Supporting Information
The Spoils of Victory: Campaign Donations and Government Contracts in Brazil

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1 Forcing Variable "Smoothness"

As discussed in the Research Design section, we tested for smoothness in the density of the forcing variable at the discontinuity using the McCrary density test, which uses a local density estimator to test the null hypothesis of continuity at the threshold. The Wald statistic and standard errors produced by the test are reported in Table 1 for each of our four samples. In each case, we fail to reject the null hypothesis of smoothness. Figure 1 depicts this smoothness visually in the form of a histogram of raw vote margin.

2 Representativeness of Alternative Forcing Variables

As discussed in the Research Design section, defining close elections in terms of standardized vote margin is likely to produce samples that are less representative in terms of state population. Figure 2 plots the absolute value of the difference-in-means t-statistic for state population (logged) for the entire sample of candidates versus those within the discontinuity window. The horizontal axis shows the share of the 1504 federal deputy candidates in our dataset included in each discontinuity window. The representativeness of standardized vote margin is much worse than that of raw vote margin and inflated vote margin.

3 Alternative Balance Statistics

Figure 3 presents standardized differences among pre-treatment covariates, which is the mean difference between winning and losing candidates, divided by the pooled standard deviation. Unlike the t-statistics presented in the main text, this balance statistic is not

sensitive to sample size.

4 Difference-in-Means Balance

As discussed in the Research Design section, in addition to estimating balance using our three main specifications, we used difference-in-means tests to verify that balance on key covariates does not worsen as one approaches the discontinuity. Figure 4 plots the minimum p-value from difference-in-means t-tests for seven covariates—incumbent, prior contracts, prior public works contracts, total donations, public works donations, donor firms, and public works donor firms—within a moving window of 4000 votes on either side of the discontinuity. For each sample, balance improves notably in the immediate vicinity of the threshold. The effect is particularly clear for all candidates and for public works donors to the PT.

5 Adjusting for Non-Compliance

As discussed in note 7, some winning candidates leave the legislature, either to serve in appointed bureaucratic positions or for some other reason. When this occurs, a losing candidate from the same coalition replaces the departing legislator for the duration of his or her absence. In our dataset, 94 losing candidates served in the legislature at some point, for a median of 29 days. Conversely, 133 winning candidates left the legislature for at least one day and were absent for a median of 32 days. This aspect of the electoral law complicates our analysis because a small number of candidates with a positive vote margin serve in the legislature for a short amount of time, and similarly, some candidates who lose

the election end up serving in the legislature for most of the legislative term.

To address this issue, we formulate it as a "compliance" problem. When the treatment assignment rule is not completely deterministic, one can still estimate a local average treatment effect among those candidates who take office as a result of winning the election ("compliers"). To do so, we instrument a "served in the legislature" dummy with an "election" dummy. We define "served in the legislature" as equaling 1 when a candidate holds office for at least 669 days, which is half the time between the first day of the legislative session and the last day before the next election. We present results using the polynomial and local linear specifications.

The estimated local average treatment effect on compliers is presented in Table 2. The estimated effects are larger than those reported in the main text, but the general conclusions remain unchanged.

6 Results With Alternative Forcing Variables/Specifications

As discussed in note 9, we re-ran the analysis using various alternative specifications and forcing variables. Using raw vote margin as a forcing variable has the disadvantage that, in small states, the window used for the RD analysis may sometimes be large relative to the total number of votes received. Losing by 89 votes (the smallest margin in our dataset) is a bare loss in any state; losing by 1000 might be close for a candidate who received 80,000 votes, but not for one who received only 8000. The latter outcome is likely in small states. Thus, as a first alternative forcing variable, we used "inflated vote margin," which is the raw vote margin M_{ij} multiplied by $v_{ij}/(v_{ij} - M_{ij})$ for winning candidates,

and $(v_{ij} - M_{ij})/v_{ij}$ for losing candidates. The value of this inflation factor is always greater than 1. Balance using inflated vote margin is presented in Figure 5; treatment effect estimates are presented in Table 4. Results are similar to those obtained using raw vote margin.

We also estimated the effects of electoral victory using standardized vote margin, or vote margin as a fraction of personal votes cast in the candidate's state, as the forcing variable. Balance using standardized vote margin is presented in Figure 6 and treatment effect estimates are presented in Table 5. Results are comparable in size and significance to estimates reported in the main text.

Finally, we estimated treatment effects using each candidate's rank in the coalition list as the forcing variable. Results are shown in Table 6. Again, results are substantively equivalent to the raw vote margin estimates.

In addition to employing alternative forcing variables, we adjusted for varying state population size with an alternative specification for our raw vote margin analysis. Using raw vote margin as the forcing variable has a tendency to overrepresent small states. To counter this effect, we weighted candidates by the log of the state population, thus giving more weight to bare winners and losers in larger states (Table 3). Results are nearly identical to our main estimates.

7 Regression Discontinuity Plot

In the Results section, we present our results in tabular form; here we offer a graphical depiction. Figure 7 displays the loess results for each of our four samples. The dots

represent mean values of the dependent variable in "bins" of vote margin, with each bin encompassing an equal number of candidates. The thick solid lines in the plot show the conditional expectation of the dependent variable on either side of the cutpoint; the shaded area surrounding each line is a bootstrapped 95% confidence interval. Our loess estimate of the treatment effect is the gap between these two lines at $M_{ij} = 0$.

8 Placebo Tests

In the Results section, we discuss the results of several placebo tests. One placebo test checks for treatment effects at alternate thresholds where, by construction, the treatment effect should be 0 since the treatment will not vary at the placebo discontinuity. Specifically, we estimate the treatment effect on public works contracts for PT donor firms at several non-zero thresholds: 15,000, 7500, –7500, and –15,000 inflated votes. The estimated coefficients and their associated t-statistics are presented in Figure 8. All estimates at placebo thresholds are insignificant and smaller than the estimated treatment effects reported in the text.

A second set of placebo tests examines the effect of electoral victory on government contracts for firms that gave only to other candidates (Table 7). As expected, none of the estimates is significant.

