

Banking Crises: Understanding the Roles of Solvency and Liquidity

Sergio Correia (Federal Reserve Bank of Richmond)
Stephan Luck (Federal Reserve Bank of New York)
Emil Verner (MIT Sloan & NBER)

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Understanding Banking Crises

- Bank failures and banking crises are a recurrent feature of banking
- Banking crises have large economic costs

Bernanke '83, Reinhart Rogoff '09...

- What are the causes of banking crises?

Liquidity View versus Solvency Views

- Liquidity view

- Runs are crucial turning points, jumps to bad equilibria
- Illiquidity → insolvency

Friedman Schwartz '63, Diamond Dybvig '83, Bernanke '18...

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- Losses push banks toward insolvency
- Runs occur in response
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Temin '76, Admati Hellwig '14, Gennaioli Shleifer '18...

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- Not mutually exclusive: liquidity and solvency interact
- But understanding relative roles matters for theory and policy

Agenda

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- Novel dataset with **balance sheets for most banks** in the U.S. since 1863
- Around 37,000 distinct banks and 5,000 bank failures

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- **Our agenda:** study the history of **failing banks** and **bank runs** in the United States from 1863-2023
- Novel dataset with **balance sheets for most banks** in the U.S. since 1863
 - Around 37,000 distinct banks and 5,000 bank failures
- Novel **bank-level data** on **bank runs**
 - Apply LLMs to 242k historical U.S. newspaper articles
 - Around **3,500 bank runs**

Lessons

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→ Implications for policy:

- Liquidity intervention versus capitalization
- Banking supervision

Finding 1: Banking crises are always and everywhere related to weak fundamentals

Data: Call Reports and Bank Failures

REPORT OF THE COMPTROLLER OF THE CURRENCY. 7

Bank fundamentals:

- OCC Call Reports of national banks, 1863-1941
- FFIEC Call Report, 1959-2023

Bank failures:

- Definition of failure: [receivership](#)
- OCC list of failing banks, 1863-1941
- FDIC list of failing banks, 1935-2023

ALABAMA.

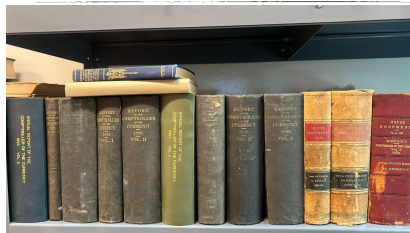
First National Bank, Eutaw.

B. B. BARNES, *President.*

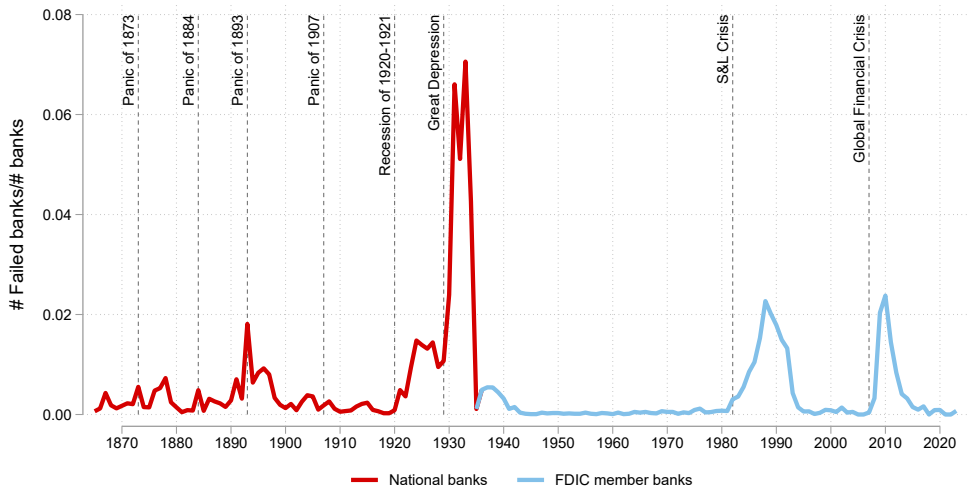
No. 3931.

