

The Effect of Bank Supervision on Risk Taking: Evidence from a Natural Experiment

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Federal Reserve Board of Governors

April 5, 2018

Chicago Financial Institutions Conference 2018

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Motivation

- Financial institutions subject to an inordinate amount of supervisory oversight
 - The ongoing supervision and enforcement of established guidelines is a crucial companion to financial regulation
- Despite the focus on bank supervision, crises periodically emanate from the financial sector
- Raises questions about efficacy of supervision and ability to protect nonfinancial sector and taxpayers from bearing losses

Research Questions

1. Do changes in supervisory resources alter the risk taking behavior of financial institutions?
2. To what extent can bank supervision affect the prevalence and costs of bank failures?

Drawing causal inference can be difficult:

- Changes in supervision often tied to differences between banks or regional changes
- Difficult to disentangle effects of regulation

Background: Regulatory and Supervisory Environment

- We focus on federally-chartered S&Ls in the 1980s
- Primary regulator: FHLBB (subject to same regulations)
- Supervisory oversight: purview of regional FHLBs (PSA)
 - Supervisors: FHLB employees, reported to local president
 - Field agents responsible for taking action on facts unearthed by examiners

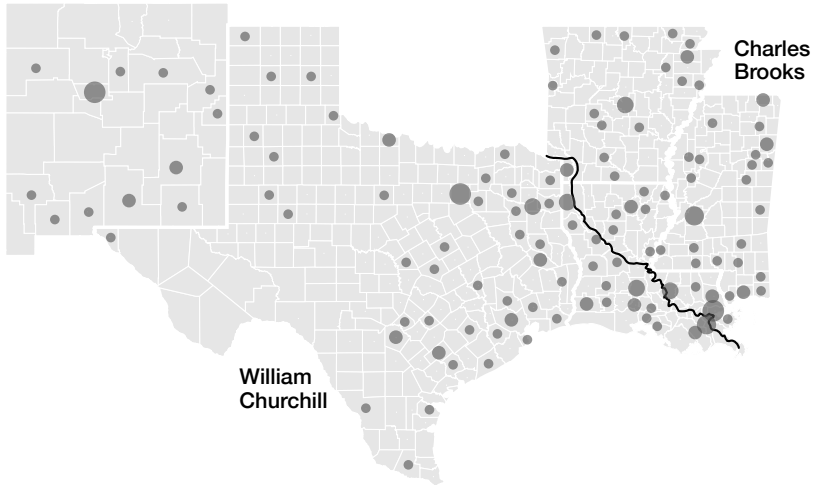
Natural Experiment: Relocation of 9th District FHLB

- Since founding of the FHLB System, the 9th district's principal office was located in Little Rock, AR
- Texas attempted to secure relocation as early as 1950s
- Weakening of Arkansas congressional delegation led to successful relocation vote in 1983
- Directed to move to Dallas “as rapidly as possible”

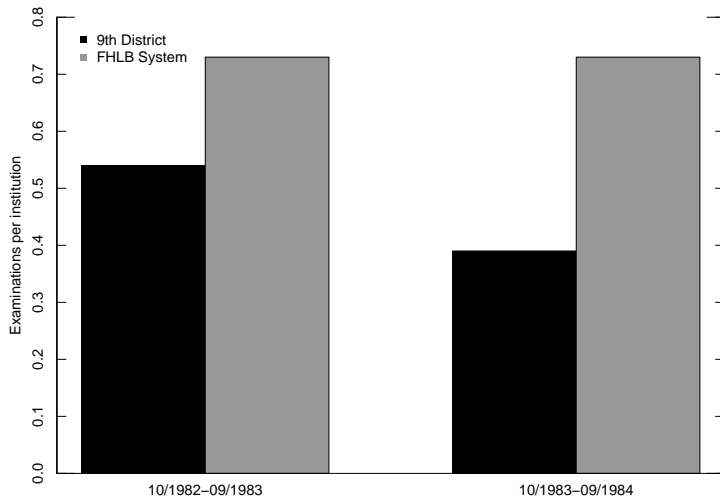
Natural Experiment: Relocation of 9th District FHLB

- Rather than relocate, much of the staff simply quit (especially in Bank's division of supervision)
- All but 11 employees quit (including the chief). Only 2 were field agents, remainder were clerical/admin staff
- Restaffing effort was slow; in 1986, chairman of FHLBB brought in 250 supervisory and examination staff from other districts for six-week blitz

