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

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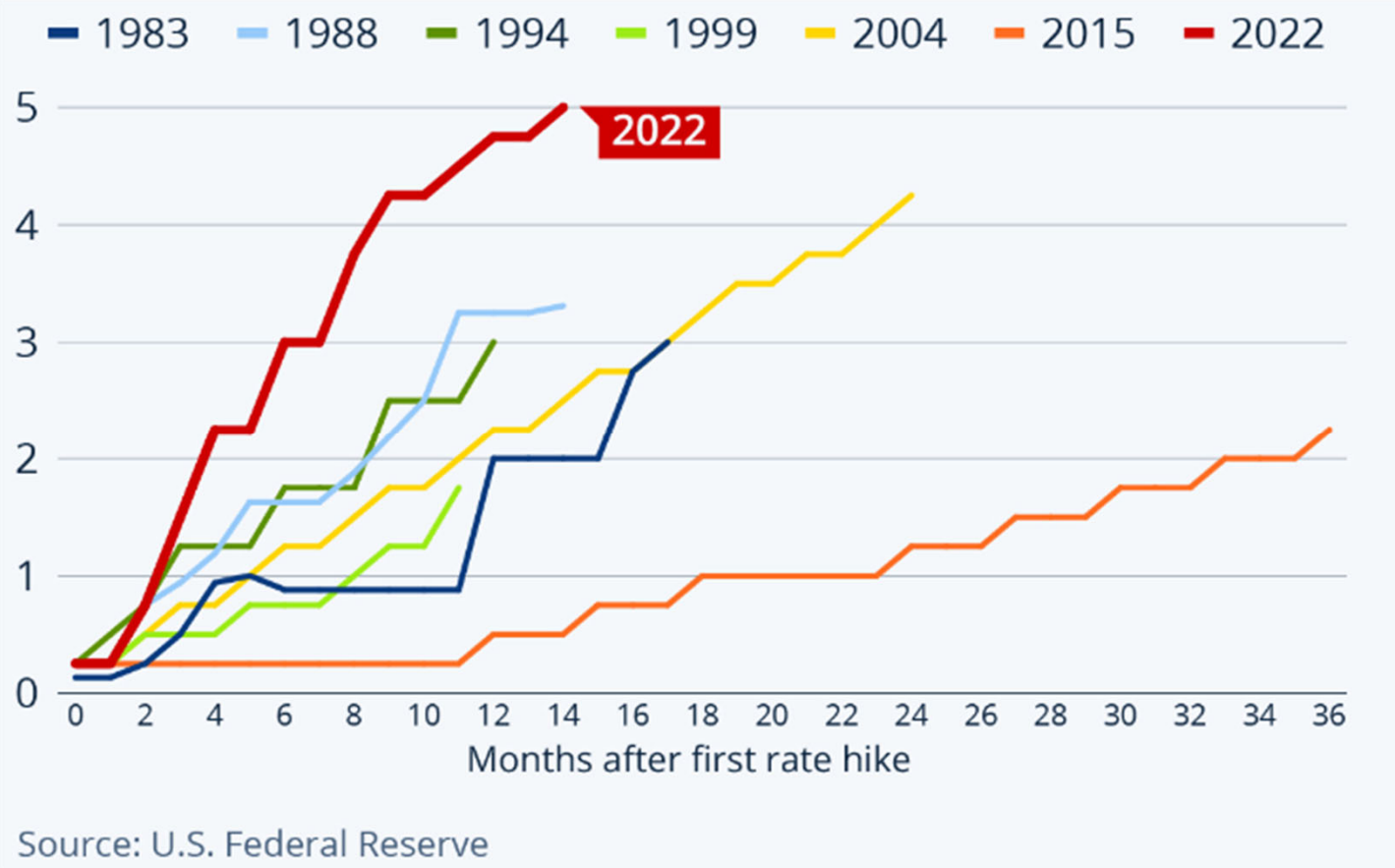
Recent Monetary Tightening



Interest Rate Exposure of Banks

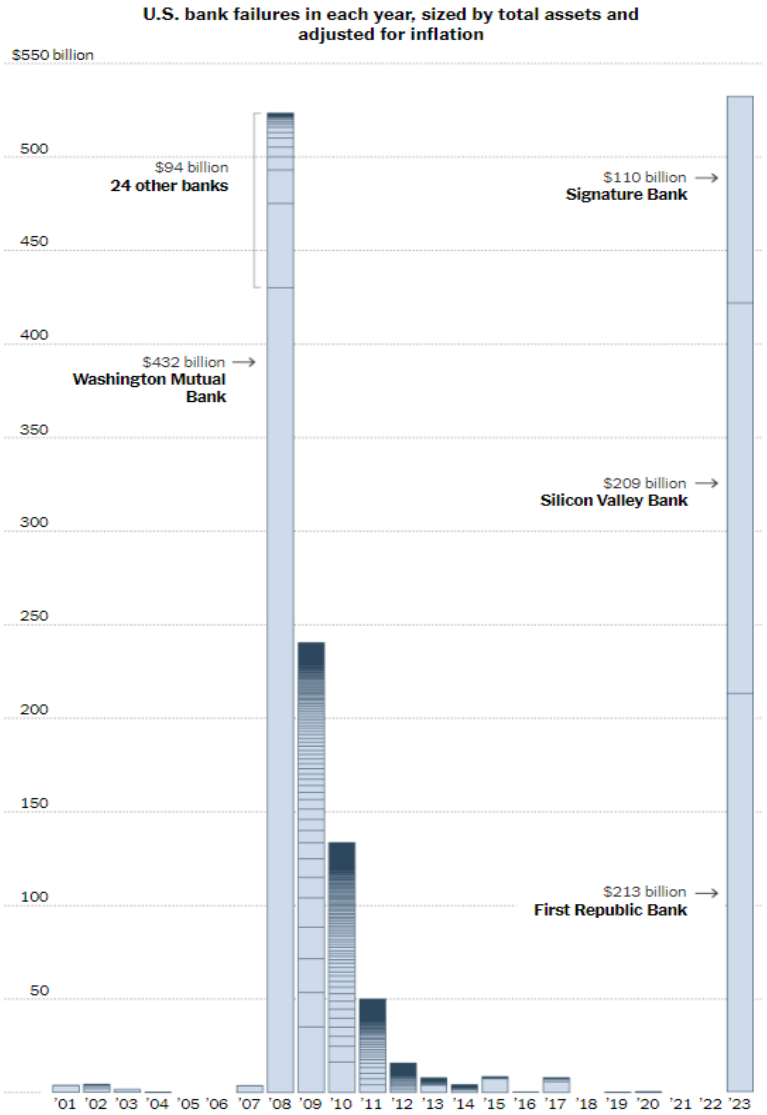
- Banks engage in maturity transformation
- Bank health & interest rate risk?
  - Bank's asset value declines
  - What about non-equity liabilities?
    - "Deposit franchise" as a hedge?
- Bank failures during monetary tightening
  - Savings & loan crisis
  - Ongoing bank failures: SVB, Signature, First Republic…
    - Very liquid assets

Recent Banking Failures

- Recent bank failures historically large
  - $532 billion in assets
  - Jointly bigger than 25 banks failed in 2008

- Discretionary policy interventions
  - Bank Term Funding Program (BTFP)
  - Senate Finance Committee hearing on March 21
    - "(Govt) is prepared to protect all depositors …"
    - "Regulators aren't looking to provide blanket deposit insurance …"

- Regulatory debate (on SVB)
  - Fed, FDIC, State regulators



Source: FDIC and NYTimes

Response: It's Liquidity & Outlier

- Liquidity
  - Fed report on SVB "liquidity" appears 318 times, "solvency" once!
- But liquidity issues have been addressed, and banks kept failing!
  - Data says banks have LOTS of liquid assts (Cash 14% + Securities 25 %)
  - Regulatory and other liquidity interventions
  - Banks kept failing!
- Bad management!
  - "SVB was an outlier"

This Paper (March 13)

- Self-fulfilling solvency runs
  - Predicted more failures
    - SVB not special
    - Liquidity is not the issue
  - Main drivers of failures
    - Where are self-fulfilling solvency runs possible?

- Measurement of asset declines
- Model to draw implication for bank health
  - Model of self-fulfilling solvency runs
  - No liquidity discount to sell assets
- Measure the potential for such runs in data

Main Findings

- $2.2 trillion asset value decline during the recent monetary tightening
  - In the order of pre-existing aggregate bank capitalization
  - Largely unhedged

- Critical role of uninsured leverage for solvency runs given these asset declines

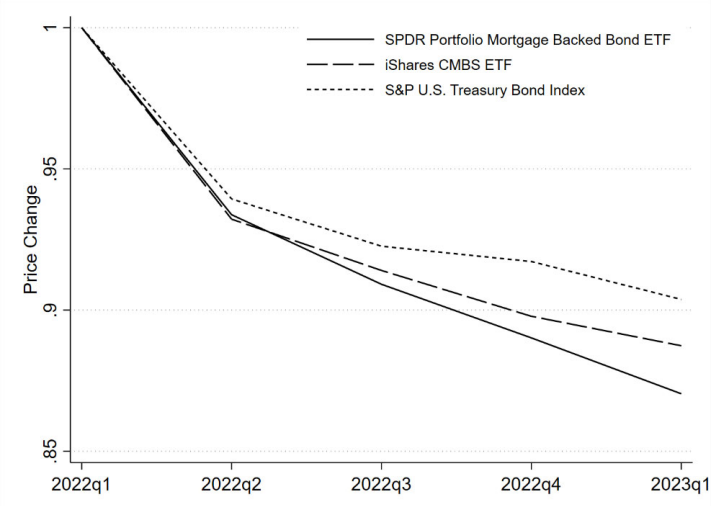
  - Model of self-fulling solvency runs
    - Key: sufficient increase in interest rate, limited capital, awake uninsured depositors
    - Insured deposits look similar to equity

