

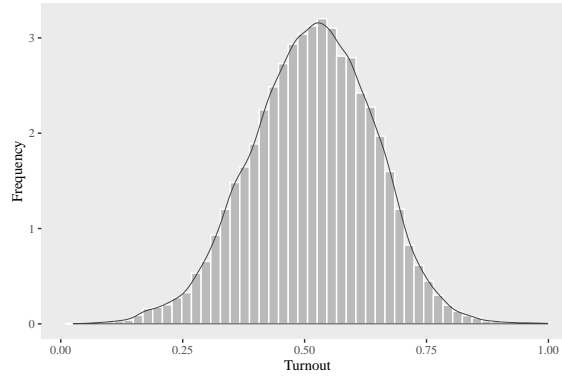
## INTERNET APPENDIX

### 1. FIGURES



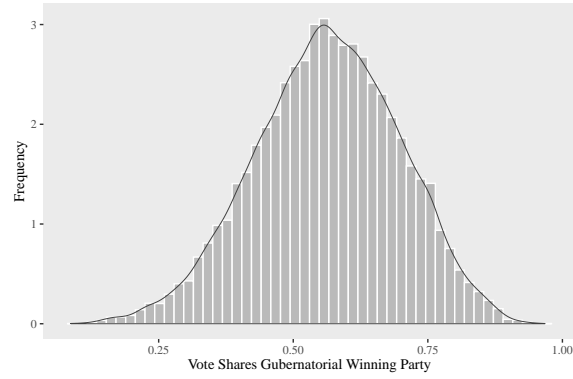
*Notes:* Online Appendix Figure 1 is the density of the gubernatorial margins of victory. To define the Gubernatorial Margin of Victory, let  $vote_{s,t}^{\text{winning}}$  be the number of votes received by the elected party in state  $s$  and election year  $t$  and  $vote_{s,t}^{\text{runner-up}}$  be the number of votes received by the runner-up party during the same gubernatorial election. The margin of victory, denoted  $z_{s,t}$ , in state  $s$  and year  $t$  is defined as:  $z_{s,t} \equiv \frac{vote_{s,t}^{\text{winning}}}{vote_{s,t}^{\text{winning}} + vote_{s,t}^{\text{runner-up}}} - 0.5$

Online Appendix Figure 1: Density of the Gubernatorial Margins of Victory



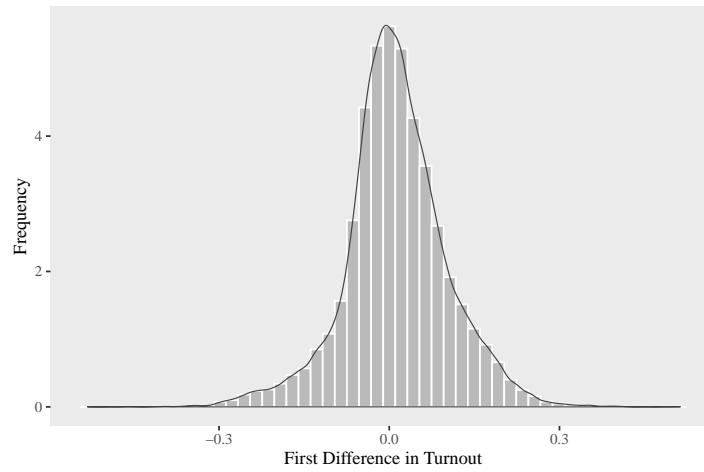
*Notes:* Online Appendix Figure 2 is the density of the turnout at the county level for the Presidential and Senatorial elections pooled.

Online Appendix Figure 2: Density of the Voter Turnout



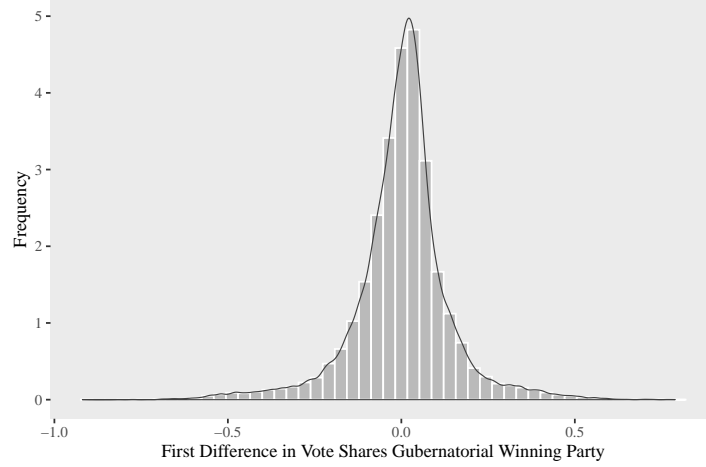
*Notes:* Online Appendix Figure 3 is the density of the vote shares to the gubernatorial winning party at the county level.

Online Appendix Figure 3: Density of the Vote Shares to the Gubernatorial Winning party



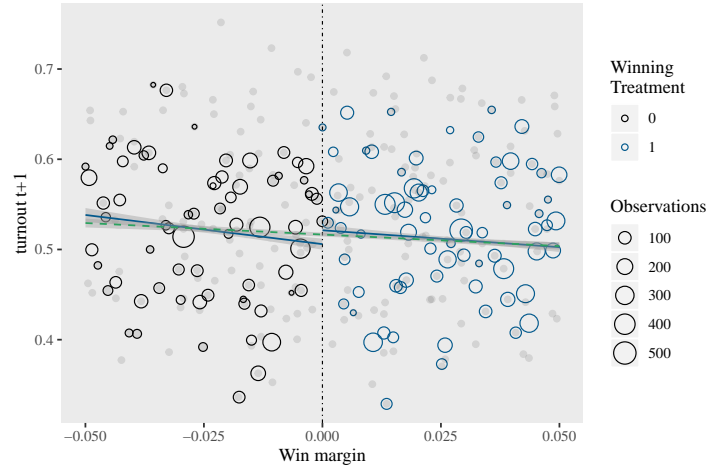
*Notes:* Online Appendix Figure 4 is the density of the first difference in voters' turnout for both presidential and senatorial elections following a gubernatorial election. The first difference in voter turnout from election year  $t$  to election year  $t + 1$  for senatorial and presidential elections respectively is defined as  $\Delta T_{c,t} = T_{c,t+1} - T_{c,t}$ , where  $T_{c,t}$  is the voters turnout for county  $c$  in election year  $t$ .