Field Agents' Line of Demarcation: Federal S&Ls



Examination Intensity: Examinations per Institution

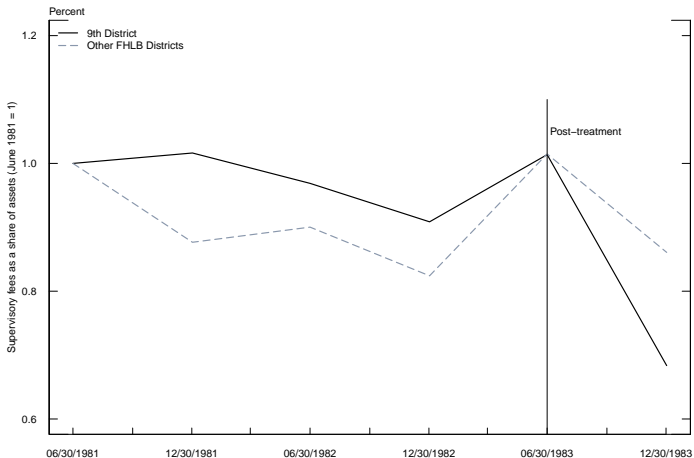


Trainee Examiners in Selected FHLB Districts (1984)

Trainee Examiners

4th district, Atlanta	27%
7th district, Chicago	22%
9th district, Dallas	43%
10th district, Topeka	19%
All FHLB districts	22%

Supervisory Fees Paid by S&Ls



Data

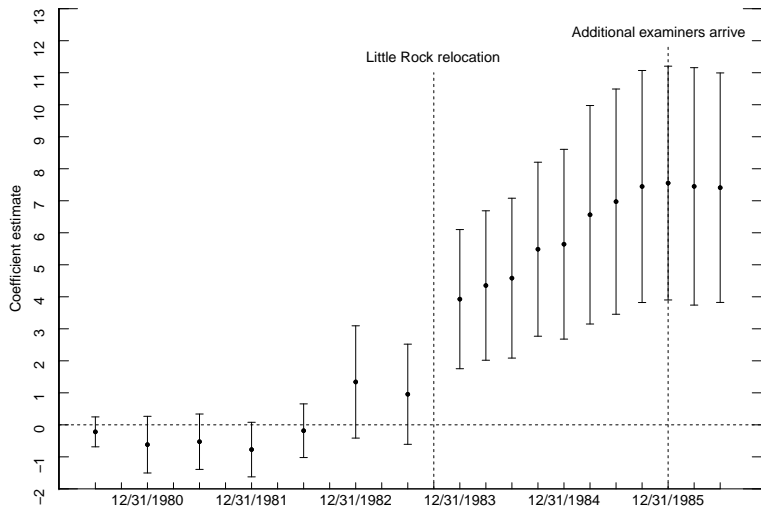
- Federally-chartered S&Ls in contiguous U.S.
 - Thrift Financial Reports (TFR)
 - Key measure of risk: “Higher risk real estate investments”
 - CRE, ADC, service corp. investments
- County and state-level characteristics
 - Census, BEA, BLS
- Failure Transaction Database (FTDB) from the FDIC

Methodology: Difference-in-Differences

Basic difference-in-differences specification, with 9th district thrifts composing the treatment group:

$$Y_{i,t} = \alpha + \gamma(Post_t \times Treatment_i) + \phi'(Post_t \times \mathbf{B}_{i,1982}) + \zeta' \mathbf{S}_{i,t-1} + \theta' \mathbf{C}_{i,t-1} + \eta_t + \psi_i + \varepsilon_{i,t}$$

9th District Relative to Other Districts



Robustness and Placebo Tests

- Findings not related to the oil price boom/bust
- Null result for within-district diff-in-diff with TX thrifts as treatment indicates TX thrifts do not solely drive the results
- No similar pattern exists for commercial banks

Consequences of Bank Risk Taking

1. We show that the risky loans increased the probability of failure
2. Higher failure costs in 9th district
 - **Poorer quality assets** \Rightarrow fewer assets passed to acquirers, more bad assets passed to FSLIC
 - Less oversight should lead to **delays in resolution**

$$Y_{i,t} = \alpha + \beta \cdot 9th\ District_i + \Phi' X_{i,t-1} + \eta_t + \varepsilon_{i,t}$$

Resolution Costs by FHLB District (1983-1990)

