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The Carrot and the Stick: Bank Bailouts and the Disciplining Role of Board Appointments

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Motivation

- Due to "too many to fail" phenomenon, bank bailouts are often inevitable
- Direct cost: Taxpayers money
- Indirect cost: Moral hazard \rightarrow
 - ex ante: Increase in risk taking
 - ex post: Banks unwilling to give money back
- How should recapitalization schemes be set up?
 - We analyze the instrument of **board director appointments** by the government in the Capital Purchase Program

The Capital Purchase Program

- Set up after financial crisis, CPP (part of TARP) funded banks via preferred shares and subordinated debt
- Key provision:
 - After missing 6 quarterly payments on the securities, right to appoint up to **two board directors** by Treasury
- Are appointments merely ceremonial?
- If yes:
 - They will have no effect on bank behavior and moral hazard is not resolved
- If not:
 - Banks should try to avoid Treasury board appointments
 - Banks with *actual* board appointments should have improvements in performance

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This Paper

- **1** Bunching: Banks try hard not to hit 6-missed payments cutoff
 - Threat of director appointment effective in inducing managers to "behave"
- Effect on performance of banks subject to an *actual* appointment:
 - Improvement in profitability, drop in NPLs and earnings management
 - Drop in CEO pay

The Capital Purchase Program

- After financial crisis TARP set up to stabilize financial system
- CPP: focus on recapitalization of banks
- Funds distributed using three types of securities with attached warrants:
 - Cumulative preferred shares (81%)
 - Non-cumulative preferred shares (12%)
 - Subordinated debt (7%)
- Funding started in October 2008 and ended in December 2009
- Total of 707 banks and \$205 billion invested

Appointment of Directors and Dividend Payments

- If banks missed six payments:
 - Eligible for appointment of up to two board directors by the Treasury
- Right expires for:
 - Cumulative preferred shares and subordinated debt: If *all* missed dividend/interest payments have been made
 - Non-Cumulative preferred shares: If dividends have been paid for *four consecutive times*
- Common dividend payments allowed only if:
 - Cumulative preferred shares and subordinated debt: If *all* missed payments have been made
 - Non-Cumulative preferred shares: If *current* preferred dividends have been paid
- Note: Throughout, will use "dividend payment" for brevity

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Bunching at 5 Missed Payments

- Distribution of outstanding missed payments for bank-quarters
- Clear discontinuity at the threshold
- 24% drop in density (from 170 to 130 observations)





Conditional Distribution of Changes in Missed Payments

- Conditional plot of change in missed payments
- Incentive to pay dividends stronger when approaching 6-missed payments threshold
- After hitting cutoff, much weaker



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A Formal Test

• We estimate:

$$\Delta \textit{Missed}_{i,t} = \sum_{j} \beta_j imes \mathbb{1}(\textit{Missed}_{i,t-1} = j) + \delta' X_{i,t-1} + \varepsilon_{i,t}$$

- i = bank; t = quarter; X = vector of control variables
- $\Delta Missed_{i,t} \equiv Missed Payments_{i,t} Missed Payments_{i,t-1}$
- X = vector of control variables:
 - log(Revenues)
 - ROA
 - NPLs/Loans
 - Leverage Ratio
 - Risk based capital ratio
 - Tier 1 risk based ratio
 - Listed dummy