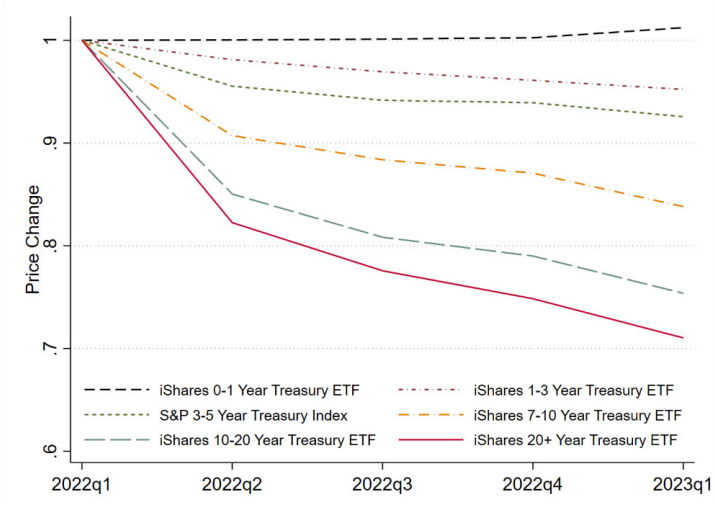
  - Empirical assessment of run potential
    - 186 banks in US could not survive withdrawal of half of uninsured deposits
    - If all uninsured depositors withdraw, +1,600 banks at risk with assets of $4.9 trillion

Bank Assets:
Rise in Interest Rate and Mark-to-Market Losses

Declines in Long-Duration Assets

- Assets with longer maturity are more affected by interest rate changes





Data

- Call reports of 4844 FDIC-insured banks in 2022Q1
- Mark to market all securities and loans according to their maturity and repricing structure
  - ~80% of banks' total assets

2. Maturity and repricing data for debt securities (excluding those in nonaccrual status):
   a. Securities issued by the U.S. Treasury, U.S. Government agencies, and states and political subdivisions in the U.S.; other non-mortgage debt securities; and mortgage pass-through securities other than those backed by closed-end first lien 1–4 family residential mortgages with a remaining maturity or next repricing date of:[2, 3]
      (1) Three months or less
      (2) Over three months through 12 months
      (3) Over one year through three years
      (4) Over three years through five years
      (5) Over five years through 15 years
      (6) Over 15 years
   b. Mortgage pass-through securities backed by closed-end first lien 1–4 family residential mortgages with a remaining maturity or next repricing date of:[2, 4]
      (1) Three months or less
      (2) Over three months through 12 months
      (3) Over one year through three years
      (4) Over three years through five years
      (5) Over five years through 15 years
      (6) Over 15 years
   c. Other mortgage-backed securities (include CMOs, REMICs, and stripped MBS; exclude mortgage pass-through securities) with an expected average life of:[5]
      (1) Three years or less
      (2) Over three years

2. Maturity and repricing data for loans and leases (excluding those in nonaccrual status):
   a. Closed-end loans secured by first liens on 1–4 family residential properties in domestic offices (reported in Schedule RC-C, Part I, item 1.c.(2)(a), column B) with a remaining maturity or next repricing date of:[1, 2]
      (1) Three months or less
      (2) Over three months through 12 months
      (3) Over one year through three years
      (4) Over three years through five years
      (5) Over five years through 15 years
      (6) Over 15 years
   b. All loans and leases (reported in Schedule RC-C, Part I, items 1 through 10, column A) EXCLUDING closed-end loans secured by first liens on 1–4 family residential properties in domestic offices (reported in Schedule RC-C, Part I, item 1.c.(2)(a), column B) with a remaining maturity or next repricing date of:[1, 3]
      (1) Three months or less
      (2) Over three months through 12 months
      (3) Over one year through three years
      (4) Over three years through five years
      (5) Over five years through 15 years
      (6) Over 15 years

Methodology

$$MTM\ Loss = \sum_t Treasury\ and\ Other\ Securities\ and\ Loans_t \times \Delta TreasuryPrice_t$$
$$+ \sum_t RMBS\ multiplier \times (RMBS_t + Mortgage_t) \times \Delta TreasuryPrice_t$$

- $\Delta TreasuryPrice_t$: Price changes of traded indexes of treasuries by maturity from 2022Q1-2023Q1

- RMBS and residential mortgages have additional risk due to prepayment risk:

$$RMBS\ multiplier = \frac{\Delta iShare\ MBS\ ETF}{\Delta \text{S\&P}\ Treasury\ Bond\ Index}$$

Mark-to-Market Losses: Aggregate Statistics

- Aggregate loss: 2.2 T
- 10% of bank assets, close to pre-tightening aggregate bank capitalization

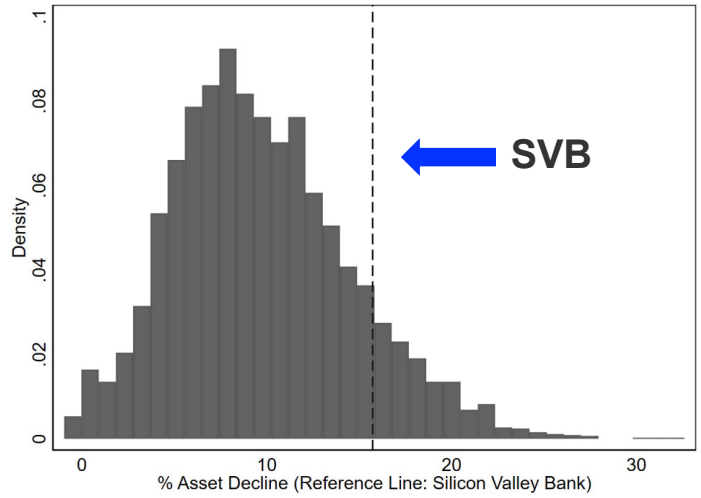
	Total	RMBS	Non-RMBS Security	Residential Mortgage	Other Loans
MTM Loss (2023Q1)	2.18	0.99	0.28	0.57	0.33
2023Q3	2.47	1.26	0.26	0.71	0.24

Mark-to-Market Losses: Distribution

- Largest for smaller and mid-sized banks (non-GSIB banks)
- 10% of banks have worse MTM losses than SVB (16%)

→ if SVB failed because of losses alone, more than 500 other banks should also have failed

	All Banks	Small (0, 1.384B)	Large (non GSIB) [1.384B,)	GSIB
Loss/Asset (%)	9.2	9.1	10.0	4.6



Did Banks Hedge their Rate Exposure?

- Two complementary data sources: call reports (assets above 5B) and 10K
- 94% of aggregate banking assets are not hedged
- Over 3 quarters of reporting banks: no material use of interest rate swaps
- Duration of about 4.6: 2pp interest rate increase → more than 9% implied losses

Table 14.5: Hedged Items in Fair Value Hedging Relationships

(in millions)	Hedged items currently designated: Carrying amount of assets/(liabilities) (1)(2)	Hedged items currently designated: Hedge accounting basis adjustment assets/(liabilities) (3)	Hedged items no longer designated: Carrying amount of assets/(liabilities) (2)	Hedged items no longer designated: Hedge accounting basis adjustment assets/(liabilities)
March 31, 2022				
Available-for-sale debt securities (4)	$ 22,937	(1,818)	17,723	903
Deposits	(7,135)	(1)	(11)	
Long-term debt	(134,848)	2,096	(6)	
December 31, 2021				
Available-for-sale debt securities (4)	$ 24,144	(559)	17,962	965
Deposits	(10,187)	(144)		
Long-term debt	(138,801)	(5,192)		

(1) Does not include the carrying amount of hedged items where only foreign currency risk is the designated hedged risk. The carrying amount excluded for debt securities is $648 million and for long-term debt is $(412) million as of March 31, 2022, and $473 million for debt securities and $(2.7) billion for long-term debt as of December 31, 2021.

(2) Represents the full carrying amount of the hedged asset or liability item as of the balance sheet date, except for circumstances in which only a portion of the asset or liability was designated as the hedged item in which case only the portion designated is presented.

(3) The balance includes $(29) million and $(202) million of debt securities and long-term debt cumulative basis adjustments as of March 31, 2022, respectively, and $(136) million and $(166) million of debt securities and long-term debt cumulative basis adjustments as of December 31, 2021, respectively, on terminated hedges whereby the hedged items have subsequently been re-designated into existing hedges.

(4) Carrying amount represents the amortized cost.