Panel A: Weighted Average Costs of Failure by FHLB District and Charter Type

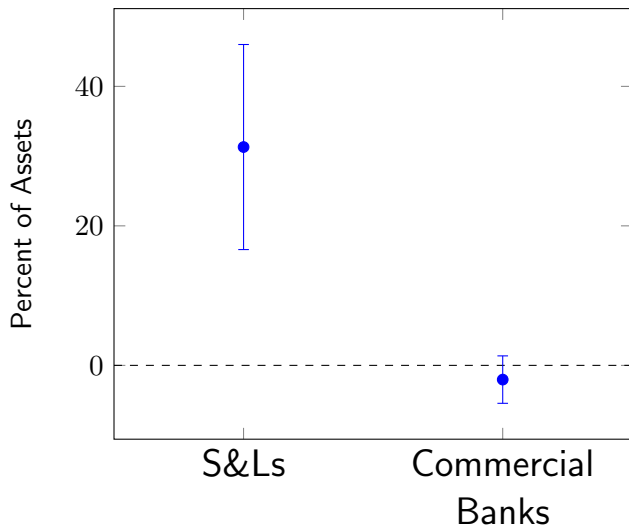
<u>Savings & Loans</u>			<u>Commercial Banks</u>		
FHLB District	Rank	Resolution Costs/Assets (%)	FHLB District	Rank	Resolution Costs/Assets (%)
Dallas	1	80.7	Cincinnati	1	25.9
Topeka	2	35.7	Topeka	2	24.6
Des Moines	3	21.8	New York	3	20.7
Atlanta	4	19.8	Seattle	4	20.7
New York	5	18.4	Chicago	5	19.7
Chicago	6	18.1	San Francisco	6	17.3
Boston	7	15.8	Dallas	7	15.5
Cincinnati	8	13.5	Des Moines	8	13.7
Indianapolis	9	12.6	Indianapolis	9	13.6
Seattle	10	10.4	Pittsburgh	10	12.4
Pittsburgh	11	9.9	Boston	11	7.9
San Francisco	12	9.3	Atlanta	12	5.9

State-level ranks for 9th District S&Ls (commercial banks):

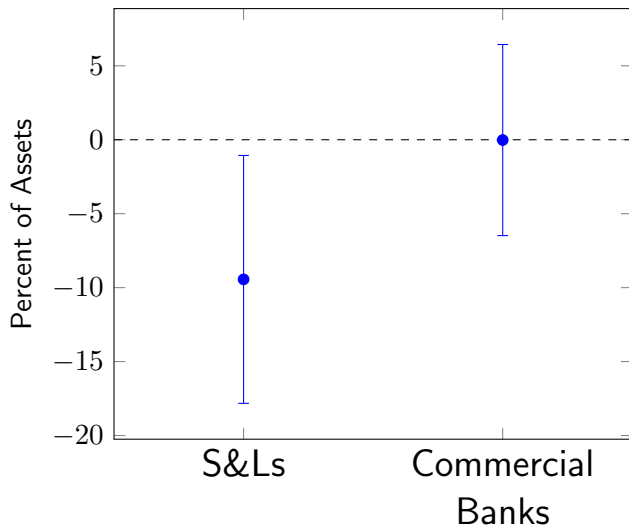
AR:1(6); TX:2(25); NM:3(9);

LA:4(10); MS:12(34)

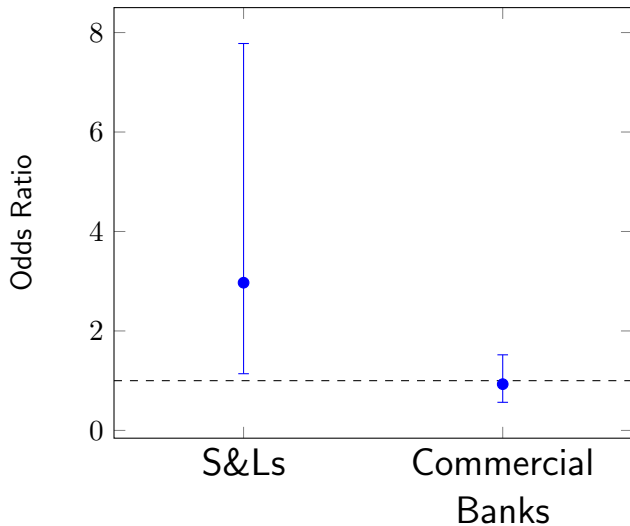
9th District Resolution Costs as a Percent of Assets (1983-1990)



