

Forward Looking Congress? Evidence from Redistricting Announcements

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Highlights

Motivation:

- How do politicians respond to changes in incentives?
 - Representative democracy: elections provide incentives for politicians to please their constituents either through policy or localized benefits
 - Do politicians respond to changes in incentives?
- Election-seeking incentives (forward-looking) and reciprocal-incentives (backward-looking)
- Empirical challenge to isolate events when forward-looking incentives sharply change

Research question:

- What is the impact of re-election incentives on where federal funds are geographically distributed?

Highlights

Identification Strategy:

- Natural experiment based on the timing of redistricting announcements in states
- Compare funds distributed to areas whose constituents can vote for their incumbent politician to neighboring areas that cannot
 - Geocode monthly address level federal awards data
 - Implement geographic restrictions along redistricting borders within congressional districts
- Produces a lower bound estimate of the effect of a politician's forward-looking incentives

Highlights

Headline Results

- ① Areas that can vote for their incumbent politician receive around \$1 (25% of average monthly award) more in per-capita federal project awards after a redistricting plan is announced
- ② Effect is only found in new and not continuation funding
- ③ Effect unique to periods when redistricting occurs

Motivation

Do politicians act this way, using localized benefits to improve reelection prospects?

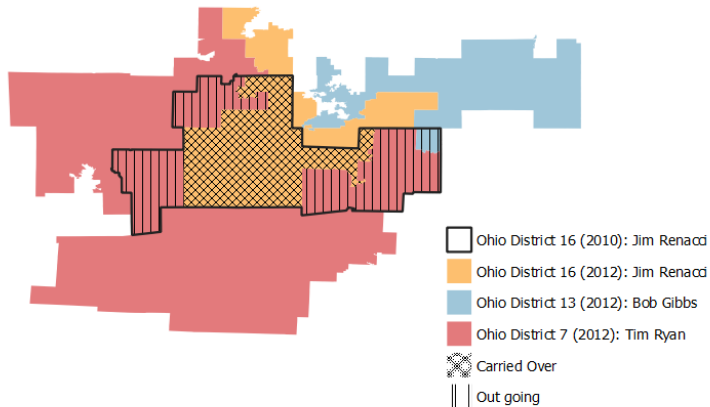
Identification requires quasi-randomization of electoral benefits - prior work based on term limits

- 1 For a career politician, term-limits have unclear implications
- 2 Differences may be a result of a fundamental change in a politician's bargaining position resulting from term limits
- 3 Relies on existence and implementation of term limits

Experimental Highlights

- Can use redistricting in the US as a source of quasi-randomization
- Congressional boundaries for the next election change sometime in the middle of a representative's term
 - Creates a once-per-decade period when the politician's current district is different from the district in which they will run for election
- The experiment sharply changes the electoral benefits of places within a representative's district
 - Some parts will be eligible to vote for the politician (carried-over), but other parts will not (incoming to a new politician)

Example: Ohio District 16



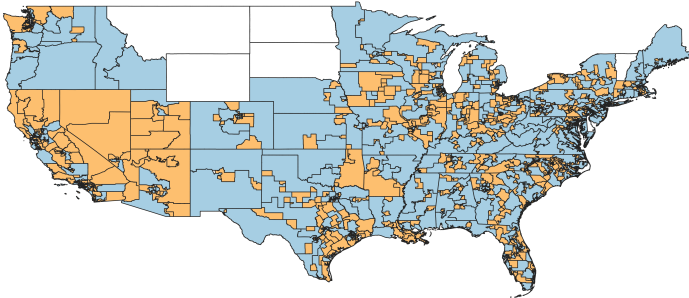
“District segments” (2010 Assignment, 2012 Assignment): (16,16), (16,13), (16,7)

Timeline

- January 2011: Congress reapportions seats to states
- April 2011: States receive census data to redistrict
- April 19, 2011 Iowa is the first state to approve a redistricting plan
- September 26, 2011 Ohio passes a redistricting plan
 - Jim Leans his new district
- November 4, 2012: All members of Congress are up for re-election.