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Coefficients Plot

Banks more "*disciplined*" when approaching 6-missed payment threshold



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Results

	(1)	(2)	(3)	(4)
Missed Payments=0	-0.388***	-0.401***	-0.344***	-0.268**
	(0.123)	(0.121)	(0.120)	(0.119)
Missed Payments=1	0.374***	0.358***	0.373***	0.378***
	(0.136)	(0.135)	(0.132)	(0.130)
Missed Payments=2	0.349**	0.336**	0.354**	0.368***
	(0.145)	(0.143)	(0.140)	(0.134)
Missed Payments=3	0.376***	0.360***	0.359***	0.361***
	(0.138)	(0.136)	(0.134)	(0.131)
Missed Payments=4	0.220	0.205	0.204	0.205
	(0.154)	(0.152)	(0.150)	(0.147)
Missed Payments=6	0.354**	0.358**	0.344**	0.335**
	(0.151)	(0.151)	(0.149)	(0.146)
Missed Payments=7	0.426***	0.430***	0.420***	0.406***
	(0.156)	(0.156)	(0.154)	(0.152)
Missed Payments=8	0.390***	0.383***	0.370**	0.358**
	(0.149)	(0.147)	(0.145)	(0.143)
Missed Payments=9	0.265	0.261	0.243	0.232
	(0.207)	(0.211)	(0.209)	(0.207)
Missed Payments=10	0.376**	0.381**	0.370**	0.365**
	(0.168)	(0.167)	(0.165)	(0.163)
Missed Payments>10	0.298**	0.358**	0.331**	0.320**
	(0.142)	(0.146)	(0.144)	(0.143)
Observations	6,808	6,808	6,808	6,808
R ²	0.186	0.216	0.225	0.234
Year-Quarter FE		Х	Х	Х
Controls (Size, Leverage)			Х	Х
Controls (All)				Х

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Polynomial Approximation Bank Heterogeneity

Fit polynomial approximation before and after the cutoff:

$$\begin{split} \Delta \textit{Missed}_{i,t} = \sum_{k=1}^{K} \alpha_k \times (\textit{Missed}_{i,t-1} - 6)^k \\ + \mathbb{1}(\textit{Missed}_{i,t-1} \ge 6) \times \sum_{k=1}^{K} \beta_k \times (\textit{Missed}_{i,t-1} - 6)^k \\ + \gamma \times \mathbb{1}(\textit{Missed}_{i,t-1} \ge 6) + \delta' X_{i,t-1} + \varepsilon_{i,t} \end{split}$$

- Some banks might find it especially costly to make dividend payments
- These banks do not face a meaningful trade-off
- We sort banks according to measures of quality of lending, profitability, and capitalization



Bank Heterogeneity



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Bank Heterogeneity

 Significant effect only for banks with room to make dividend payments

Sorting by:	NPLs/Loans		ROA		ROE		Lev. Ratio	
	Low	High	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Missed \ Payments \geq 6$	1.267*** (0.387)	0.118 (0.229)	0.313 (0.244)	0.899*** (0.336)	0.307 (0.241)	0.907*** (0.338)	0.066 (0.162)	1.040*** (0.356)
Observations R ²	806	793	795	804	798	801	795	804
	0.103	0.060	0.072	0.090	0.071	0.089	0.031	0.105
Degree of Polynomial	2	2	2	2	2	2	2	2
Controls	X	X	X	X	X	X	X	X

Go to general polynomial approximation

Why do Managers Dislike Treasury Appointments?

They want to protect shareholders' interests

- Treasury appointees may be bureaucrats who may worsen decision-making
- Treasury directors could be a human version of a scarlet letter
- Large boards are less effective (Yermack, 2006; Jenter, Schmid, and Urban, 2019)
- Interval and the protect their own interests
 - Treasury appointees can add value to banks
 - However, they monitor CEOs more aggressively and reduce managerial entrenchment

Who are these Appointed Directors

- 16 banks in CPP had a Treasury appointment (out of 162 eligible at some point)
- Out the 26 appointees
 - Only one had a common past employment experience with the CEO (only one year)

 \rightarrow Important, as CEO-director ties are associated with low market valuation (Fracassi and Tate, 2012) and high CEO pay (Engelberg, Gao, and Parsons, 2013)

- Frequently appointed on audit committee
- 16 Stayed on the board after CPP exit (directors seemed to be appreaciated)
- Anecdotal evidence:
 - Appointees are "highly qualified independent bank directors, that can act as a real benefit to the institution" (Bryan Cave)



