

School Boards and Education Production: Evidence from Randomized Ballot Order

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Introduction

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 - typically composed of lay members elected in non-partisan elections
 - responsibilities that include strategic planning, financial oversight, recruitment of senior managers (e.g. the superintendent), bargaining with teachers' unions

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 - typically composed of lay members elected in non-partisan elections
 - responsibilities that include strategic planning, financial oversight, recruitment of senior managers (e.g. the superintendent), bargaining with teachers' unions
- Although school boards have wide latitude to influence local education, evidence is limited (Honingh et al 2020):
 1. no admin or public data source tracks identity or characteristics of school board members over time
 - prior work frequently relies on cases studies or surveys (e.g. Land 2002; Grissom 2007)
 2. school board composition endogenously determined via the electoral process

This Paper

- Study influence of school boards on local education production using **election records**
 - construct school board composition by district in California over time using self-identified occupational background of candidates
 - develop and implement novel research design leveraging randomized ballot order
 - key insight: combined with “ballot order effect,” generates exogenous variation in composition of elected school board

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 - develop and implement novel research design leveraging randomized ballot order
 - key insight: combined with “ballot order effect,” generates exogenous variation in composition of elected school board
- Estimate causal impacts of **professional educators** as school board members. Influence is theoretically ambiguous:
 - Educators may have valuable human capital (Arrow 1963)
 - But may be compromised by teachers' unions
 - Unions spend substantial money on school board elections (Hess and Leal 2005; Moe 2006)
 - Rents may be detrimental to education (Hoxby 1996)

Data Sources

School board rosters

- California Elections Data Archive (CEDA)
 - Contest attributes: district name, election date, seats, candidates, vote counts
 - Candidate attributes: ballot designation, incumbency, term type
- Construct rosters and composition of each school board (district-election year combination) from 1998-2015

School district attributes

- Common Core of Data: enrollment and student composition

District inputs and education outcomes

- Salary and Benefits Schedule (Form J-90)
- Department of Education: standardized math and reading test scores

▶ candidate characteristics

▶ board characteristics

Defining Educators

- Ballot designation: 3-word description of candidate's primary profession, vocation, or occupation

Member, Governing Board, Adelanto Elementary School District	
Vote for no more than Three	
KEVIN M. RHODES Chief Technology Officer	← <input type="checkbox"/>
LA SHAWN LOVE-FRENCH Head Start Supervisor	← <input type="checkbox"/>
AMMIE HINES Nonprofit Business Owner	← <input type="checkbox"/>
RONALD JAMES BOYD Veterinarian	← <input type="checkbox"/>
CHRISTINA BENTZ Teacher	← <input type="checkbox"/>
(Write-In)	← <input type="checkbox"/>
(Write-In)	← <input type="checkbox"/>
(Write-In)	← <input type="checkbox"/>

- Educators: “teacher,” “educator,” “principal,” “superintendent,” or “school administrator”

▶ Non-Educators

Salary Schedules

Effective 7/01/2016

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

FOR DISTRIBUTION

CERTIFICATED SALARY
Teachers, Librarians, Nurses, Counselors
SCHEDULE 2016 - 2017 (186 days)

RANGE	I	II	III	IV
STEP	BA 44 or less	BA + 45	BA + 60	BA + 75
1	51,070	51,243	51,749	52,419
2	52,495	53,579	54,320	55,251
3	54,499	55,915	56,889	58,081
4	56,548	58,253	59,460	60,913
5	58,597	60,589	62,031	63,744
6	60,644	62,927	64,600	66,576
7	62,692	65,266	67,170	69,408
8	64,741	67,604	69,740	72,238
9	66,789	69,939	72,309	75,070
10	68,838	72,278	75,524	77,900
11	70,887	74,616	78,045	80,732
12	72,934	76,952	80,616	83,563
13	72,934	76,952	80,616	86,395
14	72,934	76,952	80,616	87,204
15	72,934	76,952	80,616	88,012
16	72,934	76,952	80,616	88,817
17	72,934	76,952	80,616	89,627
18	72,934	76,952	80,616	90,436
19	72,934	76,952	80,616	91,244
20	72,934	76,952	80,616	92,053
21	72,934	76,952	80,616	92,861
22*	72,934	76,952	80,616	96,042
ADDITIONAL STIPENDS				
MASTERS = \$1,000				
DOCTORATE = \$1,500				
RSP/SDC = \$1,000				
NAT'L BOARD CERTIFICATION = \$1,000				
ASHA CERTIFICATION (Speech Therapy) = \$1,000				
CERTIFICATED PRACTICING BILINGUAL TEACHERS = \$1,000				
PROGRAM IMPROVEMENT SCHOOL = \$1,000				
Board Approved: March 17, 2016				