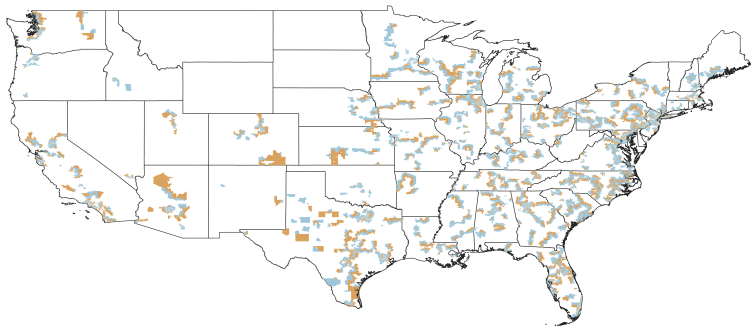
Constructing Controls

- The experimental framework carefully constructs controls
 - Similar to Dube, Lester, Reich (2010)
 - Pairs based on changes in congressional districts instead of state borders
- Spatial heterogeneity in the types and amounts of grants
 - Timing and amount of grant funding depend on the underlying endowments of industries, infrastructure, and demographics of an area
- Construct controls based on past district assignment
 - Benefit: this holds the backward incentive fixed



Redistricting Status

- Ineligible, single district state
- Redistricted (Outgoing)
- Not Redistricted (Carryover)



Redistricting Status

- Redistricted (Outgoing)
- Not Redistricted (Carryover)

Related Literature

Empirical Work on Pork and Elections, Distributive Politics, and Incentives

- Aidt, Shvets (2012); Besley and Case (1995); Chen (2010) ; Veiga and Veiga (2019)
- Bickers and Stein (1994); Levitt and Snyder (1997); Snyder and Strömberg (2010)
- Albouy (2013); Berry, Burden, and Howell (2010); Levitt and Poterba (1999)

Theoretical Models of Competitive Elections and Distributive Politics

- Mayhew (1974); Lindbeck and Weibull (1987); Dixit and Londregan (1996, 1998); Cox and McCubbins (1986)

Experiments on Reciprocity

- Dalmia, Drazen, Ozbay (2020); Cabral, Ozbay, Schotter (2007); Finan and Schechter (2011); Enemark, Gibson, McCubbins, Zimmerman (2013)

Modified Border Regression:

$$y_{sct} = \alpha + \beta \text{Carryover}_s \times \text{Announcement}_{st} + \lambda_s + \lambda_{ct} + \epsilon_{sct} \quad (1)$$

- y_{sct} : per capita federal awards in district segment s , at time (monthly) t , which belongs to district c prior to redistricting
- Carryover_s : dummy, 1: when district segment s is a carryover segment
- Announcement_{st} : dummy, 1: if date t is after the redistricting announcement was made for district segment s
- λ_s : time-invariant district segment fixed effect
- λ_{ct} : time-varying 112th congressional district specific monthly fixed effects (congressional districts as of 2010)
 - Consider district segment with components ($pre, post$), district segments with the same first component, pre in a given state belong to district c
 - All the district segments that are currently represented by a particular politician

Experimental Sample Details:

- Inclusion in experiment requires
 - ① State undergoes a redistricting event (1+ representative)
 - ② State redistricting plan is not changed after it is approved during the election cycle (removes OH and TX)
 - ③ Carryover politician exists (removes retirements and office changes)
- Estimating sample uses 307/435 congressional districts in the U.S.
- Treatment and control are well balanced Vote Balance Balance Joint
- Show results for two main samples
 - ① Using all parts of the district segments
 - ② Restricting to only using parts of district segments that are within 10 miles of the congressional district boundary

Identification

Decomposition of the Forces on the Outcome

- Consider federal awards to a given area as a function of a politician's effort and the endowments of the local area
 - Politician's efforts broken into 2 components: forward-looking (electorally motivated) and backward-looking (non-electorally motivated) efforts
- In a simplified example with two politicians, the identified effect is a function of the forward-looking effort after a redistricting announcement between two politicians
 - 2 politicians A and B, with politician A residing in carryover district segment C and politician B residing in outgoing district segment O

Estimated Effect

$$Y(C) - Y(O) = For_{post}^A(C) - For_{post}^B(O) \quad (2)$$

Setup

Assumptions

Identification

Reasons $For_{post}^B(O)$ May be Secondary

- Credit-seeking politicians wary of assisting efforts that could be also be claimed by politician A
- Type-signaling politicians may signal a non-desirable type to future constituents
- Short time frame may make it difficult for the incoming politician to establish local connections