Effect of Board Appointments

- Examine effects on bank performance, risk, and abnormal loss provisions (earnings management), turnover, and compensation
- Caveat: Assignment not random
- To obtain plausible counterfactual, adopt matching techniques:
 - For each treated bank select four control CPP banks based on matching of observables
 - Follow banks over a (-4, +4)-year window
- Final sample includes 12 "treated" banks and 44 control banks



Descriptive Statistics: Treated – Control

 Treated and control banks not distinguishable in year prior to appointment

Matched Variables							
Variable	Mean Treated	Mean Control	Treated – Control	p-value			
Log(Revenues)	10.770	10.686	0.084	0.815			
Leverage Ratio (%)	7.308	8.130	-0.822	0.438			
Loans/ Deposits (%)	74.283	75.947	-1.663	0.687			
Listed	0.667	0.682	-0.015	0.923			

	Outcon	ne Variables			
Variable	Mean Treated	Mean Control	Treated – Control	p-value	
NPLs/Loans	7.544	5.311	2.233	0.143	
ROA	-0.598	0.269	-0.867	0.145	
ROE	-13.236	0.534	-13.770	0.204	
Risk Based Capital Ratio	12.799	13.780	-0.981	0.484	
Tier 1 Risk-based Ratio	10.560	12.081	-1.521	0.308	
Abnormal Accruals	0.179	-0.217	0.396	0.189	
Turnover	0.083	0.073	0.010	0.912	
Log(Compensation)	12.914	13.255	-0.341	0.390	
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Go to Predicting Treasury Appointments

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Diff-in-Diff Design

We estimate:

$$Y_{i,t} = \alpha Post_{i,t} + \beta Post_{i,t} \times Treated_i + \delta_t + \gamma_i + \varepsilon_{i,t}$$

- Treated: dummy equal to 1 for banks eventually treated
- *Post*: dummy equal to 1 in year of appointment and afterwards
- δ and $\gamma:$ fixed effects
- Y: outcome of interest

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Diff-in-Diff Results

- Strong improvement in performance (NPLs, ROA, and ROE)
- No evidence of effects on risk (capital ratio and tier 1 capital ratio)
- Reduction in earnings management (abnormal accruals)

Dependent Variable:	NPLs/Loans	ROA	ROE	Risk Based C.R.	Tier 1 C.R.	Abnormal Accruals
	(1)	(2)	(3)	(4)	(5)	(6)
Post \times Treated	-3.709***	1.303***	15.788***	0.328	-0.106	-0.782***
	(0.626)	(0.351)	(4.291)	(0.752)	(0.860)	(0.225)
Post	0.739	0.162	-0.169	0.633	0.917**	-0.197
	(0.545)	(0.283)	(4.017)	(0.496)	(0.456)	(0.268)
Observations	372	372	368	372	372	339
R ²	0.760	0.540	0.522	0.650	0.665	0.457
Year FE	х	Х	Х	Х	Х	Х
Firm FE	Х	Х	Х	х	Х	Х



Event-Study Evidence



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• Go to Event-Study: Risk-Based C.R. and Z-Score

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Turnover and Compensation

No evidence of effects on CEO turnover

• However, strong reduction in total pay

Dependent Variable:	Turnover	Turnover Log(Compensation)					
-	(1)	(2)	(3)	(4)	(5)	(6)	
$Post\timesTreated$	-0.045 (0.068)	-0.264* (0.148)	-0.308** (0.134)	-0.304** (0.144)	-0.359** (0.140)	-0.348** (0.137)	
Post	0.043 (0.080)	0.069 (0.150)	0.055 (0.156)	0.094 (0.171)	0.110 (0.170)	0.111 (0.170)	
ROA			0.033 (0.020)		0.070 (0.060)	0.071 (0.060)	
ROE				0.003* (0.001)	-0.002 (0.004)	-0.002 (0.004)	
In CPP						-0.058 (0.079)	
Observations R ²	356 0.160	206 0.913	206 0.914	202 0.916	202 0.916	202 0.916	
Year FE Firm FE	x x	x x	x x	x x	x x	x x	

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Conclusion

- Threat of directors' appointment very powerful
- Strong effects on banks' repayment behavior
- Actual appointments have significant effects on bank performance and CEO pay
- Possibly underexplored policy tool
- Need for theories providing conditions under which this mechanism is optimal

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Thank you for your attention!