Table 14.1: Notional or Contractual Amounts and Fair Values of Derivatives

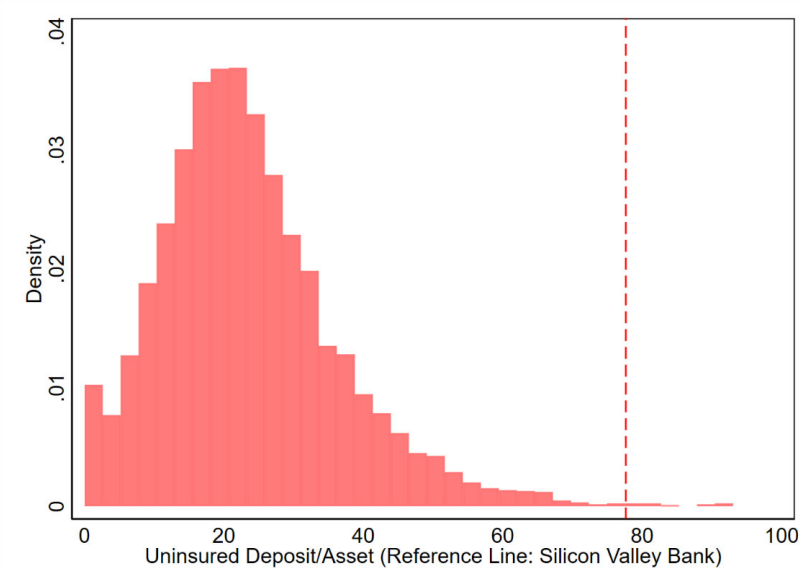
(in millions)	December 31, 2022: Notional or contractual amount	Fair value: Derivative assets	Fair value: Derivative liabilities	December 31, 2021: Notional or contractual amount	Fair value: Derivative assets	Fair value: Derivative liabilities
Derivatives designated as hedging instruments						
Interest rate contracts	$ 263,876	670	579	153,993	2,212	327
Commodity contracts	1,681	9	25	1,739	26	3
Foreign exchange contracts	15,544	161	1,015	24,949	281	669
Total derivatives designated as qualifying hedging instruments		840	1,619		2,519	999

Portfolio duration is a standard measure used to approximate changes in the market value of fixed income instruments due to a change in market interest rates. The measure is an estimate based on the level of current market interest rates, expectations for changes in the path of forward rates and the effect of forward rates on mortgage prepayment speed assumptions. As such, portfolio duration will fluctuate with changes in market interest rates. Changes in portfolio duration are also impacted by changes in the mix of longer versus shorter term-to-maturity securities. The estimated weighted-average duration of our fixed income investment securities portfolio was 5.7 and 4.0 years at December 31, 2022, and December 31, 2021, respectively. The weighted-average duration of our total fixed income securities portfolio including the impact of our fair value swaps was 5.6 years at December 31, 2022, and 3.7 years December 31, 2021. The weighted-average duration of our AFS securities portfolio was 3.6 years at December 31, 2022, and 3.5 years at December 31, 2021. The weighted-average duration of our AFS securities portfolio including the impact of our fair value swaps was 3.6 years and 2.4 year at December 31, 2022, and December 31, 2021, respectively. The weighted-average duration of our HTM securities portfolio was 6.2 years at December 31, 2022, and 4.1 years at December 31, 2021.

Bank Liabilities:
Model of Solvency Runs and Sleepy Depositors

Where was SVB Special?

- SVB **NOT** special on asset side
  - *More than 500 other banks with larger losses*
- Uninsured leverage is the key
  - Only less than 1% banks have higher uninsured leverage ratio than SVB



Why Model

- Runs in US banks with lots of liquid assets
  - Cash 14% + Securities 25 %
- Self-fulfilling solvency runs
  - No liquidity discount to sell assets
- Interaction with monetary policy
  - Show critical role of uninsured leverage, capitalization, sleepy insured deposits
- **Model + data: does a run equilibrium exist given fundamentals?**

Model Ingredients

❑ Assets

- ❍ Liquid: can be sold at market value
- ❍ Value declines with interest rate

❑ Liabilities

- ❍ Depositors love banks
  - ➢ Do not switch based on interest rates

  → Franchise value insensitive to interest rates in absence of run
- ❍ Insured depositors (asleep)
- ❍ Uninsured depositors:
  - ➢ Some are awake (sensitive to default)
- ❍ Rest is equity

Numerical Example

- A bank holds $10B in cash and $90B in T-bonds w/ infinite maturity
  - Risk-free perpetuities paying 3% annual coupon
- $45B insured deposits and $45B uninsured deposits
  - Deposit cost of 3%
  - No rents on the liability side prior to monetary tightening
- Risk-free rate is 3%
  - market value = face value of deposit
- Market value of equity: $10B

Interest Rate and Uninsured Depositor Belief

- When interest rate is low & awake uninsured depositors believe bank is solvent …
  - Good, no-run equilibrium: no incentive to withdraw, given beliefs

	Uninsured Depositors' Belief	
	[Good] Bank is solvent	[Bad] Bank is insolvent
Low Interest Rate (3%)	Asset: $10B + 90B \times \frac{3\%}{3\%} = \mathbf{100B}$ Debt: $(45B + 45B) \times \frac{3\%}{3\%} = \mathbf{90B}$ Equity: $100\mathrm{B} - 90B = \mathbf{10B}$	
High Interest Rate (4%)		

Interest Rate and Uninsured Depositor Belief

- When interest rate is low & uninsured depositors believe bank is insolvent …
  - **Not sustainable**

	Uninsured Depositors' Belief			
	[Good] Bank is solvent		[Bad] Bank is insolvent	
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High Interest Rate (4%)				

Interest Rate and Uninsured Depositor Belief

- When interest rate is high & uninsured depositors believe bank is solvent …
  - Sustainable
  - Good, no-run equilibrium

	Uninsured Depositors' Belief			
	[Good] Bank is solvent		[Bad] Bank is insolvent	
Low Interest Rate (3%)	Asset: $10B + 90B \times \frac{3\%}{3\%} = \mathbf{100B}$	Debt: $(45B + 45B) \times \frac{3\%}{3\%} = \mathbf{90B}$ Equity: $100\text{B} - 90B = \mathbf{10B}$	Asset: $10B + 90B \times$ $100\% \times 45B = \mathbf{5}$	Debt: $5B \times \frac{3\%}{3\%} = \mathbf{45B}$ Equity: $5B - 45B = \mathbf{10B}$
High Interest Rate (4%)	Asset: $10B + 90B \times \frac{3\%}{4\%} = \mathbf{77.5B}$	Debt: $(45B + 45B) \times \frac{3\%}{4\%} = \mathbf{67.5B}$ Equity: $77.5B - 67.5B = \mathbf{10B}$		

Interest Rate and Uninsured Depositor Belief

- When interest rate is high & all uninsured depositors believe bank is insolvent …
  - **Self-fulling solvency run**
  - Bank is insolvent because a run reprices bank liabilities → increase value of liabilities

	Uninsured Depositors' Belief			
	[Good] Bank is solvent		[Bad] Bank is insolvent	
Low Interest Rate (3%)	Asset: $10B + 90B \times \frac{3\%}{3\%} = \mathbf{100B}$	Debt: $(45B + 45B) \times \frac{3\%}{3\%} = \mathbf{90B}$ Equity: $100\text{B} - 90B = \mathbf{10B}$	Asset: $10B + 90B \times$ $100\% \times 45B = \mathbf{5}$	Debt: $5B \times \frac{3\%}{3\%} = \mathbf{45B}$ Equity: $5B - 45B = \mathbf{10B}$
High Interest Rate (4%)	Asset: $10B + 90B \times \frac{3\%}{4\%} = \mathbf{77.5B}$	Debt: $(45B + 45B) \times \frac{3\%}{4\%} = \mathbf{67.5B}$ Equity: $77.5B - 67.5B = \mathbf{10B}$	Asset: $10B + 90B \times \frac{3\%}{4\%} -$ $100\% \times 45B = \mathbf{32.5B}$	Debt: $45B \times \frac{3\%}{4\%} = \mathbf{33.75B}$ Equity: $32.5B - 33.75B = \mathbf{-1.25B}$

Interest Rate and Uninsured Depositor Belief

	Uninsured Depositors' Belief			
	[Good] Bank is solvent		[Bad] Bank is insolvent	
Low Interest Rate ~~(3%)~~ r_f	Asset: $10B + 90B \times \frac{3\%}{3\%} = \mathbf{100B}$	Debt: $(45B + 45B) \times \frac{3\%}{3\%} = \mathbf{90B}$ Equity: $100B - 90B = \mathbf{10B}$	Asset: $10B + 90B \times$ … $100\% \times 45B = \mathbf{55}$…	Debt: … $\times \frac{3\%}{3\%} = \mathbf{45B}$ Equity: … $B - 45B = \mathbf{10B}$
High Interest Rate ~~(4%)~~ r_f'	Asset: $10B + 90B \times \frac{3\%}{4\%} = \mathbf{77.5B}$	Debt: $(45B + 45B) \times \frac{3\%}{4\%} = \mathbf{67.5B}$ Equity: $77.5B - 67.5B = \mathbf{10B}$	Asset: $10B + 90B \times \frac{3\%}{4\%} - 100\% \times 45B = \mathbf{32.5B}$	Debt: $45B \times \frac{3\%}{4\%} = \mathbf{33.75B}$ Equity: $32.5B - 33.75B = \mathbf{-1.25B}$

A run is possible when …

$$\underbrace{10B + 90B \times \frac{r_f}{r_f'} - 100\% \times 45B}_{\textbf{Asset}} < \underbrace{45B \times \frac{r_f}{r_f'}}_{\textbf{Debt}}$$

$\equiv Asset - Equity - Awake\ Uninsured\ Deposit$

What makes runs easier to sustain

A run is possible when …

$$\underbrace{10B + 90B \times \frac{r_f}{r_f'} - 100\% \times 45B}_{\textbf{Asset}} < \underbrace{45B \times \frac{r_f}{r_f'}}_{\textbf{Debt}}$$

$\equiv Asset - Equity - Awake\ Uninsured\ Deposit$

$$\rightarrow \frac{r_f'}{r_f} > \frac{\overbrace{90B - 45B}^{Equity + (Awake\ Uninsured\ Deposits - Cash)}}{\underbrace{100\% \times 45B}_{Awake\ uninsured\ depositors} - \underbrace{10B}_{Cash}} = \frac{\textbf{Equity}}{\textbf{Awake uninsured depositors} - \textbf{Cash}} + 1$$

- When interest rate increases sufficiently, a solvency run is possible
- Riskier banks:
  - Lower initial capitalization
  - **Higher uninsured leverage**
  - More awake uninsured depositors

Bank Liabilities:
How Many Banks Are at Risk of Solvency Runs?

