

Supervising Failing Banks

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The views expressed here do not necessarily represent those of the Federal Reserve Bank of New York or the Federal Reserve Bank of Richmond.

Banking supervision

- Banking supervision seeks to safeguard the health and stability of the financial system
 - Banks and the government spend considerable resources on supervision [Baer '24](#)
- However, the effectiveness of banking supervision is hotly debated
 - Failure to see risks and rein in risk-taking [Fin. Crisis Inquiry Commission '11](#), [Barth et al '12](#)
 - Forbearance and delay, increasing cost of crises [Kane '90](#), [Cole and White '17](#), [Guynn 24](#)
 - Overly restrictive credit [Bessent '25](#)

Banking supervision policy reforms

- Understanding the benefits and shortcomings of supervision is important in light of recent push towards reform and consolidation of U.S. supervision and regulation



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EXCLUSIVE REGULATION

Trump Advisers Eye Bank Regulator Consolidation After Targeting CFPB

Pathways under discussion would attempt to merge FDIC, OCC without Congress



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ECONOMY | CENTRAL BANKING

Federal Reserve to Reduce Bank Supervision Staff by 30%

Reductions would leave supervision and regulation division with about 350 people

Supervising failing banks

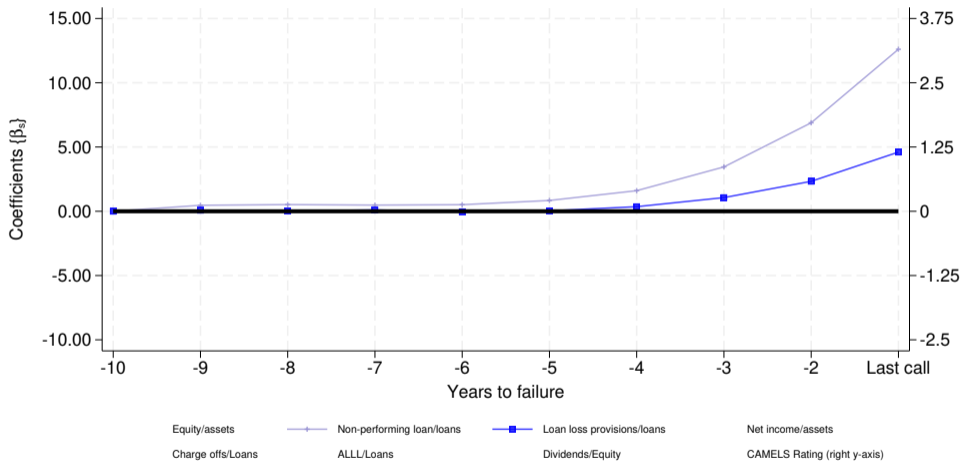
This paper: Empirically examine the role of supervision in **monitoring** and **imposing discipline** on **financially distressed banks**

Questions:

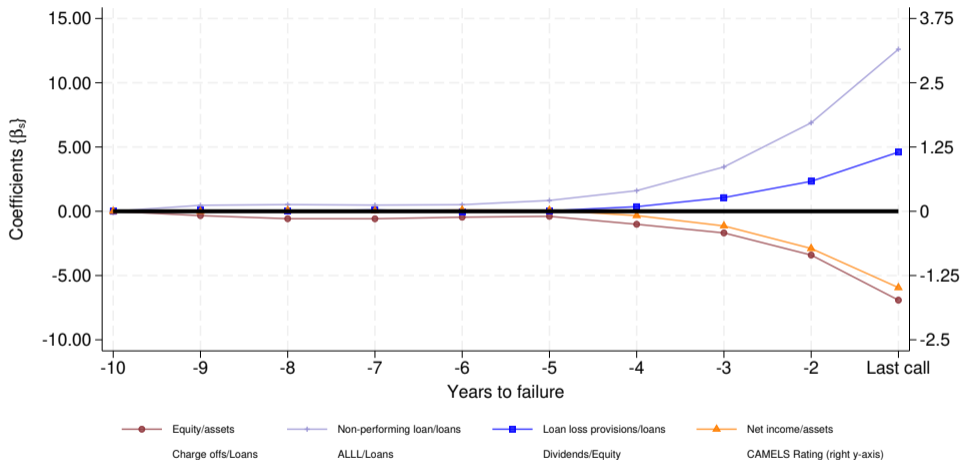
- Do supervisors anticipate bank failures?
- What actions do supervisors take in troubled banks?
- What are the causal effects of stricter supervision in a banking crisis?