9 Results Controlling for Covariates

As discussed in the Results section, as a robustness check, we calculated treatment effect estimates while controlling for seven key covariates: incumbency, prior contracts

(logged), prior public works contracts (logged), total donations (logged), public works donations (logged), donor firms, and public works donor firms. Results, reported in Table 8, are as significant or more significant than the unadjusted results, while still remaining indistinguishable from zero for public works donations to the PT's coalition partners.

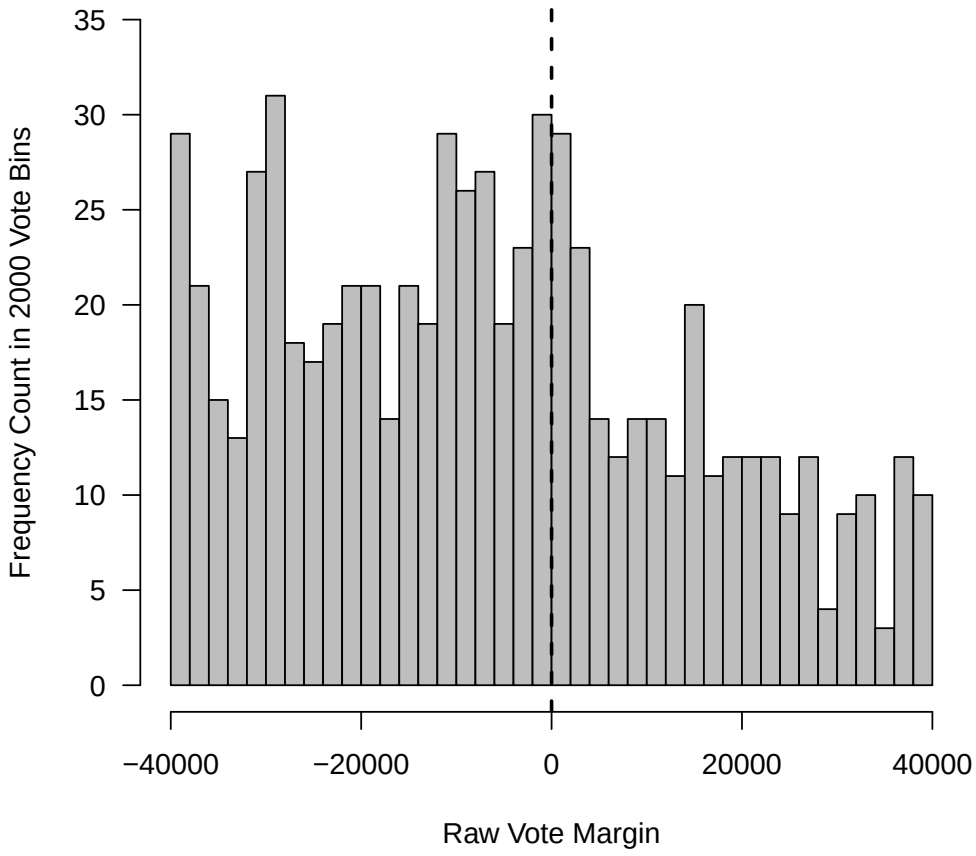
10 Portfolio Investment

As discussed in the Results section, companies tend to donate to a single candidate. Figure 9 shows the distribution of the effective number of federal deputy candidates that public works firms donate to. As is evident from the plot, few companies engage in portfolio investment by giving substantial amounts of money to multiple candidates.

Table 1: McCrary Test of Continuity of the Forcing Variable: Federal Deputies

	All	Pub. works	Pub. works, coalition	Pub. works, PT
Wald Stat.	0.18	−0.06	−0.24	0.24
SE	0.17	0.26	0.45	1.33
N	693	354	155	68

Figure 1: Histogram of Raw Vote Margin. Observations are federal deputy candidates with corporate donations. Vote margins with an absolute value greater than 40,000 are dropped for readability.