How Many Banks are at Risk of Such Run

- Given fundamentals, we assess the uninsured depositors run risk for each US bank

- Note that banks with the following characteristics are more at risk
  - Lower initial capitalization
  - More exposure to asset value declines
  - Higher uninsured leverage

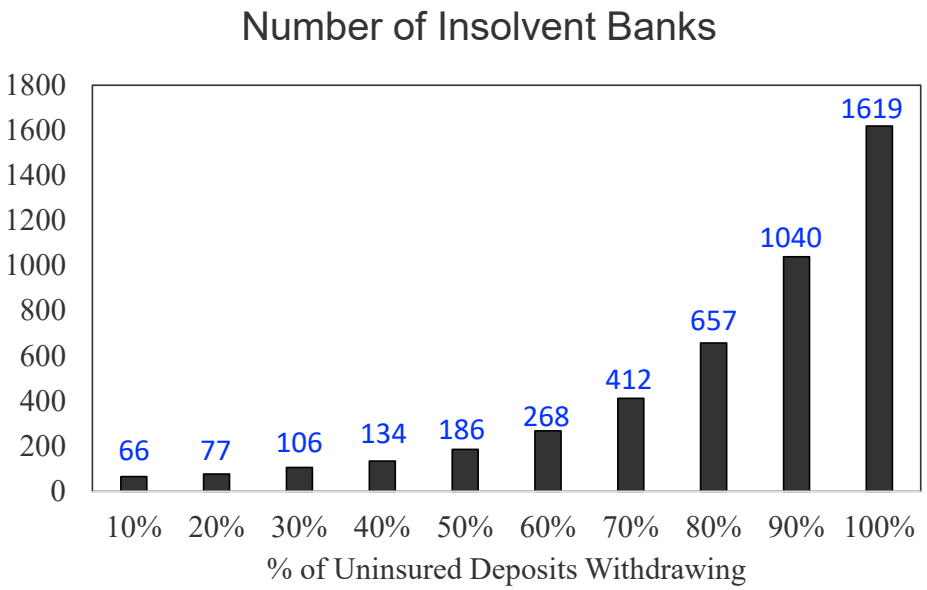
- What is the default threshold in practice?

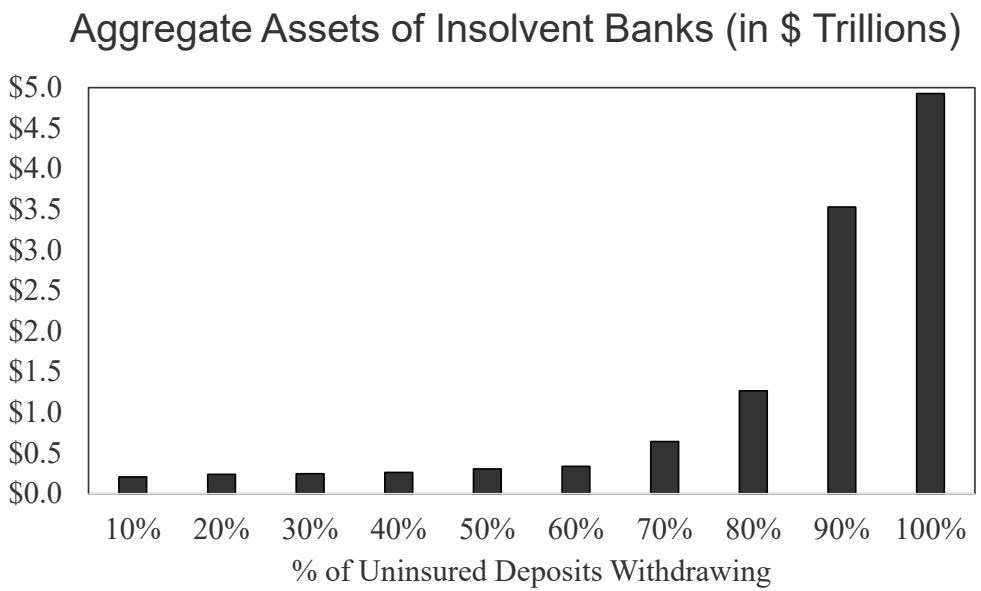
Insured Deposit Coverage

- FDIC steps in to protect insured depositors when a bank is put into receivership
- *Empirical solvency condition*: insured depositors being impaired is the lower bar for FDIC intervention

$$\text{Insured Deposit Coverage ratio} = \frac{\text{Mark-to-Market Assets} - s \times \text{Uninsured Deposits} - \text{Insured Deposits}}{\text{Insured Deposits}}$$

Where are self-fulfilling solvency runs possible?

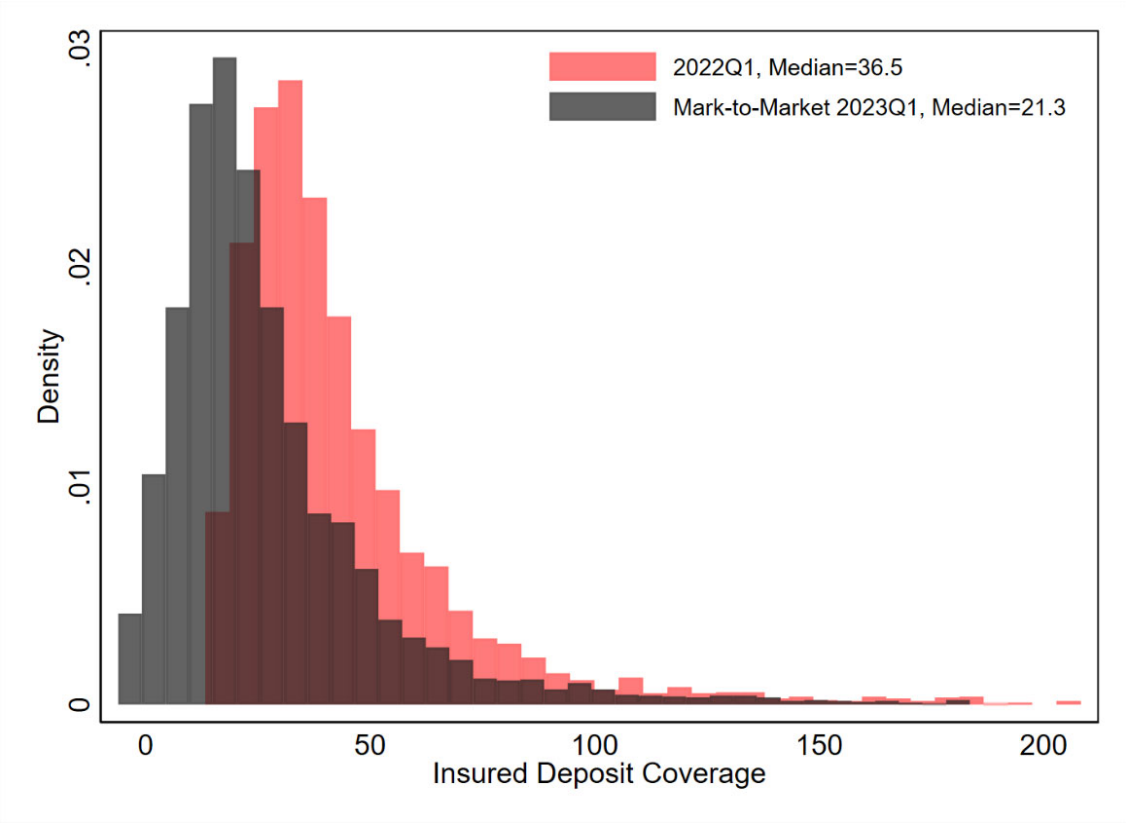




- 50% withdrawal: 186 banks insolvent with assets of $300 billion
- 100% withdrawal: +1,600 banks insolvent with assets of $4.9 trillion