JAMES MURPHY, *Cashier.*

Resources.		Liabilities.	
Loans and discounts.....	\$146,418.28	Capital stock paid in.....	\$50,000.00
Overdrafts.....	5,927.66	Surplus fund.....	11,000.00
U. S. bonds to secure circulation.....	17,500.00	Undivided profits, less current expenses and taxes paid.....	9,462.83
U. S. bonds to secure deposits.....		National bank notes outstanding.....	17,503.00
U. S. bonds on hand.....		State bank notes outstanding.....	
Premiums on U. S. bonds.....		Due to other national banks.....	212.20
Stocks, securities, etc.....	2,000.00	Due to State banks and bankers.....	48.22
Bank's house, furniture, and fixtures	3,960.00	Due to trust companies and savings banks.....	
Other real estate and mortg. owned	11,754.13	Due to approved reserve agents.....	454.62
Due from State banks and bankers.	192.70	Dividends unpaid.....	
Due from approved reserve agents.	1,879.66	Individual deposits.....	92,206.51
Internal revenue stamps.....		United States deposits.....	
Checks and other cash items.....	1,074.89	Deposits of U. S. disbursing officers.	
Exchanges for clearing house.....		Notes and bills rediscounted.....	20,282.52
Bills of other national banks.....	450.00	Bills payable.....	
Fractional currency, nickels, cents.	242.08	Liabilities other than those above stated.....	
Specie.....	5,311.50	Total.....	201,166.90
Legal-tender notes.....	3,581.00		
U. S. certificates of deposit.....			
Redemption fund with Treas. U. S.	875.00		
Due from Treasurer U. S.....			
Total.....	201,166.90		

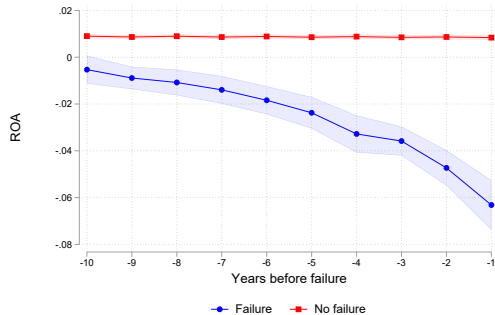


Bank Failures: 1863-2023



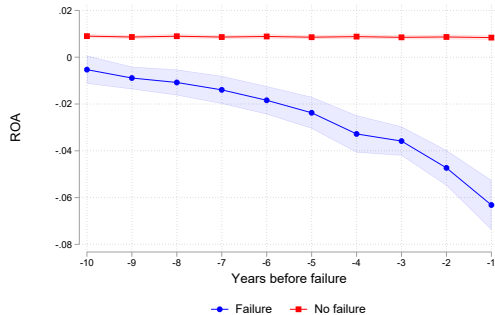
Unconditional probability of failure: 0.46%