Online Appendix Figure 4: Density of the First Difference in Turnout



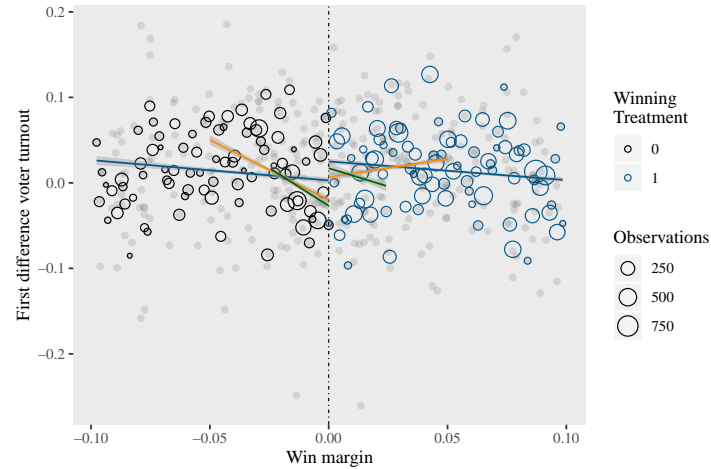
*Notes:* Online Appendix Figure 5 is the density of the first difference in the vote share to the (gubernatorial) winning party from election year  $t$  to election year  $t + 1$  for senatorial and presidential elections respectively, i.e.  $\Delta v_{c,t}^{\text{winner}} = v_{c,t+1}^{\text{winner}} - v_{c,t}^{\text{winner}}$ , where the winning party is either the Democrat or the Republican party.

Online Appendix Figure 5: Density of the First Difference in the Vote Share to the Winning Party



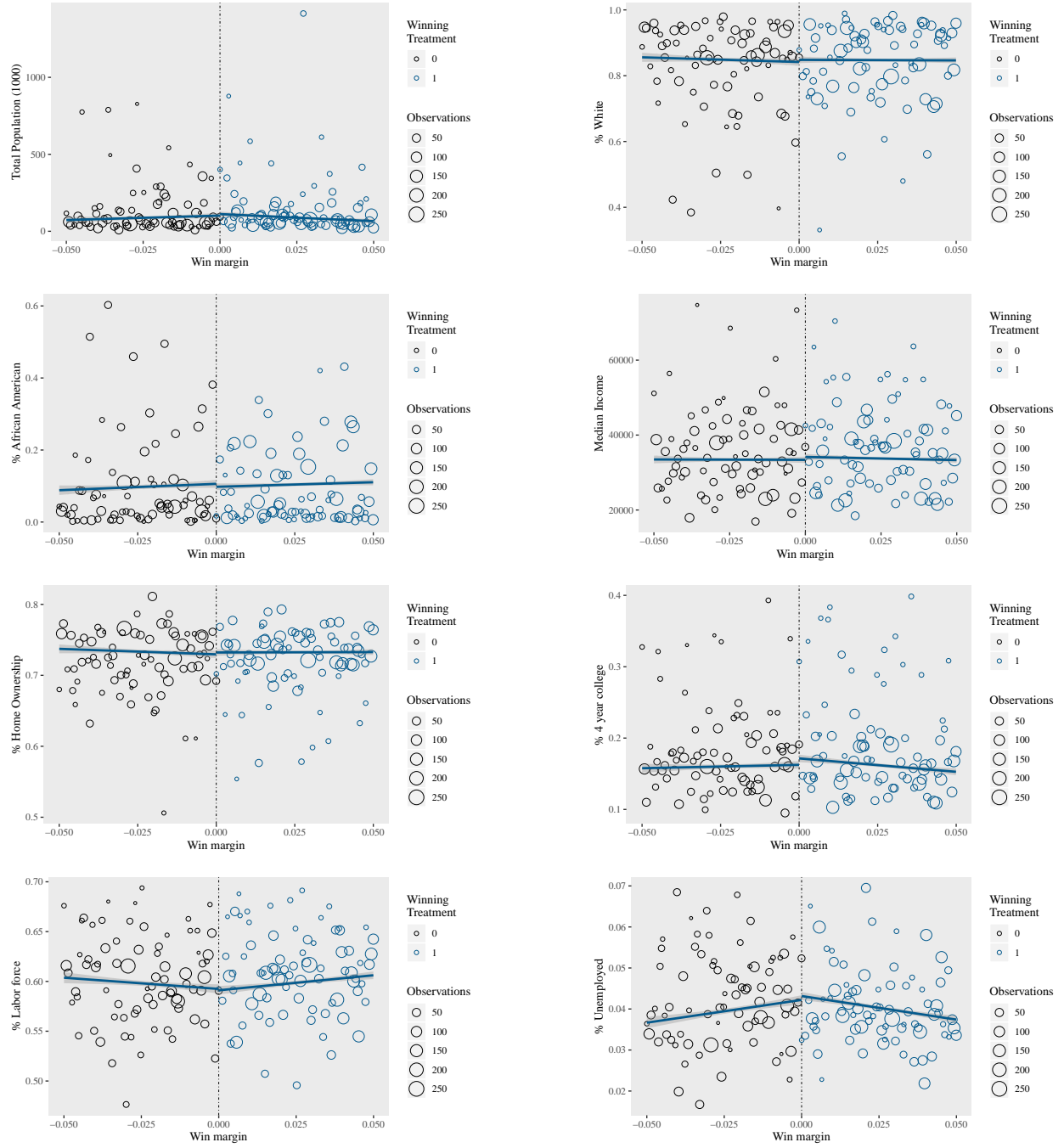
*Notes:* Online Appendix Figure 6 is the average voter turnout in election year  $t + 1$ ,  $T_{c,t}$ , on the margin of victory. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoff for the 5% Margin of victory set of counties. I overlaid a regression line for the entire sample and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).