1. Do supervisors anticipate bank failures?

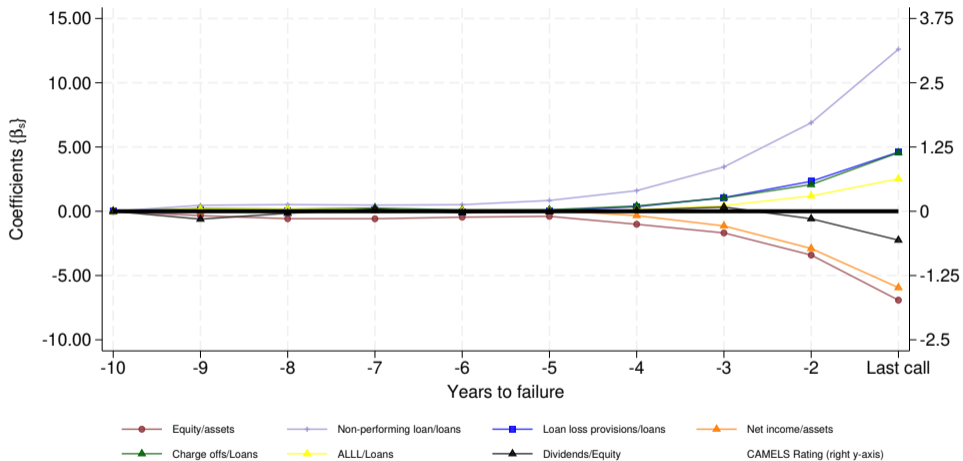
Supervisors identify failing banks before they fail



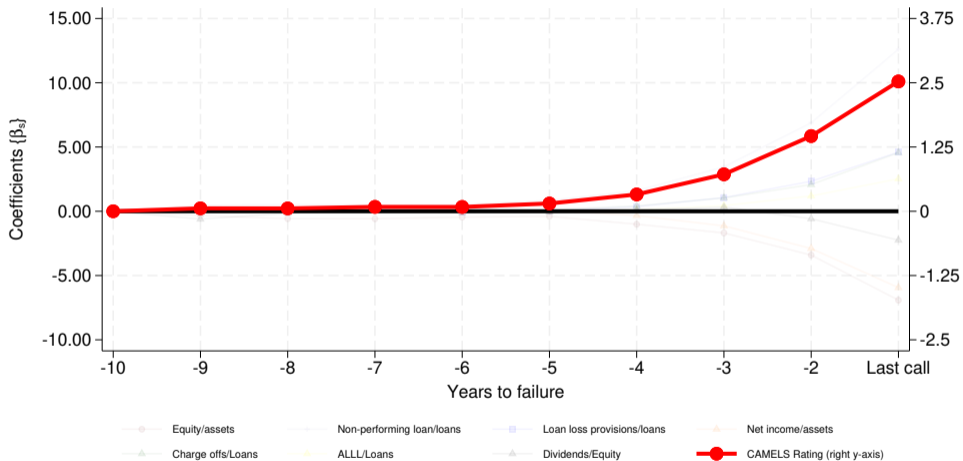
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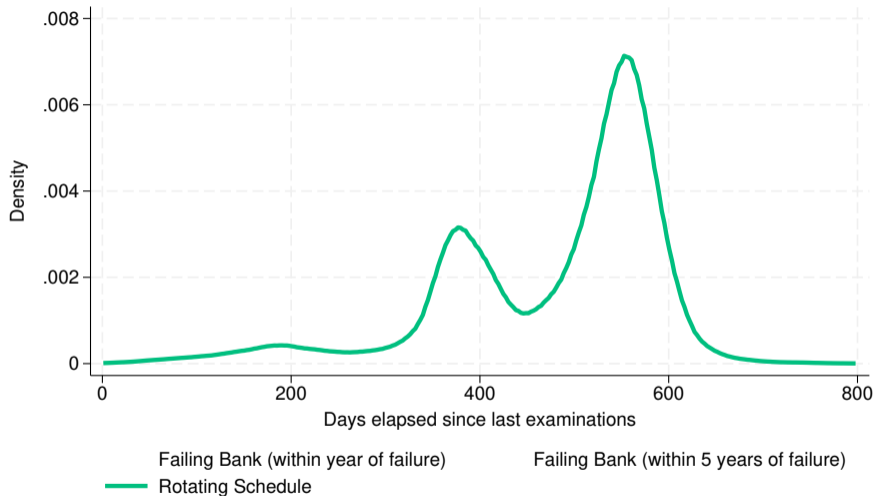