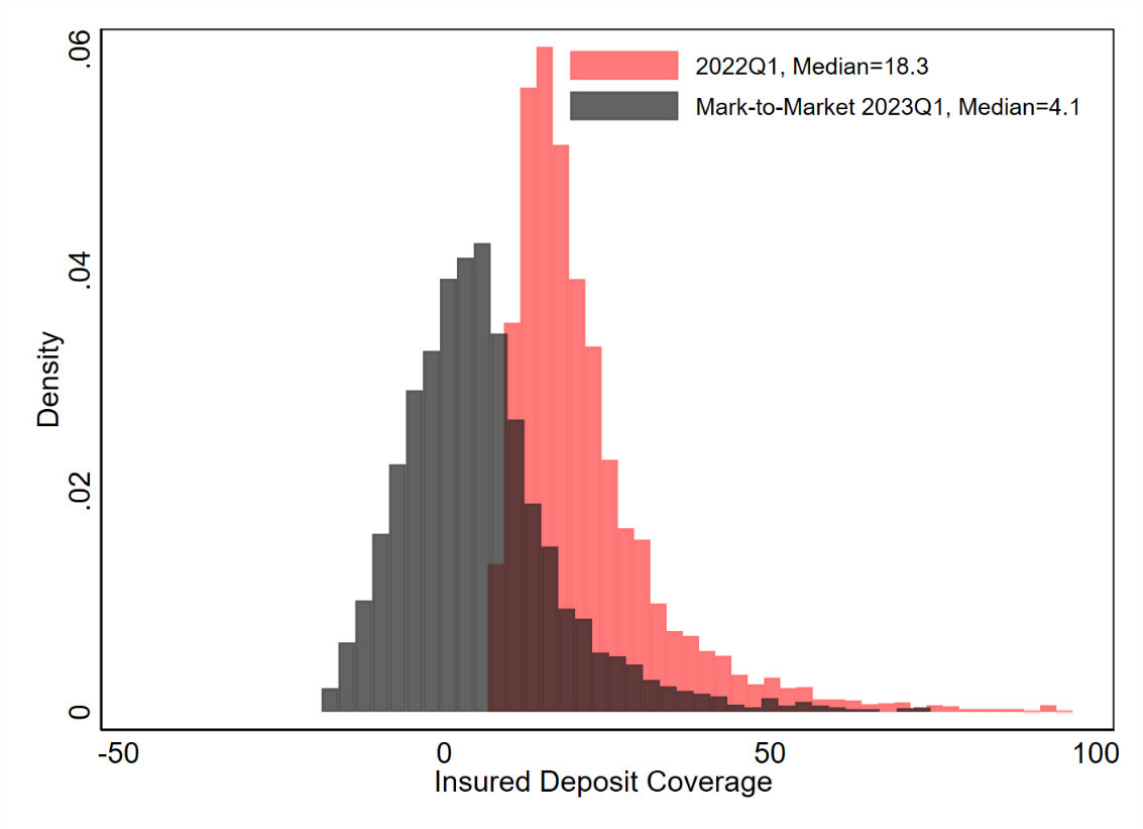
Distribution of Insured Deposit Coverage Ratio

- 50% uninsured depositors run (i.e., $s = 0.5$)



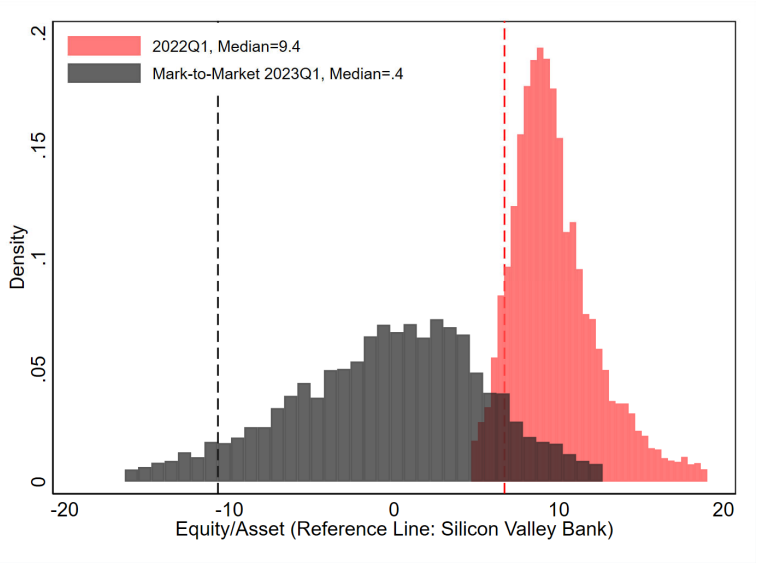
Distribution of Insured Deposit Coverage Ratio

- All uninsured depositors run (i.e., $s = 1$)



Bank Capitalization (Extreme Insolvency)

- If all depositors & debtholders withdrew their funding, could banks repay their debts?
  - Assuming no deposit franchise value, akin to full withdrawal by ALL depositors
  - 2,315 banks insolvent with $11 trillion of assets



Conclusion

- Self-fulfilling solvency & monetary policy
  - Connection between run risk and interest rate risk
- Measurement: $2.2 trillion asset value decline
- Critical role of uninsured leverage for solvency runs given these asset declines
- Empirical assessment of the run risk
  - Where self-fulfilling solvency runs are possible
  - 186 banks in US could not survive withdrawal of half of uninsured deposits

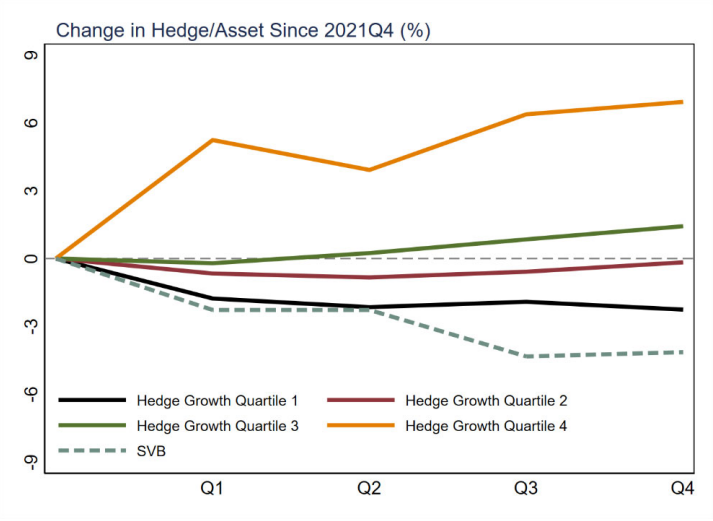
Implications

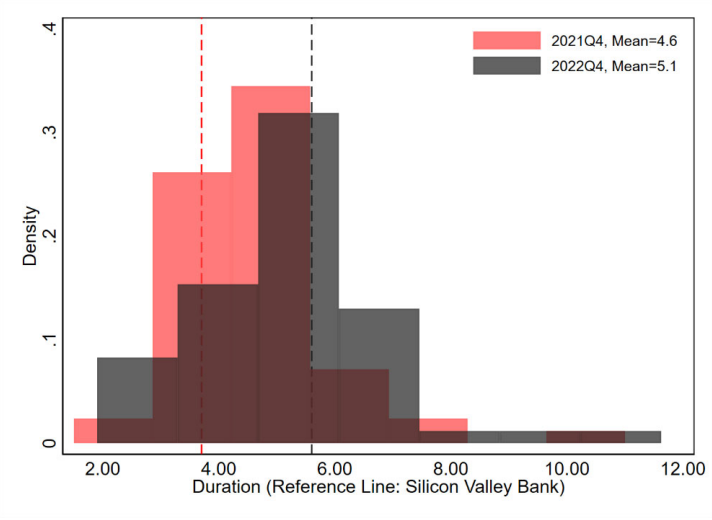
- Monetary tightening significantly increased bank risk of insolvency runs
  - Higher bank risk in low income, higher minority areas
  - Eroded bank ability to withstand adverse credit events
- Connection between run risk and interest rate risk
- Other interesting findings:
  - Gambling for resurrection
  - Credit risk
  - Regional exposure

Other Topics Covered

Gambling for Resurrection: 2022 edition

- Several banks significantly decreased hedging
- Average duration increased

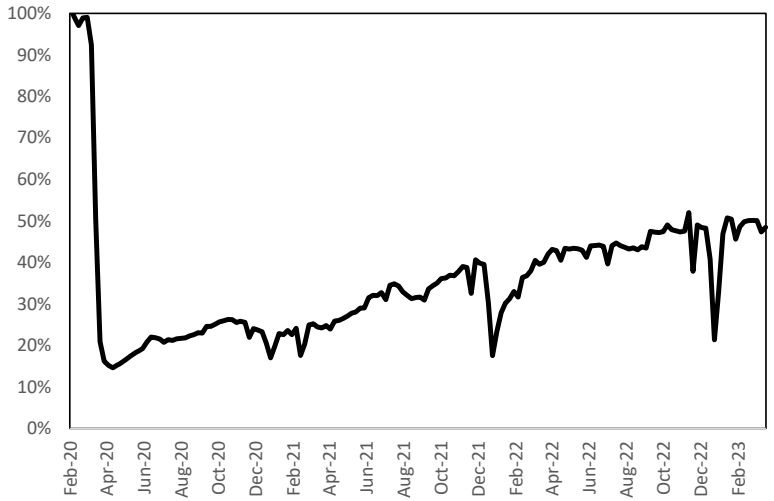


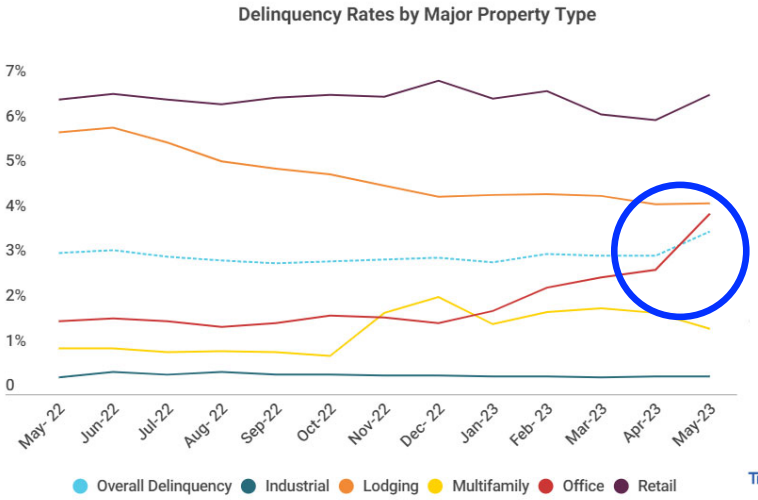


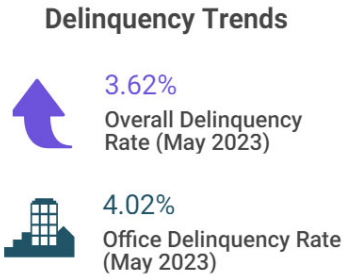
What About Credit Risk?

What About Credit Risk?