Online Appendix Figure 6: Voter turnout on margin of victory

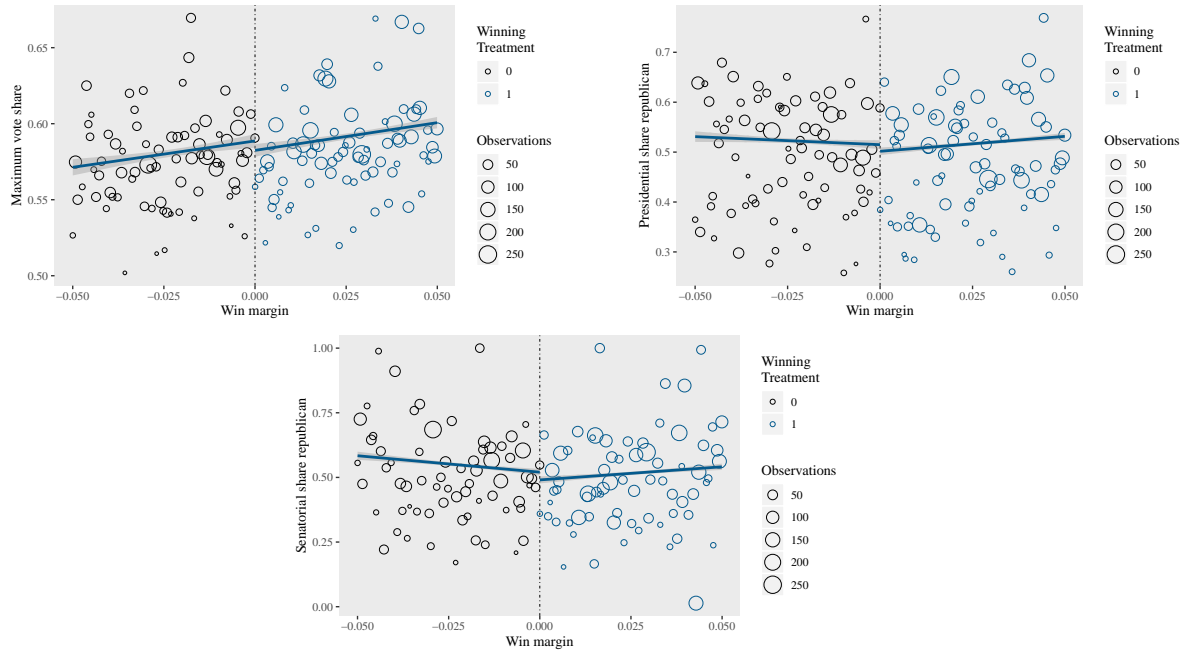


Notes: Online Appendix Figure 7 is the average voter turnout in election year  $t + 1$ ,  $T_{c,t}$ , on the margin of victory. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoffs. I overlaid different regression lines corresponding to 2.5% (green) and the 5% (orange) cutoff and the 10% (blue). for the entire sample and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).

Online Appendix Figure 7: First Difference in Voter turnout on margin of victory — 10%, 5% and 2.5% bandwidth

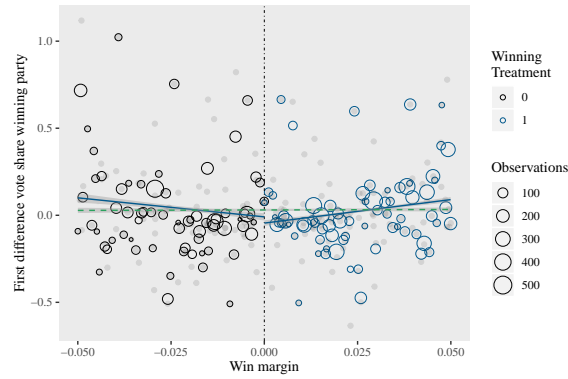


Online Figure 8: Specification Test - Covariates Balance

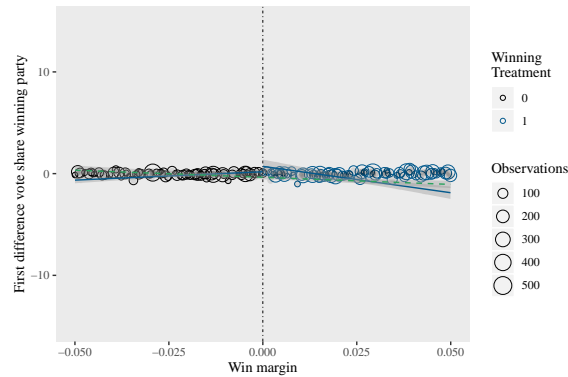


*Notes:* Online Appendix Figures 8 cover the set of variables related to the balance of covariates on the margin of victory. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoff for the 5% Margin of victory set of counties. I overlaid a linear fit for data on both sides of the threshold, and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).

