Strategically Staying Small: Regulatory Avoidance and the CRA

Jacelly Cespedes[1] Jordan Nickerson[2] Carlos Parra[3]

September 29, 2021

[1]University of Minnesota

[2]University of Washington

[3]PUC-Chile

Motivation

- Banks operate in one of the most heavily regulated industries
  - Regulation is used to control risk via capital requirements, protecting consumers, and ensuring equal access to credit
- One notable example studied extensively is the Community Reinvestment Act (CRA) from 1977
  - The CRA encourages a bank to extend credit to targeted groups within its community
  - There is a strand of literature examining whether the CRA mandate encourages risky lending
  - However, this represents one potential effect associated with the CRA
- In this paper, we instead evaluate the consequences of a discrete jump in regulatory burden by examining banks' strategic actions to avoid the step-up in regulatory costs

This Paper

We study the strategic incentives to reduce CRA regulatory costs and the consequences of regulatory avoidance on local markets

- Exploit the asset threshold ($250 million) introduced in 1995 that created two categories of banks ("small" and "large")
- This threshold determines whether banks face streamlined CRA evaluation or a more comprehensive assessment

The research questions are the following:

- Do banks bunch on the $250 million asset threshold?
- How depository institutions strategically avoid a comprehensive CRA assessment?
- What are the real effects of exposure to banks that circumvent the CRA?

Preview of Results

- Document significant bunching of banks at the $250M asset threshold over the period from 1996 to 2004
  - No evidence of bunching in the pre-reform period (1986-1993) or other salient asset values ($150M and $350M)
  - Confirm bunching using “excess mass” techniques from public finance
- Using a difference-in-differences design, banks with 1994 assets between $200-$250M experienced post-reform asset growth 4.4pp slower than similarly sized banks
  - Robust to alternate values for the lower bound of the treated group
  - No evidence of pre-trends and effect immediately realized in 1995

Preview of Results (cont'd)

- Banks near the threshold reduce growth in different assets such as loans (real estate and C&I loans) and cash holdings
  - However, they have greater profitability in their loan portfolio
- Banks falling below the $250M threshold experience an increase in rejection rates for LMI-qualifying loans
- At the local level, exposure to banks falling below the $250M threshold results in decline in 1) the share of small establishments and 2) independent innovation
- Our results highlight banks' willingness to avoid the greater regulatory burden, and as a consequence, reduced credit access for individuals the CRA is designed to benefit

Institutional Background

Background on the CRA

- The CRA of 1977 sought to address discrimination in lending to individuals and businesses from low and moderate-income neighborhoods

- The Act mandates that agencies evaluate whether banks offer credit in all communities in which they operate

- Evaluation components depend on the bank's asset size

- From 1995 to 2004, banks with assets less than $250 million in either prior two calendar years were considered "small"

  - Small banks and large banks are evaluated every three and two years, respectively