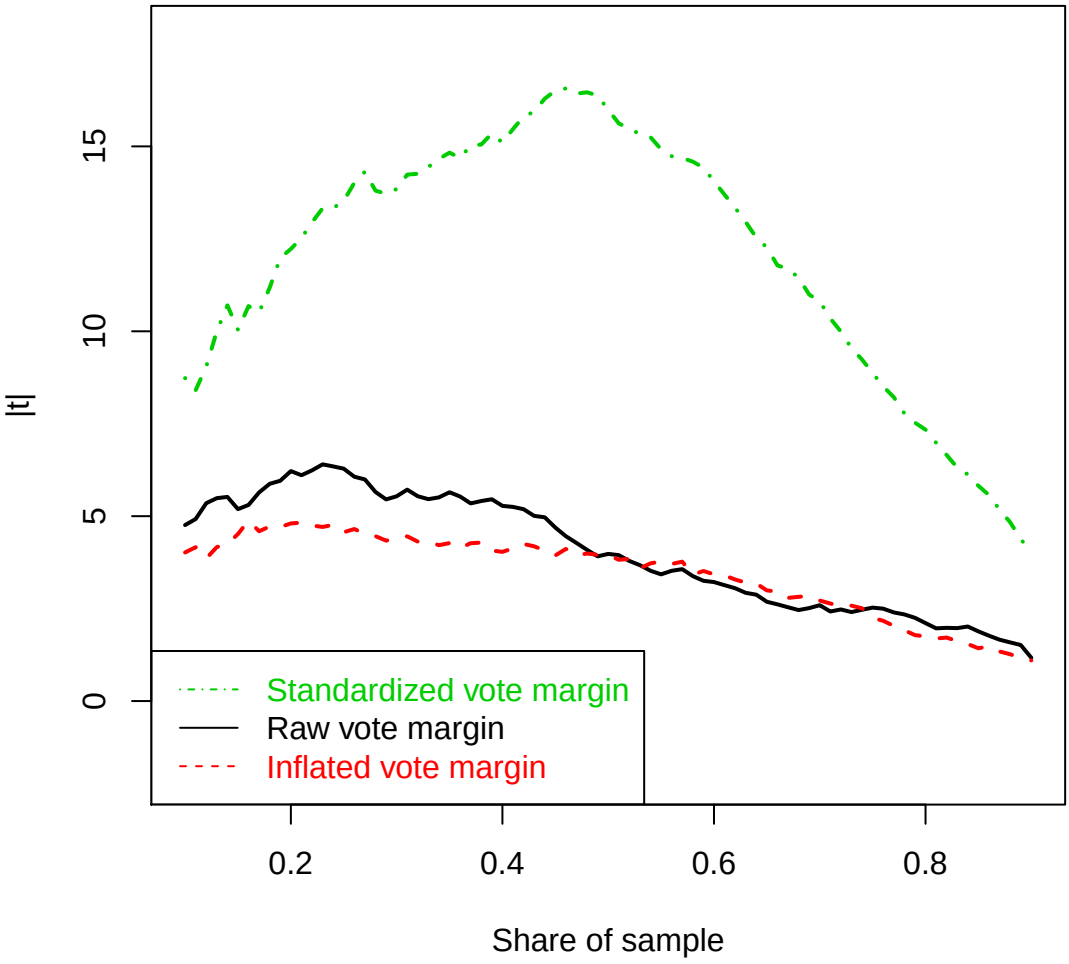


Figure 2: Comparison of Forcing Variables: Representativeness of the Discontinuity Window Across Different Sized States

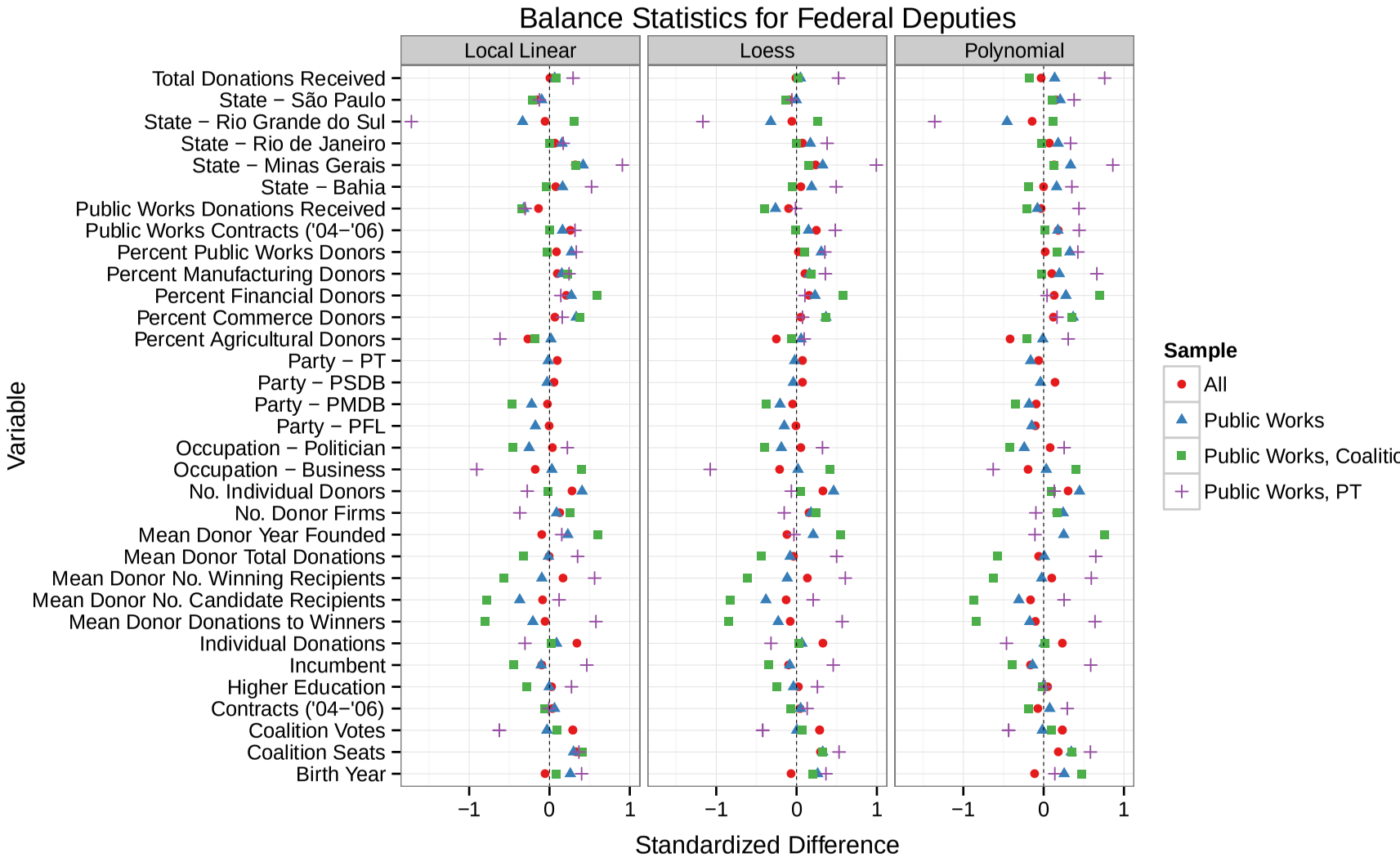


Figure 3: Balance Statistics: Standardized Differences. Standardized difference is the mean value of the covariate for treatment units minus the mean value of the covariate for control units, divided by the pooled standard deviation.