Failing banks see a decline in profitability before failure

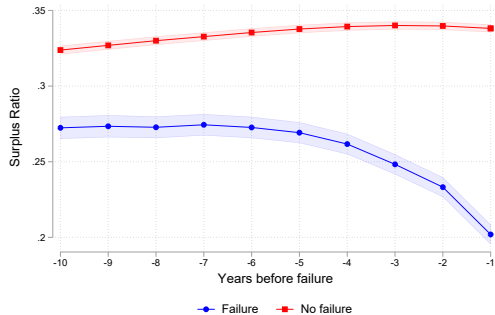


(a) Sample: 1959-2023

Failing banks see a decline in profitability before failure

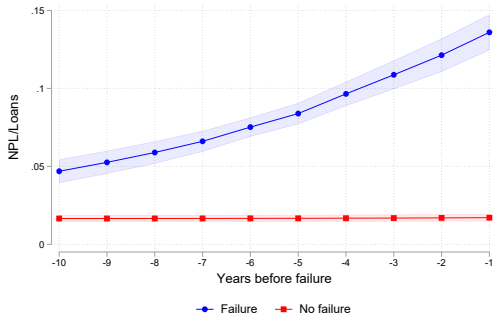


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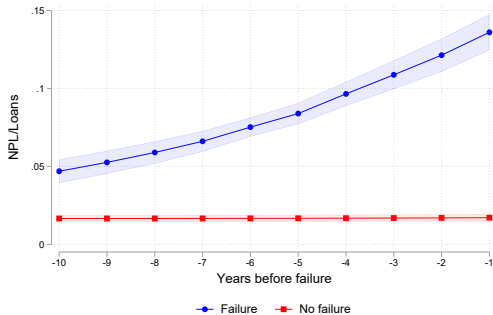
(b) Sample: 1863-1935

Failing banks see a rise in non-performing assets before failure

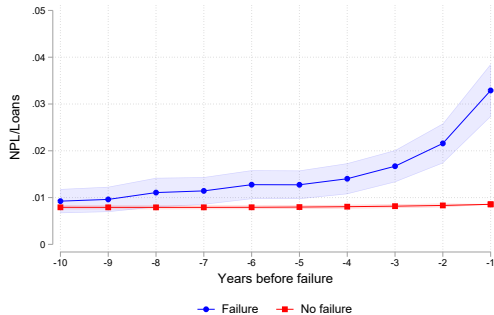


(a) Sample: 1959-2023

Failing banks see a rise in non-performing assets before failure



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(b) Sample: 1863-1935

Bank Failures Are Highly Predictable

AUC Statistics: One-Year Horizon

- Metric: Area Under the Receiver Operating Characteristics Curve (AUC)
- Benchmark: predicting financial crises $AUC \approx 0.74$
Greenwood, Hanson, Shleifer, Sorensen, 2022

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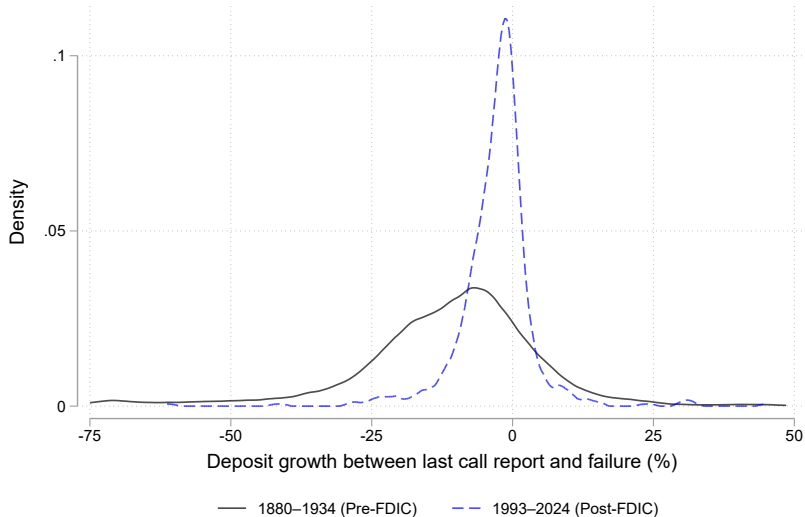
- Bank Failure AUC:

Pre-FDIC sample (1863-1934) $\approx$ **0.86**

Modern sample (1959 onwards) $\approx$ **0.95**

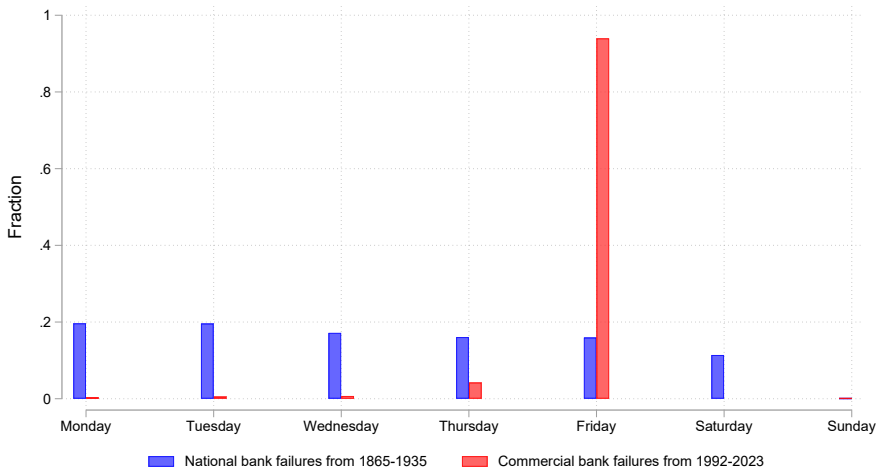
Deposit Outflows in Failing Banks Were Large Before Deposit Insurance

... But Small After



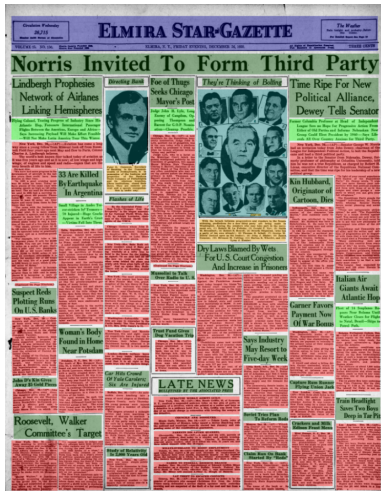
Modern Bank Failures Usually Involve a Supervisory Decision

Bank closures are almost never a surprise to supervisors



Finding 2: Bank runs as causes of banking crises are somewhat overrated

Read 372 Million Articles and Searched for Bank Distress Events



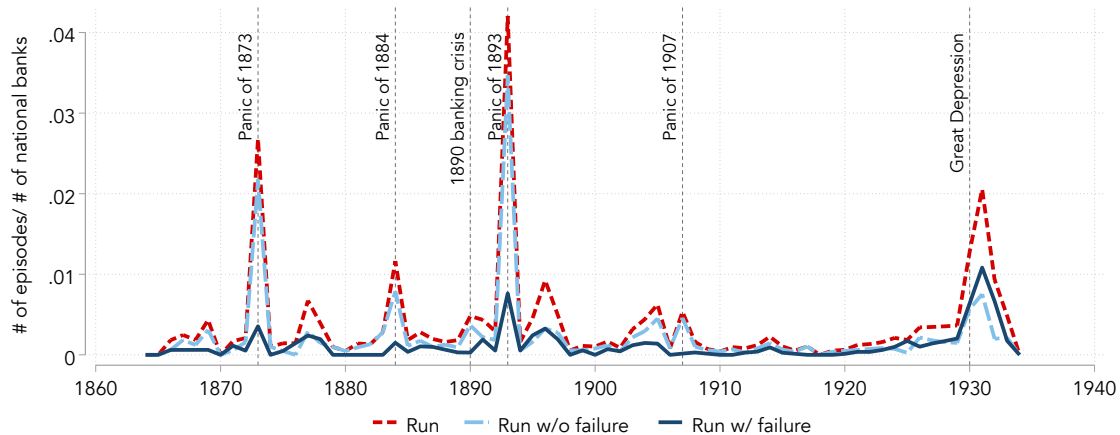
Runs Database Construction

- Classify *runs*, *suspension*, and *failures* in **newspaper articles**
 - 372 million articles
 - Keywords: “bank + run,” “heavy withdrawals,” “panic,” “suspension,” “receiver” ...
 - Weed out false positives using LLM