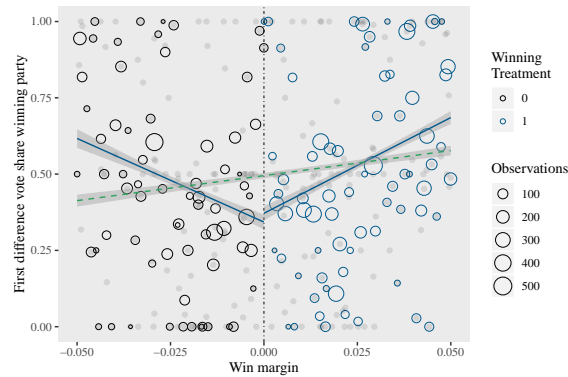
Online Appendix Figures 8: Specification Test - Covariates Balance



Online Appendix Figure 9a: Percentage Change in Vote Share to Winner



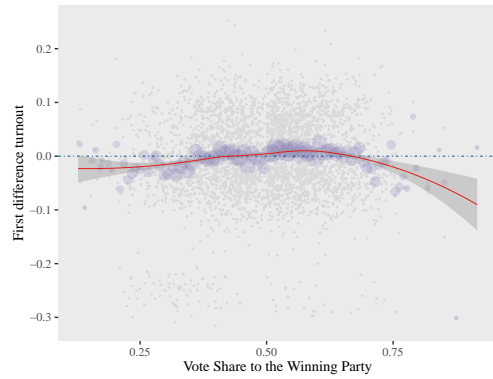
Online Appendix Figure 9b: Normalized Change in Vote Share to Winner



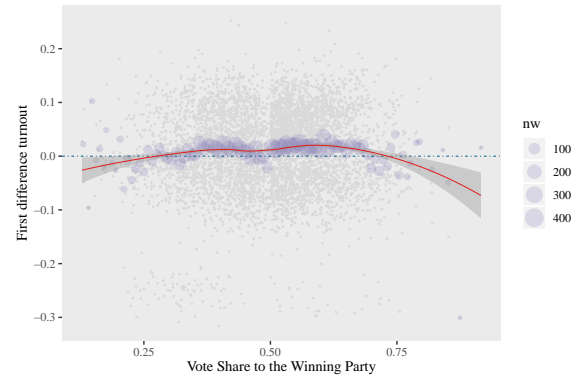
Online Appendix Figure 9c: Dummy variable

*Notes:* Online Appendix Figures 9 illustrate the RDD for various measures of change in the vote share to the winning party running for presidential or senatorial elections. Figure 9a covers the percentage change in the vote shares to the winning party. Figure 9b covers the normalized change in the vote shares to the winning party. Figure 9c covers the dummy variable, equal to one if there is a change towards the winning party and zero otherwise. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoff. I overlaid a regression line for the entire sample and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).

Online Appendix Figures 9: Other Measures of Vote Composition



**(a)** Change in vote share to the preferred party on margin of victory (2.5% margin)



**(b)** Change in vote share to the winning party on margin of victory (3.75% margin)

*Notes:* Online Appendix Figures 10 illustrate the RDD for various measures of change in the vote share to the winning party running for presidential or senatorial elections. Figure 10a covers the percentage change in the vote shares to the winning party. Figure 10b covers the normalized change in the vote shares to the winning party. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoff. I overlaid a regression line for the entire sample and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).



## 2. TABLES

	All states			5% margin			2.5% margin			1% margin		
	obs	mean	s.d.	obs	mean	s.d.	obs	mean	s.d.	obs	mean	s.d.
Margin of victory	355	0.09	0.07	147	0.02	0.01	79	0.01	0.01	28	0.00	0.00
Turnout	355	0.45	0.11	147	0.46	0.10	79	0.46	0.10	28	0.46	0.09
Total pop. (1000)	355	5424.49	6243.26	147	5424.38	5184.70	79	5706.07	5148.50	28	5737.61	4890.40
% White	355	0.81	0.13	147	0.81	0.12	79	0.79	0.14	28	0.79	0.12
% African American	355	0.10	0.09	147	0.10	0.09	79	0.10	0.10	28	0.10	0.09
Median Income	355	39602.94	11723.20	147	40770.07	11957.68	79	41102.85	12523.00	28	42033.04	12584.24
% Homeownership	355	0.67	0.05	147	0.67	0.05	79	0.67	0.05	28	0.67	0.05
% 4 year college	355	0.23	0.05	147	0.24	0.06	79	0.24	0.06	28	0.25	0.06
% Labor Force	355	0.64	0.04	147	0.64	0.04	79	0.65	0.04	28	0.65	0.04
% Unemployed	355	0.04	0.01	147	0.04	0.01	79	0.04	0.01	28	0.04	0.01

*Notes:* Online Appendix Table 1 reports the mean and the standard deviation of the states socio-economic characteristics by the margins of victory (all and less than 5%, 2.5%, 1%) for all the states including the ones with a third party as the runner up or the winning party. The socio-economic characteristics come from the decennial census, 1990 to 2010, and the electoral characteristics have been calculated using the Dave Leip's Atlas.

Online Appendix Table 1: Mean and standard deviation of states socio-economic characteristics by margins of victory all states