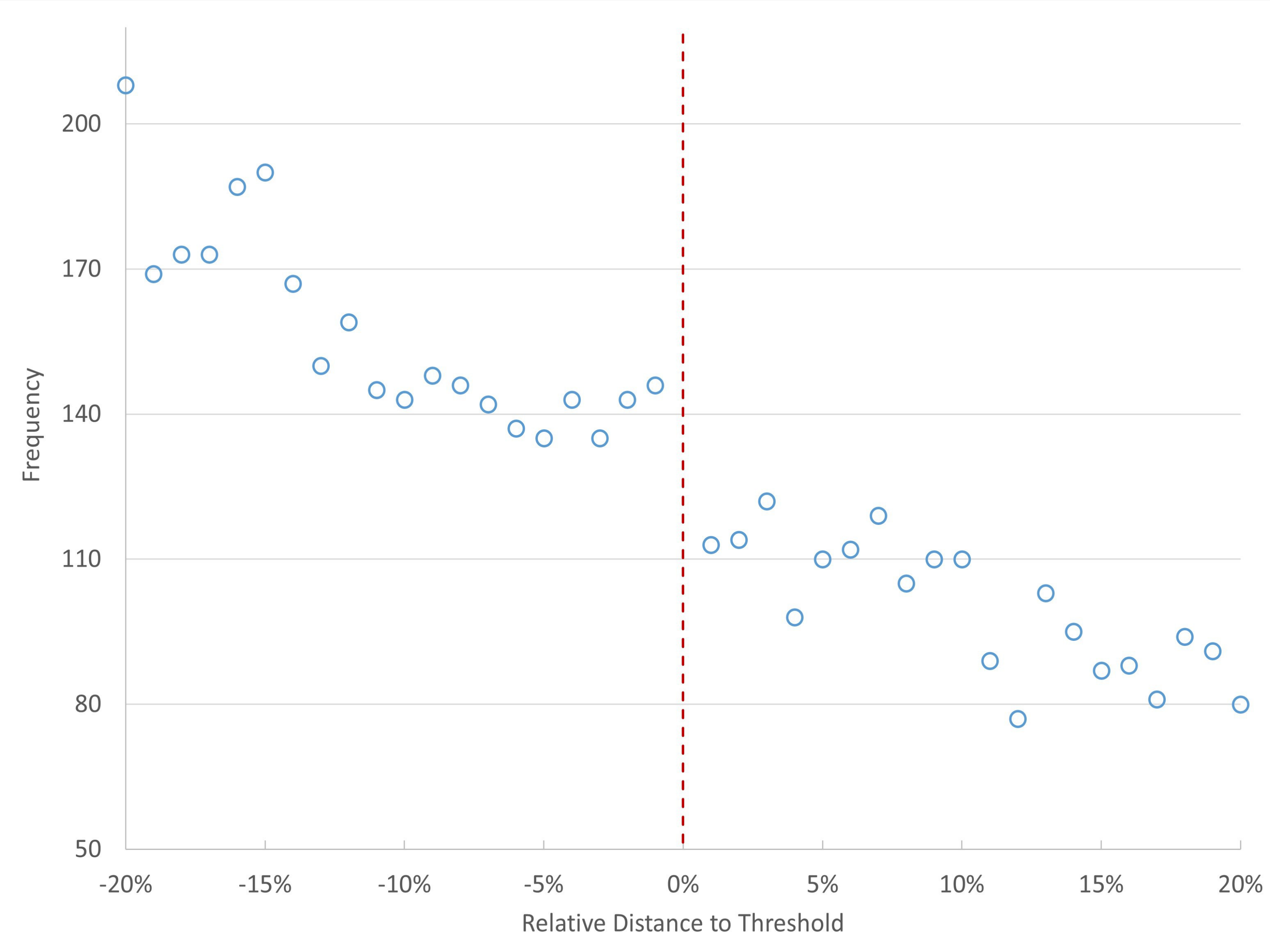
- Banks that do not comply with CRA cannot expand their operations and participate in M&A

Background on the CRA (cont'd)

