Online Appendix: Do Campaign Contribution Limits Curb the Influence of Money in Politics? (not intended for publication)

September 1, 2020

Contents

A Electoral Victory and Predetermined Covariates

We verify that treatment and control units' characteristics are continuous around the victory cutoff. To do so, we estimate the effects of electoral victory on these characteristics using the same RD design and estimation choices described in the paper. Table A1 presents the estimated effects on the characteristics of the candidates, and Table A2 on donors' characteristics.

Table A1: Candidates characteristics around the electoral victory cutoff

	Mean (1)	Std. Dev. (2)	Victory (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwith (7)	p-value (8)
Panel A:Individual characteristics								
Women	0.116	0.320	0.018	[-0.067,0.133]	1982	944	0.07	0.519
Age	45.226	9.712	0.354	[-2.642,3.423]	1828	1009	0.08	0.801
Black	0.044	0.206	0.019	[-0.037,0.082]	1828	959	0.07	0.457
Indigenous	0.109	0.311	-0.028	[-0.136,0.058]	1828	1000	0.08	0.432
Leftist party	0.025	0.156	-0.017	[-0.078,0.034]	1982	1192	0.09	0.438
Rightwing	0.244	0.429	-0.067	[-0.198,0.039]	1982	1050	0.07	0.188
Sanctioned	0.123	0.328	-0.064	[-0.172,0.021]	1982	1116	0.08	0.124
Illegal Registration of ID.	0.005	0.073	0.000	[-0.029,0.023]	1982	1120	0.08	0.815
Electoral experience	0.450	0.498	0.063	[-0.062,0.187]	1980	1354	0.11	0.325
Held office before	0.364	0.481	0.001	[-0.140,0.120]	1980	1192	0.09	0.885
Panel B: Funding covariates								
Donors	4.151	6.725	0.761	[-0.955,2.578]	1982	1170	0.09	0.368
Campaign revenue	46.655	99.311	13.187	[-10.142,38.904]	1982	1180	0.09	0.250
Donations/Revenue	0.176	0.272	-0.027	[-0.102,0.040]	1982	1422	0.12	0.389

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth.

Table A2: Donors' characteristics around the electoral victory cutoff

	Mean (1)	Std. Dev. (2)	Victory (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Ch. Commerce	0.420	0.494	0.038	[-0.126,0.194]	4877	1883	0.06	0.678
Company	0.262	0.440	-0.071	[-0.353,0.195]	1918	859	0.06	0.572
Producer	0.098	0.297	-0.050	[-0.174,0.055]	1872	647	0.05	0.308
Company age	165.205	171.317	-25.772	[-81.904,12.831]	1532	467	0.04	0.153

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth. Ch. Commerce denotes registered in the Chamber of Commerce. Company age is in months. Producer takes a value of 1 if donor is a producer and 0 if it is a service provider.

B Looser Campaign Contribution Limits and Predetermined Covariates

The tables in this section present evidence that municipalities and donors contributing in campaigns on opposite sides of the 25,000 registered voters threshold are similar on a number of observables. This amounts to estimating the effects of looser campaign contribution limits on predetermined covariates. Table B1 presents results of municipality characteristics and Table B2 those of donors' characteristics.

Table B1: Municipality characteristics around campaign contribution limits cutoff

	Mean (1)	Std. Dev. (2)	Looser limits (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Discretionary revenue	29192.948	395422.226	592.716	[-9.0e+03,8867.212]	970	76	4518.17	0.986
Municipal category	5.706	0.999	0.111	[-0.196,0.479]	999	61	3528.11	0.412
Mayor wages	6.696	2.553	-0.222	[-0.955,0.396]	999	61	3524.19	0.417
Council size	10.961	2.912	-0.354	[-1.134,0.286]	999	62	3563.62	0.241
Population	41910.156	258170.413	-448.213	[-4.5e+03,4011.520]	999	171	8786.33	0.907
Schools	283.765	170.396	60.152	[-34.789,176.287]	999	103	5767.05	0.189
Contracts	1057.740	2689.075	-87.087	[-880.423,686.785]	992	106	5989.31	0.809

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth. Discretionary income scaled in # of minimum monthly wages. Schools denotes all educational establishments.