Runs Database Construction

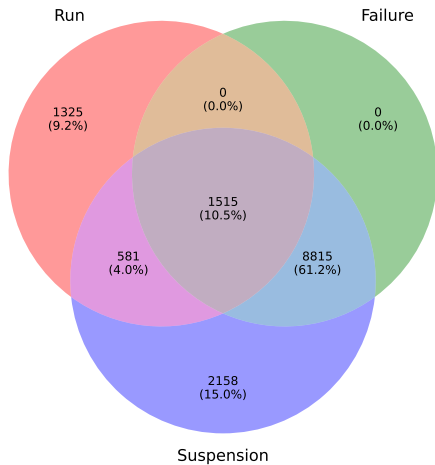
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- Map articles into **bank-specific events** using LLM
 - Bank run
 - Bank run → suspension → reopening
 - Bank run → suspension → failure (receivership)

Bank Runs With and Without Bank Failure, 1863-1934



Note: Based on sample of national banks.

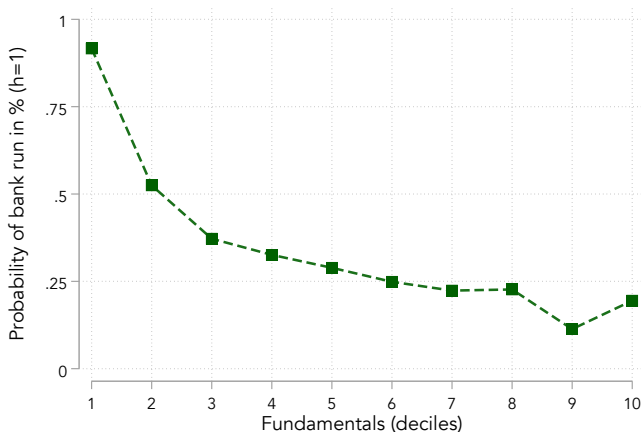
Bank Run, Suspension, and Failure Episodes



Runs Are More Likely In Weak Banks

...but strong banks can also be subject to runs

- “Fundamentals” = probability of failure based on fin. statements
 - Capitalization
 - Recent profitability
 - Reliance on noncore funding

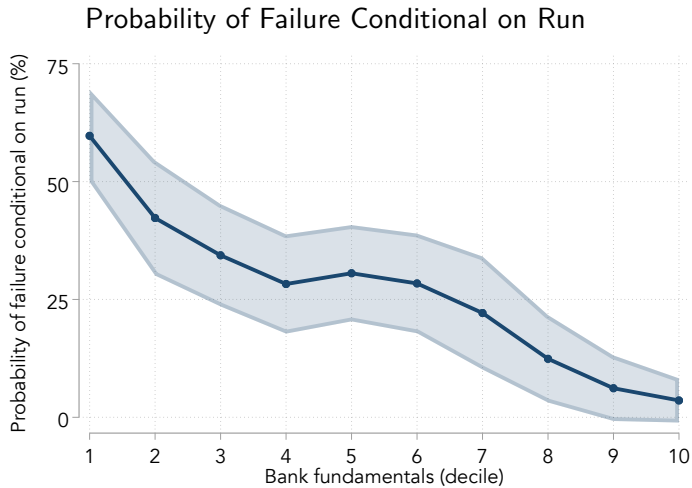


Runs Usually Only Trigger Failure of Weak Banks

- Conditional on run, probability of failure much higher in observably weaker banks

