “solvency” once!

What about Regulators?



Liquidity

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But liquidity issues addressed,
and yet banks keep failing!

LOTS of liquid assets
Other liquidity interventions

What about Regulators?



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But liquidity issues addressed, and yet banks keep failing!

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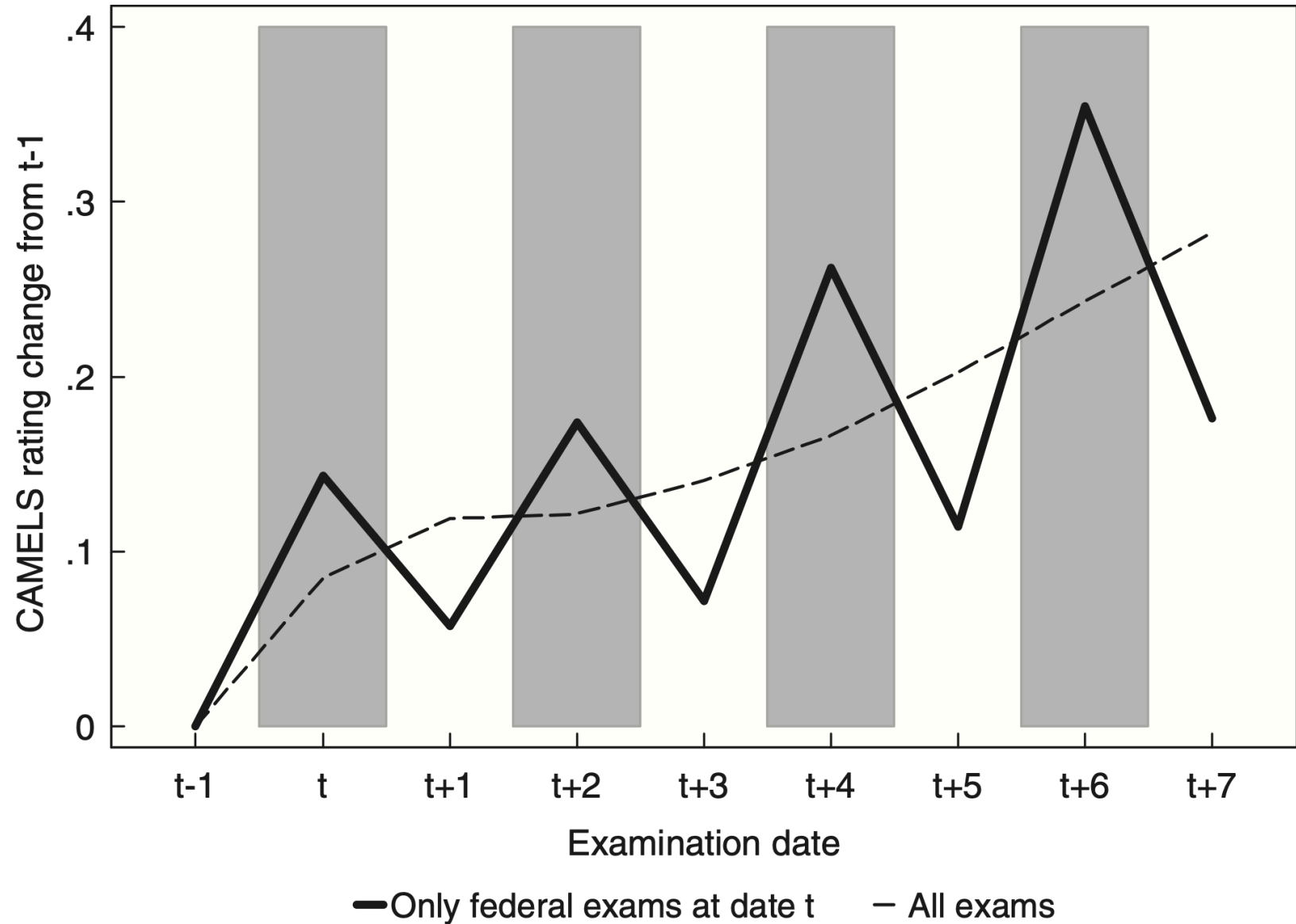


Bad management!