A Simple Model

- Every period, bank has enough cash to make dividend payment with probability *e*
- Manager determine $m{e}$ by paying a cost $m{c}(m{e})=m{k}m{e}^2/2$
 - effort put in risk management, preserving funds to face liquidity shortfalls...
 - **k** higher for banks for which paying dividends is especially costly (low profitability, capitalization...)
- If the manager does not pay N* dividends a director will be appointed
- Having no director on the board leads to a private benefit B (operating flexibility, perks...)

Solution

- Let *n* =number of missed payments so far
- For $\textbf{\textit{n}} \geq \textbf{\textit{N}}^*$ manager exerts zero effort
- For *n* < *N*^{*}, effort *increasing* in *n*.
 - $\bullet\,$ Intuition: Higher $\textbf{\textit{n}}\rightarrow\,$ higher risk of losing private benefit
- Hence, probability of missing a payment *decreasing* for *n* < *N*^{*}
- "Dip" more pronounced for banks with low ${\it k}$



Polynomial Approximation

- Previous test fully non-parametric
- Alternative approach: Fit relationship between missed payments and change in missed payments through polynomial approximation on both sides of cutoff

$$\begin{split} \Delta \textit{Missed}_{i,t} = & \sum_{k=1}^{K} \alpha_k \times (\textit{Missed}_{i,t-1} - 6)^k \\ &+ \mathbb{1}(\textit{Missed}_{i,t-1} \ge 6) \times \sum_{k=1}^{K} \beta_k \times (\textit{Missed}_{i,t-1} - 6)^k \\ &+ \gamma \times \mathbb{1}(\textit{Missed}_{i,t-1} \ge 6) + \delta' X_{i,t-1} + \varepsilon_{i,t} \end{split}$$

Linear and Quadratic Fits



Results

- Coefficient large and statistically significant
- Estimate of discontinuity = 0.37 0.70

	(1)	(2)	(3)	(4)
Missed Payments ≥ 6	0.367***	0.666***	0.427***	0.683***
	(0.132)	(0.245)	(0.126)	(0.229)
Observations	1,617	1,617	1,464	1,464
R ²	0.010	0.012	0.081	0.083
Degree of Polynomial	1	2	1	2
Controls			Х	Х

Stock Market Response – Short and Long Run

- Directors' appointment dates obtained from 8-Ks
- No immediate effect on stock market valuations
- However, strong effect on 1-year returns

Window:	(Day -1, Day +1)				(Month +1, Month +12)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	1.238	1.842	1.709	1.532	52.204***	57.990***	52.356**	54.100**
	(1.705)	(1.837)	(2.630)	(2.480)	(14.204)	(14.096)	(15.777)	(17.692)
Log(Capitalization)	. ,	. ,	-0.107	0.173	. ,	. ,	-3.099	-2.625
			(0.430)	(0.548)			(2.800)	(3.448)
Book to Market			-0.008	0.013			-0.263**	-0.180
			(0.010)	(0.012)			(0.110)	(0.140)
$Return_{t-12,t-1}$			0.016	-0.004			-0.246	-0.313
			(0.033)	(0.036)			(0.276)	(0.293)
Observations	18	18	18	18	21	21	20	20
R ²	0.682	0.751	0.697	0.762	0.906	0.918	0.937	0.938
Match FE	Х	Х	Х	Х	Х	Х	Х	Х
Return Adjustment	MM	FF	MM	FF	MM	FF	MM	FF