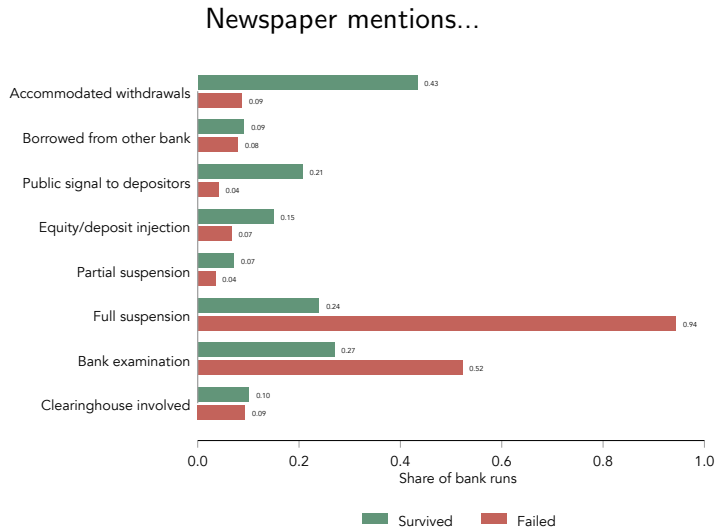
- Runs rarely kill strong banks

⇒ Failures more predictable than runs



Bank Responses to Runs

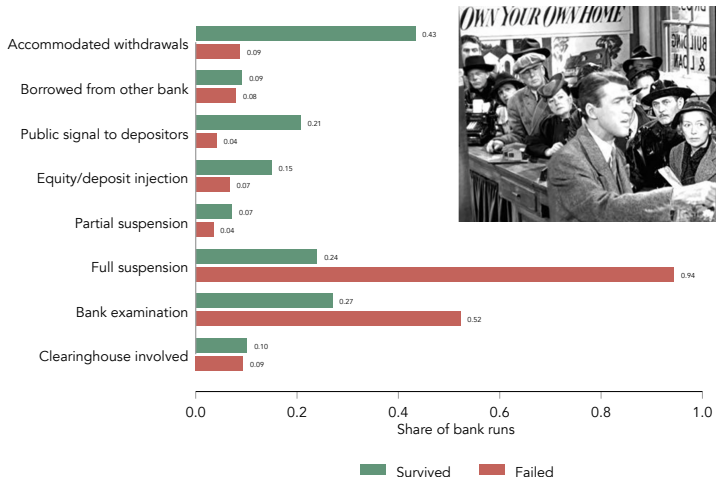
- Why do runs rarely cause failure of strong banks?
- Banks can resort to less costly mechanisms to avert failure



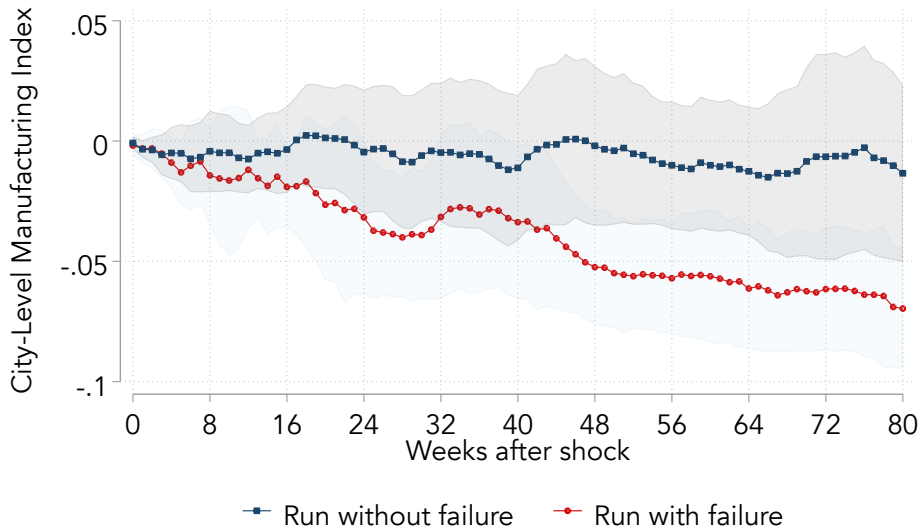
Bank Responses to Runs

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Newspaper mentions...