2. What actions do supervisors take in troubled banks?

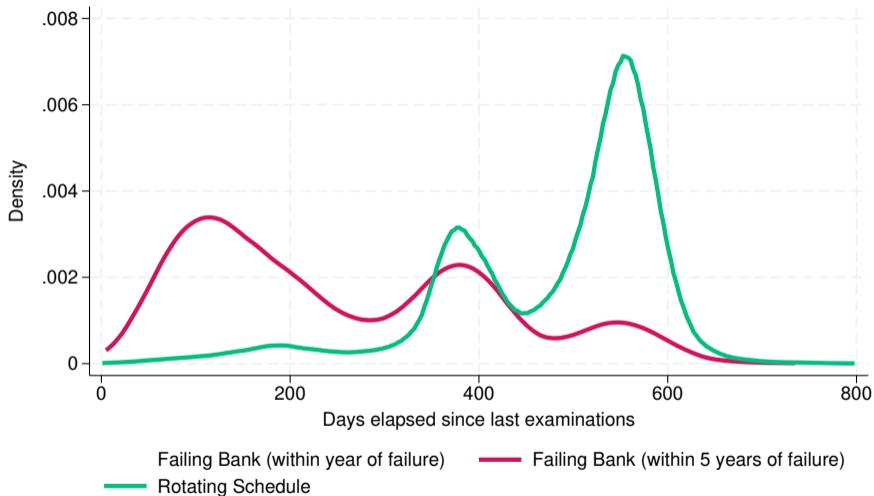
Actions in troubled banks

- Supervisors anticipate near-term failures with a high degree of accuracy
- Actions in troubled banks:
 - A. Scrutiny
 - B. Financial auditing
 - C. Enforcement actions
 - D. Closing failing banks

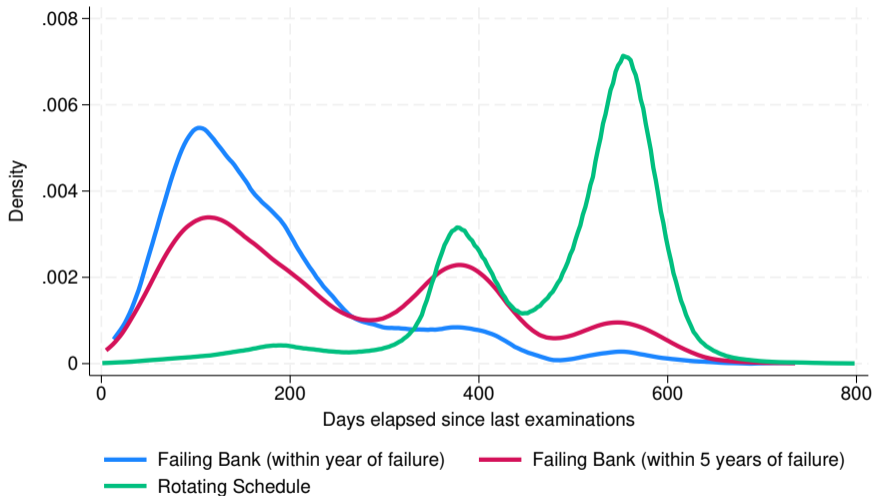
A. Scrutiny: Supervisors pay more attention to troubled banks