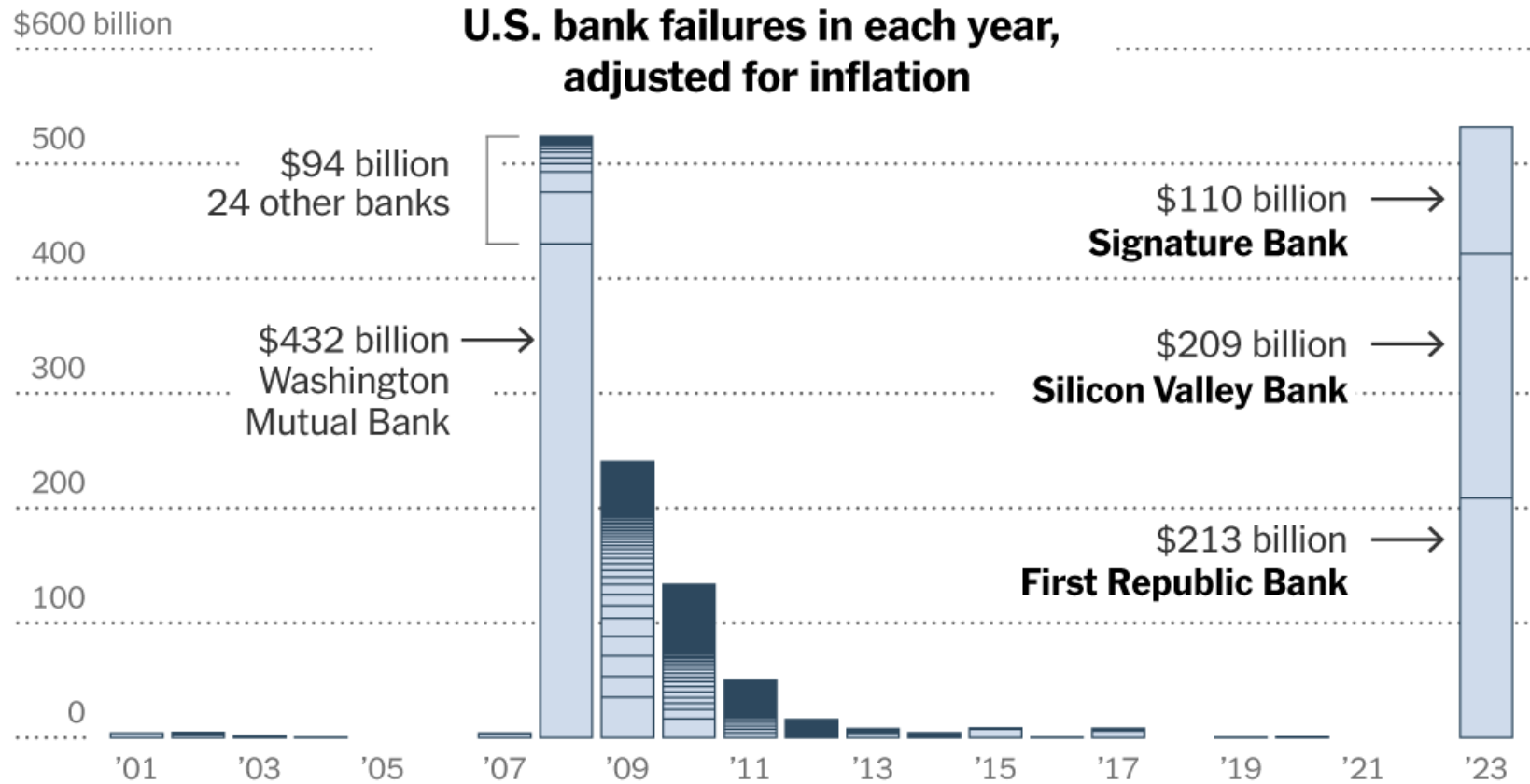
Board of directors and management failed to manage their risks

What about Regulators?