Main Results

	New Funding		Continuation Funding	
	(1)	(2)	(3)	(4)
	No geographic restriction			
Carryover x Announcement	0.247*** (0.084)	0.289** (0.129)	0.131 (0.165)	0.184 (0.115)
<i>Dependent Variable Mean</i>	3.94	3.09	1.47	1.39
Number of observations	28,292	28,292	28,292	28,292
	10 mile geographic restriction			
Carryover x Announcement	0.228** (0.106)	0.247* (0.139)	0.139 (0.215)	0.173 (0.126)
<i>Dependent Variable Mean</i>	3.30	2.77	1.41	1.47
All Projects	X		X	
Non-government		X		x
Number of observations	20,563	20,563	20,563	20,563

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Dependent variable is measured in means. Standard errors are clustered at the congressional district level.

A Lower Bound

Incoming Politician's Effort (Work in progress)

- Generate a subsample of district segments where there is no incoming politician
 - States that expand districts have at least 1 district without an incumbent
 - Politicians retire
 - Incumbent politicians run for re-election against another incumbent politician
- For this sample $For_{post}^B = 0$ by construction
- Concern: sample size is small (estimated with less than 20% of the total sample)
- Attempt to infer if estimates are a lower bound

No competing politician

	New Funding		Continuation Funding	
	(1)	(2)	(3)	(4)
	No geographic restriction			
Carryover x Announcement	0.316** (0.125)	0.315 (0.229)	0.058 (0.115)	0.264* (0.149)
<i>Dependent Variable Mean</i>	3.48	2.45	1.16	1.00
Number of Observations	6,842	6,842	6,842	6,842
	10 mile geographic restriction			
Carryover x Announcement	0.269 (0.164)	0.048 (0.308)	0.027 (0.152)	0.315* (0.180)
<i>Dependent Variable Mean</i>	2.46	2.13	1.01	0.97
Number of Observations	4,896	4,896	4,896	4,896
All Projects	X		X	
Non-government		X		X

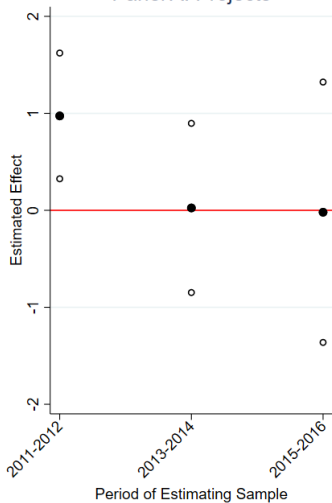
*** p < 0.01, ** p < 0.05, * p < 0.1. Dependent variable is measured in means. Standard errors are clustered at the congressional district level.

Placebos Using Off-Redistricting Elections

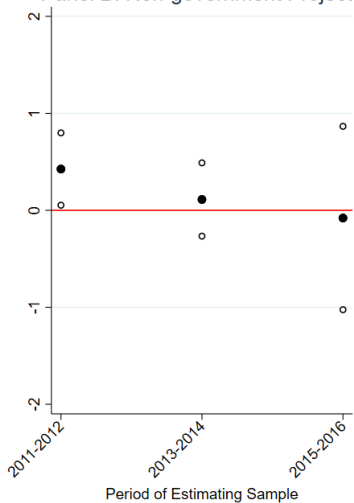
- The results may be mechanical
 - Carryover segments may represent areas politicians already target
 - Politicians may prefer funding closer to elections
- If the estimated effect is being driven by this underlying relationship, using federal awards from other years should produce similar results
- Repeat the main experiment, but include 2 placebo periods
 - 2013-2014 and 2015-2016
 - Excludes 2 states that had court-ordered redistricting (NC and VA)
- Move the redistricting announcements forward to match each placebo sample
 - Example: A redistricting announcement of January 2012 will be moved forward to January 2014 and January 2016 in the placebo samples
 - Additionally show using random dates

