The Direct Costs of Bank Compliance around Crisis-Based Regulation for Small and Community Banks

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Recent Thoughts on Community Banks

- The 2014 KPMG Survey indicates community bankers are most concerned about:
  - Regulatory and Legislative pressures (32%)
  - Interest rate pressures (27%)
  - Risk management issues (26%)
  - The lowest response was lack of creditworthy borrowers (8%)

Recent Thoughts on Community Banks

- KPMG Survey indicates 45% of banks indicate compliance costs are 5%-10% of total operating costs. The largest driver is AML (23%), Consumer protection (17%) and lending practices (17%).
- Bankers clearly think regulation and compliance costs are too high.

Recent Empirical Results

- This paper explores the "direct" costs of regulation
  - True costs do not exist in these data, but this is as close as I can get
- I define community banks as less than $1 billion in assets and small banks between $1 and $5 billion in assets
  - Asset size is not necessarily the best way to classify community banks, but it is a standard way to do it in academic research

Expected Empirical Results

- The following expectations are consistent with increased regulatory burden:
  - Lower ROA and performance
  - Less output (e.g., loans) if inputs stay the same
  - Or, more inputs to produce the same output, which would also reduce performance
  - Increased numbers of employees (above trend)
  - Increase in average pay (if compliance personnel are more expensive)
  - Lower technology expenditures as regulatory burden crowds out technology spending

Empirical Model

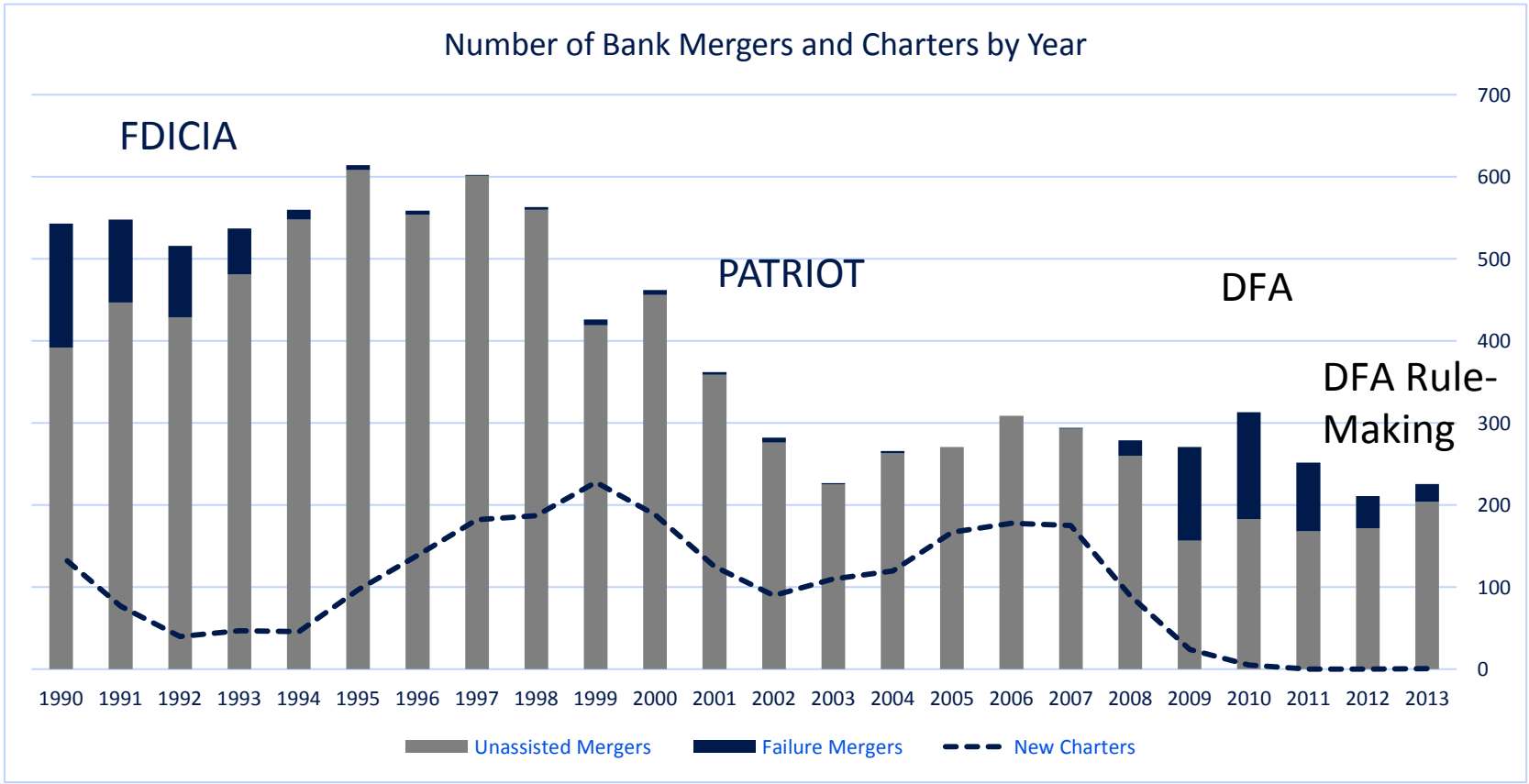
- I compare pre-tax ROA, headcount, salary costs, technology and fixed-asset expenditures, and loans per employee for large crisis-based regulatory events from 1991 to 2014
- Particular focus on whether or not Dodd-Frank is different
- Also review FDICIA and the PATRIOT Act
- Use crisis-based programs since other Acts were (theoretically) aimed at reducing regulatory burden