INCONSISTENT REGULATORS

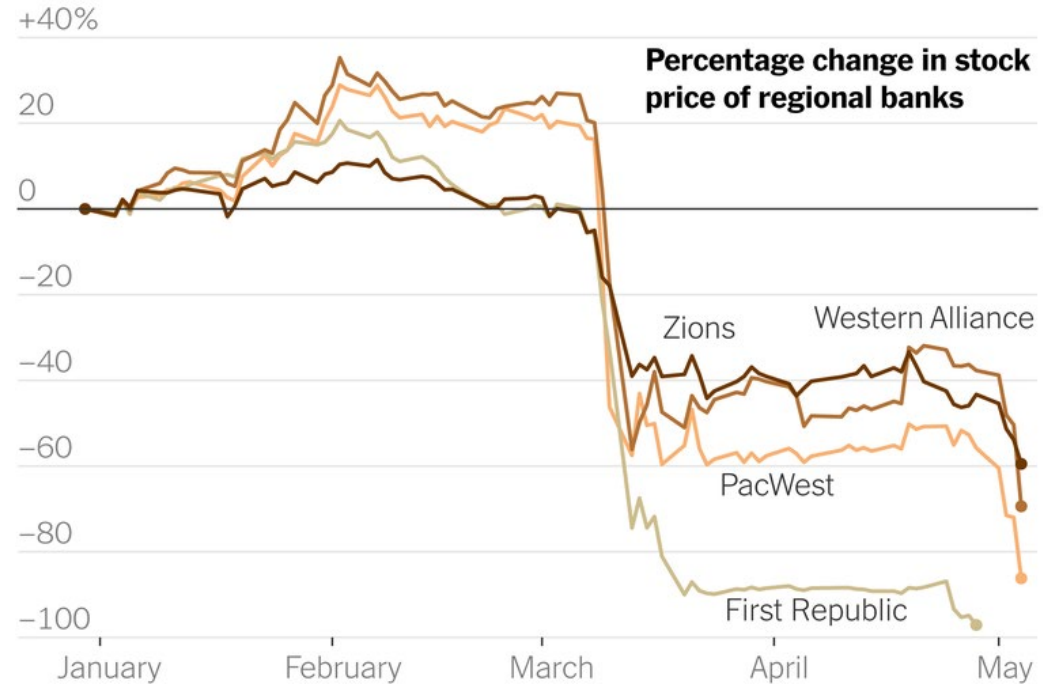