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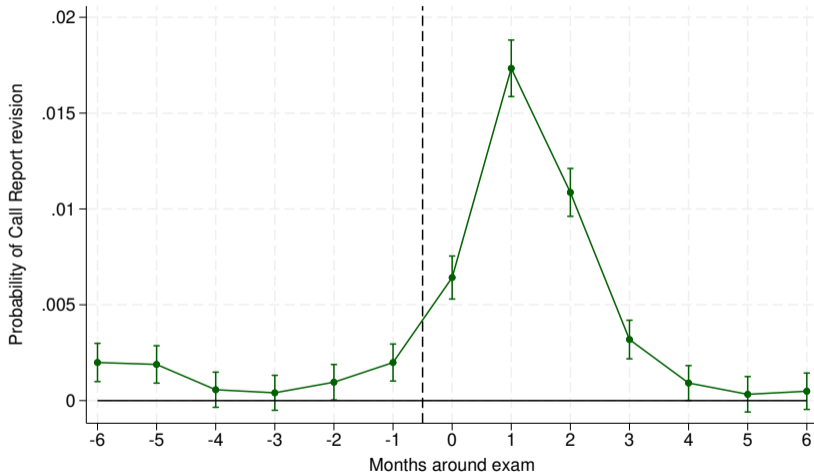


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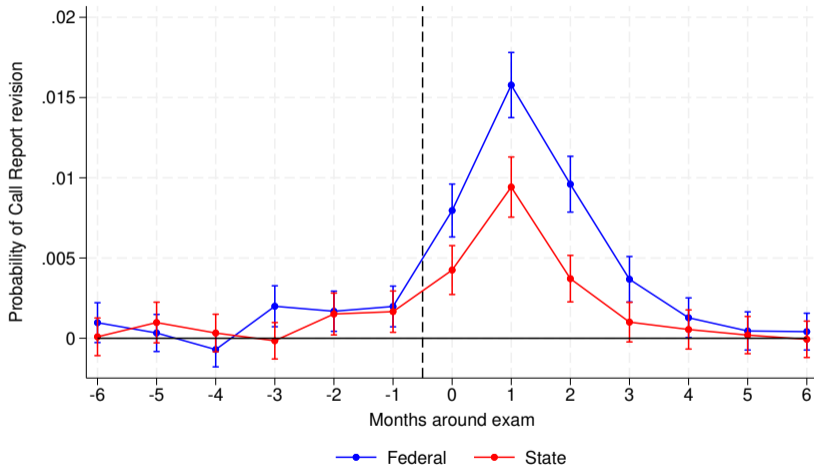
B. Auditing: Supervisors shape financial statements