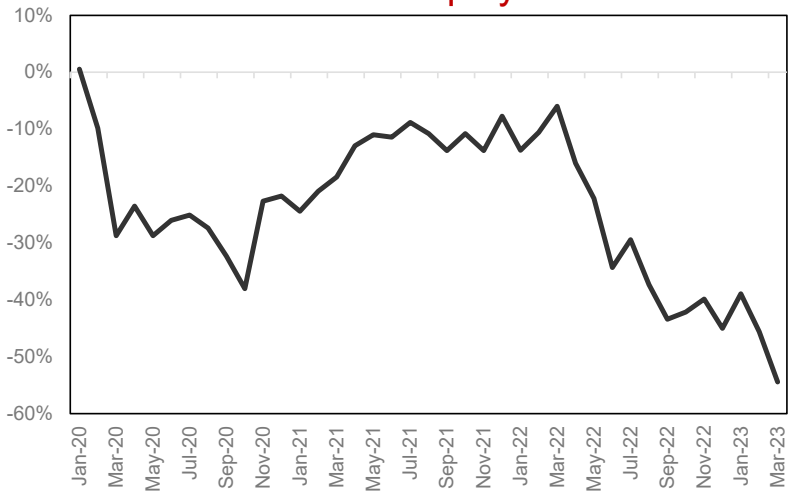
Physical Office Attendance (Kastle)







Office REIT Equity Values



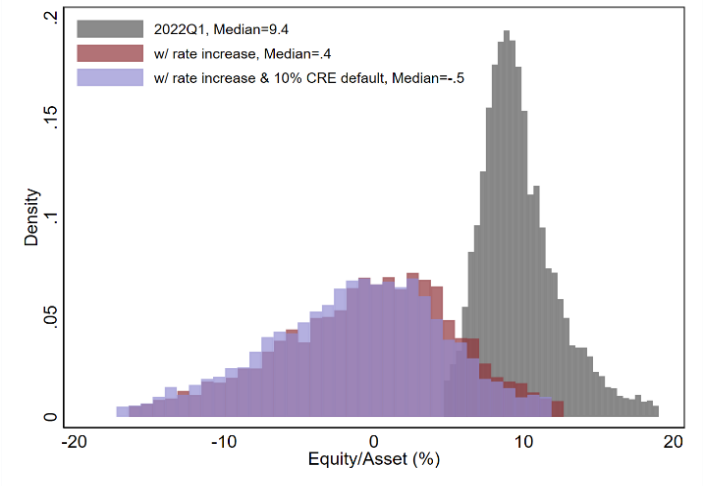
What About Credit Risk?

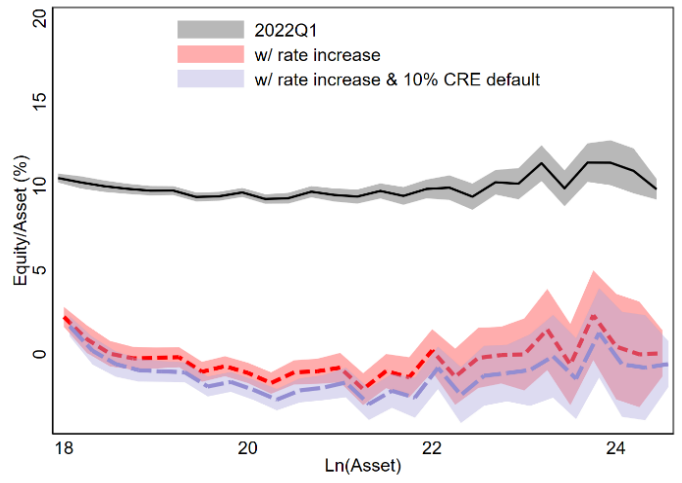
- The decline in banks' asset values has eroded their ability to withstand adverse credit events
  - Illustrate through banks' resilience to distress on commercial real estate (CRE) loans
- CRE loans constitute a substantial share of bank assets ($2.7 trillion)
  - Especially for smaller and mid-size banks (25-30% of their assets)
- Most of CRE loans mature in the next few years and require refinance → increased default risk
- Deteriorating CRE fundamentals (especially in the office sector)

	(1) All Banks	(2) Assets <1.384B	(3) Assets [1.384B,250B]	(4) Assets >250B
Aggregate Assets	24T	1.4T	9.0T	13.5T
Aggregate Commercial Real Estate Loans	2.7T	419.5B	1.7T	589.5B
Commercial Real Estate Loans/Asset (%)				
Mean	25.7	24.9	30.6	4.7
P50	25.1	23.9	31.7	3.7
P95	49.9	48.8	53.8	10.2
Number of banks	4,844	4,096	735	13

Change in Equity with 10% CRE Distress

- Prior tightening all the banks have sufficient capital buffer to withstand the CRE distress
- Post tightening median US bank's MTM capitalization becomes close to zero
- With 10% CRE distress, median US bank has negative capitalization (-0.5% of MTM assets)
- Most pronounced for mid-sized banks

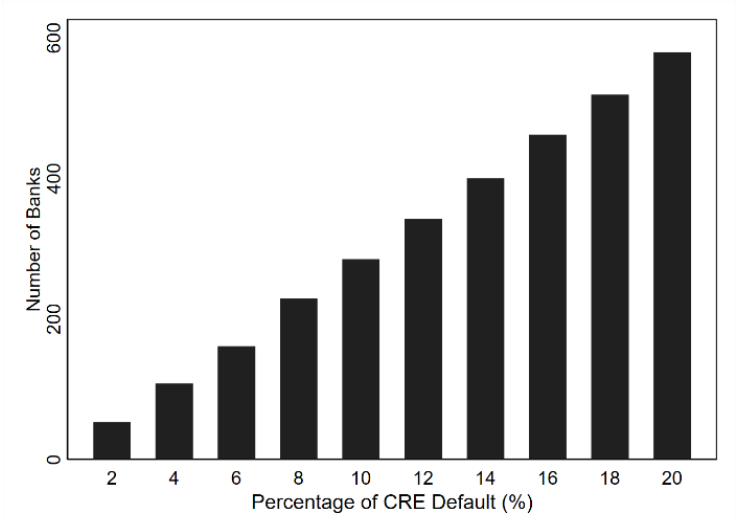




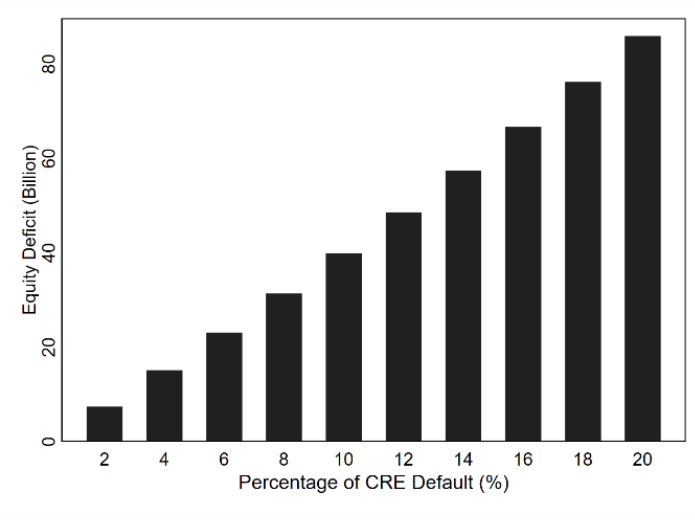
Impact of CRE Distress

- "Negative equity": mark-to-market value of assets including losses due to CRE distress is below the face value of its non-equity liabilities.
- 10% CRE distress: *additional* 285 banks with assets worth $700 billion have negative equity
- 20% CRE distress, *additional* 579 banks with assets worth $1.26 trillion have negative equity

Number of Banks w/ Negative Equity

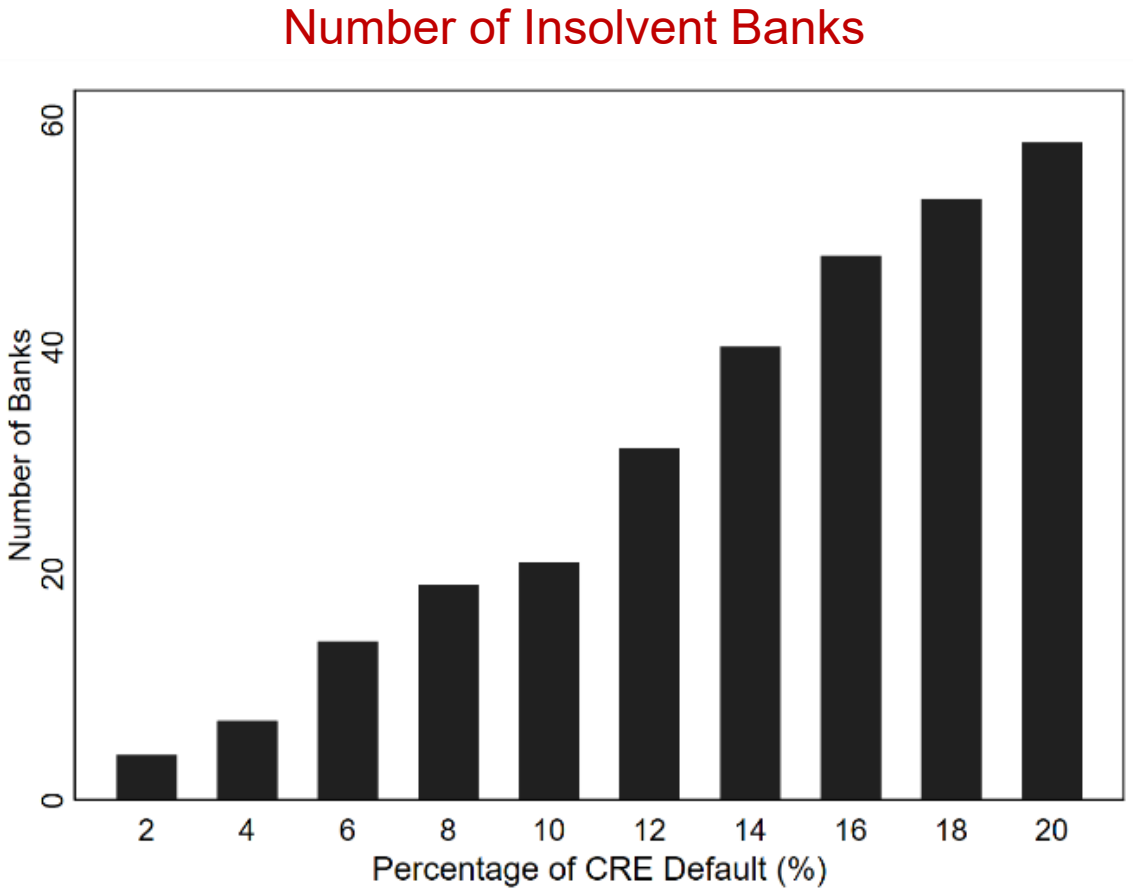


Equity Shortfall (in $BN)