Research Design

- Associations between board composition and outcomes likely confounded
 - e.g. higher share of educators associated with lower test scores
- Empirical strategy: quasi-random variation in *composition* of elected school board arises from interaction of
 - Randomized ballot order [▶ details](#)
 - Ballot order effect [▶ details](#)

Empirical Specification

Reduced-form “event study”:

$$Y_{b\tau} = \pi_{\tau} FirstEducator_{br} + \Gamma_{\tau} W_{br} + v_{b\tau r}$$

- $Y_{b\tau}$: outcomes for school board b in period τ
- $FirstEducator_{br}$: educator listed first on ballot in contest r
- W_{br} : vector of district and election covariates at time of election
⇒ includes $\overline{Educator}_{br}$

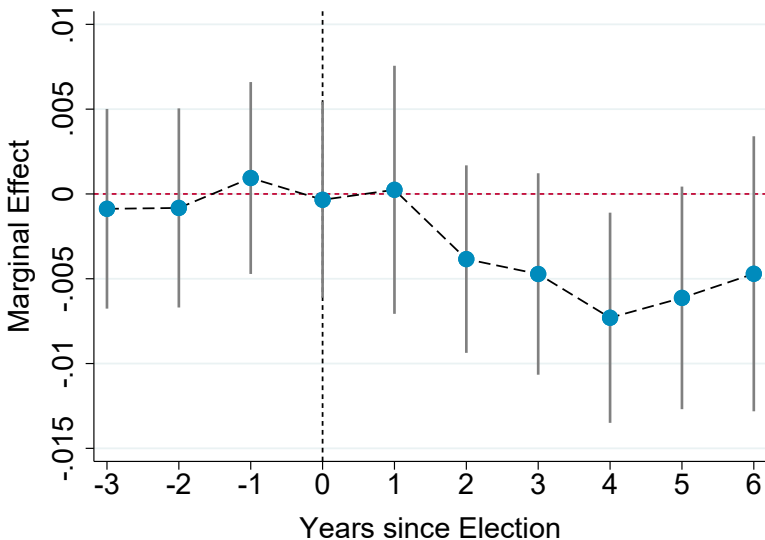
Identifying assumption:

$$E[v_{b\tau r} | FirstEducator_{br}, \overline{Educator}_{br}] = E[v_{b\tau r} | \overline{Educator}_{br}]$$

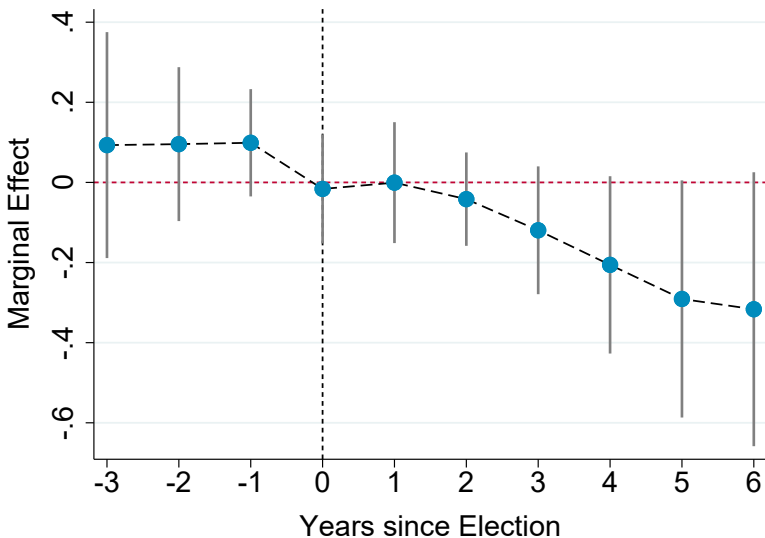
Evidence of Treatment

	Won Election (1)	No. of Winners Who are Educators (2)	Share of Board: Educators (3)
Top of Ballot	0.103 (0.010)		
Top of Ballot Educator		0.141 (0.029)	0.023 (0.008)
Observations	19240	4448	4448
F-statistics		24.21	7.90