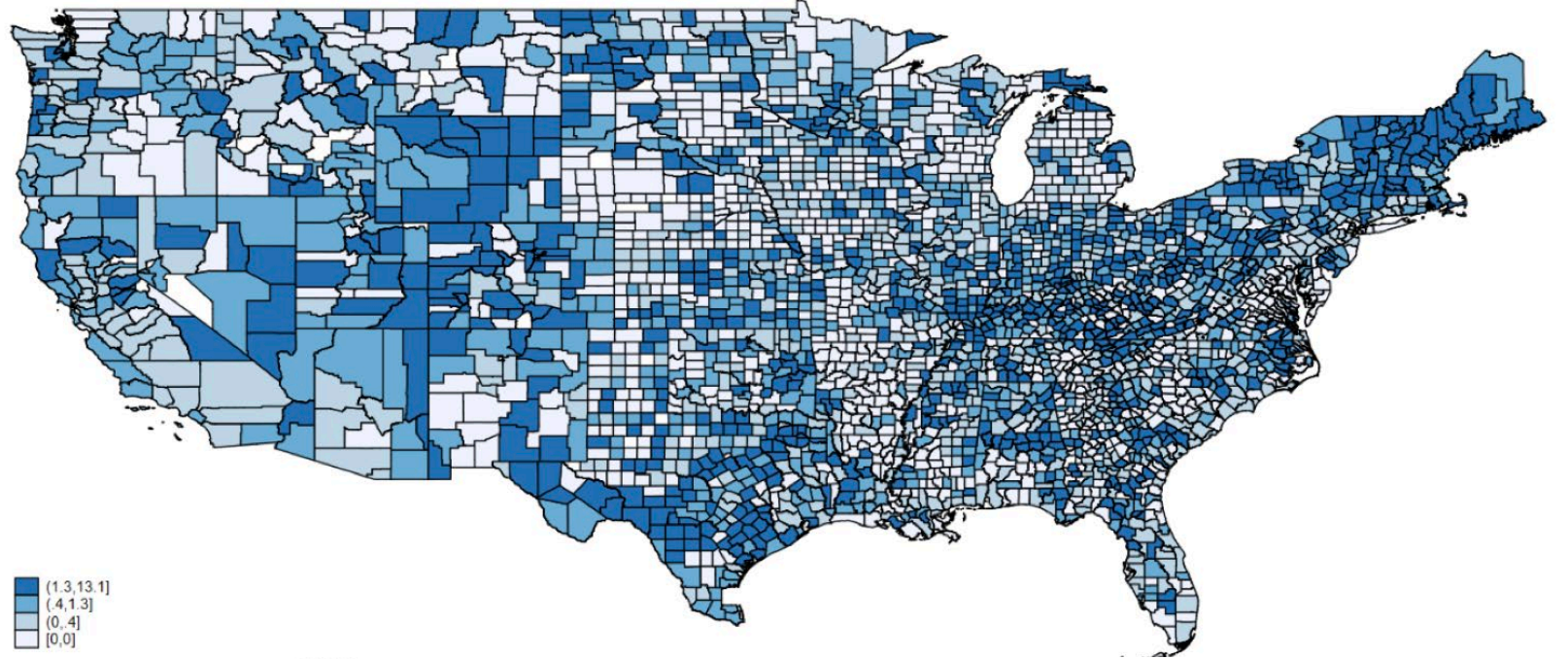