Impact of Runs on Local Manufacturing Activity



Conclusion

1. Fundamental **solvency problems** are usually the **root cause** of banking crises
 2. **Bank runs** are somewhat **overrated**
- Policy implications:
 - Focus on (re)capitalization; liquidity provision not sufficient
Baron et al '25, Kelly et al '25
 - Banking supervision audit and enforcement is important (but entails trade-offs)

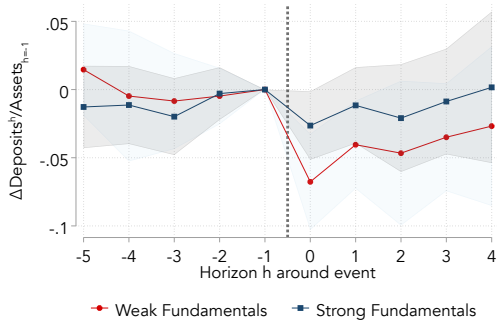
References and Finhist.com

- “Bank Runs With and Without Bank Failure,” Correia Luck Verner ('26)
- “Failing Banks,” Correia Luck Verner (QJE '26)
- “Supervising Failing Banks,” Correia Luck Verner ('25)
- “Bank Failures: The Roles of Solvency and Liquidity,” Correia Luck Verner (AR '26)