Financial statement revisions more likely after on-site examinations

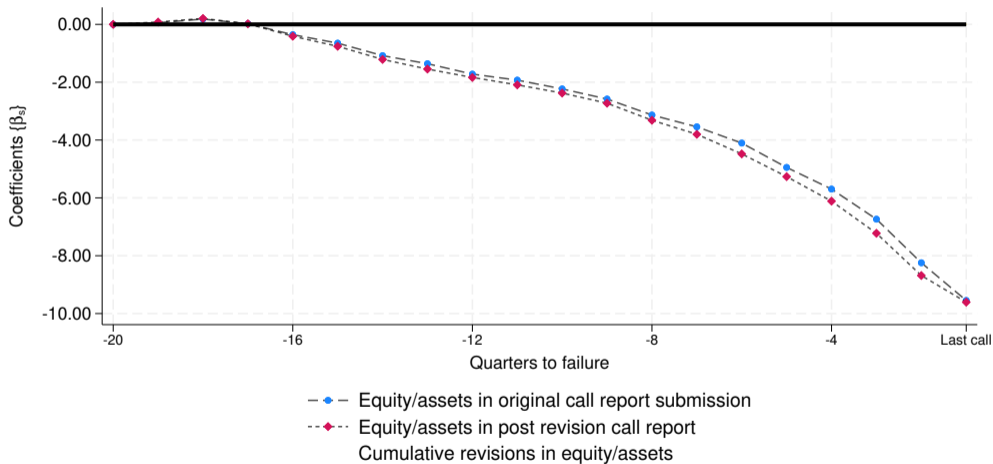


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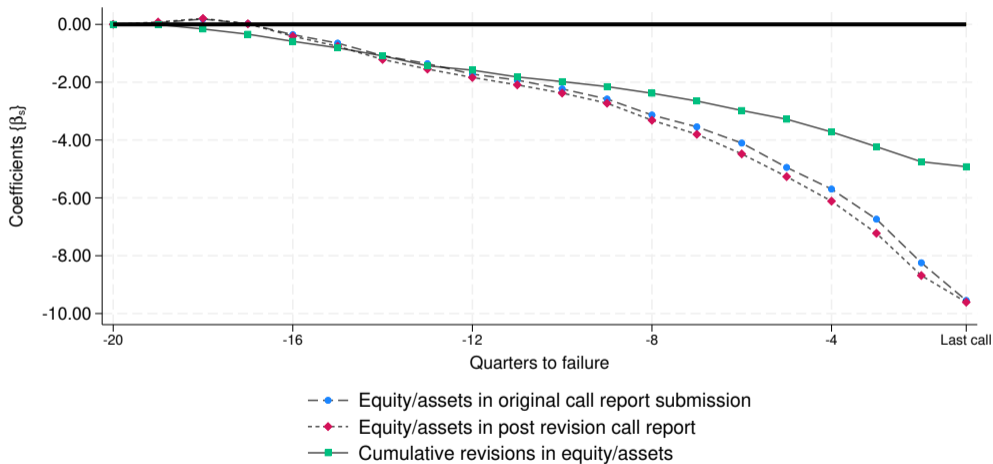
Especially when exam conducted by “tougher” federal supervisors (Agarwal et al 2014)