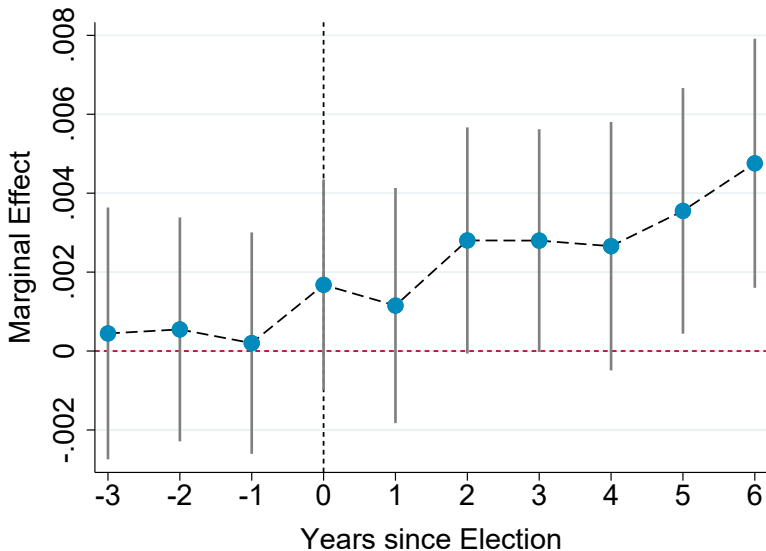
Event-Study Causal Estimates - Charter School Share



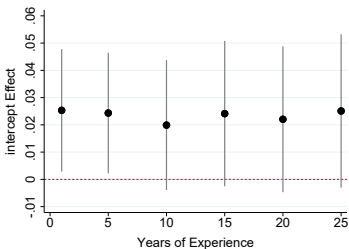
Event-Study Causal Estimates - Number of Charter Schools



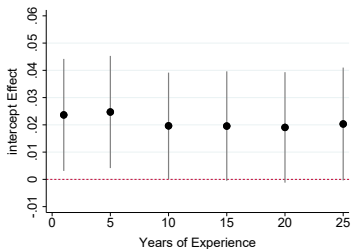
Event-Study Causal Estimates - log salary, BA+60



