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FEDERAL RESERVE BANK of NEW YORK

Do we still need banks?

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Overview

1. **Risks highlighted by U.S. distress in March 2023**
   - Asset illiquidity: Interest rate risk
   - Funding fragility: Deposit heterogeneity

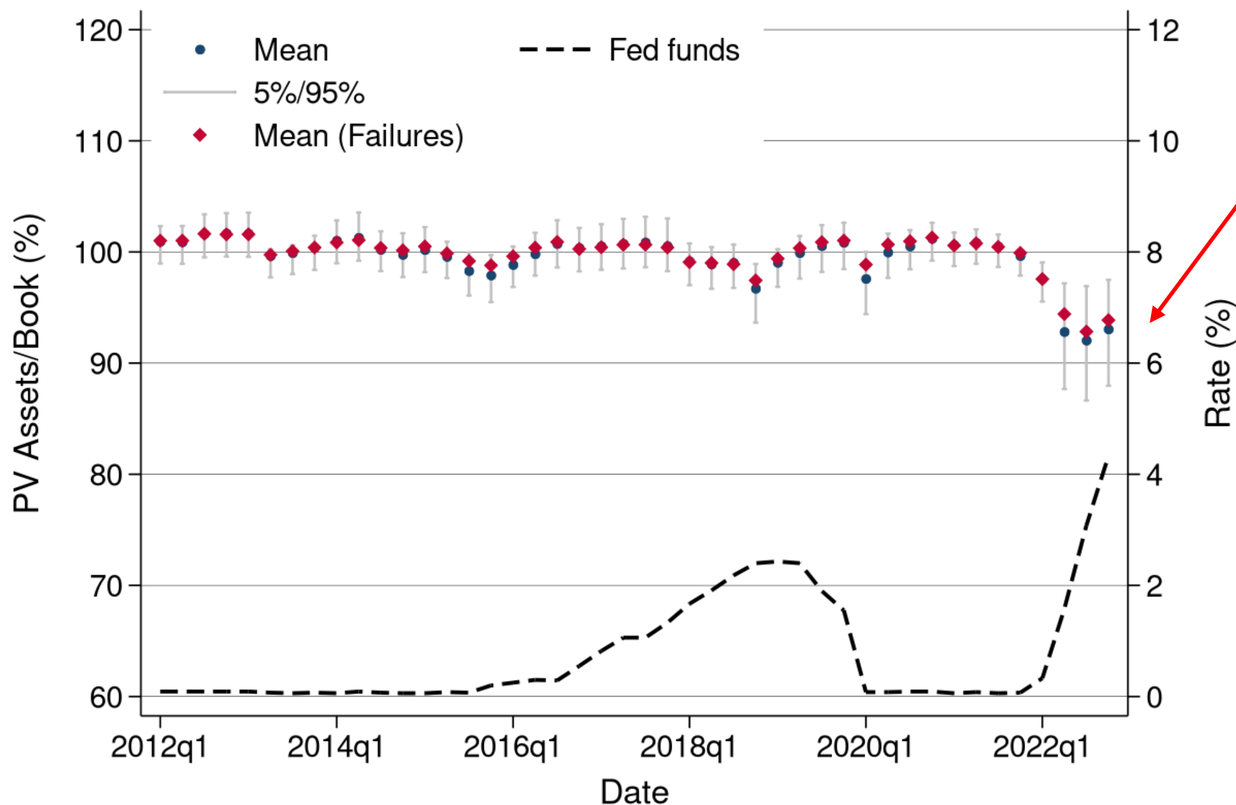
2. **Implications for monitoring bank fragility**
   - Typical capital measures fail to assess liquidity
   - Liquidity metrics fail to assess solvency
   - Suggests an integrated evaluation of asset and funding risk

3. **The role of financial innovation and competition**
   - Problems at stressed banks were classic problems (e.g., solvency)
   - In this episode, technology did not drive the outcome
   - The U.S. has a long history of non-bank competitors, banking has evolved but also persisted

March 2023: Asset "illiquidity"

- Assets sold prior to maturity suffer a low return if liquidated early
- In the context of March 2023, this discount reflects interest rate risk