Empirical Model

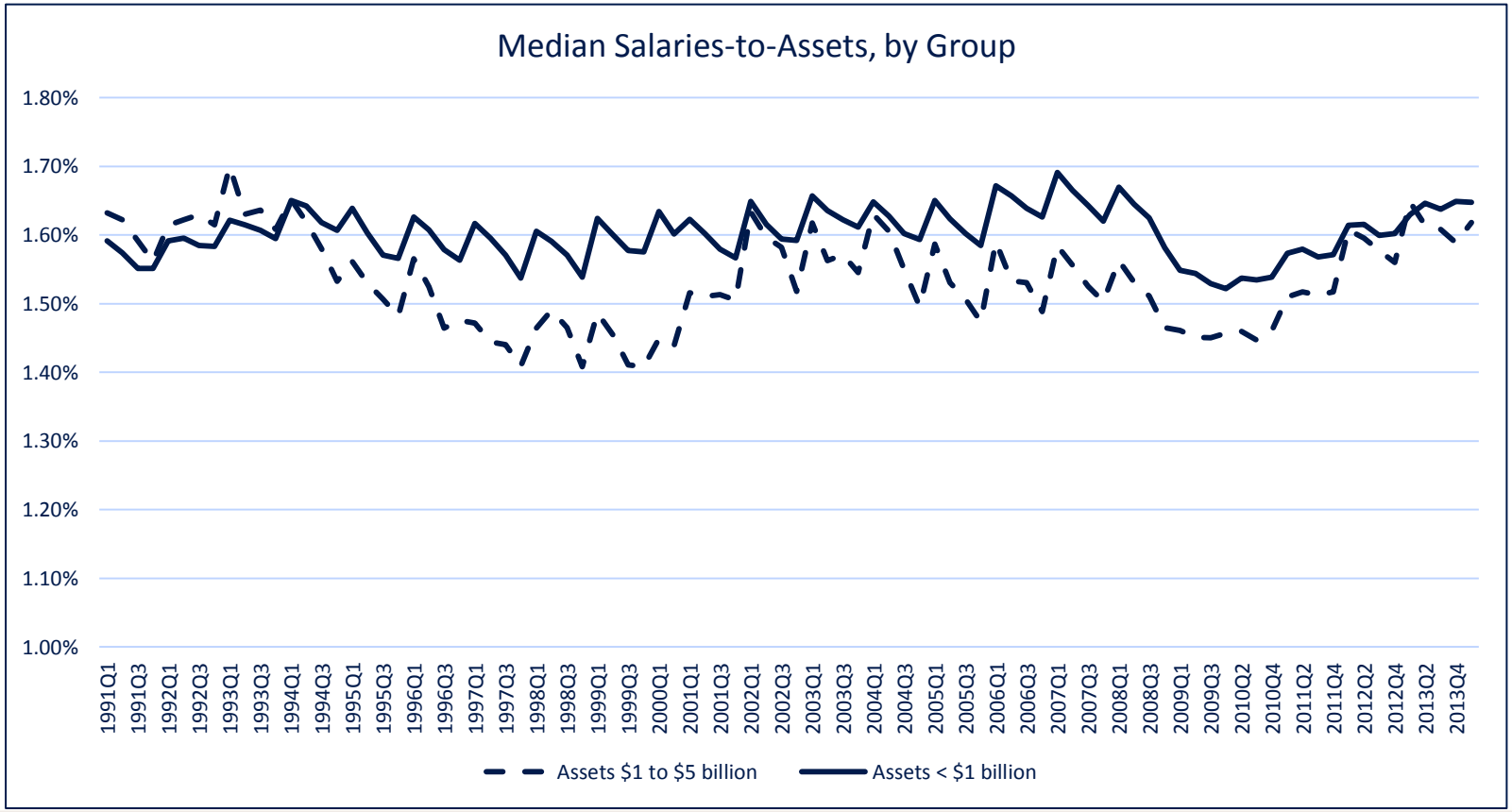
$$Y_{i,t} = \alpha + \beta_1 Q1 + \beta_2 Q2 + \beta_3 Q3 + \beta_4 TIMETREND + \beta_5 LNASSETS + \beta_6 CAPRATIO$$
$$+ \beta_7 NETINTINC + \beta_8 FIDUINC + \beta_9 EXTRAORD + \beta_{10} NONACCRU$$
$$+ \beta_{11} AGLOANS + \beta_{12} USCNILOAN + \beta_{13} FORCNILOAN + \beta_{14} BIGCDS$$
$$+ \beta_{15} ALLL + \beta_{16} PLLL + \beta_{17} GDPGROWTH + \beta_{18} INTLEVEL + \beta_{19} INTSLOPE$$
$$+ \beta_{20} TECHNFA + \beta_{21} DEMDEPS + \beta_{22} NOW + \beta_{23} MMDA + \beta_{24} SMALLCD$$
$$+ \beta_{25} FDICIA + \beta_{26} PATRIOT + \beta_{27} DODDFRANK + \beta_{28} DODDFRANK2$$
$$+ \sum_{i=1}^{4} \lambda_i Y_{t-i} + \varepsilon_{i,t}$$