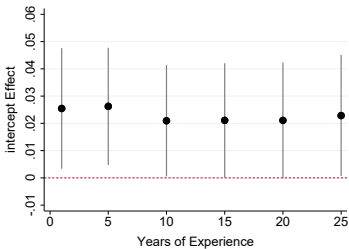
Salary Effects 4-Years Post-Election



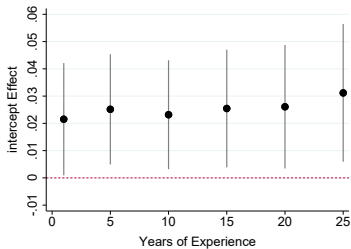
(a) BA+30



(b) BA+45

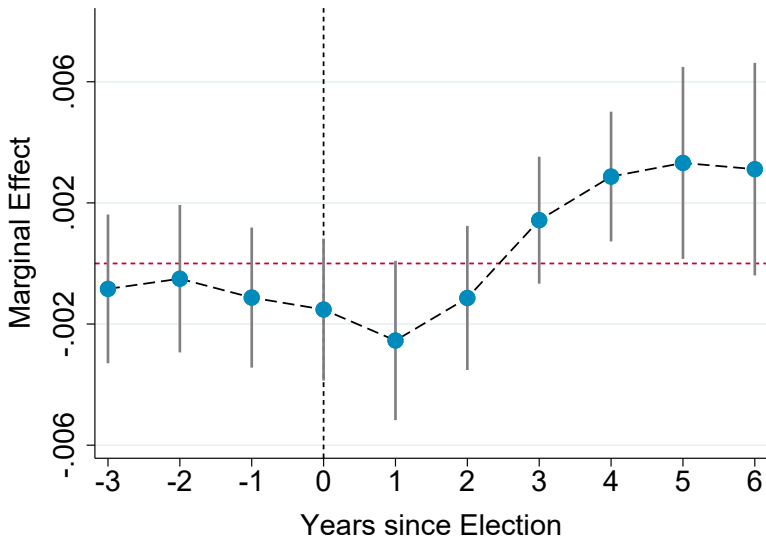


(c) BA+60

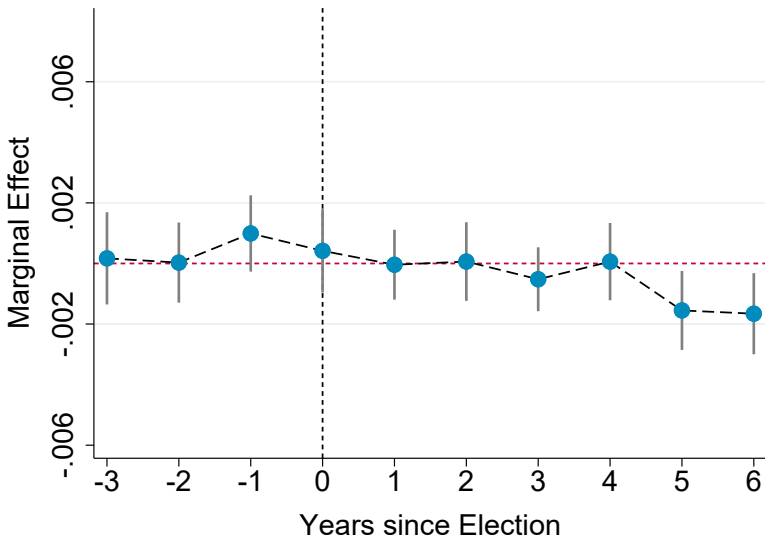


(d) BA+75

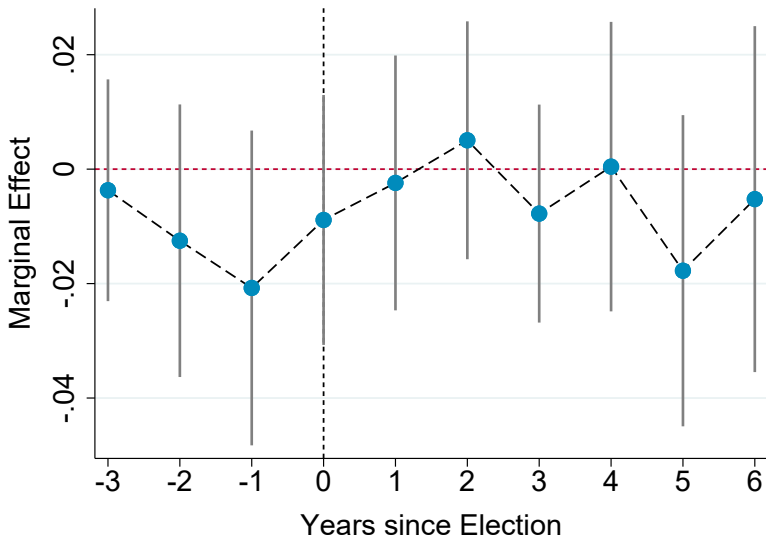
Event-Study Causal Estimates - Share of exp.: Certified salaries



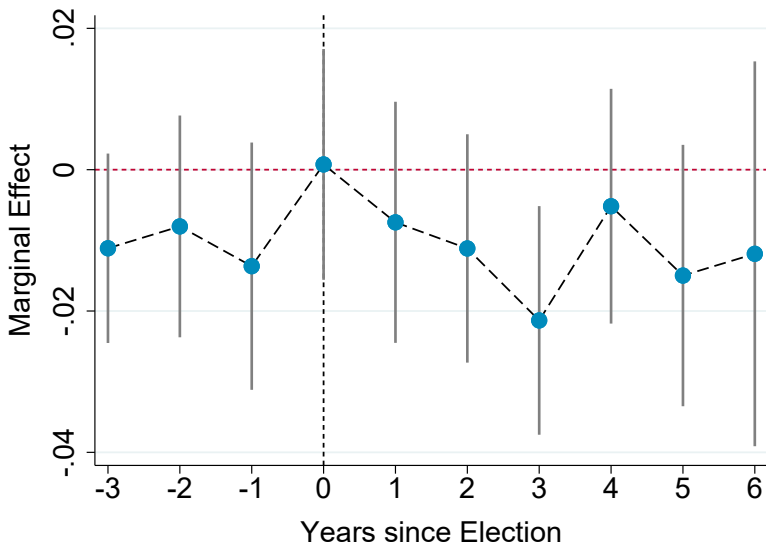
Event-Study Causal Estimates - Share of exp.: Capital outlays