Long Run Returns – Graphical Evidence



The "Vikram Pandit Shock"

- In 2009 Citi asks Treasury to convert its preferred security to common equity to strengthen its capital structure
- Agrees to alter board so to have a majority of independent directors
- Six new directors appointed:
 - Three had previous experience in government or banking supervision
 - Michael O'Neill was earlier top contender for CEO job, and later became chairman
 - "We were unable to immediately oust Pandit (...). After a few years of experience working with Pandit, those new board members decided that he needed to be replaced, as we had long argued." (Bair 2015)

Pandit's Resignation

THE WALL STREET JOURNAL Pandit Is Forced Out at Citi



• October 16, 2012: Citi's CEO Vikram Pandit resigns The shake-up amounts to an extraordinary flexing of boardroom muscle at Citigroup, a company that until recently had a board (...) [that] rarely challenged management decisions. (WSJ, October 17, 2012)

The background of the story is that O'Neill had pretty much been planning Pandit's ouster since he got there. (...) As Chairman, O'Neill had been slowly working over each board member, building the case to let Pandit go. (NYT, October 25, 2012)

"Vikram Pandit Shock" and CPP Banks

- Hypothesis:
 - Pandit's resignation made more salient to managers risks of government's intrusion in governance
 - Banks eligible to director appointment leave program to escape "threat"

Eligible Institutions in CPP

- Eligible banks = Missed Payments of 6 or more
- 4-year window around "Pandit shock"



Number of Banks in CPP

- Eligible banks = Missed Payments of 6 or more
- Non-eligible decrease steadily



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Bank Exits from CPP

- Plot of exit events due to banks' active choice
- Exclude exits due to sales/acquisitions, bankruptcy, or transitions into other programs



Difference-in-Difference Results

• Average number of exits per quarter

- Rise in exits for eligible banks after Pandit shock
- Drop for non-eligible
 - \rightarrow Positive difference-in-difference

	Before	After	After – Before
Not Eligible	10.625	6.875	-3.750
	(1.752)	(1.552)	(2.340)
Eligible	0.250	1.875	1.625
	(0.250)	(0.515)	(0.573)
Eligible – Not Eligible	-10.375	-5.000	5.375
8	(1.770)	(1.635)	(2.410)

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CPP Summary

Type of Security	Preferred shares	Preferred shares	Subordinated debt				
Payment Type	Cumulative	Non-Cumulative	Cumulative				
Bank Type	Bank holding company, savings and loan holding company, mutual holding company subsidiary	Insured depository institution that is not controlled by a company	S-Corporation, Mutual holding Company, Mutual bank				
Funding Amount	Up to 3% of total risk	weighted assets, but maximum ar	nount \$25 billion				
Dividend Rate	5% (after 5 years 9%)	5% (after 5 years 9%)	7.7% (after 5 years 9%)				
Participants	569	86	52				
Missed payment							
1 Missed Payment	Comr	non dividend payments prohibited ı	intil				
Minord Documents	all missed preferred dividends have been paid back	current preferred dividend paid	all missed interest payments have been paid back				
i wissed i ayments		Enhanced monitoring by Treasury					
Missed Payments	Treasury ca	n ask for an observer to attend boa	ard meetings				
Missed Payments	Right to appoint of up to two board directors by Treasury until						
	all missed preferred dividends have been paid back	four consecutive preferred dividends have been made	all missed interest payments have been paid back				
Compensation	golden parachutes restricted, bonus	s claw-backs requested, compensati \$500.000	on tax deductibility capped at				
restrictions	(After February 2009, retention aw executiv	February 2009, retention awards and bonuses prohibited, incentive compensation restricted ^a , executive compensation capped at \$500,000					
Repayment	Until 3 years of p	articipation only through issuance o	of new equity				