– Auto-regression model with four lags and control variables for product mix, risk, GDP and the economy, time dummies, etc.

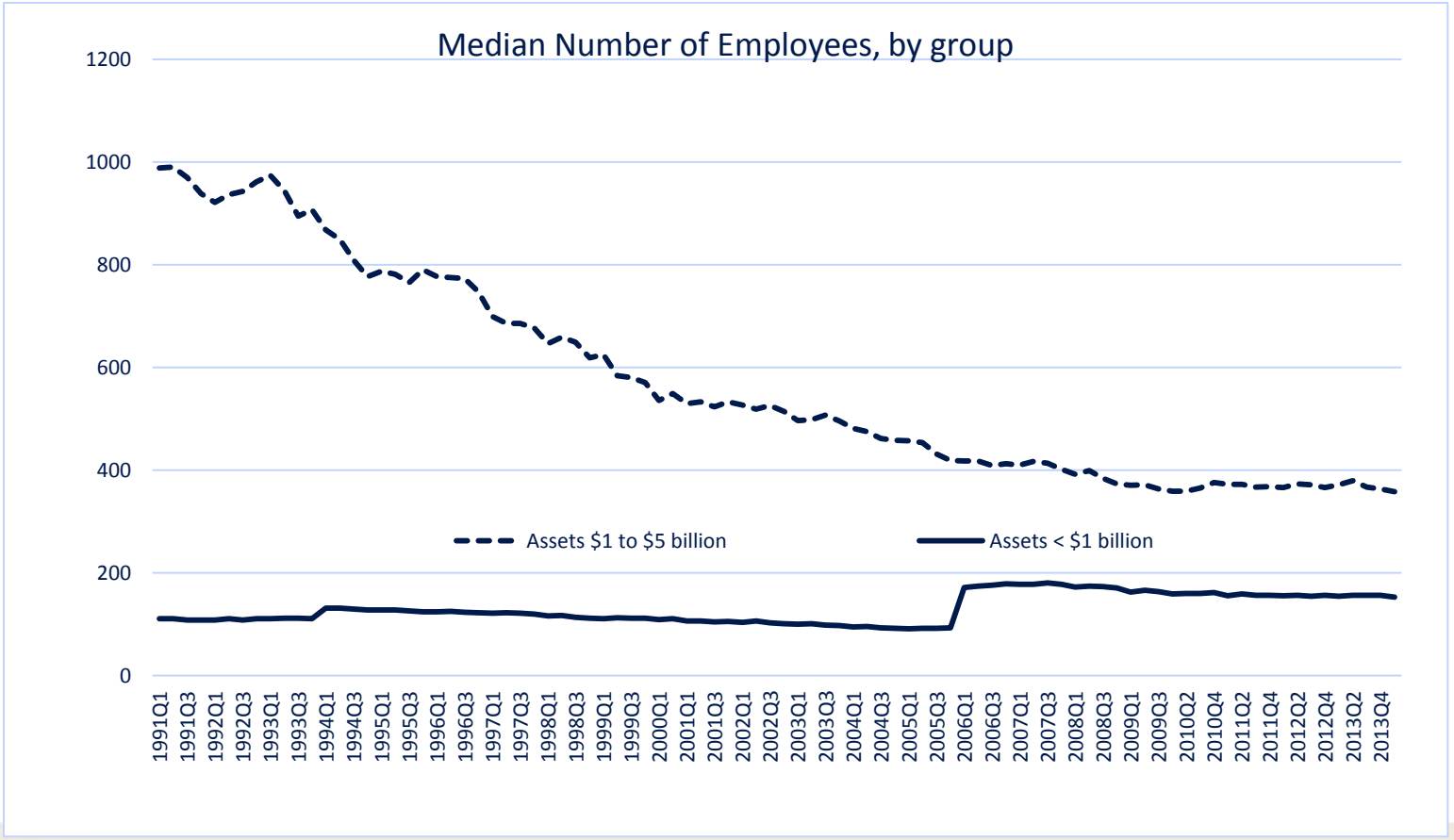
Did Mergers or New Charters Impact the Results?