Assets: market value to book value

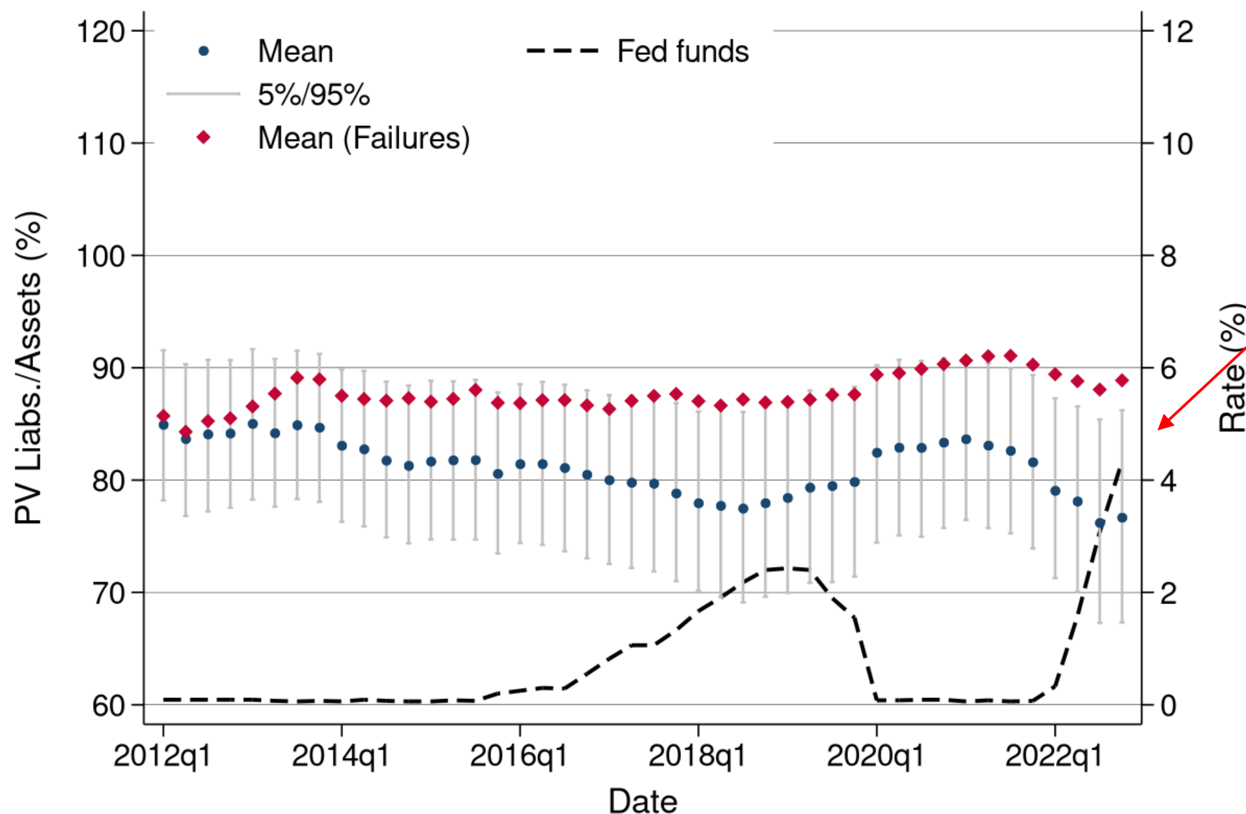


- Present value of assets decline as interest rates rise
- Higher rates reduced the value of fixed rate assets
- Value decline was similar for the industry (blue) versus banks that failed (red)

Note: PV of assets estimated using Call Report data, interest rates, and risk ppremia. Based on calculations in Hirtle and Plosser, 2024, "*A Measure of bank solvency*"

March 2023: Funding fragility

- The present value of liabilities discounts debts
  - Long-term debt has lower value, runnable debt is valued at par



- Present value of liabilities was significantly higher at failed banks
- Reflects reliance on uninsured, large depositors relative to peers
- Some evidence that the COVID deposit boom (ZLB, QE, fiscal stimulus, etc.) provided fertile ground

Note: PV of liabilities assumes uninsured deposits are immediately redeemed and long-term debt is discount at risk-free rates. Based on calculations in Hirtle and Plosser, 2024, *"A Measure of bank solvency"*

Classic measures fail to capture joint risk

1. **Book / regulatory capital (CET1, TCE, Stress tests, etc.)**
   - Generally, assumes no timing differences between assets and liabilities
     - Capital is if bank is an `ongoing concern'
   - Does not reflect market valuations: failing banks can look well capitalized

2. **Liquidity metrics (LCR /NSF)**
   - Do not reflect most market conditions or bank solvency
   - Poorly capture heterogeneity in deposits