B. Cumulative Revisions in failing banks are sizable

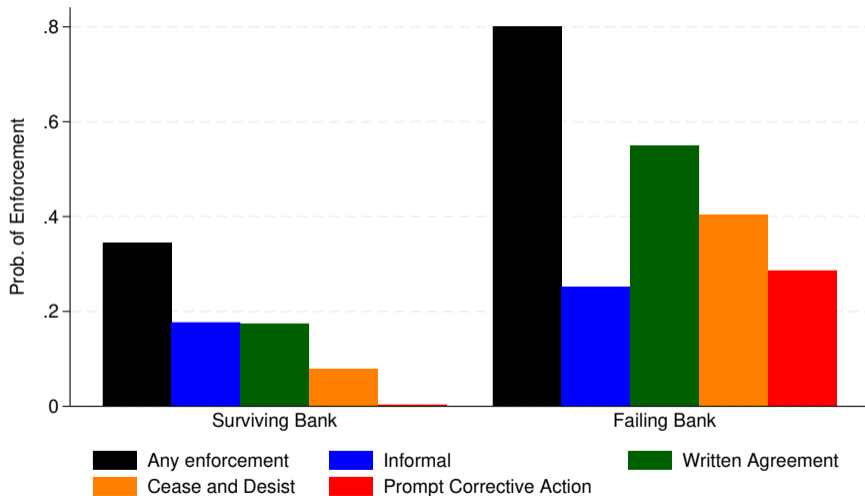


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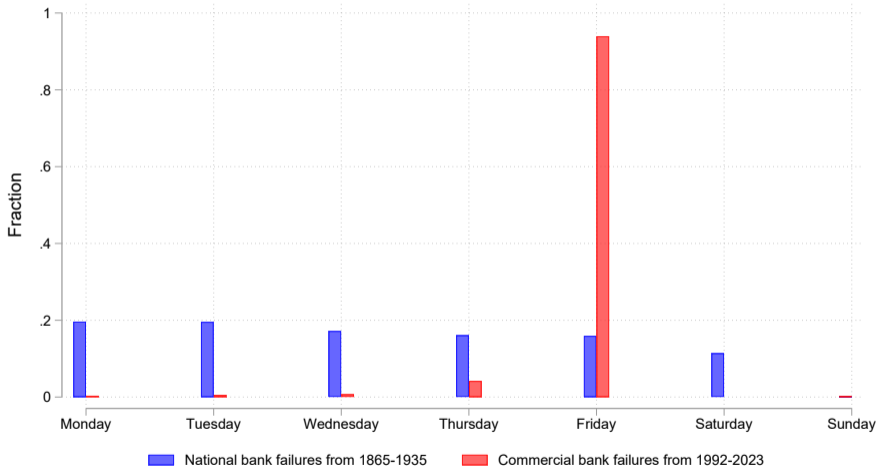
C. Failing banks are commonly subject to public enforcement action

However, most drastic enforcements actions such as Prompt Corrective Action (PCA) are rare



D. Modern bank failures usually involve a supervisory decision

Bank closures are almost never a surprise to supervisors, although they can be costly to the DIF



3. What are the causal effects of stricter supervision in a crisis?

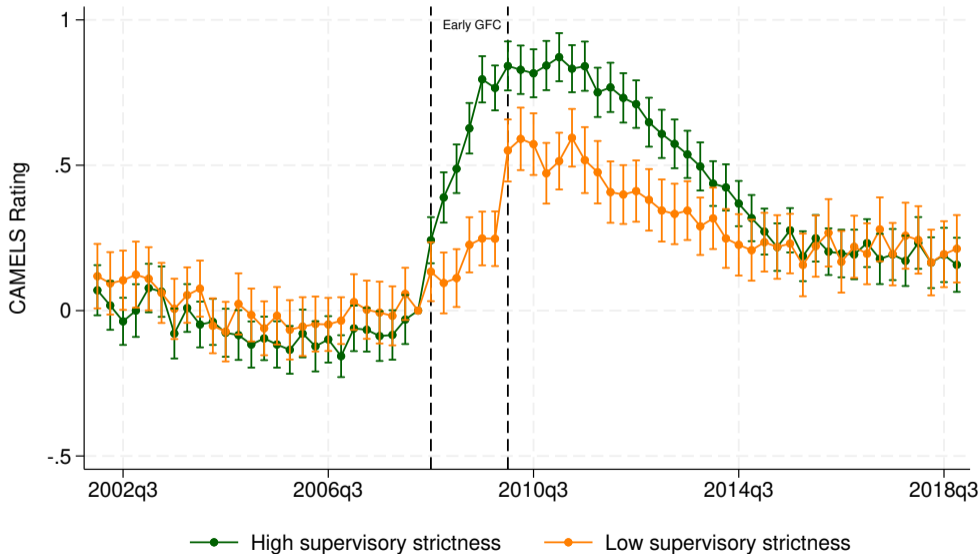
Identification strategy

- **Identification challenge:** Supervisory strictness and actions are endogenous
- **Empirical strategy:**
 - Exploit examiner rotation schedule
 - State examiners are more lenient than federal examiners
[Agarwal Lucca Seru Trebbi 14](#)
 - Instrument high supervisory strictness early in GFC with being on rotating schedule

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 - Instrument high supervisory strictness early in GFC with being on rotating schedule
- (i) **Exogeneity:** Assignment of examiner is quasi-random during early GFC for banks on rotating schedule before GFC
 - Balance test supports exogeneity assumption [Balance table](#)
- (ii) **Relevance:** Initial scrutiny at onset of GFC implies path-dependency, as banks identified as troubled early are more likely to receive more scrutiny throughout crisis