Additional Insolvent Banks due to CRE Distress

(50% Uninsured Depositors Withdraw)

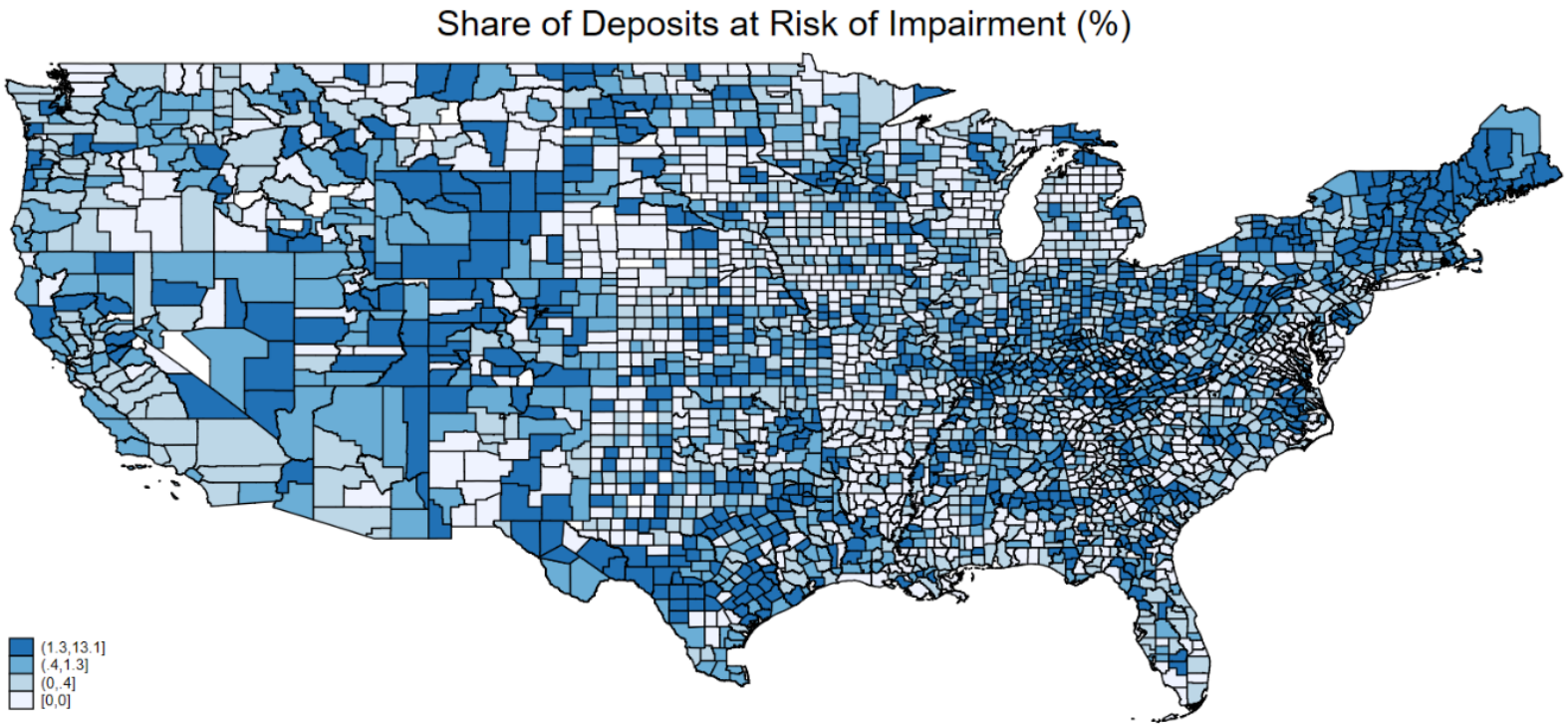


- Prior to rate increases all banks could survive our CRE distress scenarios

→ *Now: Up to 60 of additional banks subject to insolvency run (in addition to 186)*

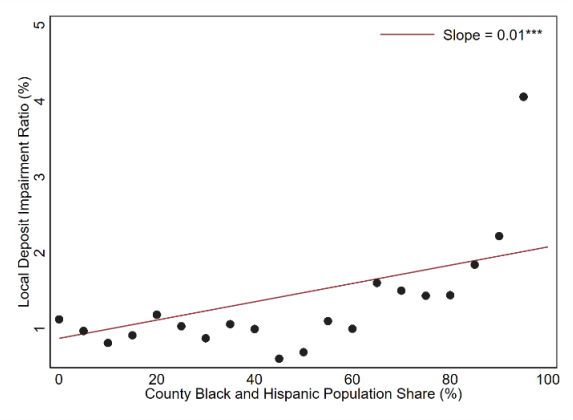
Regional Exposure to Bank Risk

- The most exposed counties have up to 13% deposits at the risk of impairment

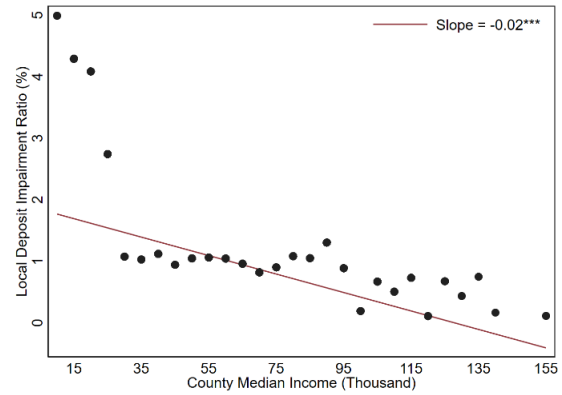


Regional Exposure to Bank Risk

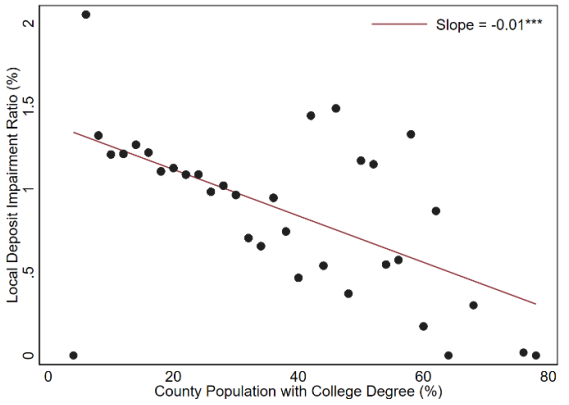
- More exposed regions to bank risk are those with
  - More minority population
  - Lower income
  - Lower share of college educated



Minority Population



Income



College Education

Implications: What to do?

What to Do?

A run is possible when …

$$\underbrace{10B + 90B \times \frac{r_f}{r_f'} - 100\% \times 45B}_{\textbf{Asset}} < \underbrace{45B \times \frac{r_f}{r_f'}}_{\textbf{Debt}}$$