Panel A: all sample									
	obs	mean	s.d.	obs	mean	s.d.	obs	mean	s.d.
	All counties			Winners			Losers		
Gov. Margin of victory	21379	0.06	0.09	15798	0.09	0.07	5581	-0.05	0.04
Gov. Turnout	21371	0.44	0.12	15791	0.44	0.12	5580	0.45	0.12
Total pop. (000)	21372	89.63	298.35	15792	86.62	289.10	5580	98.14	322.96
% White	21372	0.85	0.16	15792	0.86	0.15	5580	0.83	0.19
% Afr. Am	21372	0.09	0.14	15792	0.08	0.13	5580	0.10	0.18
Med. Inc. (000)	21372	33	12	15792	33	12	5580	33	13
% Homeownership	21372	0.73	0.08	15792	0.73	0.07	5580	0.73	0.08
% 4 year college	21372	0.16	0.08	15792	0.16	0.08	5580	0.16	0.08
% Labor Force	21372	0.60	0.07	15792	0.60	0.07	5580	0.59	0.07
% Unemployed	21372	0.04	0.02	15792	0.04	0.02	5580	0.04	0.02
% “winners”	21379	0.74	0.44	15798	1	0	5581	0	0
Vote shares preferred party	21379	0.61	0.10	15798	0.62	0.10	5581	0.56	0.08
% Republican counties	21148	0.64	0.48	15710	0.65	0.48	5438	0.63	0.48
% Party change	21148	0.29	0.45	13519	0.29	0.46	4744	0.27	0.44
Panel B: $\leq 5\%$ margin victory									
	obs	mean	s.d.	obs	mean	s.d.	obs	mean	s.d.
	All counties			Winners			Losers		
Margin of victory	8865	0.01	0.03	5288	0.03	0.01	3577	-0.02	0.01
Turnout	8863	0.45	0.11	5287	0.44	0.11	3576	0.46	0.11
Total pop. (000)	8863	89.53	270.55	5287	87.50	250.94	3576	92.54	297.19
% White	8863	0.85	0.16	5287	0.85	0.16	3576	0.86	0.17
% Afr. Am.	8863	0.09	0.15	5287	0.10	0.15	3576	0.09	0.16
Med. Inc. (000)	8863	34	13	5287	34	13	3576	34	13
% Homeownership	8863	0.73	0.08	5287	0.73	0.07	3576	0.73	0.08
% 4 year college	8863	0.16	0.08	5287	0.16	0.08	3576	0.16	0.08
% Labor Force	8863	0.60	0.07	5287	0.60	0.07	3576	0.60	0.07
% Unemployed	8863	0.04	0.02	5287	0.04	0.02	3576	0.04	0.02
% “winners”	8865	0.60	0.49	5288	1	0	3577	0	0
Vote shares preferred party	8865	0.57	0.08	5288	0.58	0.08	3577	0.56	0.07
% Republican counties	8865	0.64	0.48	15710	0.65	0.48	5438	0.63	0.48
% Party change	8865	0.29	0.47	4449	0.30	0.48	2944	0.27	0.45

*Notes:* Online Appendix Table 2 reports the mean and the standard deviation of the states’ socio-economic characteristics for winners counties and losers counties. The socio-economic characteristics come from the decennial census, 1990 to 2010, and the first two rows are the electoral characteristics and have been calculated using Dave Leip’s Atlas. Panel A includes all the counties in our sample, while Panel B restricts the sample to the counties where the governor won with a 5% margin of victory.

Online Appendix Table 2: Mean and standard deviation of counties socio-economic characteristics by winners and losers

	1	2	3	4	5	6
	ols	opt bw	5% bw	2.5% bw	1% bw	opt bw + control
$W_{c,t}$	0.0184	0.293	0.299	0.407	0.244	0.300
s.e.	0.0083	0.110	0.095	0.135	0.257	0.097
bandwidth	-	0.037	0.050	0.025	0.010	0.038
obs	32193	9548	12936	6611	2115	9548

*Notes:* Online Appendix Table 3 reports the main result for turnout, instead of the first difference in turnout, after controlling for turnout the previous period. Each column of the table represents a different specification or bandwidth. Column 1 shows the OLS estimator, column 2 to 5 cover the optimal bandwidth, 5%, 2.5% and 1% margins of victory, and column 6 shows the optimal bandwidth with controls. Standard errors are clustered at the state level. The variables are standardized.

Online Appendix Table 3: Voter Turnout on Winning Dummy,  $W_{c,t}$

	1	2	3	4	5	6
Panel A: Presidential						
	ols	opt bw	5% bw	2.5% bw	1% bw	opt bw + control
$W_{c,t}$	0.0254	0.891	0.457	0.775	0.243	0.895
s.e.	0.0152	0.069	0.013	0.027	0.081	0.085
bandwidth	-	0.011	0.050	0.025	0.010	0.009
obs	16849	1366	6632	3395	1102	1090
Panel B: Senatorial						
$W_{c,t}$	0.0901	0.313	0.528	0.598	0.528	0.112
s.e.	0.0189	0.029	0.008	0.013	0.030	0.032
bandwidth	-	0.010	0.050	0.025	0.010	0.009
obs	15344	1013	6304	3216	1013	1001

*Notes:* Online Appendix Table 4 reports the main result for the change in turnout decomposition for the sample senatorial and presidential elections separately. Each column of the table represents a different specification or bandwidth. Column 1 covers all margins of victory across all states and shows the OLS estimator, column 2 to 6 cover the optimal bandwidth, 5%, 2.5% and 1% margins of gubernatorial victory, and column 7 shows the the optimal bandwidth with controls.

Online Appendix Table 4: RDD results decomposed by presidential and senatorial race

I can also run a regression using the gubernatorial vote share to the winning party ( $v_{c,t}^{\text{winning}}$ ) instead of the dummy variable  $W_{c,t}$ . I find the same positive relationship. Note that  $v_{c,t}^{\text{winning}}$  refers to the gubernatorial vote share to the winning party, as opposed to the senatorial or presidential vote share.