Event-Study Causal Estimates - Math scores



Event-Study Causal Estimates - Reading scores



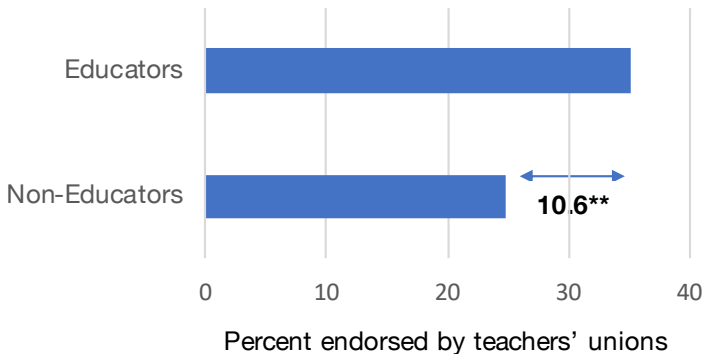
Results Summary

- No apparent effects on:
 - service days, MA benefit, health benefits, class size, spending on classified salaries, spending on benefits, superintendent's salary, HS graduate rate
- Imprecise negative effects on test scores rule out large **positive** impacts (i.e. $> 0.05\sigma$)
- Main findings robust to numerous sensitivity checks
- Little evidence of effect heterogeneity

Teachers' Unions

- Pattern of our results broadly consistent with rent-seeking
 - Increases in teacher salaries (e.g. Hoxby 1996; West and Mykerezzi 2011)
 - Unclear effects on performance (Cowen and Strunk 2015)
- Charter enrollment effects consistent with union actions
 - e.g. *LA Times* (3/2017): "LA teachers union unveils bill to replace charter authorizing law"
 - "Local school districts would have the first and last word on charter school petitions and renewals."
- Are educators elected to the school board disproportionately aligned with union priorities?
 - 2006 California District School Board Member Survey (Grissom 2010)

Union Endorsement of Educators



Conclusion

- Educators elected to the school board raise teacher salaries and reduce charter enrollment
- Findings consistent with educators shifting bargaining in favor of teachers' unions
 - Suggests school boards are causal channel for union influence (Cowen and Strunk 2015)
- School boards matter in local education production

Ballot Order Effect

"I was as lucky as a jockey who gets the rail position in the Kentucky Derby. The names of candidates are often unknown or barely familiar to voters in school board elections and so for those who mark ballots arbitrarily from top to bottom my name would appear first."

– First-ranked candidate (Maeroff 2010)

- Well-known empirical phenomenon
 - e.g. Koppel and Steen (2004); Ho and Imai (2008); Meredith and Salant (2013); Pasek et al. (2014), etc.
- Behavioral model (Miller and Krosnick 1998): satisficing + search costs
 - Effects pronounced in local, nonpartisan contests

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Ballot Order in California

- California has randomized ballot order since the 1970s
 - All nonpartisan races abide by same ordering
 - Note: drawing takes place *after* filing deadline
- Data: randomized alphabet drawings for 1998-2015 elections
 - We reconstruct ballots from candidate names
- Example: November 4, 2014 election

1.	H	7.	V	13.	C	19.	X	25.	K
2.	S	8.	J	14.	Q	20.	Z	26.	I
3.	R	9.	U	15.	A	21.	T		
4.	P	10.	N	16.	M	22.	Y		
5.	O	11.	G	17.	D	23.	W		
6.	L	12.	B	18.	E	24.	F		

▶ Ballot

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Ballot Order in California

- Ballot from November 4, 2014:

RED BLUFF JOINT UNION HIGH SCHOOL DISTRICT	
Governing Board Member	Vote for no more than Three
CHRIS HURTON Pastor	
JOE HUTCHENS General Contractor	
FRANK R. PERINO JR. Poison Specialist/Fireman	
JOY K. NELSON Small Business Owner	
ELSA MARIE MARTINEZ Community Development Director	
RODNEY L. THOMPSON Educator/Counselor/Pastor	
JAMES ALAN KEFFER Police Officer	

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School Board Candidates

	All candidates	Winners
Ever win a contest	0.51	1.00
Educator	0.16	0.19
Businessperson	0.14	0.13
Incumbent	0.25	0.38
Tenure (years)	3.89	7.04
Total	14,150	7,269

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School Board Characteristics

	Mean	Std. Dev.	25p	75p
Number of Members	4.89	1.89	4	6
Share of Board: Educators	0.18	0.21	0.00	0.33
Share of Board: Businesspeople	0.12	0.17	0.00	0.20
Share of Board: Incumbents	0.58	0.28	0.40	0.80

N = 3,849 school board (district-election year) observations

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