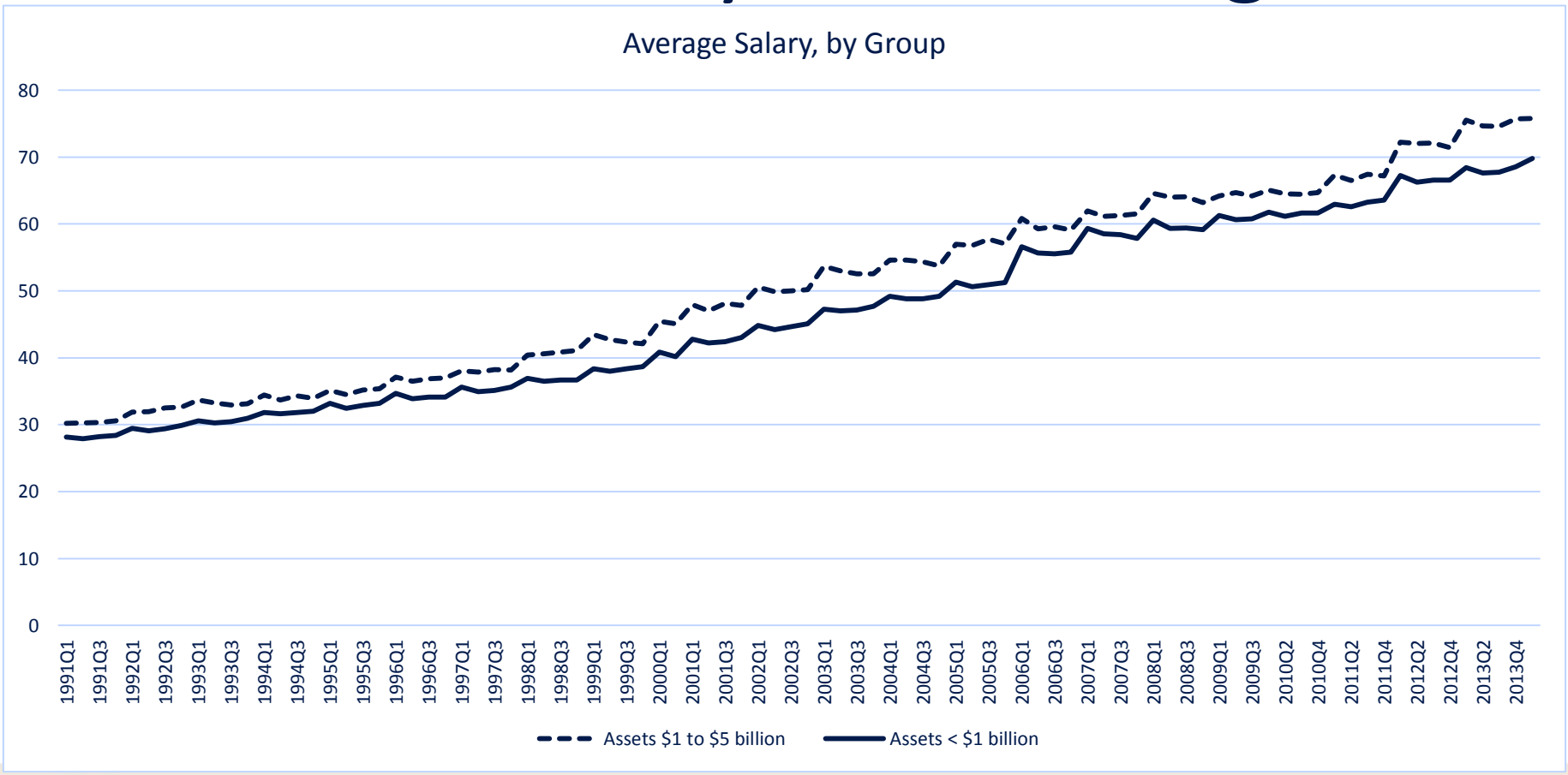
Did salaries fall?



Did number of employees change?



Did the salary trend change?



Small and Community Bank descriptive data

Table 2 Means of selected variables		
Variable	Small Banks with Assets between $1 and $5 billion (N = 24,857)	Community Banks with Assets less than $1 billion (N = 101,709)
SAL2ASST	0.0168	0.0171
PREROA	0.0127	0.0223
ASSTPEREMPL	4.2113	2.9583
LOANPEREMPL	2.6606	1.8955
TECHNFA	2.8543	2.8538
NUMEMPL	681.61	150.29
TOTASSET ($000s)	2,046,436	382,705
EMPLCHG%	1.2027	1.1952
AVGPAY ($000s)	58.4475	46.3253

Summary of Univariate Results

- Most graphs or simple means do not indicate a distinctive trend or shift
  - However, these results do not take into account other factors
    - For example, after these crises the economy was in bad shape, risk aversion was high, etc.
- Small and community banks are different and should be analyzed separately

Pre-tax ROA Empirical Results

Table 3
Pre-tax return on assets dependent variable auto-regression results with four lags.

	Small Banks (Assets $1 to $5 billion)		Community Banks (Assets < $1 billion)	
Variable	Estimate	p-value	Estimate	p-value
FDICIA	0.0004	0.4127	0.0002	0.2691
PATRIOT	**0.0034**	<.0001	**0.0023**	<.0001
DODDFRANK	**0.0016**	<.0001	0.0004	0.0759
DODDFRANK2	-0.0005	0.1408	**-0.0009**	<.0001

Loans-per-employee

Table 4
Loans-per-employee (in $ millions) dependent auto-regression results with four lags.

	Small Banks (Assets $1 to $5 billion)		Community Banks (Assets < $1 billion)	
FDICIA	0.0730	0.1505	0.0199	0.2411
PATRIOT	**-0.1656**	0.0005	**-0.0640**	<.0001
DODDFRANK	**-0.1379**	0.0007	**-0.1085**	<.0001
DODDFRANK2	-0.0582	0.0866	**-0.1145**	<.0001

Change in employees

Table 5
Change in the number of employees auto-regression results with four lags.