More formally, I invoke the RDD strategy to estimate the following regression for the 5%, 2.5% and 1% margins of victory.

$$(1) \quad \Delta T_{c,t} = \alpha_0 + \alpha_1 v_{c,t}^{\text{winning}} + \alpha_2 v_{c,t}^{\text{winning}} \times z_{s,t} + \alpha_3 z_{s,t} + \alpha_4 X_{c,t} + \eta_{c,t}$$

where the first difference in voter turnout from election year  $t$  to election year  $t + 1$  for senatorial and presidential elections respectively is defined as  $\Delta T_{c,t} = T_{c,t+1} - T_{c,t}$ , and  $T_{c,t}$  is the voters turnout for county  $c$  in election year  $t$ ;  $z_{s,t}$  is the running variable at the state level and  $\alpha_1$  is the estimated slope of interest. I run the specifications with a local linear control of the running variable. I allow the slope of the linear control function to vary with the margin of victory. Again, including the local linear control accounts for the possibility of a relationship between the running variable and the outcome variable, even within the window of “close” elections. I also include the office, county, and year fixed effects, as well as the political party the county supported during the gubernatorial election.

Observe that this model differs from a more traditional RDD. Traditional RDD are interested in estimating the “jump” in the outcome variable at the threshold, I am interested in identifying and estimating the slope, i.e.,  $\alpha_1$ , at the “threshold”.

	First Difference in Voter Turnout				
	ols	5% bw	2.5% bw	1% bw	opt bw (3.7%)
$v_{c,t}^{\text{winner}}$	0.014 (0.006)	0.094 (0.015)	0.091 (0.019)	0.078 (0.095)	0.061 (0.018)
Observations	32,193	12,936	6,611	2,115	9,548
R <sup>2</sup>	0.350	0.459	0.006	0.558	0.548
Adjusted R <sup>2</sup>	0.279	0.302	0.006	0.208	0.367
<i>Note:</i>				p<0.1; p<0.05; p<0.01	

**Table 1.** Online Appendix Table 5: RDD on the vote share to the winning party

### 3. RDD COEFFICIENTS VIZUALIZATION

Although my empirical specification is not a traditional RDD, I can still use the same method to help vizualize the results in Table 2. Figure 3 plots the change in voter turnout at the county level against the margins of victory at the state level. To help the vizualization, I assigned the running variable to the counties in my sample, level running variable,  $z_{ct}$ , by assigning the state margin of victory to the counties in that state with more than 50% of their vote share to the gubernatorial winning candidate, and the *negative* of the state margin of victory to the counties with less than

	$v_{c,t}^{winner}$	s.e.	obs
Gubernatorial turnout	0.02	0	12844
Vote shares “preferred” party	0.2	-0.15	12846
Gubernatorial turnout \$t-1\$	0.02	0	15406
Vote shares “preferred” party \$t-1\$	0.25	0.21	15410
Total pop. (1000)	0	0	15406
% White	0.01	0	15406
% African American	-0.01	0	15406
Median Income	0	0.02	15406
% Homeownership	-0.02	0.02	15406
% 4 year college	0.01	0	15406
% Labor Force	0.01	0.01	15406
% Unemployed	0.01	-0.02	15406
% Republican counties	0	0	15388
% Republican counties Sen.	-0.03	0.02	6300
% Republican counties Pres.	0	0.02	7694
Senatorial turnout	0.03	-0.1	6304
Presidential turnout	0.02	-0.02	7699
Senatorial vote share Rep	0.03	-0.06	6304
Presidential vote share Rep	0.05	0.01	7699
Senatorial vote share Dem	-0.02	0.09	6304
Presidential vote share Dem	-0.04	-0.03	7699

Notes: Online Appendix Table 7 - organizes each RDD covariate considered by row where the columns capture, in order of presentation, the coefficient estimate for  $v_{c,t}^{winner}$ , i.e., the support to the gubernatorial candidate during the gubernatorial election, the standard error of the estimate, and the number of observations. The margin bandwidth used is 5%. The main difference with Online Appendix Table 7 is that we are using the continuous variable as opposed to the dummy variable. Only the optimal bandwidth results are reported as the results remain the same for different bandwidths.

Online Appendix Table 7: Balance of covariates - RDD results - continuous variable

50% of their vote share to the winning candidates:

$$(2) \quad z_{c,t} \equiv \begin{cases} z_{s,t}, & \text{if } v_{c,t}^{\text{winning}} \geq 0.5 \\ -z_{s,t}, & \text{otherwise,} \end{cases}$$

Figure 3 plots the county level change in voter turnout against the aforementioned county-level running variable,  $z_{c,t}$ , for all the counties in gubernatorial elections with a margin of victory of 10% or less. This illustrates the dataset and the discontinuity beyond the specific cutoffs used in Table 2.<sup>1</sup> Figure 3 report four key information: 1) the county-level first difference in turnout in light gray dots, 2) the county-level change in turnout averaged in equal margin of victory bins (bubbles), where I used 100 bins to the right and to the left of the cutoff. These bins contain different number of counties, which is captured by the size of the circles. Finally, I overlaid county level change in turnout with (3) a regression line (green dashed line) as well as (4) two linear fits, one for each side of the cutoff where I allow both the slope and the intercept to differ

<sup>1</sup>The Online Appendix Figure 7 shows the same plot for the other bandwidths used in Table 2.

Panel A: Percentage Change in the Vote Share to Winning Party					
	opt bw	5% bw	2.5% bw	1% bw	opt bw + control
$W_{c,t}$	-0.210	-0.204	-0.117	0.290	-0.168
s.e.	0.185	0.163	0.236	0.306	0.160
bandwidth	0.039	0.050	0.025	0.010	0.049
obs	10352	12936	6611	2115	12572
Panel B: Percentage Change in the Vote Share to Winning Party					
$W_{c,t}$	0.001	-0.017	-0.001	0.002	-0.000
s.e.	0.003	0.011	0.002	0.003	0.003
bandwidth	0.013	0.050	0.025	0.010	0.013
obs	3047	12705	6535	2115	3687
Panel C: Percentage Change in the Vote Share to Winning Party					
$W_{c,t}$	-0.209	-0.209	-0.176	0.075	-0.199
s.e.	0.163	0.133	0.185	0.214	0.128
bandwidth	0.034	0.050	0.025	0.010	0.047
obs	8932	12717	6605	2109	11847
Panel D: Dummy Variable					
$W_{c,t}$	-0.040	-0.071	-0.064	0.183	-0.021
s.e.	0.087	0.088	0.127	0.148	0.087
bandwidth	0.051	0.050	0.025	0.010	0.051
obs	13310	12936	6611	2115	13310

Notes: Online Appendix Table 8 reports the estimates for various measures of change in the vote share to the winning party running for presidential or senatorial elections. Each Panel cover a specific measure. All the standard errors are clustered as the state level. See Online Appendix Table 7 for other bandwidths.