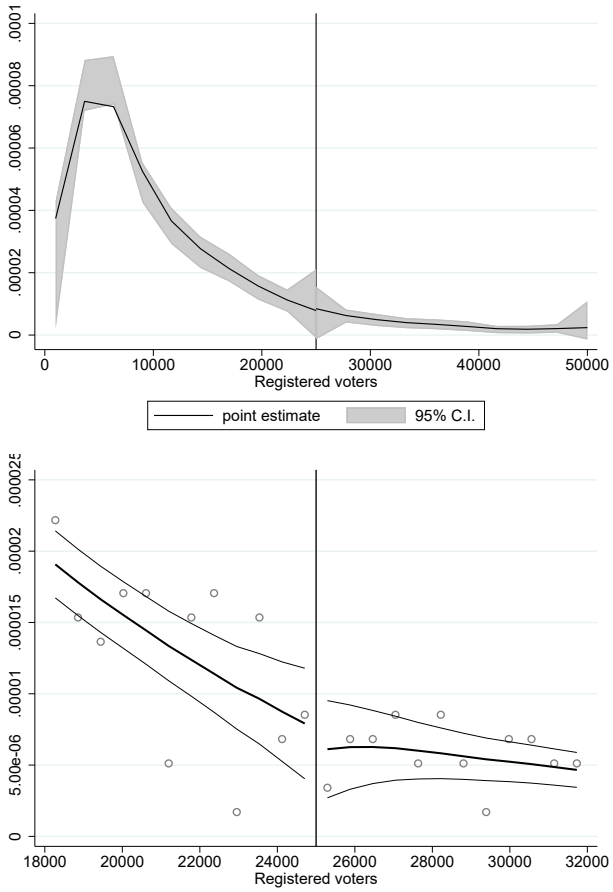
Table B2: Donors' characteristics around campaign contribution limits cutoff

	Mean (1)	Std. Dev. (2)	Looser limits (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Ch. of commerce	0.410	0.492	0.050	[-0.185,0.239]	2049	223	3281	0.800
Company	0.247	0.431	0.031	[-0.025,0.165]	697	84	4076	0.146
Producer	0.099	0.298	0.011	[-0.206,0.198]	673	140	7129	0.967
Company age	163.145	175.529	-88.378	[-271.014,63.515]	514	102	7162	0.224

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth. Ch. Commerce denotes registered in the Chamber of Commerce. Company age is in months. Producer takes a value of 1 if donor is a producer and 0 if it is a service provider.

C Sorting Tests

Figure C1: Sorting Tests



The top figure shows the density of the running variable. The test of no discontinuity at the cutoff (Cattaneo, Jansson and Ma 2019) gives a statistic of -0.128 and a p-value of 0.98). The bottom figure presents the density graph in a narrower band around the cutoff. Dots represent averages of multiple observations.

D Mechanisms

Table D1: Effect of looser campaign contribution limits on composition of campaign revenues (robustness: top and non-top donors)

Outcome:	Share Top 3 (1)	Share Non-top 3 (2)	Share Top 1 (3)	Share Non-top 1 (4)
Looser contribution limit	0.089	-0.001	0.102	0.032
Robust p-value	0.014	0.651	0.038	0.328
CI 95%	[0.020,0.173]	[-0.011,0.007]	[0.006,0.211]	[-0.035,0.105]
Observations	999	999	999	999
Bandwidth obs.	253	66	233	266
Mean	0.063	0.005	0.077	0.022
Effect mean(%)	141.27	-20.00	132.47	145.45
Bandwidth	11,292	4,036	10,651	11,831

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth.

Table D2: Effect of looser campaign contribution limits on donors' benefits (top vs. non-top)

Outcome:	# Contracts	ln(Value All)	# Min. Value Contracts	ln(Value Min. Value)
	(1)	(2)	(3)	(4)
Non-top	3.469	-2.183	-4.218	-1.603
	(4.322)	(1.677)	(3.915)	(1.487)
Top	5.887	3.572*	10.939*	4.281
	(4.508)	(1.841)	(5.768)	(2.286)
Difference	2.418	5.755**	15.157**	5.884**
	(6.237)	(2.439)	(6.833)	(2.697)
Observations	493	493	493	493
Bandwidth obs.	89	69	69	66
Bandwidth	6,980	5,312	5,292	5,190

Bandwidth is set at optimal MSE bandwidth reported in Table 2 of the paper. Observations in each subgroup (top and non-top) are weighted by the inverse of their conditional probabilities to belong to that subgroup. Variables included in the propensity score are: registered as company with the chamber of commerce, producer as main activity, and age of the company (in months). Clustered bootstrap standard errors at the municipality level with 500 replications in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D3: Mayors' characteristics across campaign contribution limits cutoff