Stacked Results

Panel A. Projects



Panel B. Non-government Projects



Randomized 2014

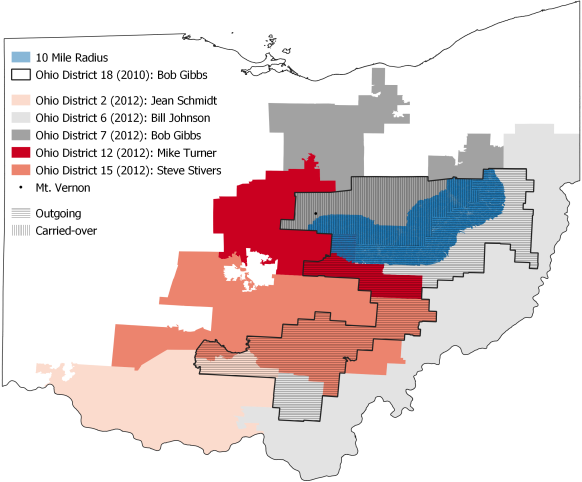
Randomized 2016

Conclusion

- I identify a novel way to isolate the effect of political incentives
- The research design can be used in future research relating to a politician's electoral incentives as well as the impacts of redistricting
 - Natural extension: how politician's policy stances change as a result of redistricting
 - Alternatively, may be interested in how constituent and institutional support changes
- The conclusions inform us about a central feature of politics: how elections influence a politician's behavior
- I find that when political incentives change as a result of redistricting, areas that can provide electoral support to the incumbent politician receive more funding than areas that cannot
- The implication is that elections play an important role in the destination of discretionary funds

Additional Slides

Motivation



Example: Washington State

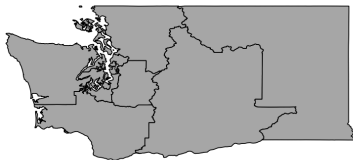
- Example using Washington state
- February 1, 2012, a new redistricting plan is approved by a majority in the state House and state Senate.
- Prior to February 1st, congressional representatives lack certainty on future district assignment
- After February 1st, politicians know what the congressional districts will be
 - A forward looking politician has additional incentives to target funds to areas they will represent
 - Do politicians respond to this change in incentive?
- **Goal:** Utilize redistricting experiments to isolate the forward looking effect

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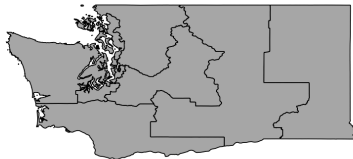
Washington State

112th Congress corresponds to Jan. 2011- Dec. 2012

113th Congress corresponds to Jan. 2013- Dec. 2014

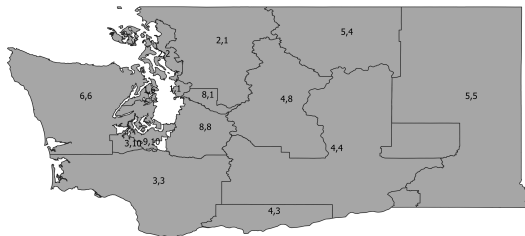


Washington 112th Congress: 9 Representatives



Washington 113th Congress: 10 Representatives

Intersection of Congressional Districts



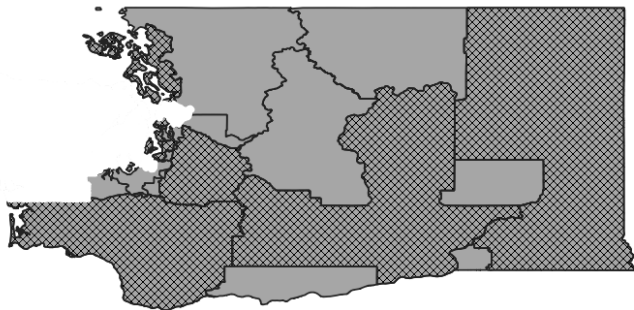
- Result of intersecting the 112th and 113th congressional boundaries
- I refer to these units as district segments
 - Each district segment has 2 components, a district assignment from the 112th Congress and a district assignment from the 113th Congress

Relevant Information

- Inclusion in the experiment requires that a representative seeks re-election in the subsequent election
- 2 representatives do not run for re-election in the state of Washington's 2012 House elections
 - District 1: Jay Inslee did not run for re-election and instead ran for governor
 - District 6: Norm Dicks, who has represented the state of Washington since 1977, retired
- Washington gained 1 seat in the House from reapportionment
 - District 10: the new congressional district, based around the state capital, Olympia