**Table 2.**

(dark blue lines). The difference in the intercepts at the cutoff is capturing the regression discontinuity coefficient. These last two points, (i) and (ii), represent the third and fourth statistics. Standard errors are reported in shaded color around the lines.

At first glance, looking at the dots and the circles, there doesn't seem to be a strong jump at the cutoff. Yet, allowing a different line on both sides of the cutoff keeps the slopes identical, but affects the intercepts, which differ. It is also informative to note the difference between the regression line (green dashed line) and the (two) blue linear fits — allowing a different slope and intercept. The dashed line shows almost no relationship between the margins of victory and the voter turnout, while the blue lines show a slight negative relationship with the margins of victory.

The dashed line "no relationship" is the conjunction of the negative slope and the positive differential intercept of the blue line, i.e., the jump. As one can notice, there is a slight jump at zero, which is the counterpart of the estimated coefficient on  $W_{ct}$  in Table 2.

I also illustrate graphically the result from Table 3 in Figure 4 for the first difference in the change to the winning party, I refer you to the Online Appendix Figures 9 for the illustration of the other variables. Beyond the lack of discontinuity, Figure 4 highlights that the coefficients are virtually zero. A combination of the lack of discontinuity with a zero baseline change in the change in the vote shares to the winning party suggest no change in the composition of votes.



*Notes:* Figure 3 is the average change in voter turnout from election year  $t$  to election year  $t + 1$ , i.e.  $\Delta T_{c,t} = T_{c,t+1} - T_{c,t}$ , where  $T_{c,t}$  is the voter turnout for county  $c$  in election year  $t$ , on the margin of victory. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoff. I overlaid a regression line for the entire sample and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).

**Figure 3.** Change in the First Difference of the Voter Turnout on the Margin of Victory

#### 4. SPECIFICATION TESTS

In order to test the validity of the RDD estimates, I report a number of specification tests. Before proceeding with the specification tests, let me emphasize that there is nothing special about 50% (vote share to the winning party). It is used as a way to divide counties that are leaning towards the winning party and counties that are leaning away from the winning party. The main source of exogenous variation we explored is at the state level — the closedness of the gubernatorial election. The RDD coefficient on  $W_{c,t}$  helps us identify the difference in the conditional means of the change in voters turnout, conditional on having a county vote share to the winning party above 50% and below 50%, in elections where the identity of the winner is close to random. Regardless, it is best practice to check for balance of covariates and the presence of “manipulation” at the threshold, along the variation between winning and losing counties we explored in Table 2.<sup>2</sup> The first specification test is the McCrary density test for potential endogenous sorting (McCrary (2008)). It is designed to test whether subjects consciously sort to one side of the cutoff by manipulating their position along the running variable. The test looks for an unexpectedly large or

<sup>2</sup>In line with this discussion, I use an alternative RDD on the continuous vote shares to the winning party defined as  $v_{c,t}^{winner}$  in the Online Appendix Table 5, highlighting a similar positive relationship. The use of the dummy allows for non-linearity embedded in a setting with peer effects.



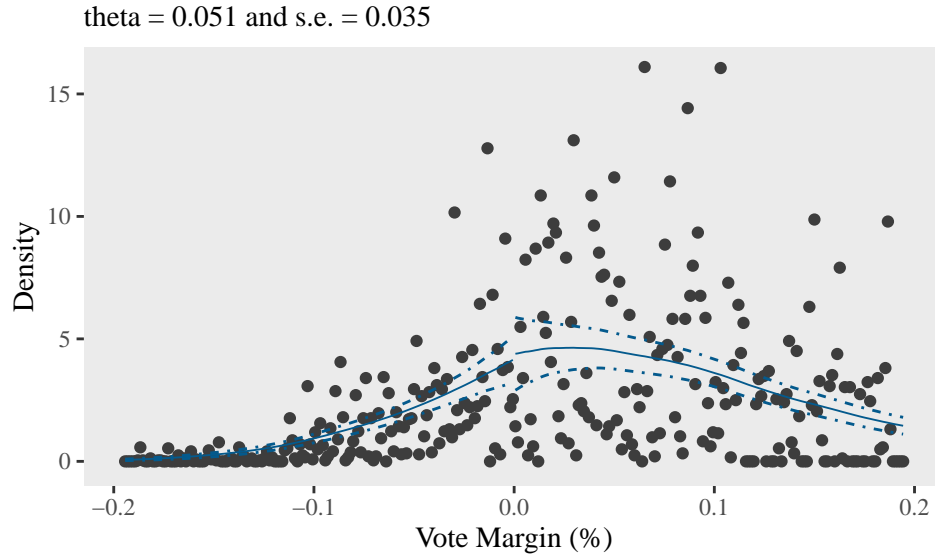
*Notes:* Figure 4 is the first difference in the vote shares to the winning party from election year  $t$  to election year  $t + 1$ , i.e.  $\Delta v_{c,t}^{\text{winner}} = v_{c,t+1}^{\text{winner}} - v_{c,t}^{\text{winner}}$ , where  $v_{c,t}^{\text{winner}}$  is the vote share to the winning gubernatorial party for county  $c$  in state  $s$ , and election year  $t$ , on the margin of victory, for senatorial and presidential elections. I created equal vote margins bins. These bins have different number of counties treated within them, which is captured by the size of the circle. I created 100 equal vote bins on both sides of the cutoff. I overlaid a regression line for the entire sample and two linear fits — one above the threshold and one below. Standard errors are reported (shaded color around the lines).