	Mean	Std. Dev.	Looser limits	CI 95%	Obs.	Band. Obs.	Bandwidth	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Individual covariates								
Women	0.098	0.298	-0.010	[-0.129,0.134]	999	81	4869	0.969
Age	44.863	9.740	-3.693	[-15.066,7.071]	927	99	6448	0.479
Black	0.046	0.210	-0.090	[-0.320,0.089]	927	67	4782	0.268
Indigenous	0.112	0.315	-0.317	[-0.653,-0.069]	927	114	7070	0.015
Leftist party	0.028	0.165	-0.023	[-0.134,0.088]	999	92	5268	0.681
Rightwing	0.240	0.427	0.261	[-0.238,0.957]	999	106	5943	0.239
Sanctioned	0.116	0.320	0.047	[-0.326,0.344]	999	79	4759	0.958
Illegal Registration of ID.	0.007	0.086	0.000	[-0.002,0.009]	999	50	3171	0.202
Political experience	0.458	0.498	-0.159	[-0.644,0.201]	999	153	7854	0.304
Held office before	0.369	0.483	-0.125	[-0.684,0.274]	999	131	6939	0.401
Panel B: Funding covariates								
Donors	4.760	7.502	1.874	[-5.484,9.211]	999	161	8574	0.619
Campaign revenue	52.042	106.797	-12.553	[-38.128,8.059]	999	77	4557	0.202
Donations/Revenue	0.187	0.273	0.211	[-0.089,0.504]	999	170	8764	0.170

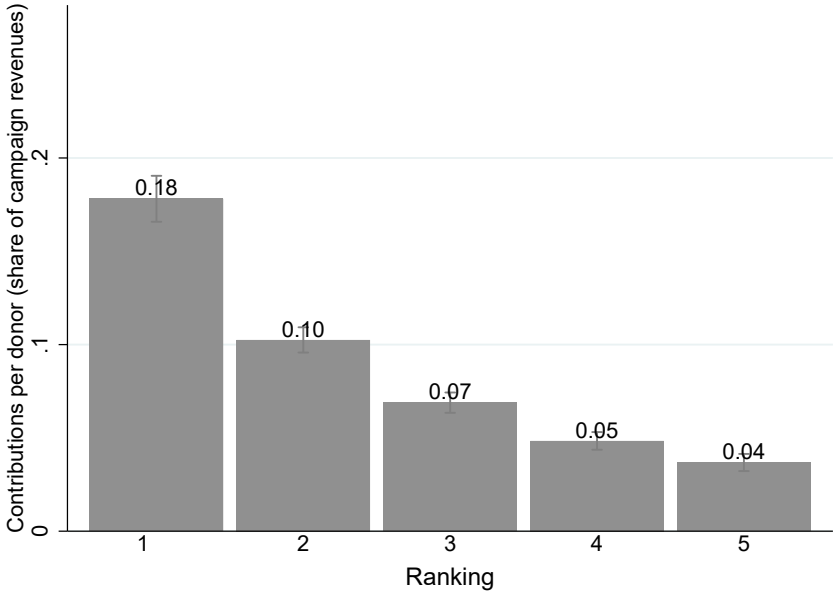
Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth.

Table D4: Election characteristics across campaign contribution limits cutoff

	Mean (1)	Std. Dev. (2)	Looser limits (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Panel A: Electoral race covariates								
Candidates	4.030	1.687	0.990	[-0.471,2.748]	1002	153	7896	0.165
Effective N. Candidates	2.739	0.833	0.343	[-0.688,1.281]	933	103	5949	0.555
Vote share winner	0.484	0.106	-0.078	[-0.201,0.017]	933	127	7109	0.100
Vote share margin	14.134	11.863	-5.236	[-17.028,4.677]	932	136	7500	0.265
Herfindahl big donors (p50)	0.605	0.422	0.013	[-0.400,0.394]	1002	159	8282	0.989
Herfindahl big donors (p75)	0.643	0.433	-0.047	[-0.441,0.300]	1002	171	8898	0.708
Panel B: Pool of candidates								
Age	45.544	5.601	0.865	[-3.853,6.616]	999	180	9177	0.605
Women	0.128	0.176	0.077	[-0.132,0.353]	1002	112	6349	0.372
Indigenous	0.099	0.165	-0.149	[-0.329,-0.015]	930	113	6986	0.032
Black	0.044	0.143	-0.016	[-0.068,0.023]	930	59	4108	0.336
Sanctioned	0.116	0.174	0.000	[-0.112,0.107]	1002	143	7468	0.959
Illegal Registration of ID.	0.005	0.037	0.000	[-0.002,0.005]	1002	65	3923	0.415
Political experience	0.254	0.237	-0.147	[-0.400,0.040]	1002	130	6909	0.109
Held office before	0.206	0.223	-0.058	[-0.310,0.136]	1002	147	7596	0.445

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth. Age in panel B denotes average age of candidates. All other dependent variables in Panel B are in shares of total candidates.