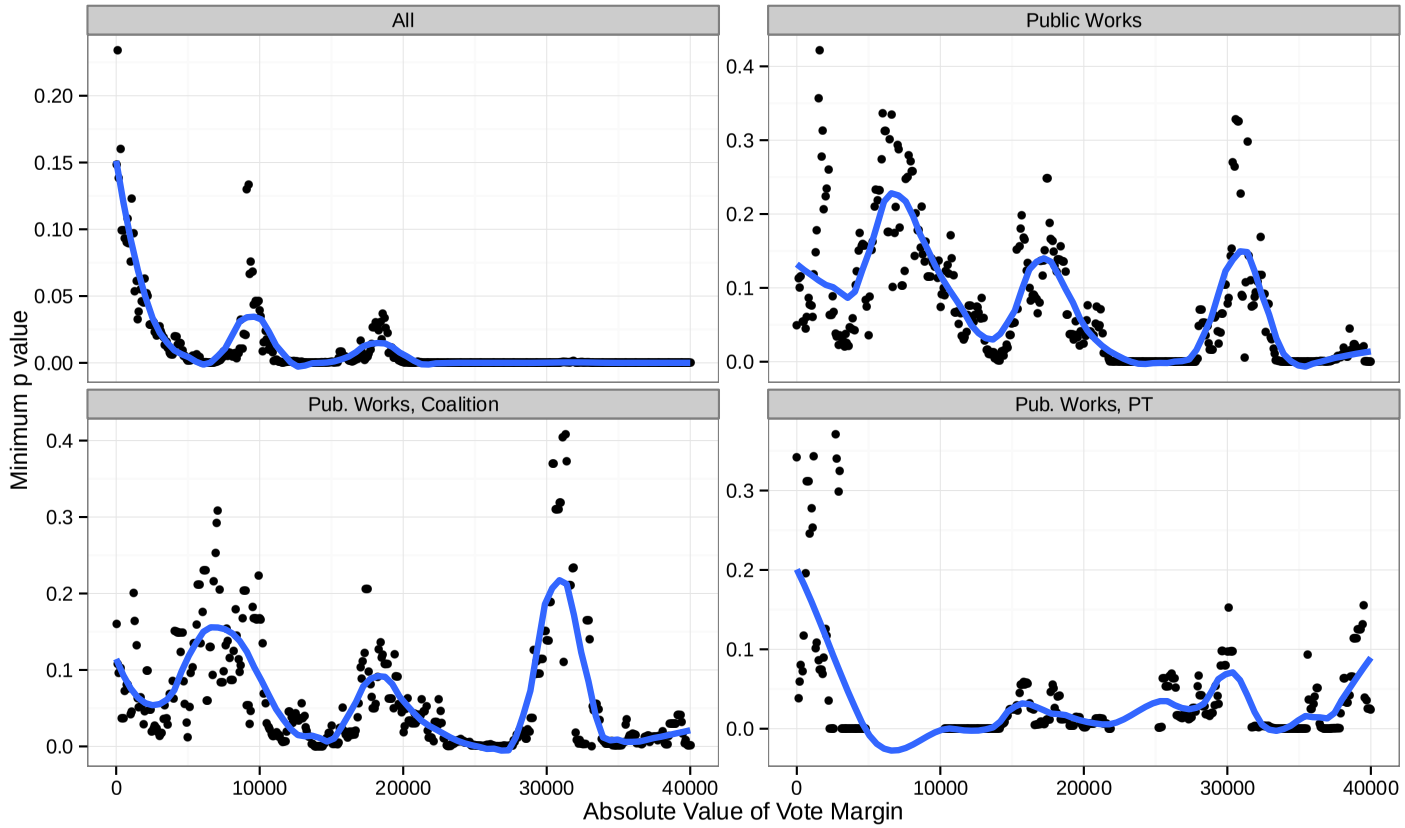


Figure 4: Balance Statistics: Difference in Means. The plot shows the minimum p-value from a difference-in-means t-test for seven covariates—incumbent, prior contracts, prior public works contracts, total donations, public works donations, donor firms, and public works donor firms—within a moving window of 4000 votes.

Table 2: The Effect (for Compliers) of Electoral Victory on Future Federal Government Contracts

Sample	Complier Effect	SE	N
Polynomial Estimator			
All	1.12	1.30	1343
Pub. works donations	4.88	2.81	576
Pub. works, coalition	1.12	3.49	241
Pub. works, PT	14.60	5.72	112
Local Linear Estimator			
All	2.05	1.21	463
Pub. works donations	4.85	2.19	236
Pub. works, coalition	1.66	3.25	111
Pub. works, PT	11.08	5.50	45

These specifications instrument serving in the legislature with whether or not the candidate won the election. Dependent variable is the log of the average value of contracts (plus one) received by a candidate's corporate donors, January 2008–September 2010.

Table 3: The Effect of Electoral Victory on Future Federal Government Contracts, Weighting by Log Population

Sample	τ_{RD}	SE	τ_{RD}, unlogged	Mean Donation	N
Polynomial Estimator					
All	0.96	1.22	R$ 24,454	R$ 63,971	1343
Pub. works donations	4.18	2.1	R$ 108,335	R$ 18,342	576
Pub. works, coalition	0.59	3.21	R$ 5,413	R$ 28,102	241
Pub. works, PT	11.36	4.21	R$ 371,172	R$ 9,267	112
Local Linear Estimator					
All	1.76	1.14	R$ 53,877	R$ 62,556	463
Pub. works donations	4.47	2.02	R$ 110,634	R$ 19,533	236
Pub. works, coalition	1.36	3.1	R$ 22,803	R$ 30,601	111
Pub. works, PT	8.49	4.05	R$ 146,677	R$ 9,442	45

Dependent variable is the log of the average value of contracts (plus one) received by a candidate's corporate donors, January 2008–September 2010. "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. The unlogged treatment effect is given by $exp(E[Y_{ij}(1)|M_{ij} = 0]) - exp(E[Y_{ij}(0)|M_{ij} = 0])$. "Mean Donation" is the estimated donation per firm for candidates at the discontinuity. The local linear and polynomial specifications use bandwidths of 25,000 and 100,000 votes, respectively. Observations are weighted by the log of state population.