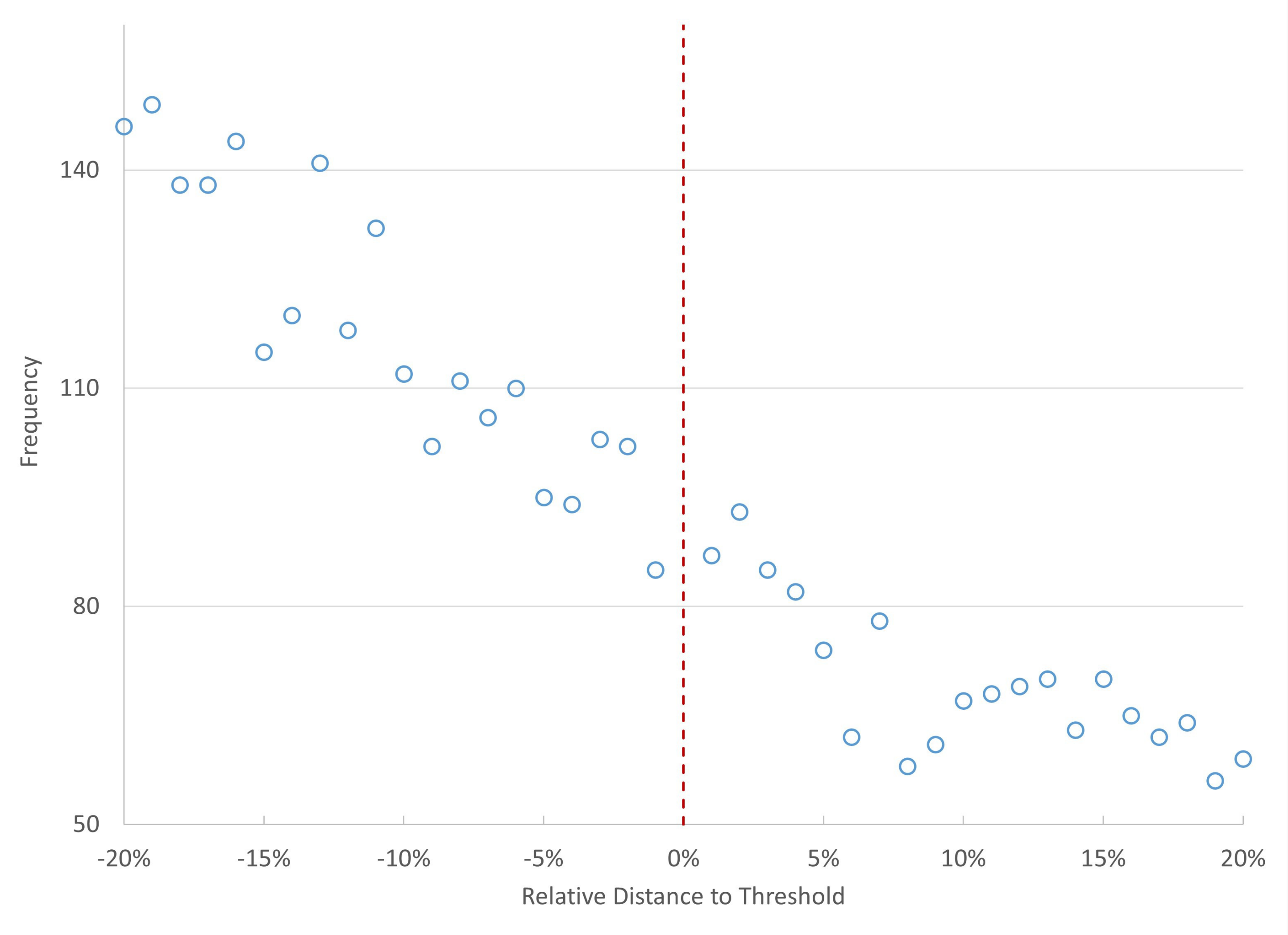
Small banks	Large banks
A) Lending test:	*A) Lending test:*
• Loan-to-deposit ratio.	• Number and dollar amount of home mortgage, small business, and small farm loans.
• Percentage of loans in its community.	• Geographic distribution of loans and number and dollar amount of loans in LMI, and upper income census tracts.
• Record of lending to borrowers at different income levels and farms and businesses of different sizes.	• Loans to borrowers at different income levels, including home mortgage loans, small businesses and small farms with annual revenue less than or equal to $1 million, and small-business and small farm loans by amount at origination.
• Geographic distribution of loans.	• Community development loans, including their innovativeness
• Responsiveness to complaints.	• Complexity, and innovative or flexible credit practices.
	B) Investment & C) Service test