Sketch of Proof

- Parametric assumptions $k > 4\beta^2 B$ and $k > \beta B/(1 \beta)$ ensure the existence of a real and unique solution
- For $n \leq N^*$, bank's value function is:

$$V_n = B + e\beta V_n + (1 - e)\beta V_{n+1}^* - k \frac{e^2}{2}$$

First-order condition implies:

$$\frac{\partial V_n}{\partial e} = 0 \Leftrightarrow e = \frac{\beta (V_n - V_{n+1}^*)}{k}$$

Plugging FOC into bank's value function:

$$V_{n}^{*} = V_{n+1}^{*} + \frac{k - \sqrt{k}\sqrt{2V_{n+1}^{*}(1-\beta)\beta^{2} + k - 2\beta^{2}B}}{\beta^{2}}$$

• Can show that the ratio on the RHS is > 0; thus, V_n^* decreasing in n Moreover:

$$e_n^* = \frac{k - \sqrt{k}\sqrt{2V_{n+1}^*(1-\beta)\beta^2 + k - 2\beta^2 E}}{k\beta}$$

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• Thus, e_n^* decreasing in V_{n+1}^* , which is in turn decreasing in $n \to e_n^*$ decreasing in *n* ・
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Distribution of Funds Invested in the CPP



Timing of Missed Dividend Payments





Predicting Changes in Missed Payments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Log(Revenues)	-0.185										0.125
	(0.133)										(0.288)
ROA		-0.098**									-0.103
		(0.044)									(0.063)
ROE			-0.001								0.003
			(0.001)								(0.002)
NPLs/Loans				0.070***							0.072***
				(0.026)							(0.026)
Leverage					-0.092**						-0.102
					(0.038)						(0.118)
Risk-Based C. R.						-0.049**					0.015
						(0.021)					(0.079)
Cash/Assets							0.010				-0.012
							(0.014)				(0.016)
Ret. Earn./Assets								-0.033**			-0.016
								(0.016)			(0.020)
Listed									-0.309		-0.175
									(0.270)		(0.275)
Log(Total Funds)										-0.166	-0.389
										(0.136)	(0.306)
Observations	168	168	166	168	168	168	168	168	168	168	166
R ²	0.155	0.157	0.139	0.183	0.166	0.155	0.140	0.152	0.146	0.152	0.253
Year-Quarter FE	х	Х	Х	х	х	х	Х	Х	х	Х	Х

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Accruals Computation

- Estimate of abnormal discretionary accruals follows Beatty, Ke and Petroni (2002)
- We regress loan loss provisions on:
 - NPLs
 - Loan loss allowance
 - Real estate loans
 - Commercial and industrial loans
 - Loans to depository institutions
 - Agriculture loans
 - Consumer loans
 - Loans to foreign governments
 - Logarithm of total assets
 - Region-year fixed effects
- Loan variables are scaled by total loans
- Error term from the regression used as proxy for discretionary accruals
- We use absolute value, following Bergstresser and Philippon (2002)

Predicting Treasury Appointments

	(1)	(2)	(3)
Director Appointment			
Log(Revenues)	0.694***	0.546**	0.677**
	(0.171)	(0.233)	(0.279)
Leverage Ratio	0.023	0.033	0.045
	(0.046)	(0.046)	(0.177)
Loans/Deposits	-0.020	-0.021	-0.037**
	(0.013)	(0.014)	(0.017)
Listed	0.182	0.130	0.444
	(0.358)	(0.348)	(0.465)
Funds> 25		0.417	0.152
		(0.531)	(0.642)
NPLs/Loans			0.015
			(0.045)
ROA			-0.543*
			(0.305)
ROE			0.030
			(0.018)
Ret. Earnings/Assets			0.098*
			(0.051)
Log(Z-Score)			-0.160
			(0.235)
Cash/Assets			-0.042
			(0.035)
Risk-Based Capital Ratio			-0.077
			(0.128)
Observations	122	122	111
Pseudo R ²	0.296	0.304	0.385
AUROC	0.893	0.889	0.909
	(0.030)	(0.034)	(0.034)
Year FE	Х	Х	Х