Figure 5: Balance Statistics using Inflated Vote Margin

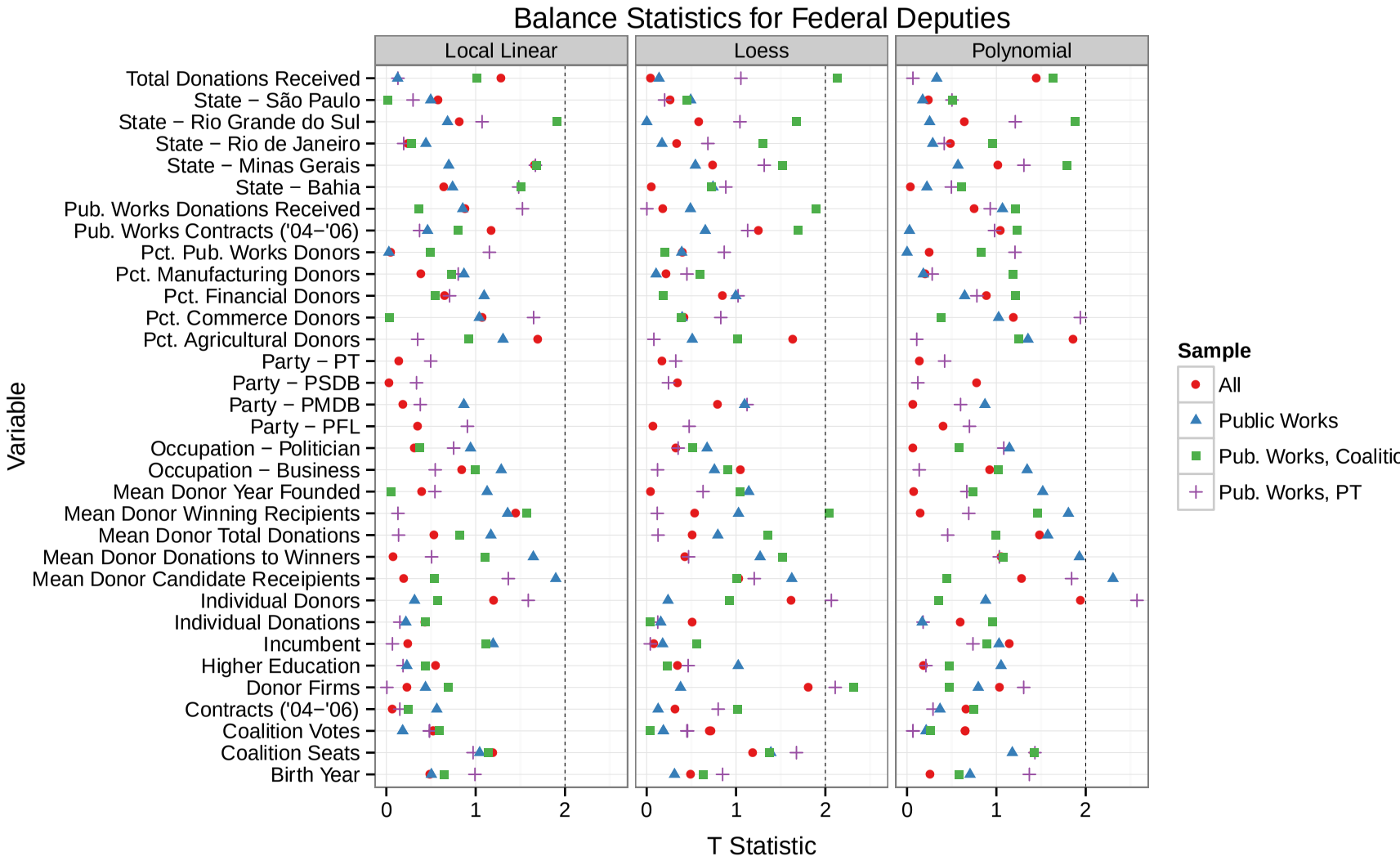


Table 4: The Effect of Electoral Victory on Future Federal Government Contracts Using Inflated Vote Margin

Sample	τ_{RD}	SE	τ_{RD}, unlogged	Mean Donation	N
Loess Estimator					
All	1.13	1.14	R$ 43,518	R$ 12,073	690
Pub. works donations	3.31	1.93	R$ 60,221	R$ 12,001	387
Pub. works, coalition	2.38	3.27	R$ 20,716	R$ 10,274	162
Pub. works, PT	8.91	3.73	R$ 310,801	R$ 12,354	79
Polynomial Estimator					
All	0.39	1.13	R$ 17,646	R$ 99,866	799
Pub. works donations	4.06	2	R$ 90,910	R$ 19,350	439
Pub. works, coalition	0.75	3.19	R$ 8,490	R$ 25,650	182
Pub. works, PT	10.5	4.01	R$ 369,652	R$ 8,225	90
Local Linear Estimator					
All	1.43	1.14	R$ 64,074	R$ 102,279	375
Pub. works donations	3.38	2.02	R$ 62,456	R$ 21,499	208
Pub. works, coalition	-0.02	3.19	R$ -162	R$ 33,091	96
Pub. works, PT	9.17	3.69	R$ 182,808	R$ 8,639	43

Dependent variable is the log of the average value of contracts (plus one) received by a candidate's corporate donors, January 2008–September 2010. "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. The unlogged treatment effect is given by $exp(E[Y_{ij}(1)|M_{ij} = 0]) - exp(E[Y_{ij}(0)|M_{ij} = 0])$. "Mean Donation" is the estimated donation per firm for candidates at the discontinuity. The loess specification uses a bandwidth of 100,000 inflated votes and a span of 1. The local linear and polynomial specifications use bandwidths of 30,000 and 150,000 inflated votes, respectively. Loess standard errors are bootstrapped; others are heteroskedasticity-robust.