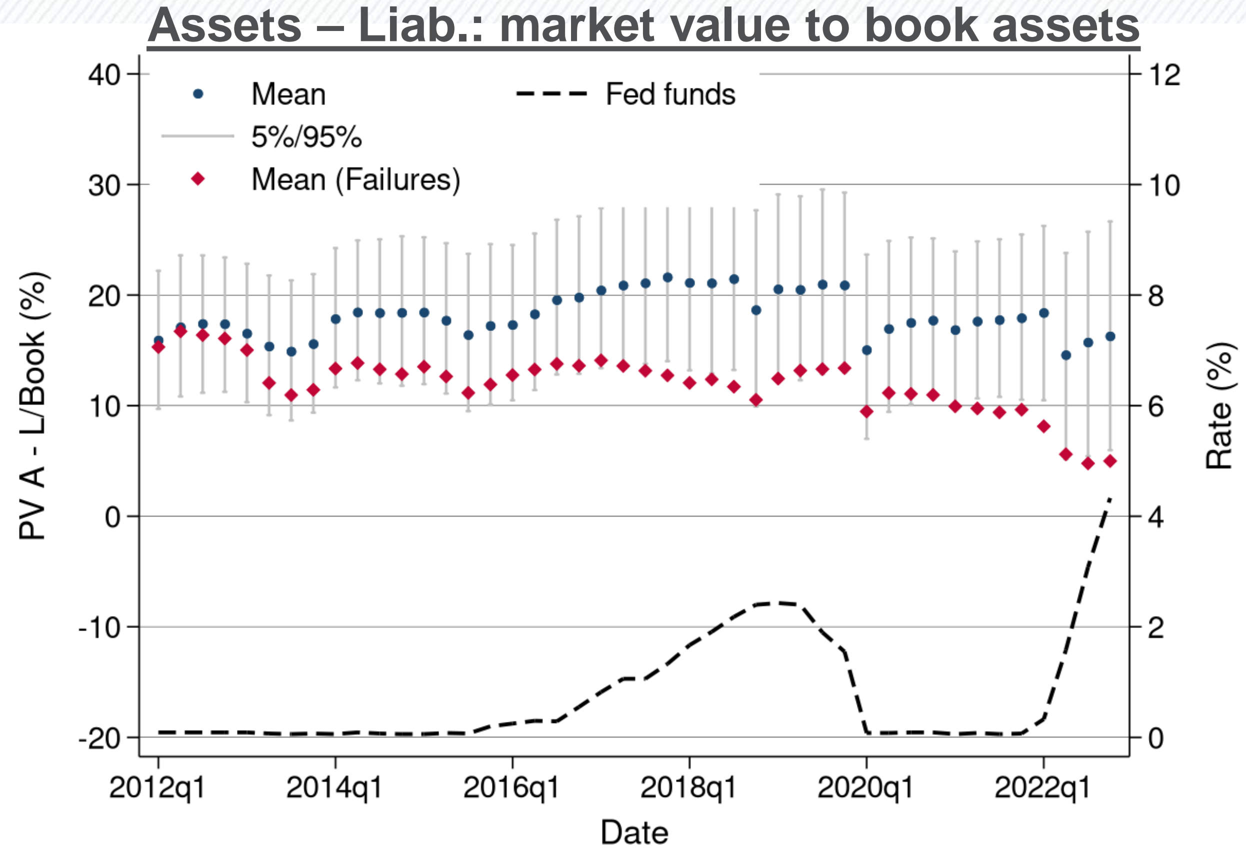
3. **Interest rate risk (EVE, EaR)**
   - Focused on *sensitivity* to rates
   - Do not consider solvency (the level of capital)
   - Typical approaches fail to account for deposit heterogeneity

Joint risks across these measures are not easily recognized or quantified

Suggests a more integrated approach

- Netting the market value of assets and liabilities reveals failed banks as weaker
- Failed banks look like outliers ***years*** in advance of stress

- This measure of "economic capital" highlights the risk of insolvency
- Jointly considers risks to asset values and funding stability by discounting book values
- Can be sensitized to credit, interest rates and risk premia



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The role of innovation and competition

Innovation:

- Technology may have increased the speed of runs
  - But failing banks looked relatively insolvent regardless of speed

Competition:

- U.S. has long had a robust nonbank sector
  - MMMFs have competed with deposits for 50 years
    - Typical deposit betas remain similar over that time period
    - Transaction accounts require unique competencies
  - Non-bank lenders are growing, but are not linked to this episode
- Interface between nonbanks and banks has evolved but deposits-to-GDP is almost twice what it was 30 years ago
  - CDBC represents a distinctly different challenge

Parting thoughts

- 2023 episode is a stark reminder of the core business of banking
  - Financing illiquid assets with runnable debt (Diamond-Dybvig)
  - **GFC:** Wholesale funding; **2023:** Flighty deposits
  - Most banks were positioned for this challenge
- Highlighted how the complexity of regulatory frameworks can fail to identify fundamental solvency threats we understand
  - Reliance on ‘on-going’ concern approach to most capital metrics
  - Separate metrics to identify risks
- Despite competition, provision of liquidity services remains unique
  - Suggests we do in fact still need banks
  - (As long as they properly managed)