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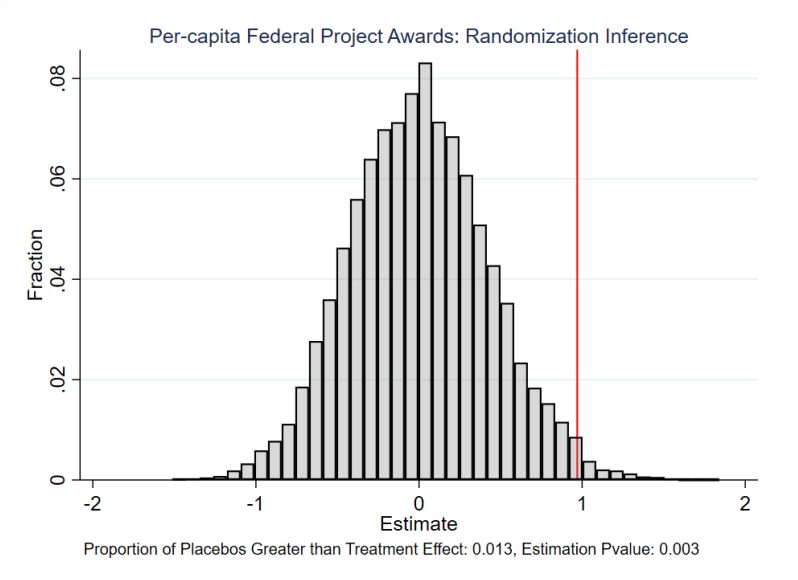
Intersection of Congressional Districts



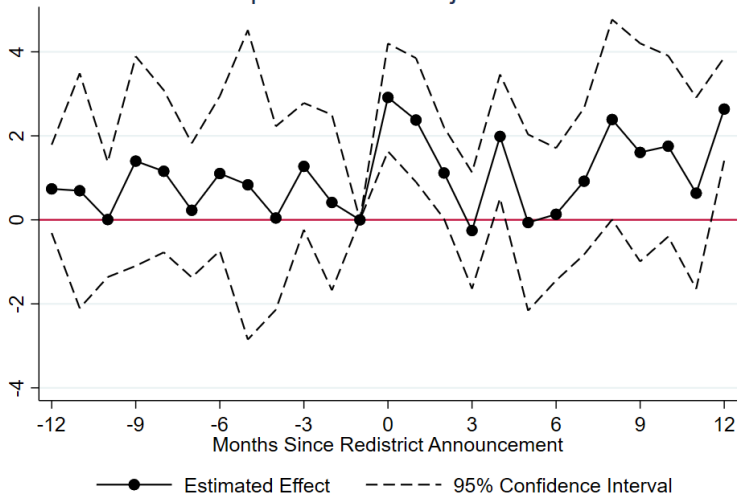
- Removed District 1 and District 6
- Hashed segments are areas where an incumbent runs for re-election
- Solid color segments are redistricted to a new representative

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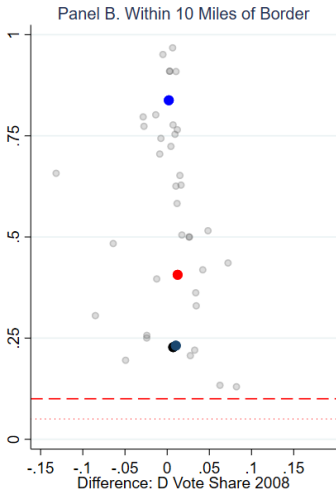
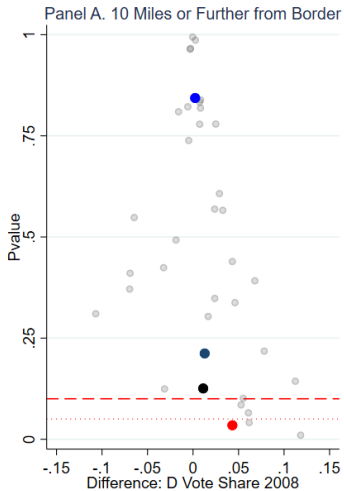
Motivation



Per-capita Federal Projects Awards



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State Estimates
 All States
 Democrat Control
 Republican Control
 No Control

[Return](#)