Figure 6: Balance Statistics using Standardized Vote Margin

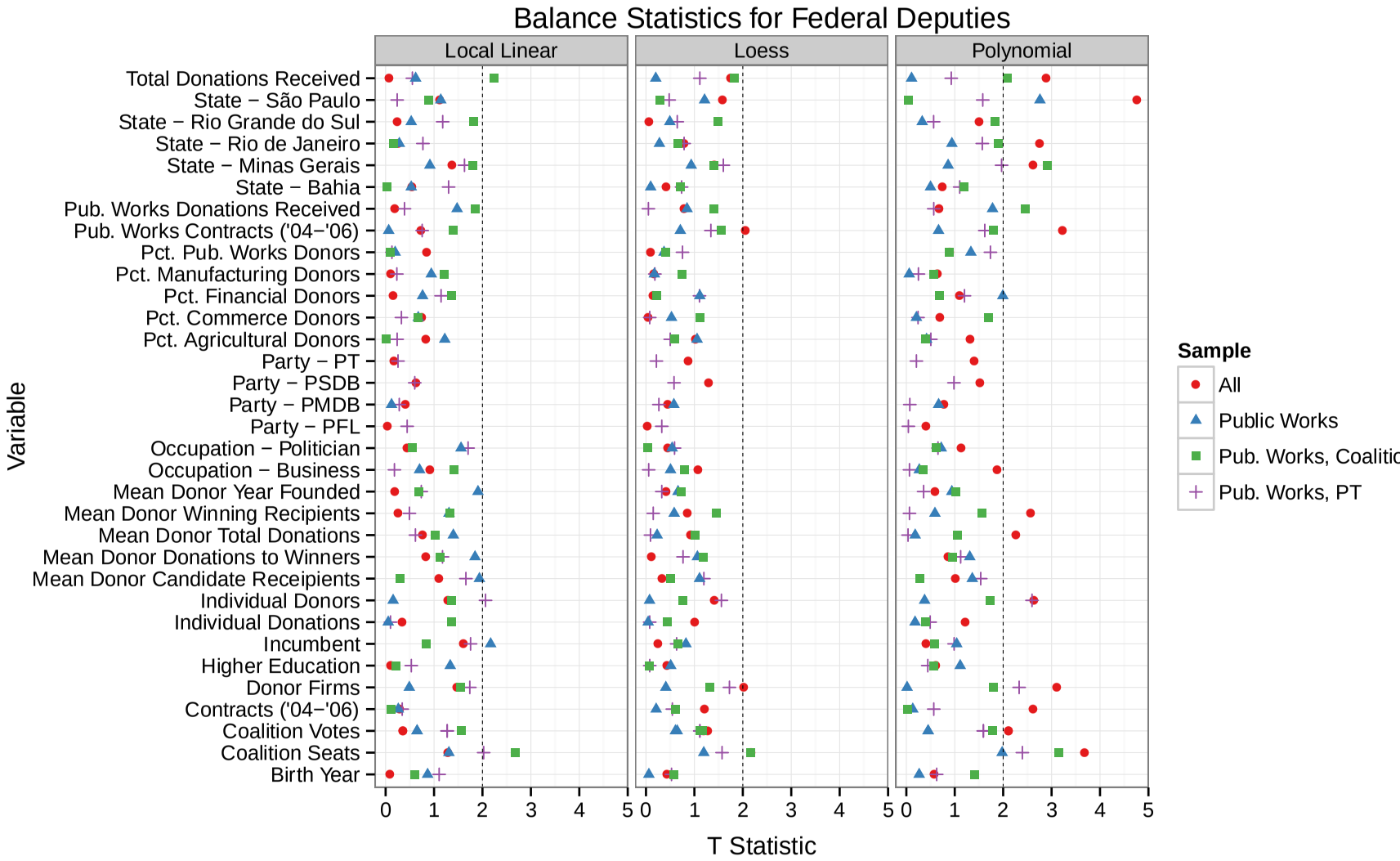


Table 5: The Effect of Electoral Victory on Future Federal Government Contracts Using a Standardized (Nominal) Vote Margin

Sample	τ_{RD}	SE	τ_{RD}, unlogged	Mean Donation	N
Loess Estimator					
All	3.24	1.47	R$ 150,556	R$ 12,958	733
Pub. works donations	4.7	2.51	R$ 193,861	R$ 11,801	338
Pub. works, coalition	3.5	4.27	R$ 15,851	R$ 7,370	135
Pub. works, PT	9.71	5.39	R$ 7,517,455	R$ 28,887	73
Polynomial Estimator					
All	4.23	1	R$ 216,302	R$ 61,563	1276
Pub. works donations	4.62	1.76	R$ 182,624	R$ 21,420	561
Pub. works, coalition	3.28	2.73	R$ 25,664	R$ 19,817	223
Pub. works, PT	7.48	3.38	R$ 5,400,081	R$ 20,681	111
Local Linear Estimator					
All	1.12	1.32	R$ 26,156	R$ 107,755	366
Pub. works donations	3.02	2.32	R$ 28,347	R$ 19,383	187
Pub. works, coalition	-0.07	3.68	R$ -172	R$ 23,238	78
Pub. works, PT	8.2	4.31	R$ 481,996	R$ 14,545	42