Means of Strategic Avoidance: Bunching Evidence

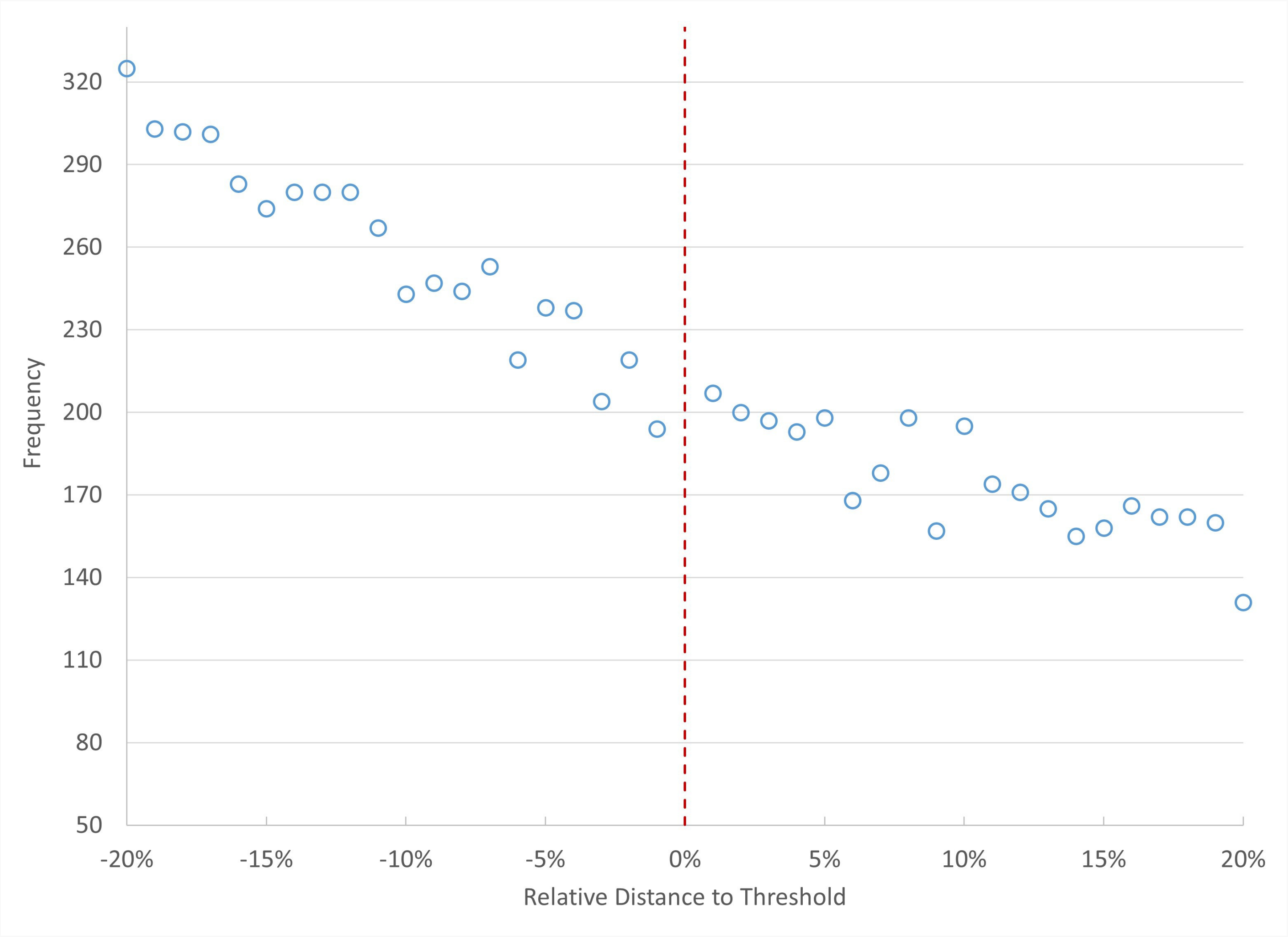
Bunching Evidence: Raw Data 1996-2004



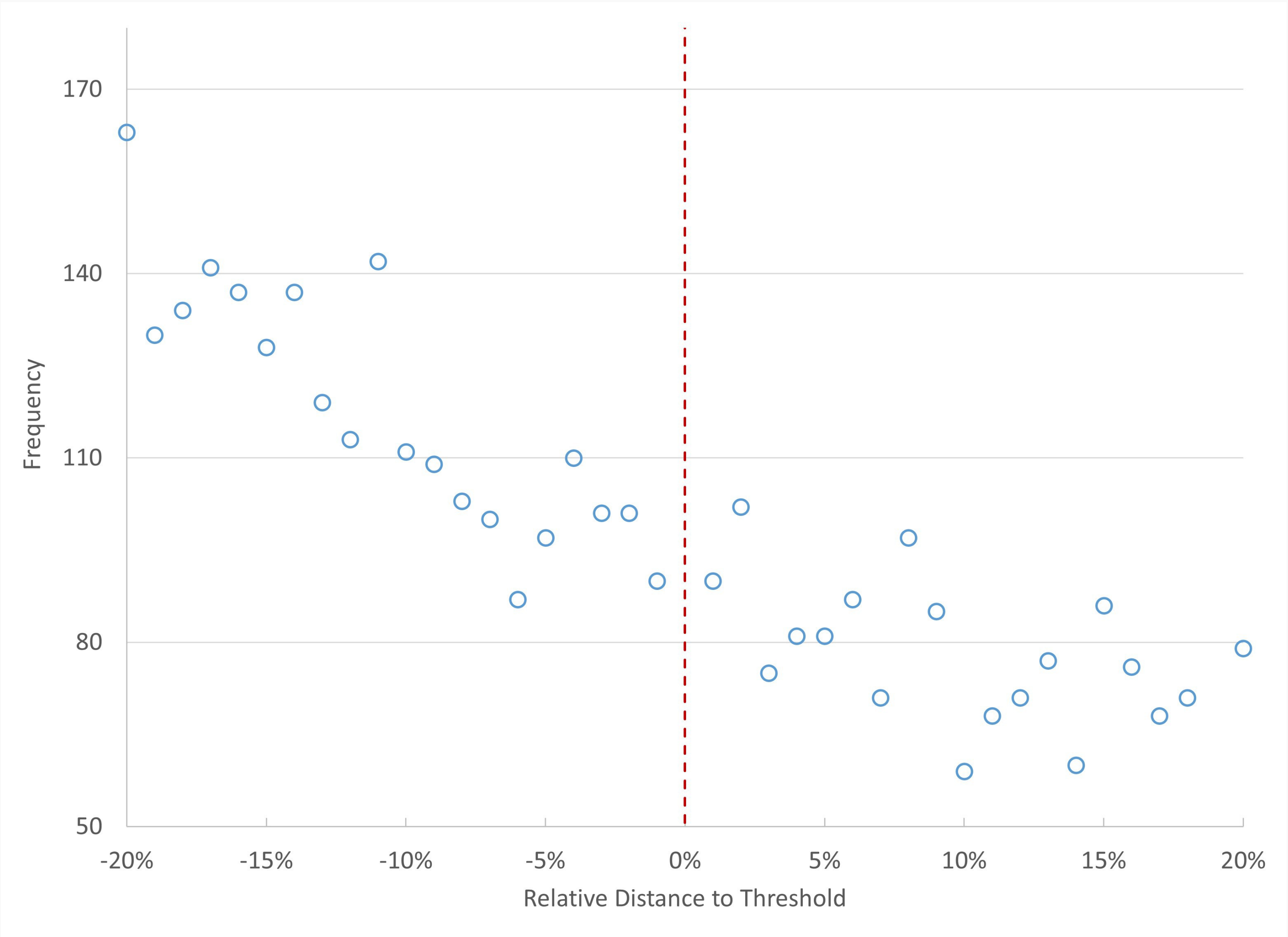
Placebos: Assets from 1986-1993



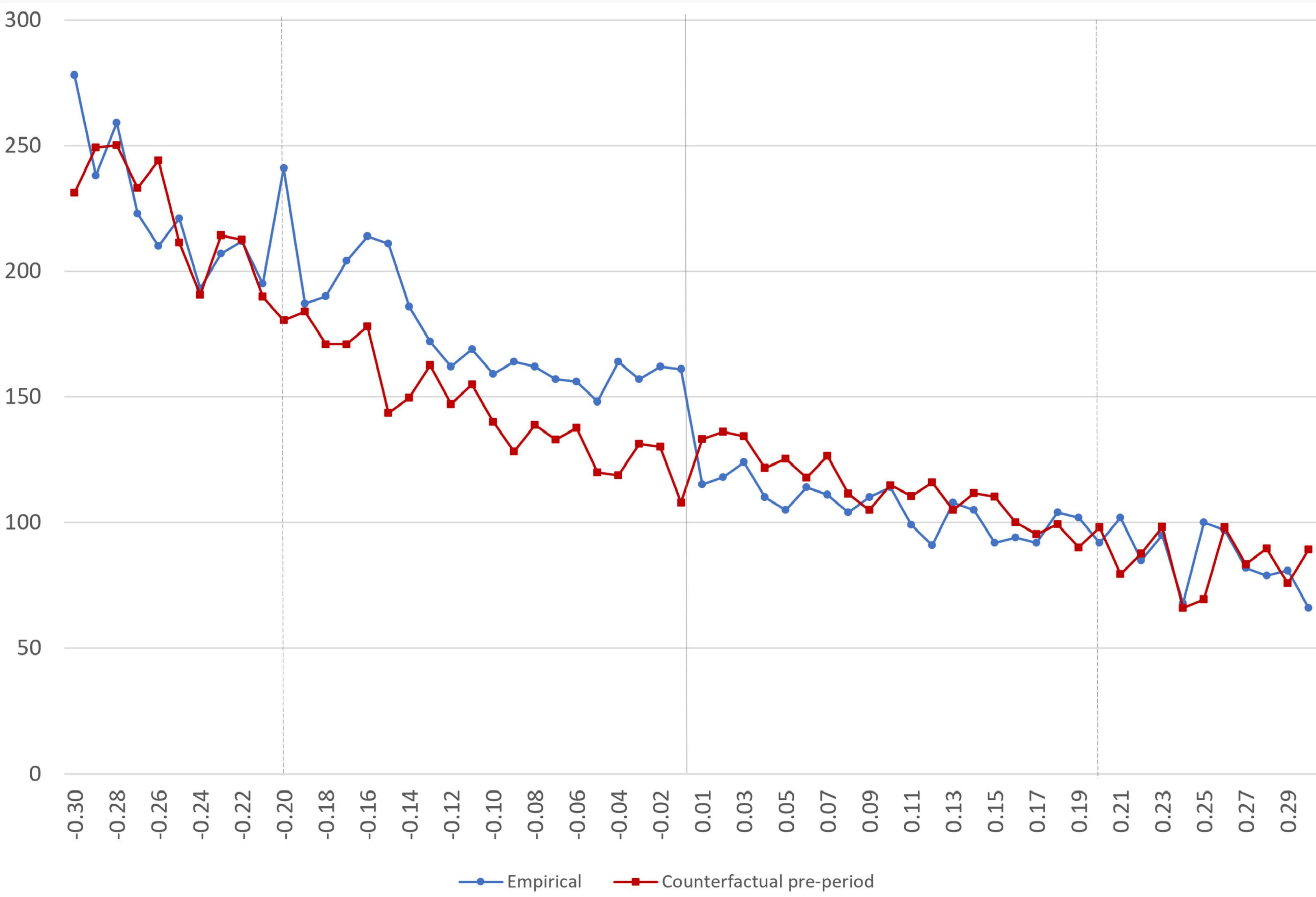
Placebos: $150M Threshold & 1996-2004



Placebos: $350M Threshold & 1996-2004



Bunching Evidence: Excess Mass Estimation



Means of Strategic Avoidance

Means of Strategic Avoidance : Empirical Design

- The excess bunching analysis cannot evaluate how banks circumvent a comprehensive CRA assessment
- We turn to a reduced-form framework similar to that of the shift-share design (Bartik, 1991; Blanchard and Katz, 1992)
- The approach segments banks by asset size before the 1995 CRA reforms and tests for a differential response following the introduction of the threshold across bins of pre-threshold bank assets
- Specifically, we estimate the following model:

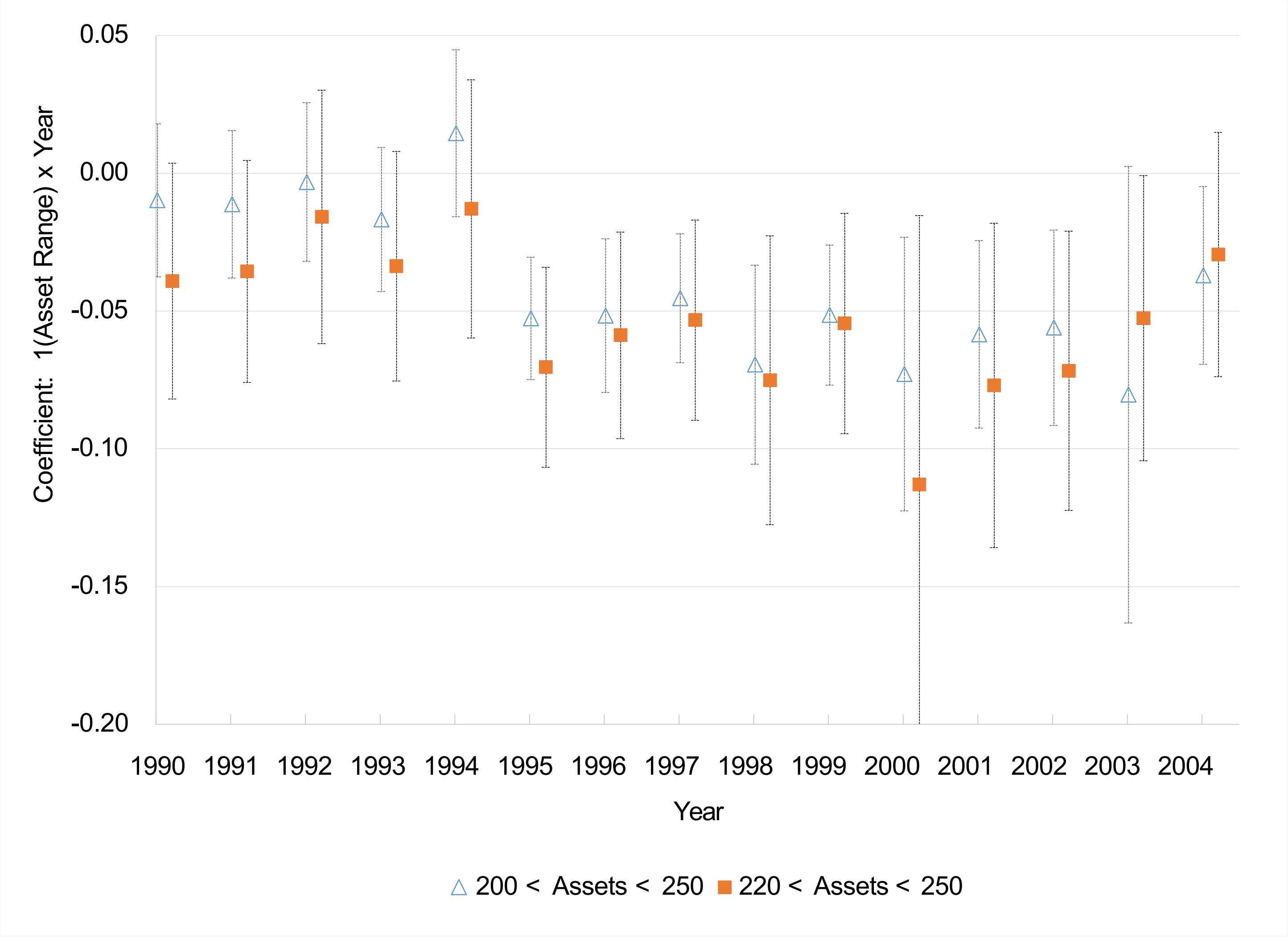
$$y_{it} = \eta_i + \varphi_t + \beta Assets^{1994}_{i,\,LB-250} \times 1(t > 1995) + \varepsilon_{it} \,,$$

where y_{it} is the outcome for bank i in year t. $\boldsymbol{Assets^{1994}_{i,\,LB-250}}$ is an indicator that takes on a value of 1 if the end-of-year assets of bank i, measured in year 1994, lie within the region [LB, \$250M]. $\mathbf{1(t > 1995)}$ is an indicator that takes on a value of 1 in the years following the enactment of the reform

Strategic Avoidance : Asset Growth

	(1)	(2)	(3)	(4)	(5)	(6)
$Assets_{200-250} \times 1(yr > 1995)$	-0.024***	-0.037***	-0.044***			
	(-3.73)	(-5.41)	(-5.76)			
$Assets_{220-250} \times 1(yr > 1995)$				-0.012	-0.025***	-0.035***
				(-1.55)	(-2.85)	(-3.37)
Sample	Full	< \$500M	< \$350M	Full	< \$500M	< \$350M
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	137,051	127,192	123,148	137,051	127,192	123,148
R-squared	0.180	0.200	0.216	0.180	0.200	0.216