Beyond SVB?



Beyond SVB?

Share of Deposits at Risk of Impairment (%)



S&L Crisis (1980s)

“Gambling for Resurrection”

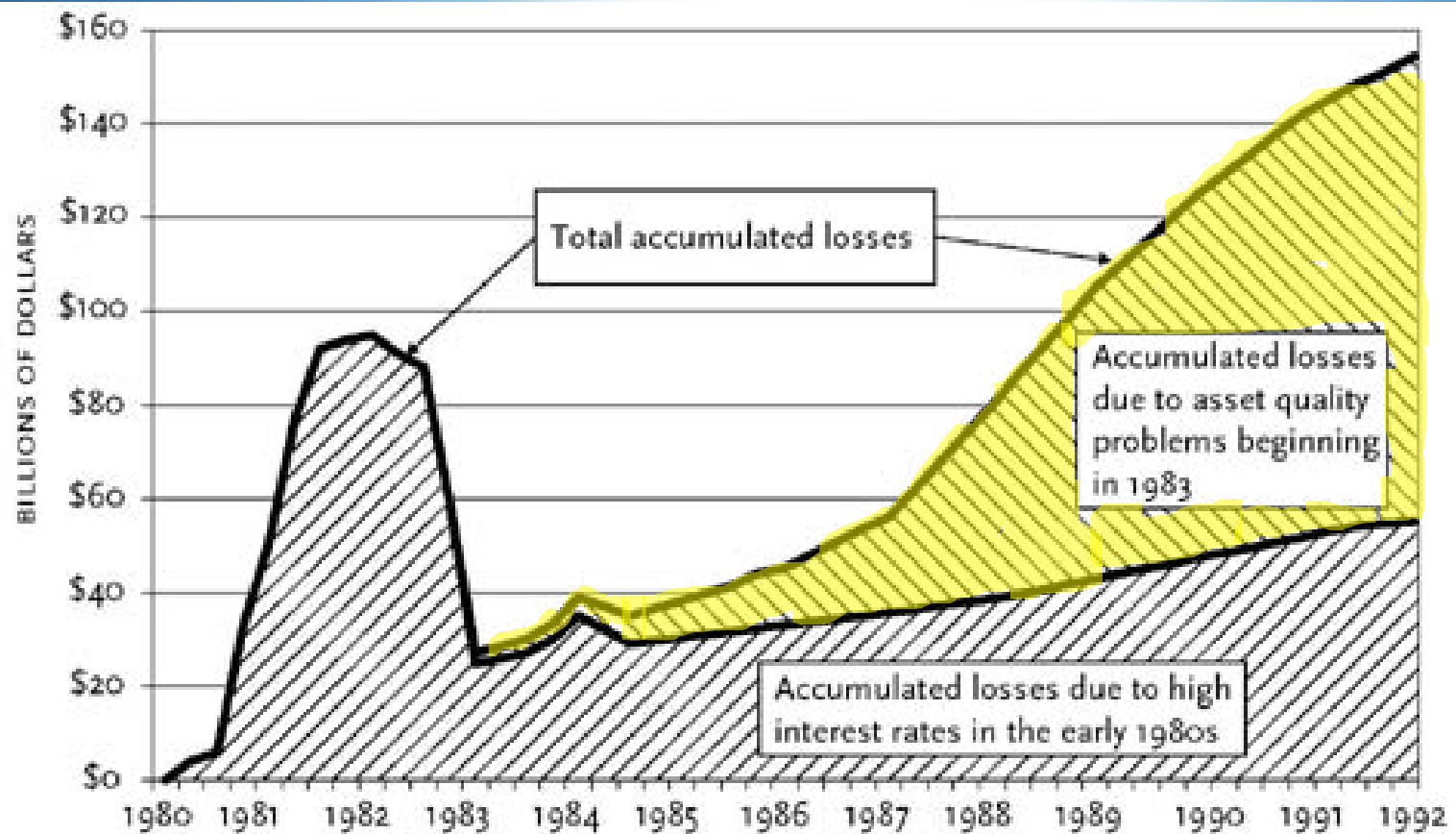
Now What?

Extended coverage to
uninsured depositors

Bank Term Funding Program

Mitigates short term risk...

...but losses remain.



What next in the short run?

“A market test”

Resolving the Banking Crisis

This Version: April 12, 2023 (with FAQs)

First Version: March 28, 2023

[Link to Current Draft](#)