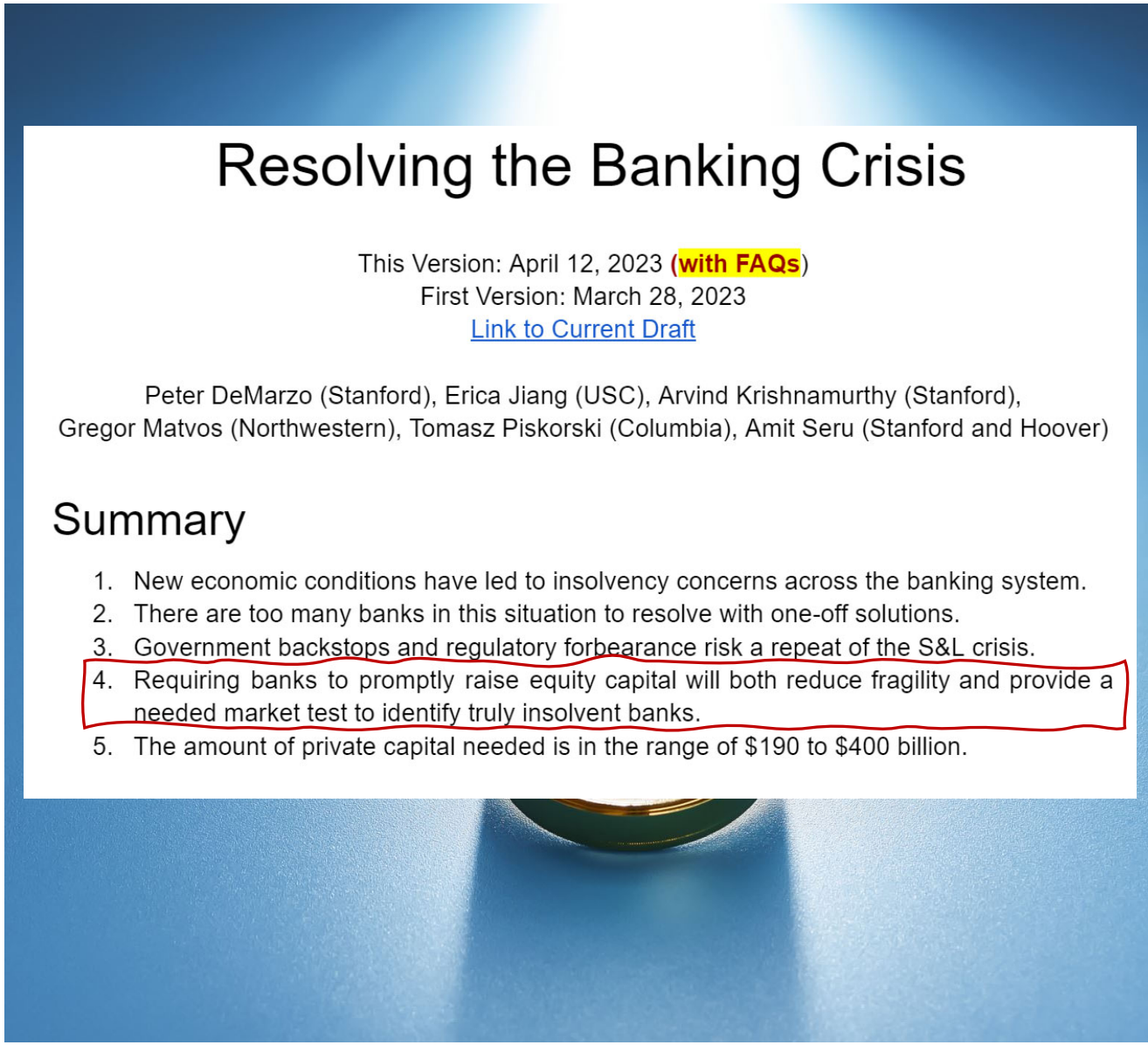
$$\equiv Asset - Equity - Awake\ Uninsured\ Deposit$$

$$\rightarrow \frac{r_f'}{r_f} > \frac{\overbrace{90B - 45B}^{Equity + (Awake\ Uninsured\ Deposits - Cash)}}{\underbrace{100\% \times 45B}_{Awake\ uninsured\ depositors} - \underbrace{10B}_{Cash}} = \frac{\textbf{Equity}}{\textbf{Awake uninsured depositors} - \textbf{Cash}} + \mathbf{1}$$

- Increase equity (cut dividends)

What next in the short run?

“Market-based bank recapitalization”



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)

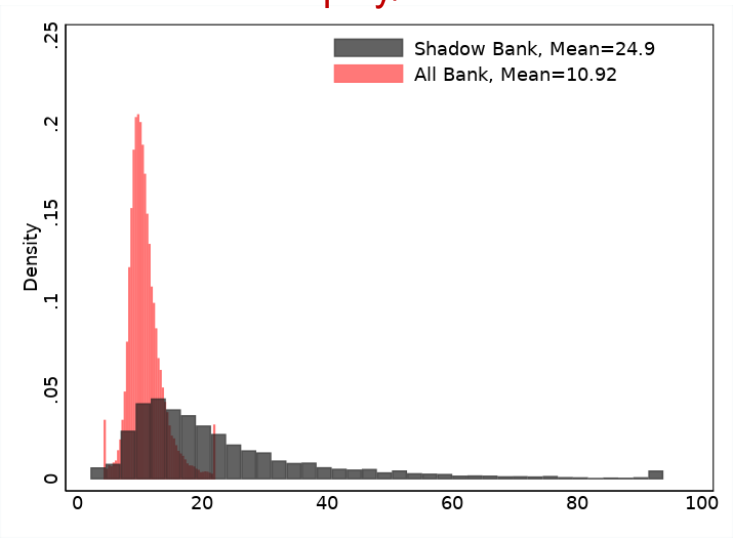
Summary

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.

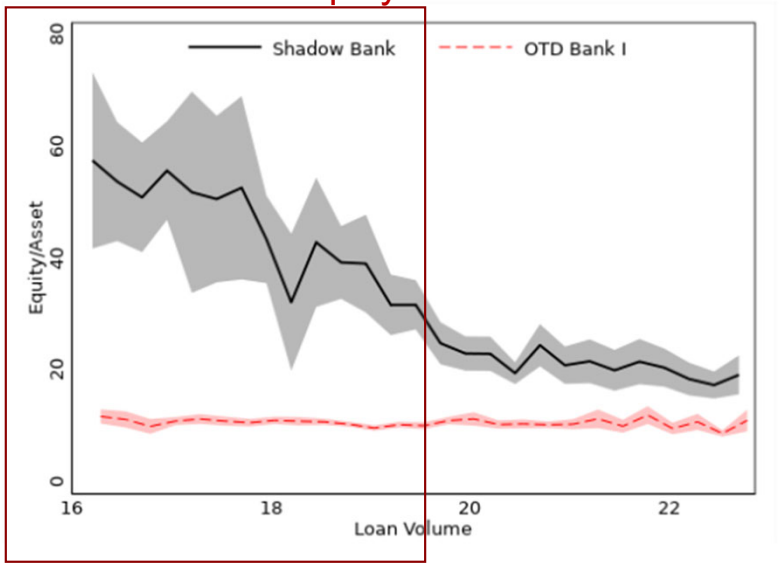
Longer-term response

- Higher capital ratios (Jiang et al. 2020)?
  - Non-bank lenders have twice as high capital buffers
  - Small shadow banks have much higher equity

Equity/ Assets



Equity/ Assets



Size

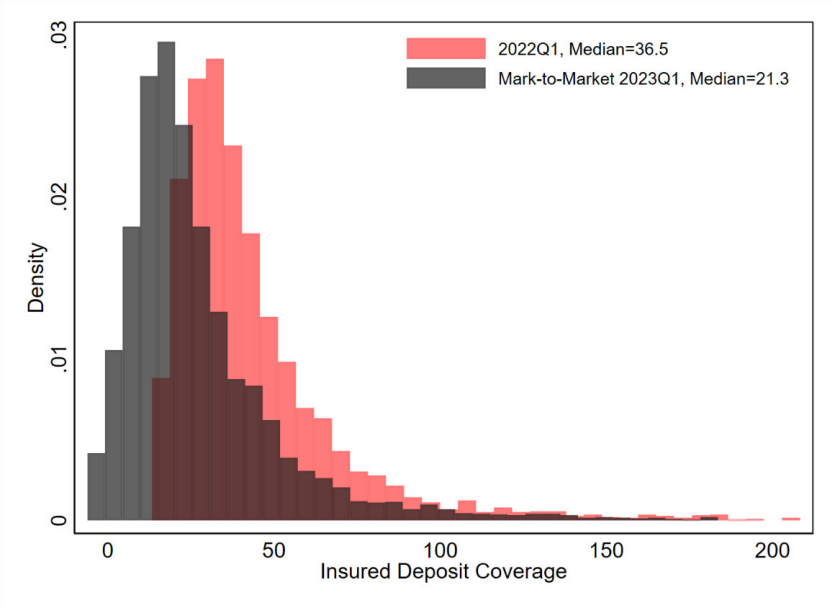
Longer-term response

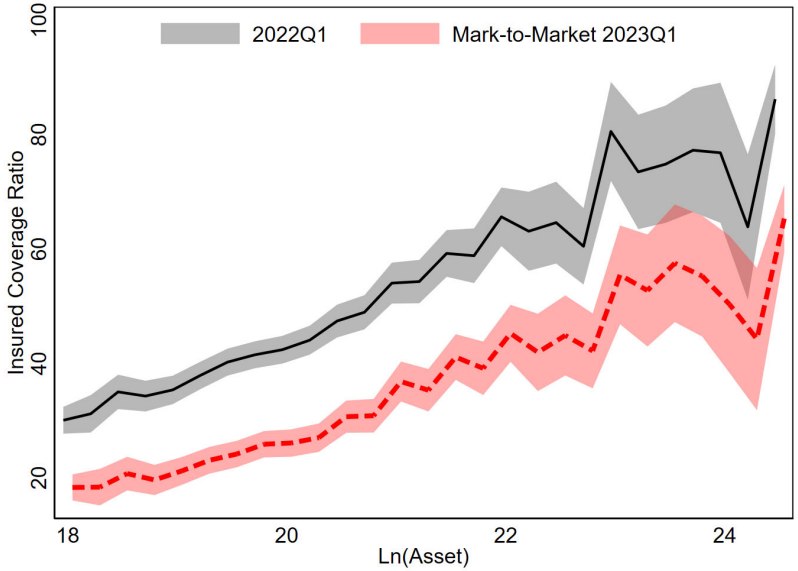
- More regulations?
  - Asset/risk restrictions
  - More stress testing also for potential of higher rates
  - Better risk disclosures, risk management practices

Appendix

Distribution of Insured Deposit Coverage Ratio

- 50% uninsured depositors run (i.e., $s = 0.5$)





Distribution of Insured Deposit Coverage Ratio

- All uninsured depositors run (i.e., $s = 1$)