Figure D1: Contributions per donor as share of campaign revenues (by rank)



Total donations per donor are averaged across donors in each rank and then across municipalities. Ranking 1 denotes the most generous donor while ranking 5 denotes the fifth most generous donor. Confidence intervals at 95% level.

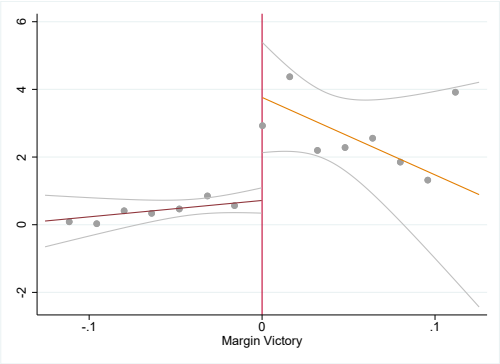
E Estimates Figures (RD Plots)

The following figures present a graphical representation of all the reported estimates with 95% confidence intervals. Each point in the figure represents a bin that averages multiple observations. The linear fit also uses triangular kernels as in our regression tables. Finally, we use the optimal MSE bandwidth for Figures E1 through E4.

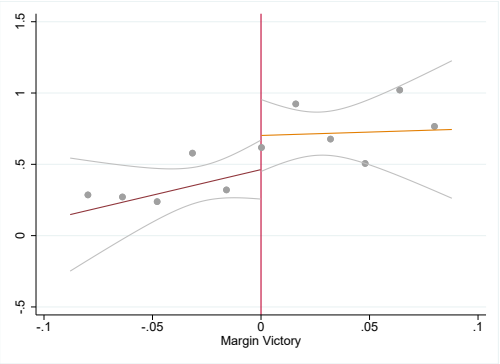
It is worth noting the patterns described by Figures E4 and E5. As we can see in Figure E4, there is strong support for our hypothesis. While to the left of the cutoff there are no donors whose contracts required extensions or ran cost overruns within the optimal bandwidth, to the right (where limits are higher), there are. Further examination confirms that there is more variation to the left of the cutoff as we increase the bandwidth to cover all values of the running variable, as shown in Figure E5. The figures also show, however, that these differences are more prevalent when we examine all contracts. Minimum value contracts do not have much variation in indicators of quality. This is potentially explained by the fact that it is more difficult to justify extensions or additional costs with these less complex contracts.

Figure E1: Effect of donating to a winner on contract assignment

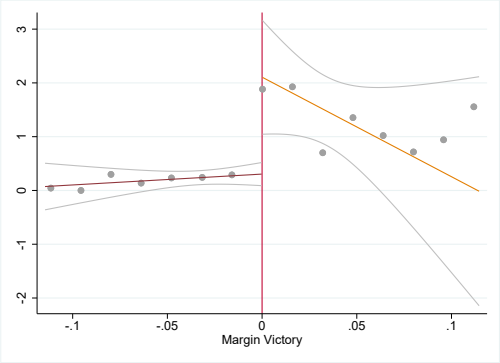
(a) Number of contracts



(b) Logged value of all contracts



(c) Number of Minimum Value contracts



(d) Logged value of Minimum Value contracts

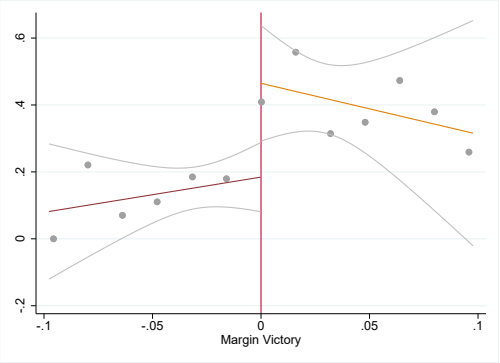
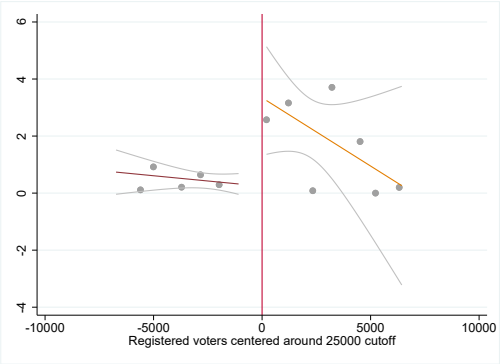
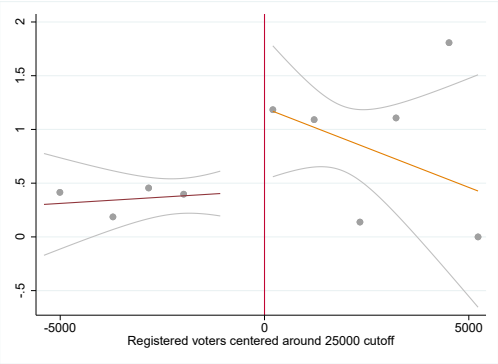