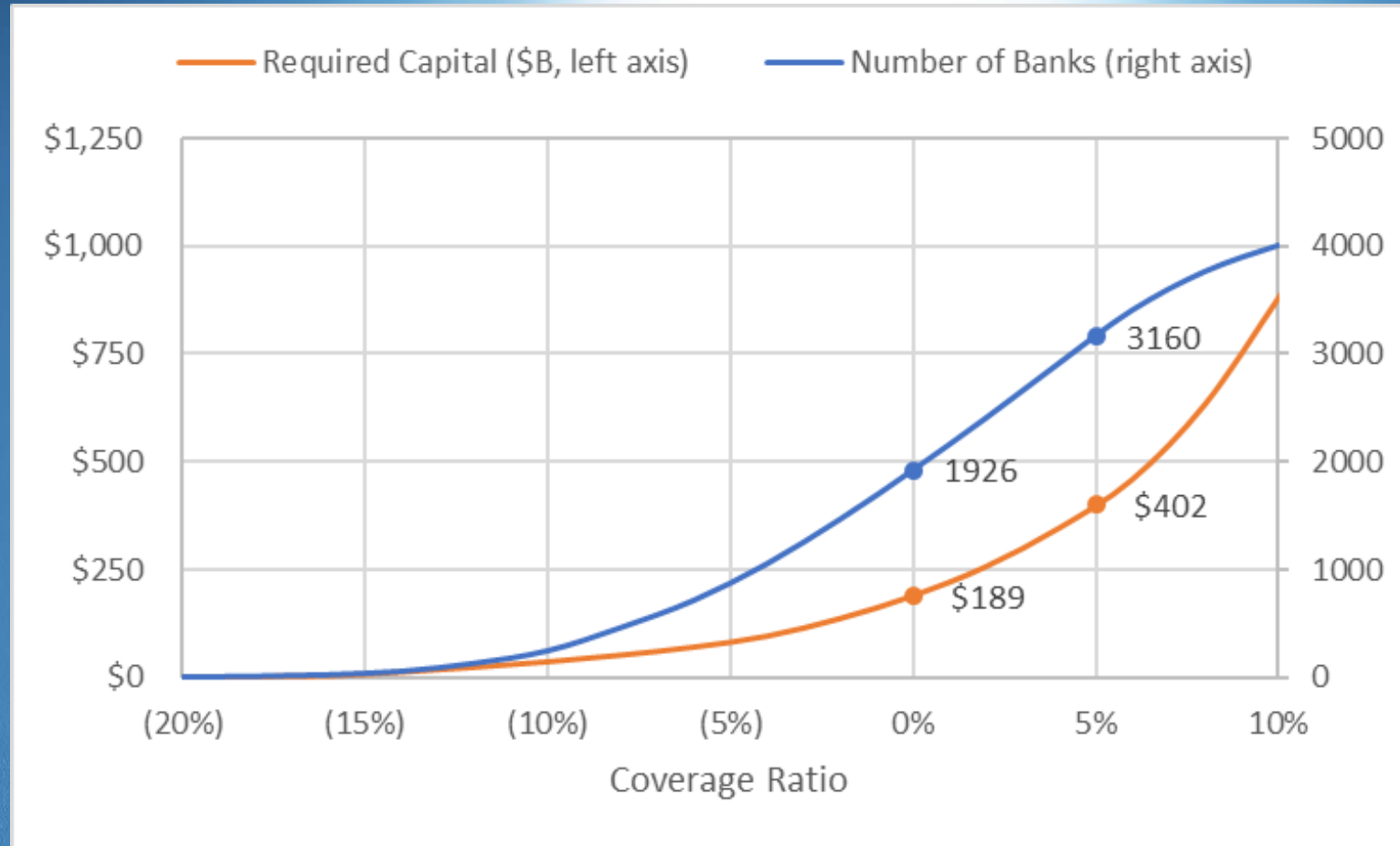
Peter DeMarzo (Stanford), Erica Jiang (USC), Arvind Krishnamurthy (Stanford), Gregor Matvos (Northwestern), Tomasz Piskorski (Columbia), Amit Seru (Stanford and Hoover)

Summary

1. New economic conditions have led to insolvency concerns across the banking system.
2. There are too many banks in this situation to resolve with one-off solutions.
3. Government backstops and regulatory forbearance risk a repeat of the S&L crisis.
4. Requiring banks to promptly raise equity capital will both reduce fragility and provide a needed market test to identify truly insolvent banks.
5. The amount of private capital needed is in the range of \$190 to \$400 billion.

What next in the short run?

“A market test”



What about the long run?

“Careful Regulations to address **unprecedented** and **unanticipated** risks?”