CAMELS across banks exposed to high and low supervisory strictness



Key finding 1: High strictness increases likelihood and speed of failures

Dependent variable	Probability of failure	Speed of failure (days)	DIF cost/assets
	(1)	(2)	(3)
High supervisory strictness	0.032*** (0.0066)	-432.4** (186.2)	-0.092* (0.049)
Observations	3610	116	116
Mean dep. var	0.034	962.1	0.22
R^2	0.053	0.15	0.15
State FE	✓	✓	✓
Baseline Controls	✓	✓	✓
Estimation	2SLS	2SLS	2SLS
First-stage F-stat	6615.1	16.3	16.3

- Lower cost to FDIC DIF
 1. Reduced costs from delay, gambling, poor asset management...
 2. More accurate financial statements
 3. Closing better banks on the margin

Key finding 2: High strictness reduces credit, branches, and bank employment

Dependent variable	Δ Loans	Δ RE loans	Δ C&I loans	Δ CRE loans	Δ Branches	Δ Employees
Period	2008q2-2013q4					
	(1)	(2)	(3)	(4)	(5)	(6)
High supervisory strictness	-0.058*** (0.019)	-0.046** (0.022)	-0.065** (0.031)	-0.068** (0.030)	-0.031*** (0.010)	-0.021** (0.010)
Observations	3099	3087	3074	3061	3034	2960
Mean dep. var	0.14	0.18	0.027	0.11	0.060	0.050
R^2	0.041	0.032	0.023	0.030	0.012	0.022
State FE	✓	✓	✓	✓	✓	✓
Baseline Controls	✓	✓	✓	✓	✓	✓
First-stage F-stat	6009.6	5949.0	6077.7	5862.1	5981.5	6104.9

- Some reduction in lending might be reduced evergreening
- But reduction in C&I lending and branches suggest role for reduced credit availability

⇒ Policy tradeoff

Additional findings

High supervisory strictness causes:

- More revision of financial statements
- More Loss Recognition
 - Higher chance of increasing provisions and charge-offs
- More Enforcement Actions
- More Retained Earnings
- Lower overall capitalization
 - Arguably due to more conservative assessment of asset values

Conclusion

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Key takeaways:

1. Supervision plays key role in forcing distressed banks to recognize losses
2. Supervisors close distressed banks based on hard information
3. Trade-off between closing distressed banks and credit supply
 - Stricter supervision increases loss recognition and closures, reducing cost of failures
 - Consistent with value of supervision when deposit insurance reduces discipline
 - But may lead to tighter credit in a crisis
 - Caveat: Welfare implications

Thank you!

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Key Findings

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3. What are the causal effects of stricter supervision in a banking crisis?:

- Exploit quasi-exogenous variation in supervisory strictness at onset of GFC
- Increased likelihood of ratings downgrade, more scrutiny and loss recognition
- High likelihood and speed of bank closure
- *Policy tradeoff*: lower cost of failures but reduction in credit

Predicting Bank Failures with Supervisory Ratings and Bank Fundamentals

$$\Pr(\text{Failure}_{b,t+j \rightarrow t+h}) = f(\beta; \text{CAMELS}_{b,t}, \text{Fundamentals}_{b,t})$$

- **CAMELS**_{b,t}: indicator for supervisory rating (1-5)
- **Fundamentals**_{b,t} from [Correia et al '24](#):
 - **Insolvency**_{bt}: proxy distance to default (income/assets, equity/assets)
 - **Noncore Funding**_{bt}: reliance on expensive funding (time deposits, wholesale funding)
 - **Loan Growth**_{b,t}: quintiles of loan growth (based on historical distribution)

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- Predictability metric: Area Under the Receiver-Operating Characteristic Curve (AUC)
 - AUC = 0.50 → Naive predictor (coin toss)
 - AUC > 0.50 → Informative predictor
 - Also consider precision-recall curve