	Small Banks (Assets $1 to $5 billion)		Community Banks (Assets < $1 billion)	
Variable	Estimate	p-value	Estimate	p-value
FDICIA	**-0.5657**	0.0058	-0.1307	0.1306
PATRIOT	**0.6239**	0.0011	**0.6300**	<.0001
DODDFRANK	**0.3292**	0.0459	-0.2243	0.0715
DODDFRANK2	-0.1316	0.3398	-0.1670	0.1164

Salaries-to-assets

Table 6 Salaries-to-asset dependent variable auto-regression results with four lags.				
	Small Banks (Assets $1 to $5 billion)		Community Banks (Assets < $1 billion)	
Variable	Estimate	p-value	Estimate	p-value
FDICIA	0.0002	0.1630	**0.0002**	0.0249
PATRIOT	**0.0005**	0.0026	0.0000	0.4520
DODDFRANK	**-0.0006**	<.0001	**-0.0005**	<.0001
DODDFRANK2	0.0001	0.4009	-0.0001	0.1247

Average Pay

Table 7
Average pay dependent variable auto-regression results with four lags.

	Small Banks (Assets $1 to $5 billion)		Community Banks (Assets < $1 billion)	
Variable	Estimate	p-value	Estimate	p-value
FDICIA	**1.6772**	0.0141	**1.3518**	<.0001
PATRIOT	-0.9311	0.1454	**-2.0452**	<.0001
DODDFRANK	**-1.9258**	0.0005	-0.4345	0.2353
DODDFRANK2	**0.9692**	0.0342	**1.3649**	<.0001

Technology and Fixed Asset Expenditures

Table 8
Technology and fixed asset expenditures-to-assets dependent variable auto-regression results with four lags.

	Small Banks (Assets $1 to $5 billion)		Community Banks (Assets < $1 billion)	
Variable	Estimate	p-value	Estimate	p-value
FDICIA	**0.0793**	0.0442	-0.0051	0.7889
PATRIOT	0.0248	0.5024	**0.0468**	0.0067
DODDFRANK	-0.0359	0.2583	-0.0353	0.2013
DODDFRANK2	**-0.1299**	<.0001	**-0.1741**	<.0001

Robustness

- Results mostly hold if the window defining the period after the passage is changed from Quarters 0 to +3, 0 to +4, -1 to +2 and -1 to +3.
- Results hold when small banks and community banks are lumped together
- Results hold for different Interest rate levels and slope variables

Conclusions for Community Banks

- Pre-tax ROA was lower for Community Banks during the Rulemaking period of the DFA (different than FDICIA or the PATRIOT Act)
- Loans-per-employee declined for DFA and PATRIOT consistent with increased burden, but not FDICIA
- The change in employees was not different from trend, with the exception of the PATRIOT Act

Conclusions for Community Banks

- Salaries-to-assets rose during FDICIA, but fell after DFA passage
- Average pay rose during the DFA Rulemaking period and FDICIA consistent with increased burden, but fell after the PATRIOT Act
- Technology and fixed-asset expenditures rose after PATRIOT Act passage (perhaps as banks used technology to handle new security rules) and fell during the DFA Rulemaking period (consistent with crowding out of increased burden

Evidence of Increased Regulatory Burden for Community Banks				
Dependent Variable	**FDICIA**	**PATRIOT**	**DFA**	**DFA-Rulemaking**
Pre-tax ROA	No	No (+ sign)	No	Yes
Loans-per-employee	No	Yes	Yes	Yes
Change in Employees	No	Yes	No	No
Salaries-to-Assets	Yes	No	No (- sign)	No
Average Pay	Yes	No (- sign)	No	Yes
Technology Expenditures	No	No (+ sign)	No	Yes

Conclusions for Community Banks

- Although the evidence is mixed, in general banks had evidence of increased burden after passage of regulation due to crises
- We could find more conclusive results with better data
  - Perhaps examiners could record the number of personnel assigned directly to compliance and track the number over time?
  - Note that this does not measure indirect costs such as the amount of time a CEO spends on compliance issues.