Interest Rate Risk

FINANCIAL TIMES

US COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI

Opinion **Markets Insight** [+ Add to myFT](#)

It is time to move to banking without subsidised deposits

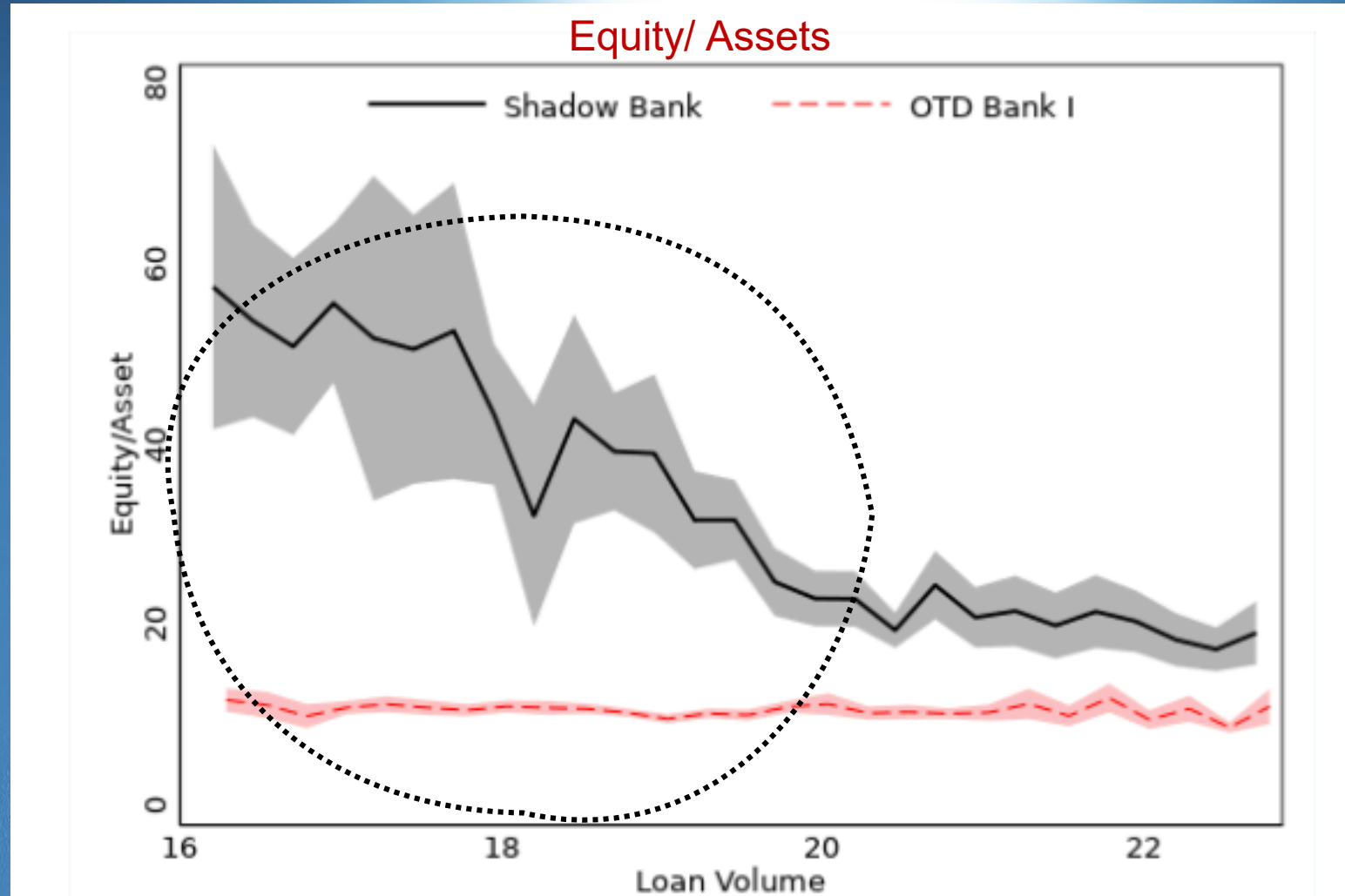
Regulators cannot be expected to solve all financial stability problems

AMIT SERU [+ Add to myFT](#)

What about the long run?