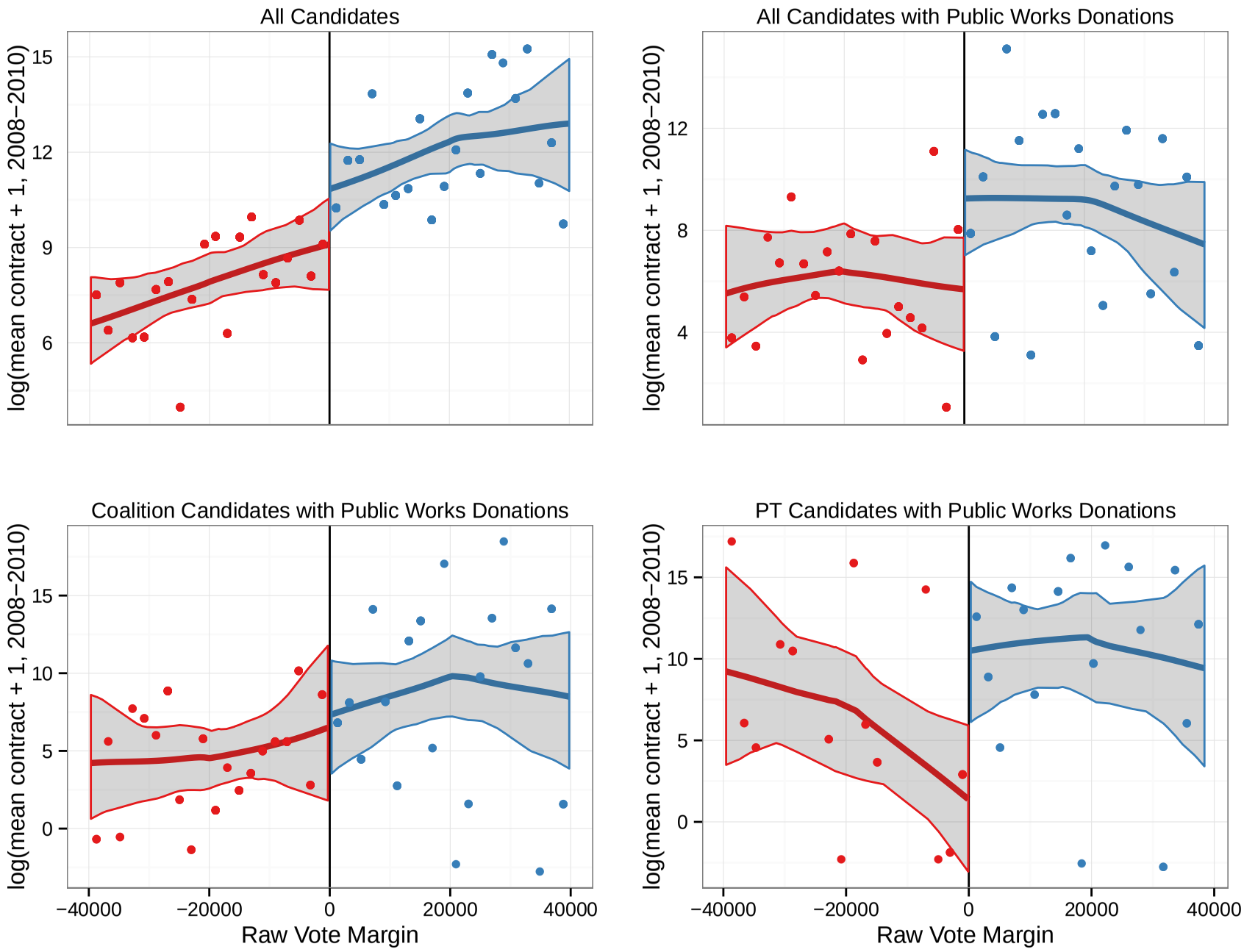
Dependent variable is the log of the average value of contracts (plus one) received by a candidate's corporate donors, January 2008–September 2010. "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. The unlogged treatment effect is given by $exp(E[Y_{ij}(1)|M_{ij} = 0]) - exp(E[Y_{ij}(0)|M_{ij} = 0])$. "Mean Donation" is the estimated donation per firm for candidates at the discontinuity. The loess specification uses a bandwidth of 0.7 percent of nominal votes and a span of 1. The local linear and polynomial specifications use bandwidths of 0.3 and 3 percent of nominal votes, respectively. Loess standard errors are bootstrapped; others are heteroskedasticity-robust.

Table 6: The Effect of Electoral Victory on Future Federal Government Contracts, Using Ranks as the Forcing Variable

Sample	τ_{RD}	SE	τ_{RD}, unlogged	Mean Donation	N
Loess Estimator					
All	1.78	0.87	R$ 46,710	R$ 13,694	1504
Pub. works donations	2.21	1.57	R$ 10,296	R$ 12,278	354
Pub. works, coalition	2.49	2.41	R$ 11,475	R$ 10,035	155
Pub. works, PT	7.37	3.59	R$ 55,947	R$ 11,602	68
Polynomial Estimator					
All	1.87	0.76	R$ 51,143	R$ 56,808	1343
Pub. works donations	2.64	1.41	R$ 21,800	R$ 19,074	576
Pub. works, coalition	3.47	2.14	R$ 33,055	R$ 20,004	241
Pub. works, PT	8.36	3.5	R$ 128,315	R$ 6,584	112
Local Linear Estimator					
All	0.77	0.81	R$ 25,780	R$ 73,287	463
Pub. works donations	2.75	1.49	R$ 30,773	R$ 18,445	236
Pub. works, coalition	1.21	2.14	R$ 3,684	R$ 22,088	111
Pub. works, PT	9.85	2.88	R$ 238,661	R$ 5,904	45

Dependent variable is the log of the average value of contracts (plus one) received by a candidate's corporate donors, January 2008–September 2010. "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. The unlogged treatment effect is given by $exp(E[Y_{ij}(1)|M_{ij} = 0]) - exp(E[Y_{ij}(0)|M_{ij} = 0])$. "Mean Donation" is the estimated donation per firm for candidates at the discontinuity. The loess specification uses a bandwidth of 40,000 votes and a span of 1. The local linear and polynomial specifications use bandwidths of 25,000 and 100,000 votes, respectively. Loess standard errors are bootstrapped; others are heteroskedasticity-robust.