Table: Sample Characteristics: 10 Mile Sample

	All		Treatment		Control		p-value Treat = Cont.
	Mean	SD	Mean	SD	Mean	SD	
Pop. Dens.	3878.81	(9089.00)	3592.95	(9425.93)	4000.19	(8946.01)	0.52
Fem. Dens.	1992.95	(4770.72)	1859.22	(4952.76)	2049.73	(4693.64)	0.57
Blk. Dens.	637.44	(2303.76)	777.90	(3111.14)	577.80	(1857.36)	0.29
Under 18 Dens.	839.05	(1871.97)	789.61	(2027.71)	860.04	(1802.85)	0.60
Over 70 Dens.	320.53	(777.60)	295.90	(768.43)	330.98	(781.76)	0.51
BA+ Dens.	931.68	(3334.81)	863.58	(3071.39)	960.60	(3442.21)	0.66
HS Dens.	531.99	(1159.46)	483.61	(1164.67)	552.53	(1157.44)	0.38
Poverty Dens.	621.18	(1919.33)	629.13	(2251.81)	617.80	(1761.00)	0.94
Renter Dens.	814.77	(2813.83)	807.32	(2973.24)	817.94	(2745.47)	0.96
Unemp. Rate	0.10	(0.04)	0.10	(0.03)	0.10	(0.04)	0.93
LF. Partic	0.64	(0.07)	0.64	(0.05)	0.64	(0.08)	0.92
WAC Dens.	1936.12	(12438.19)	1839.75	(8878.25)	1977.05	(13677.69)	0.85
RAC Dens.	1561.20	(3676.65)	1447.06	(3732.33)	1609.66	(3654.27)	0.52
Number of Observations	1030		307		723		

Return

Table: Sample Characteristics: 10 Mile Sample

	All		Treatment		Control		p-value Treat = Cont.
	Mean	SD	Mean	SD	Mean	SD	
Pop. Dens.	4312.17	(9516.56)	3894.72	(9496.10)	4512.84	(9527.50)	0.36
Fem. Dens.	2214.60	(4997.28)	2014.37	(4990.55)	2310.86	(5001.67)	0.40
Blk. Dens.	711.25	(2431.11)	838.60	(3160.72)	650.03	(1987.58)	0.34
Under 18 Dens.	929.73	(1957.02)	860.38	(2042.58)	963.07	(1915.33)	0.47
Over 70 Dens.	355.30	(812.79)	321.24	(774.50)	371.68	(830.68)	0.37
BA+ Dens.	1040.02	(3511.53)	927.63	(3102.24)	1094.05	(3693.34)	0.47
HS Dens.	592.44	(1212.97)	527.56	(1173.15)	623.63	(1231.36)	0.25
Poverty Dens.	686.99	(2016.40)	669.35	(2277.18)	695.47	(1880.13)	0.86
Renter Dens.	907.59	(2961.28)	856.34	(3005.66)	932.23	(2941.83)	0.72
Unemp. Rate	0.09	(0.04)	0.10	(0.04)	0.09	(0.05)	0.87
LF. Partic	0.64	(0.08)	0.64	(0.06)	0.64	(0.09)	0.98
WAC Dens.	2160.83	(13136.01)	1959.47	(8982.83)	2257.63	(14727.07)	0.70
RAC Dens.	1741.29	(3851.09)	1567.03	(3759.06)	1825.05	(3894.77)	0.34
Number of Observations	921		299		622		

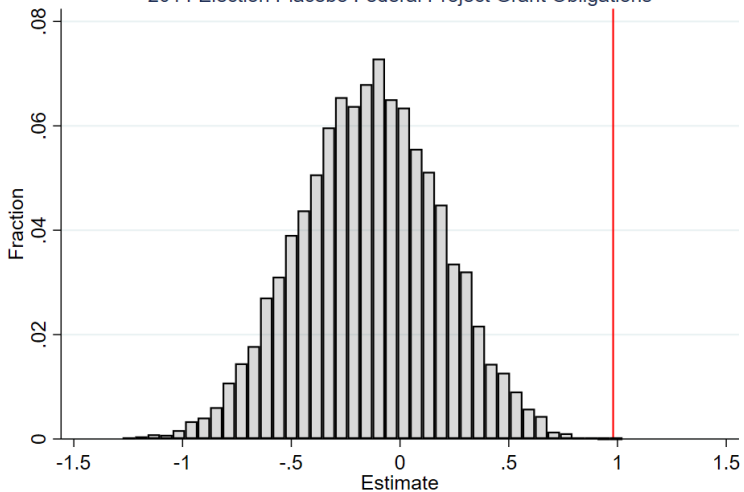
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Table: Joint Estimation: Covariate Balance