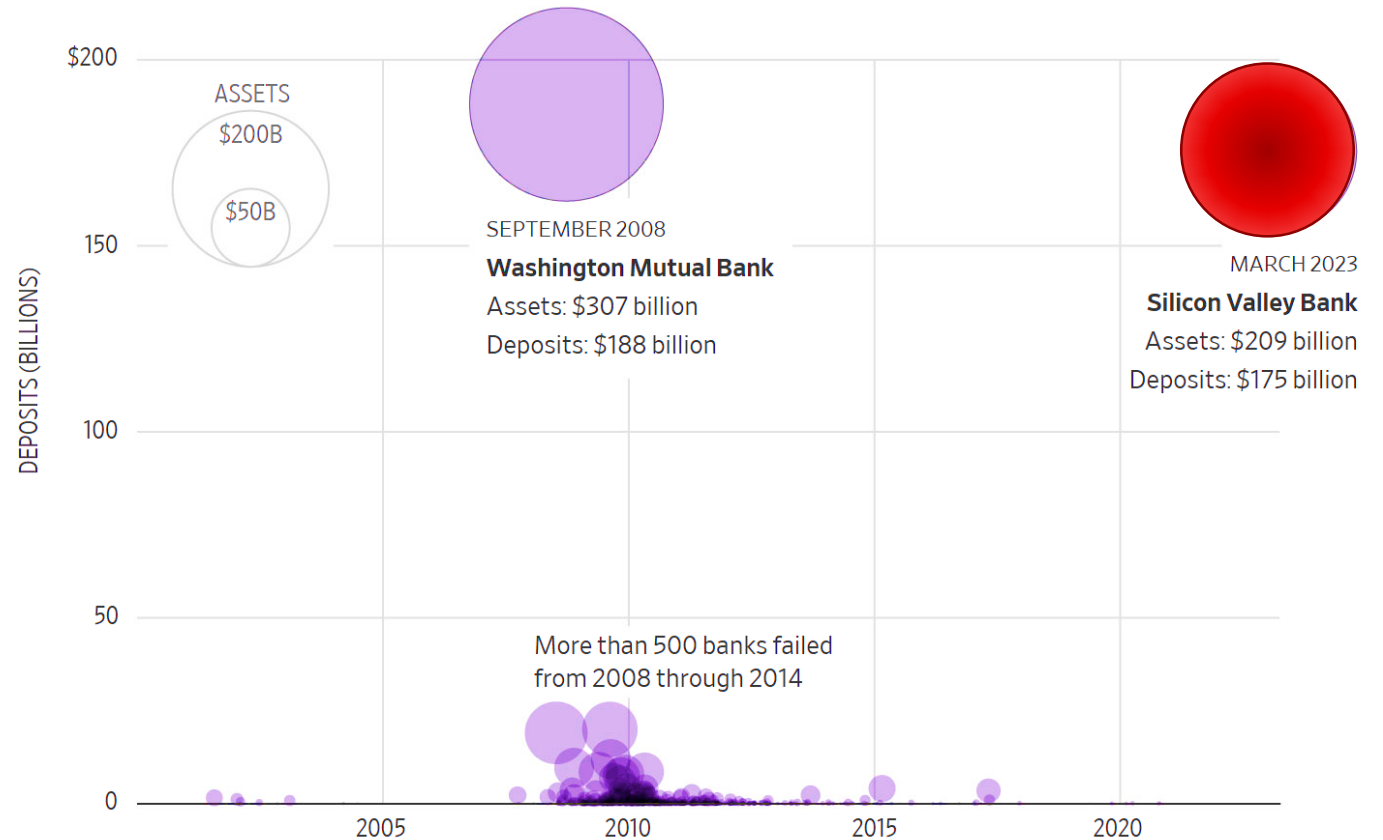
“Careful Regulations to address **unprecedented** and **unanticipated** risks?”

Interest Rate Risk



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Extra