Figure 7: The Effect of Electoral Victory on Future Government Contracts



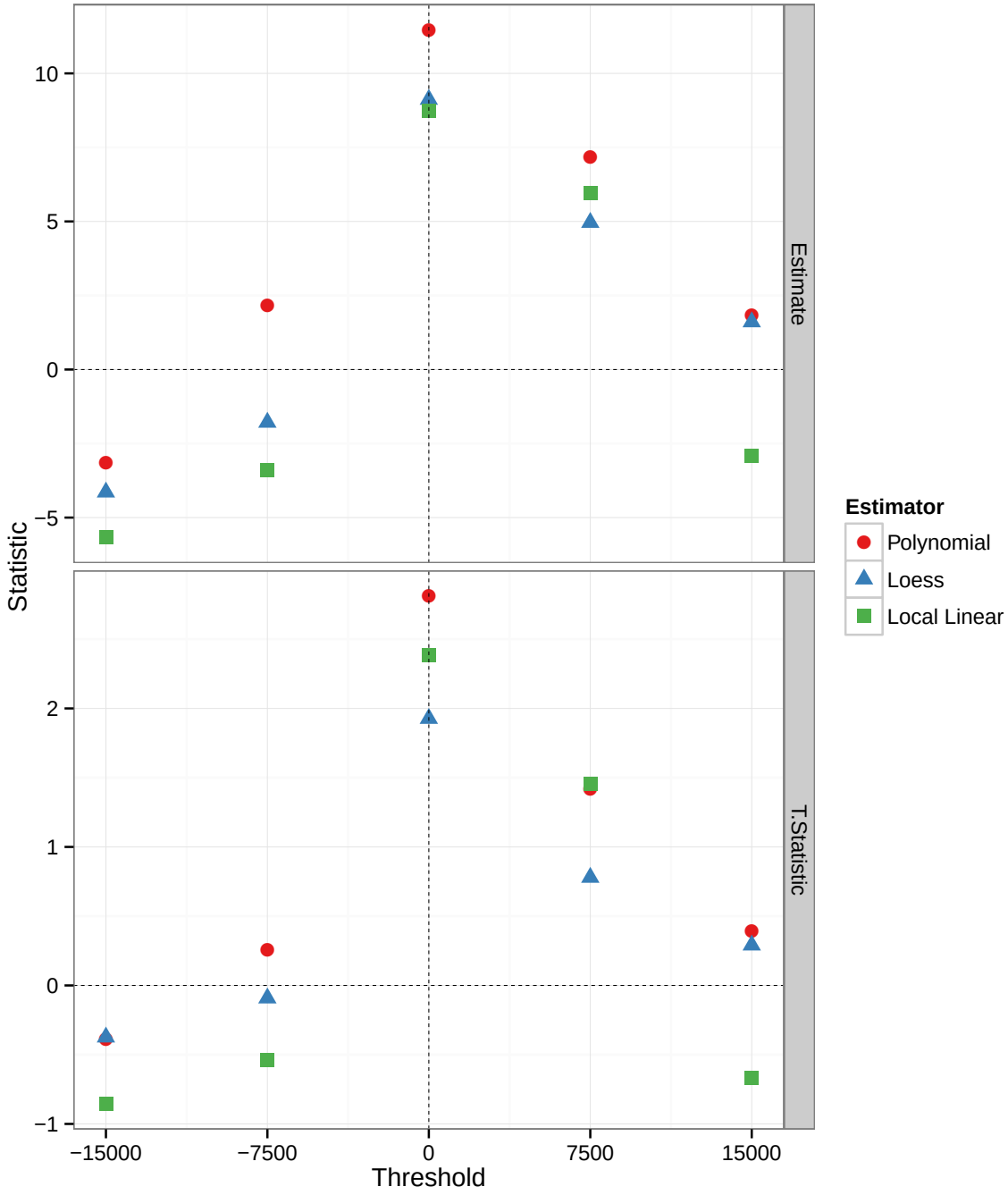


Figure 8: Placebo Estimates: The effect on contracts for public works donors to PT candidates of a treatment defined using placebo thresholds.

Table 7: The Effect of Electoral Victory on Future Federal Government Contracts for Donors to Other Candidates

Sample	τ_{RD}	SE	τ_{RD}, unlogged	N
Loess Estimator				
All	-0.18	2.56	R$ -1,723	693
Pub. works donations	0.01	0.02	R$ 371,524,957	354
Pub. works, coalition	0.04	0.04	R$ 2,169,345,117	155
Pub. works, PT	-0.01	0.05	R$ -379,485,098	68
Polynomial Estimator				
All	-0.87	2.22	R$ -14,480	1343
Pub. works donations	-0.01	0.02	R$ -404,311,506	576
Pub. works, coalition	0.03	0.04	R$ 1,642,665,750	241
Pub. works, PT	-0.03	0.04	R$ -1,768,352,503	112
Local Linear Estimator				
All	0.54	2.11	R$ 6,907	463
Pub. works donations	0.01	0.02	R$ 614,507,549	236
Pub. works, coalition	0.04	0.03	R$ 2,158,968,463	111
Pub. works, PT	0.02	0.04	R$ 1,126,195,019	45

Dependent variable is the log of the total value of contracts (plus one) received by corporate donors to other candidates, January 2008–September 2010. "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. The unlogged treatment effect is given by $exp(E[Y_{ij}(1)|M_{ij} = 0]) - exp(E[Y_{ij}(0)|M_{ij} = 0])$. The loess specification uses a bandwidth of 40,000 votes and a span of 1. The local linear and polynomial specifications use bandwidths of 25,000 and 100,000 votes, respectively. Loess standard errors are bootstrapped; others are heteroskedasticity-robust.

Table 8: The Effect of Electoral Victory on Future Federal Government Contracts (Covariate Adjusted)

Sample	τ_{RD}	SE	τ_{RD}, unlogged	Mean Donation	N
Polynomial Estimator					
All	1.44	0.62	R$ 6,848	R$ 58,752	1343
Pub. works donations	3.99	1.68	R$ 79,409	R$ 17,997	576
Pub. works, coalition	2.15	2.42	R$ 12,501	R$ 26,205	241
Pub. works, PT	8.39	3.47	R$ 65,927	R$ 8,774	112
Local Linear Estimator					
All	1.64	0.61	R$ 33,293	R$ 62,556	463
Pub. works donations	4.48	1.63	R$ 146,014	R$ 19,158	236
Pub. works, coalition	2.98	2.34	R$ 22,947	R$ 29,013	111
Pub. works, PT	7.25	3.39	R$ 522,349	R$ 8,936	45

Dependent variable is the log of the average value of contracts (plus one) received by a candidate's corporate donors, January 2008–September 2010. "Coalition" candidates are those from the PMDB, PP, PV, PSB, PC do B, PDT, PL, and PRONA in 2006. The unlogged treatment effect is given by $exp(E[Y_{ij}(1)|M_{ij} = 0]) - exp(E[Y_{ij}(0)|M_{ij} = 0])$. "Mean Donation" is the estimated donation per firm for candidates at the discontinuity. The local linear and polynomial specifications use bandwidths of 25,000 and 100,000 votes, respectively. Loess standard errors are bootstrapped; others are heteroskedasticity-robust.

Figure 9: Portfolio investment among public works firms, 2006.