**Figure 4.** Change in vote share to the winning on margin of victory

small number of subjects just barely on one side of the cutoff or the other. A discontinuous change in density distribution larger than chance could produce, suggests the presence of manipulation, perhaps invalidating the quasi-random treatment assignment assumption of an RDD. Note that I can't run a McCrary test at the level of the gubernatorial election as there is no notion of winning or losing at the state level. Yet, I can still run a McCrary test using the county level running variable as defined in Figure 3. Figure 5 shows the outcome of the test. The density of the forcing variable is slightly skewed to the right, indicating that there are more counties winning than counties losing in the sample. Notice that the skewness of the density of the forcing variable is precisely the reason I might want to use an RDD given that voting for the winning or losing party might obscure unobservable characteristics I cannot control for. Nevertheless there is no evidence of a discontinuity at the cutoff and the results are robust to such a test.<sup>3</sup>

<sup>3</sup>Gubernatorial close elections have also been used in the past by Erikson et al. (2015) using a longer time period. They also report no manipulation at the cutoff using gubernatorial level election returns. Overall, Eggers et al. (2015) examine the presence of manipulation using a large number of close elections. Apart from the U.S. lower chamber elections in the post-war period, the authors find no strong evidence of treatment manipulation. More generally, as emphasized earlier, there was no reasons to believe that there would be a discontinuity at the threshold given there is





Notes: Figure 5 is the marginal density of the running variable using county level data.

**Figure 5.** McCrary Test for no discontinuity of density around cutoff

I next move on to the placebo tests. There are two sets of placebo tests. The first set of placebo tests seek to identify discontinuities at the cut-off in a number of county-level socio-economic characteristics. An important condition is that the covariates have equal conditional expectation from above and below at the cutoff (i.e., continuously distributed across the treatment threshold), which is often conceived and presented as a falsification or “placebo” test in RD empirical studies, see [Lee \(2008\)](#). This requirement of “balanced” covariates at the cutoff is the most natural and practically relevant sufficient condition. The second set of placebo tests is looking at the effect of being a winning county at time  $t$  on the outcome variables at time  $t - 1$ . If variation in the treatment near the threshold is approximately randomized, then it follows that all baseline characteristics determined prior to the realization of the assignment variable should have the same distribution within a neighborhood of the cutoff.

Given the results of the placebo tests do not vary with the choice of the margin of victory bandwidth, I only show this placebo analysis using the optimal bandwidth to be consistent with the previous sample, as described above.<sup>4</sup> I cluster standard errors at the state level and correct for heteroskedasticity as before. I report the actual coefficient estimates in [Table 3](#), and refer you to [Online Appendix Figures 8](#) in the [Online Appendix](#) for the figures related to the placebo analysis.<sup>5</sup> [Table 3](#) organizes each RDD covariate considered by row where the columns capture, in order of presentation, the coefficient estimate, the standard error of the estimate, the margin bandwidth, and the number of observations. [Table 3](#) provides no evidence of discontinuity at the cutoff for a set of socio-economic variables from the decennial Census as well as a set of electoral outcomes.

nothing special about a county that gave 0% or more of its vote share to the winning party during the gubernatorial elections.

<sup>4</sup>I also report the results based on the 5% as a robustness check. The results are similar.

<sup>5</sup>Figures 8 in the [Online Appendix](#) and [Table 3](#) corroborate one another, providing consistent graphical and numerical evidence to suggest no discontinuity at the cut-off along a set of socio-economic variables from the decennial Census as well as a set of electoral outcomes.

	$W_{ct}$	s.e.	bandwidth	obs
Gubernatorial turnout	-0.07	0.30	0.05	7565
Vote shares “preferred” party	0.10	0.24	0.04	5441
Gubernatorial turnout \$t-1\$	0.03	0.25	0.05	8764
Vote shares “preferred” party \$t-1\$	0.14	0.14	0.04	7351
Total pop. (1000)	0.07	0.10	0.05	8287
% White	-0.02	0.24	0.06	9738
% African American	0.08	0.29	0.05	9036
Median Income	-0.18	0.25	0.06	10061
% Homeownership	0.02	0.16	0.05	9123
% 4 year college	0.01	0.16	0.06	10148
% Labor Force	-0.31	0.22	0.05	8863
% Unemployed	0.11	0.24	0.05	9348
% Republican counties	-0.15	0.13	0.06	9700
% Republican counties Sen.	-0.27	0.13	0.05	6691
% Republican counties Pres.	-0.03	0.09	0.07	11550
Senatorial turnout	-0.17	0.33	0.04	6103
Presidential turnout	-0.05	0.25	0.05	9364
Senatorial vote share Rep	-0.16	0.24	0.06	8116
Presidential vote share Rep	-0.11	0.23	0.06	9820
Senatorial vote share Dem	0.14	0.27	0.05	7415
Presidential vote share Dem	0.19	0.22	0.05	9277

*Notes:* Table ?? organizes the RDD estimate of each covariate in each row and the columns summarize, in order of presentation, the coefficient estimate, the standard error of the estimate, the margin bandwidth used, and the number of observations. Only the optimal bandwidth results are reported as the results remain the same for different bandwidths. See Online Appendix Table 6 for the 5% and the 2.5% bandwidths.

**Table 3.** Balance of covariates - RDD results

To sum up, the McCrary and placebo tests show that the identifying assumptions of the RDD hold, thereby affirming confidence in the estimates and the causal interpretation of the results.

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