9th District Assets Passed to Acquirer as a Percent of Assets (1983-1990)



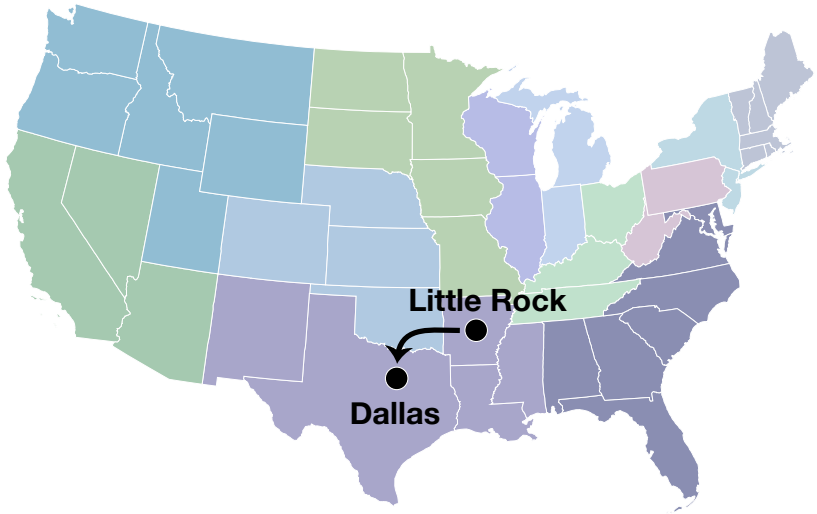
9th District Probability (Net Worth < 3%) 1yr Before Failure (1983-1990)



Conclusion

- Supervision (narrowly defined) has an important effect on bank behavior and can help limit the broader economic costs of financial sector turmoil
 1. Thrifts invested more heavily in most risky classes of loans
 2. Risk taking activity ceased upon arrival of additional supervisors/examiners
 3. Higher incidence and cost of failures resulted
- Allocation of sufficient supervisory resources is crucial for optimal banking policy and financial stability

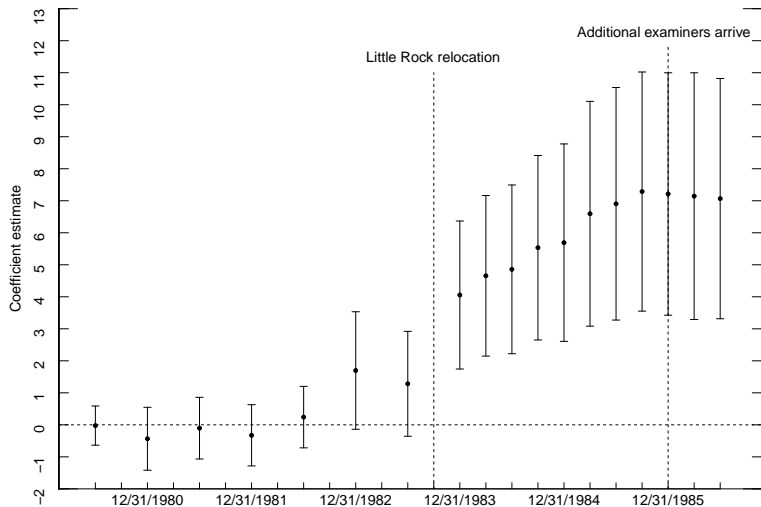
Natural Experiment: Relocation of the 9th District HQ



Summary Statistics: December 1982

	9th district	Other districts	4th district
Panel A: Outcome variables	Mean	Mean	Mean
Higher risk loans/assets	9.80	7.31 [†]	8.21
CRE loans/assets	7.85	6.35 [†]	7.18
ADC loans/assets	1.44	0.57	0.65
Service corp./assets	0.51	0.39	0.38
Panel B: Bank characteristics			
Total assets (\$1,000)	126,270	300,008	245,120
Net worth/assets	3.91	4.44	4.15
Panel C: State characteristics			
Urban population share	58.68	69.72 [†]	65.51
State unemployment rate	10.29	11.08 [†]	9.93
Mining share	19.47	2.71[†]	1.09[‡]
Panel D: County characteristics			
Income per capita (\$)	10,172	11,433 [†]	10,530
Population	214,729	687,596	247,962
County unemployment rate	9.71	10.47	9.90

9th District Relative to 4th District



9th District Relative to Matched Thrifts