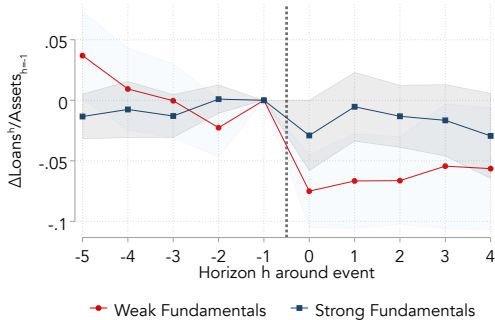
Check out www.Finhist.com

Bank-Level Consequences of Bank Runs Without Failure

Weak and Strong Banks

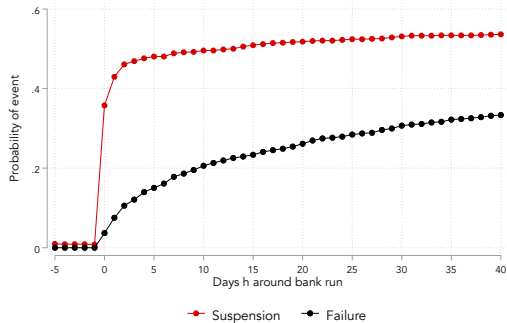


(a) Deposits



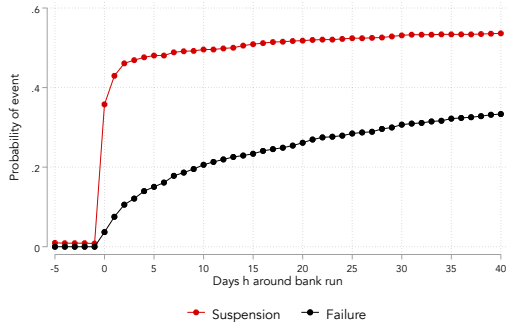
(b) Loans

Pass-Through of Run to Suspension and Failure: Daily Dynamics

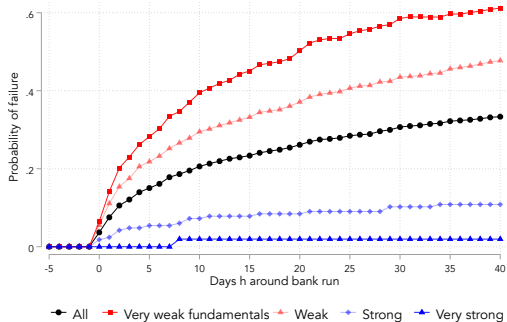


(a) Suspensions and bank failures

Pass-Through of Run to Suspension and Failure: Daily Dynamics



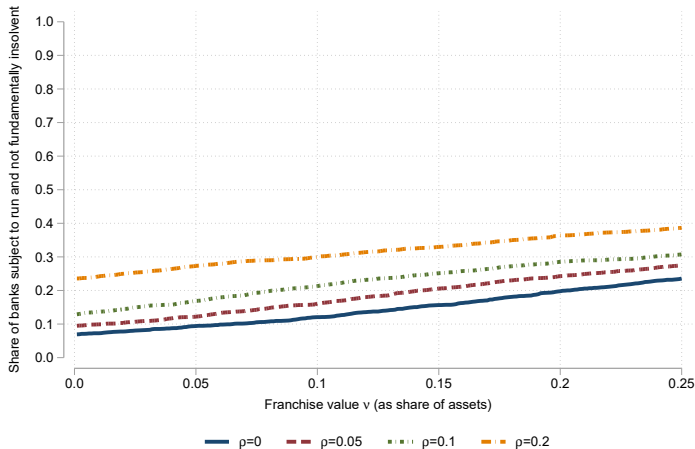
(a) Suspensions and bank failures



(b) Bank failure by bank fundamentals

Most Failed Banks Fundamentally Insolvent

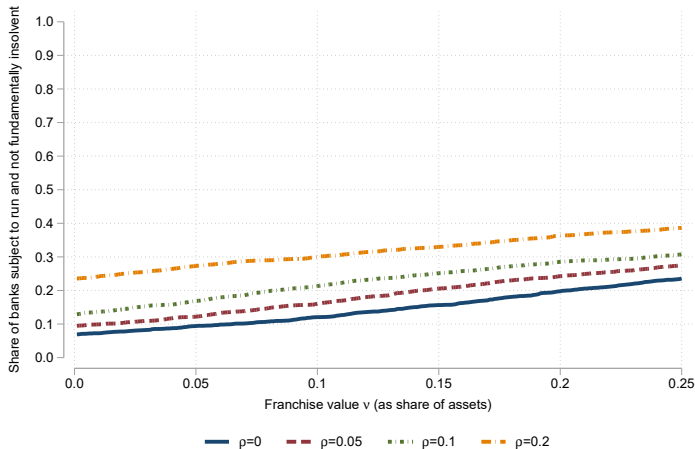
Share Subject to **Run** and **Fundamentally Solvent**



Source: Correia Luck Verner, "Failing Banks."

Most Failed Banks Fundamentally Insolvent

Share Subject to **Run** and **Fundamentally Solvent**



- Scope for runs to cause failure of fundamentally solvent banks modest, but not negligible
- Runs often happen late, once banks insolvent
 - Sleepy depositors

Source: Correia Luck Verner, "Failing Banks."

Recovery Rates in Failure

- Do runs trigger failure of **weak-but-solvent banks** or **insolvent banks**?

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- Suppose failure destroys asset value and potential future franchise value

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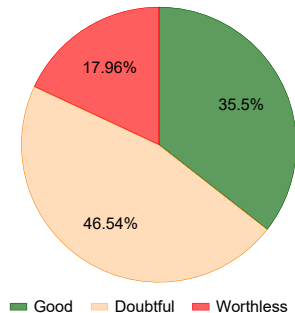
Average **asset recovery rate** in pre-FDIC national bank failures: 52%

- 92% of failures had recovery of less than 75%

→ **Most banks that failed were fundamentally insolvent**

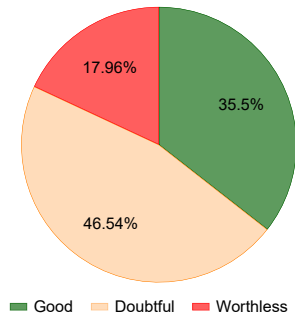
Bank Examiners Agree: Most Failures Caused by Bad Fundamentals

OCC Asset Quality Assessments
for Failed Banks



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OCC Cause of Failure