Strategic Avoidance : Asset Growth – Pre-trends



Strategic Avoidance : Balance Sheet Changes

Growth:	Cash	Securities	Loans	R.E. Loans	C&I Loans	Div. Payout
	(1)	(2)	(3)	(4)	(5)	(6)
$Assets_{200-250} \times 1(yr > 1995)$	-0.066***	-0.052***	-0.052***	-0.050***	-0.049***	0.043**
	(-4.82)	(-3.44)	(-3.36)	(-3.24)	(-2.63)	(2.54)
$Assets_{220-250} \times 1(yr > 1995)$	-0.088***	-0.060**	-0.042**	-0.025	-0.044	0.013
	(-4.07)	(-2.36)	(-1.98)	(-1.44)	(-1.56)	(1.28)
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	123,146	123,148	123,146	123,146	123,148	123,148

Strategic Avoidance : Profitability and Loan Performance

	Profitability		Non-Performance	
	(1)	(2)	(3)	(4)
$Assets_{200-250} \times 1(yr > 1995)$	0.027***		-0.001*	
	(3.79)		(-1.88)	
$Assets_{220-250} \times 1(yr > 1995)$		0.032***		-0.003***
		(3.17)		(-2.72)
Bank	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Number of observations	123,420	123,420	123,420	123,420
R-squared	0.758	0.758	0.420	0.420

Real Effects of Strategic Avoidance of the CRA

Mortgage Lending

Loan application accepted	(1)	(2)	(3)	(4)	(5)	(6)
$Assets_{200-250} \times 1(yr > 1995)$	-0.001	0.012**	0.012**			
	(-0.24)	(2.53)	(2.46)			
$\times$ 1(LMI)	-0.022***	-0.019***	-0.018***			
	(-3.15)	(-2.90)	(-2.77)			
$Assets_{220-250} \times 1(yr > 1995)$				-0.008	0.006	0.005
				(-1.29)	(0.73)	(0.66)
$\times$ 1(LMI)				-0.022**	-0.014*	-0.013
				(-2.51)	(-1.69)	(-1.61)
Bank-LMI FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-LMI FE	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	x Year	x Year	Yes	x Year	x Year
Loan Amt-Year FE	No	No	Yes	No	No	Yes
Number of observations	1,233,816	1,231,151	1,230,582	1,233,816	1,231,151	1,230,582
R-squared	0.097	0.121	0.125	0.097	0.121	0.125

Small Business Growth

$$y_{ist} = \eta_i + \varphi_{st} + \beta Assets_{i,\,LB-250}^{1994} \times 1(t > 1995) + \varepsilon_{ist}$$

Share of small businesses:	< 20 employees		< 50 employees	
	(1)	(2)	(3)	(4)
$Assets_{200-250} \times 1(\text{yr} > 1995)$	-0.214***		-0.113***	
	(-4.42)		(-4.21)	
$Assets_{220-250} \times 1(\text{yr} > 1995)$		-0.270***		-0.127***
		(-4.72)		(-4.08)
County FE	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes
Number of observations	43,480	43,480	43,480	43,480
R-squared	0.917	0.917	0.891	0.891

Independent Innovation

Count of entrepreneurial patent	All Counties		Has $<$ \$350M	
	(1)	(2)	(3)	(4)
$Assets_{200-250} \times 1(yr > 1995)$	-0.048*		-0.049*	
	(-1.95)		(-1.94)	
$Assets_{220-250} \times 1(yr > 1995)$		-0.071***		-0.071***
		(-2.70)		(-2.71)
County FE	Yes	Yes	Yes	Yes
State-Year FE	Yes	Yes	Yes	Yes
Number of observations	61,593	61,593	58,002	58,002

Note: We estimate a Poisson count model

Conclusion

Conclusion

- The 1995 CRA reform added various regulatory requirements for banks above the $250 Million asset size threshold
- We show that the CRA asset threshold distorts banks' growth in an economically meaningful way, which in turn, has real effects on local markets
  - At the bank level, lower growth in assets and loans but also greater profitability
  - At the local level, lower mortgage approval rates in LMI neighborhoods, share of small firms, and independent innovation
- Banks took costly actions to avoid the regulatory cost of the CRA, and costs were partially borne by borrowers the CRA seeks to benefit
  - In stark contrast to the CRA's objective of "encourage institutions to help meet the credit needs of the communities in which they operate"

Thank you!