	(1)	(2)	(3)	(4)
Pop. Dens.	-0.552 (0.509)	-0.027 (1.775)	0.007 (1.806)	0.162 (1.862)
Fem. Dens.	-0.837 (1.053)	-1.041 (2.697)	-0.938 (2.744)	-1.488 (2.838)
Blk. Dens.	0.275 (0.170)	0.374 (0.359)	0.406 (0.368)	0.560 (0.377)
Under 18 Dens.	1.569 (1.150)	1.097 (2.018)	0.779 (1.927)	1.245 (2.113)
Over 70 Dens.	0.810 (1.429)	0.976 (2.359)	0.479 (2.364)	1.049 (2.476)
BA+ Dens.	0.590 (0.672)	0.349 (1.038)	0.253 (1.034)	0.436 (1.095)
HS Dens.	0.177 (1.253)	0.008 (2.198)	0.025 (2.188)	0.351 (2.316)
Poverty Dens.	0.179 (0.681)	-0.560 (1.106)	-0.516 (1.113)	-0.555 (1.159)
Renter Dens.	0.652 (0.569)	0.530 (0.934)	0.479 (0.943)	0.268 (0.977)
Unemp. Rate	0.646 (0.780)	0.778 (0.882)	0.423 (0.908)	-0.264 (0.898)
LF. Partic	0.458 (0.366)	0.623 (0.424)	0.399 (0.442)	0.686 (0.426)
WAC Dens.	-0.005 (0.014)	0.070 (0.053)	0.070 (0.054)	0.070 (0.055)
RAC Dens.	0.051 (0.557)	-0.447 (1.185)	-0.316 (1.203)	-0.474 (1.197)
<i>c</i> <i>ons</i>	-0.008 (0.267)	-0.120 (0.308)	0.063 (0.319)	-0.050 (0.307)
Bandwidth	None	100 Miles	30 Miles	10 Miles
F Statistics	1.42	1.12	0.98	0.98

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are clustered at the

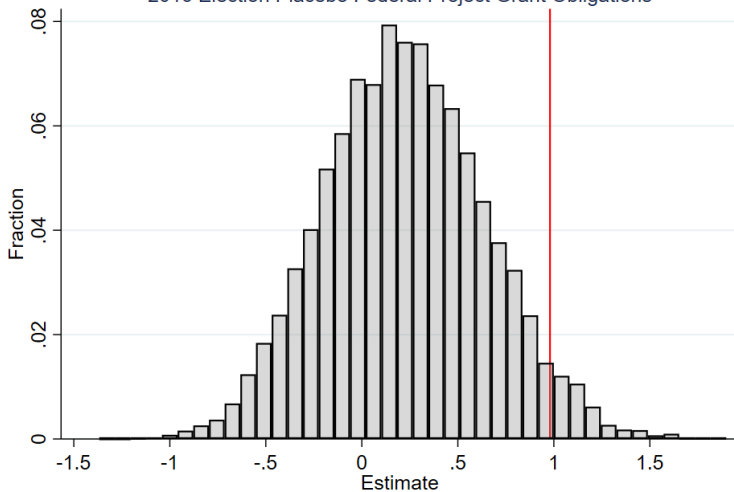
2014 Election Placebo Federal Project Grant Obligations



Proportion of Placebos Greater than Treatment Effect: 0.00

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2016 Election Placebo Federal Project Grant Obligations



Proportion of Placebos Greater than Treatment Effect: 0.04

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Table: Stacked Placebos

	(1)	(2)	(3)	(4)
2011-2012	0.973*** (0.300)	0.425** (0.164)	0.752*** (0.268)	0.348* (0.184)
2013-2014	0.024 (0.379)	0.111 (0.154)	-0.132 (0.253)	0.015 (0.190)
2015-2016	-0.020 (0.517)	-0.079 (0.332)	-0.633 (0.676)	-0.370 (0.494)
Sample	All	10m	All	10m
All Projects	X	X		
Non-government			X	X
<i>Pvalue, 2011 = 2013</i>	0.05	0.02	0.16	0.21
<i>Pvalue, 2011 = 2015</i>	0.10	0.06	0.18	0.18

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are clustered at the state level.

Return