Predicting Bank Failures: One-Year Horizon

	(1)	(2)	(3)	(4)	(5)
Failure in $t + 1$					
AUC (in-sample)	0.961	0.935	0.767	0.936	0.963
AUC (out-of-sample)	0.960	0.933	0.722	0.936	0.957
N	633759	633751	585720	585717	585717
No of Banks	11222	11222	10749	10749	10749
Mean of dep. var.	.29	.29	.29	.29	.29
Specification details					
CAMELS	✓				✓
Insolvency × Non-core funding		✓		✓	✓
Loan growth			✓	✓	✓
Insolvency × Non-core funding × CAMELS					✓
Age controls	✓	✓	✓	✓	✓

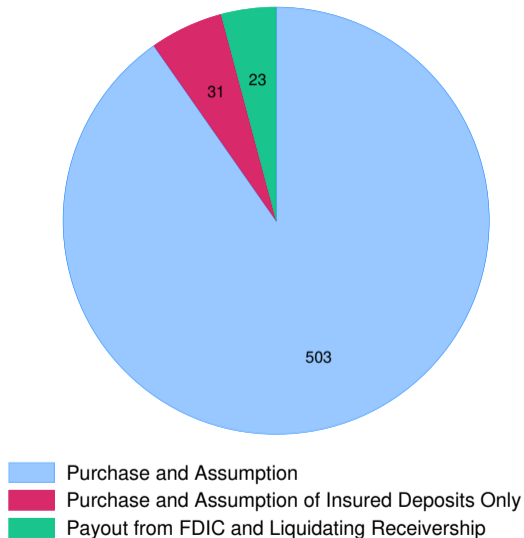
- **CAMELS ratings slightly outperform** at one-year horizon

Predicting Bank Failures: Longer Horizon

	(1)	(2)	(3)	(4)	(5)
Failure between $t + 4$ and $t + 5$					
AUC (in-sample)	0.750	0.771	0.781	0.816	0.837
AUC (out-of-sample)	0.656	0.723	0.738	0.778	0.790
N	633759	633751	585720	585717	585717
No of Banks	11222	11222	10749	10749	10749
Mean of dep. var.	.55	.55	.55	.55	.55
Specification details					
CAMELS	✓				✓
Insolvency × Non-core funding		✓		✓	✓
Loan growth			✓	✓	✓
Insolvency × Non-core funding × CAMELS					✓
Age controls	✓	✓	✓	✓	✓

- **CAMELS underperform** financial statement metrics, esp. loan growth
- Supervisory ratings are reactive, rather than proactive

Failed banks are typically sold to other banks which assume all deposits



Losses for uninsured depositors are low

Table: Loss Rates for Uninsured Depositors in Bank Failures.

Era	Number of failures	Failures with losses to depositors	Conditional loss rate	Unconditional loss rate
1992-2008	302	0.43	0.24	0.10
2008-2022	536	0.06	0.43	0.03
All	838	0.2	0.28	0.06

Notes: The data are as reported in FDIC (2023).

Balance Test

Bank Characteristics in 2007Q4 by Expected Exam Lead Early in GFC

	Expect State		Expect Federal		Difference	
	Mean	Std	Mean	Std	Diff	t-stat
CAMELS Rating	1.575	0.495	1.581	0.494	0.006	0.346
Size (Assets, in log)	18.705	1.227	18.762	1.147	0.057	1.440
Equity/Assets	0.111	0.058	0.110	0.051	-0.002	-1.023
Net income/Assets	0.010	0.015	0.009	0.013	-0.000	-1.070
Deposits/Assets	0.817	0.091	0.814	0.089	-0.003	-1.058
Time Deposits/Assets	0.393	0.123	0.390	0.115	-0.003	-0.873
Wholesale Funding/Assets	0.046	0.058	0.054	0.098	0.008	0.862
Loans/Assets	0.655	0.163	0.662	0.160	0.007	1.248
NPL/Loans	0.012	0.013	0.012	0.012	0.000	0.501