Treasury Appointments

Bank Name	Date 1 st Appointment	1 st Director	Date 2 st Appointment	2 st Director
Royal Bancshares of Pennsylvania, Inc.	2011-07-19	Gerard M. Thomchick (CP)	2011-09-30	Wayne Huey, Jr.,
Centrue Financial Corp	2011-09-21	Richard "Chan" Peterson (A)	2012-04-25	Dennis Battles
Citizens Republic Bancorp, Inc.	2011-09-21	William M. Fenimore, Jr. (R)	2011-10-05	Madeleine L. Champion (A)
PremierWest Bancorp	2011-12-20	Mary Carryer (A, FM)	2012-03-14	Bruce Currier (A, FM)
First Security Group	2012-02-09	Robert Lane (A, CO, A/L, L)	2012-03-22	William Grant (A, CO, CP, CG)
Intervest Bancshares Corp	2012-03-23	Susan Roth Katzke	2012-10-24	C. Wayne Crowell
Bridgeview Bancorp, Inc.	2012-04-19	James Kane (n/a)		
First Trust Corp	2012-06-12	Randall Howard (n/a)	2012-08-06	Paul O'Connor (n/a)
Blue Valley Ban Corp	2012-09-12	James Gegg		
Citizens Bancshares Co.	2012-09-12	James Gegg		
Old Second Bancorp, Inc.	2012-11-8	Duane Suits (A)		
Northern States Financial Corp	2012-12-14	P. David Kuhl (A)		
Not in Sample				
First Banks, Inc.	2011-07-19	John S. Poelker (A)	2011-07-19	Guy Rounsaville, Jr. (CP)
Anchor Bancorp	2011-10-03	Duane Morse (A)	2011-10-03	Leonard Rush (A)
Rogers Bancshares, Inc.	2012-01-09	Larry Mingledorff (n/a)		
Central Bancorp, Inc.	2014-02-06	Larry Mingledorff (n/a)	2014-02-06	Paul Clabuesch (n/a)

Diff-in-Diff Evidence – Alternative Samples

a. Full Sample								
Dependent Variable:	NPLs/Loans	ROA	ROE	Risk Based C.R.	Z-Score	Abnormal Accruals		
	(1)	(2)	(3)	(4)	(5)	(6)		
$Post \times Treated$	-4.002*** (0.606)	1.651*** (0.334)	19.289*** (4.958)	0.211 (0.695)	-0.183 (0.809)	-0.753*** (0.182)		
Post	0.929* (0.488)	-0.159 (0.333)	-0.663 (4.437)	-0.866** (0.373)	-0.496 (0.384)	-0.076 (0.204)		
Observations R ²	470 0.794	468 0.501	466 0.447	470 0.707	470 0.713	461 0.510		
Year FE Firm FE	X X	X X	X X	x x	x x	X X		

b. Only Eligible Banks

Dependent Variable:	NPLs/Loans	ROA	ROE	Risk Based C.R.	Z-Score	Abnormal Accruals
	(1)	(2)	(3)	(4)	(5)	(6)
$Post \times Treated$	-0.896	1.095**	19.685**	0.540	0.581	-0.357
	(1.540)	(0.494)	(8.688)	(1.067)	(1.191)	(0.269)
Post	-1.726	0.971*	8.561	0.922	1.459	-0.803***
	(1.854)	(0.566)	(8.137)	(1.033)	(0.984)	(0.220)
Observations	182	182	182	182	182	168
R ²	0.637	0.488	0.427	0.764	0.779	0.429
Year FE	Х	х	Х	х	х	х
Firm FE	х	Х	х	Х	Х	х

Event-Study Evidence – Risk-Based C.R. and Z-Score

a. Risk-Based Capital Ratio



b. Z-Score