Figure E2: Effect of looser campaign contribution limits on contracts assigned to donors to the mayor

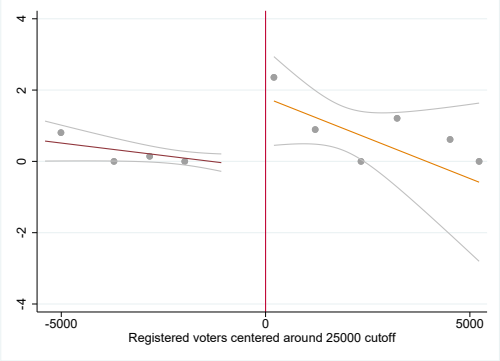
(a) Number of contracts



(b) Logged value of all contracts



(c) Number of Minimum Value contracts



(d) Logged value of Minimum Value contracts

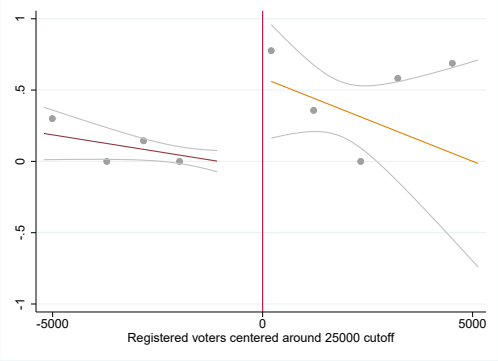
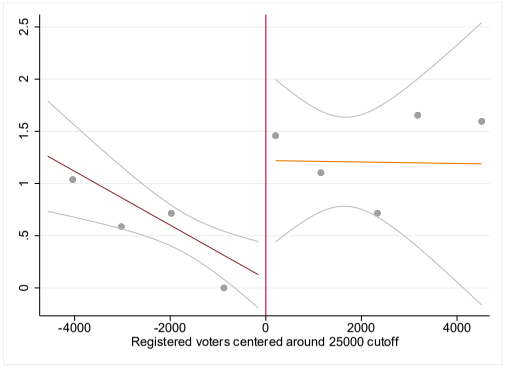
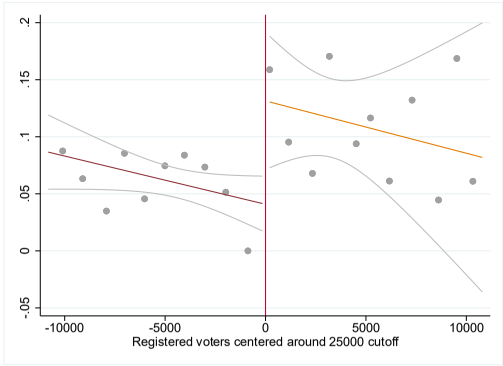


Figure E3: Effect of looser campaign contribution limits on campaign revenues (top and non-top donors)

(a) Logged average donation



(b) Top donor's contribution (share of campaign revenue)



(c) Non-top Donor's contribution (share of campaign revenue)

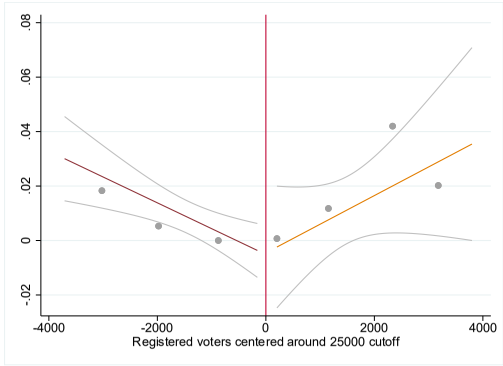
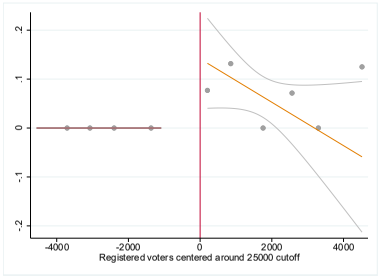
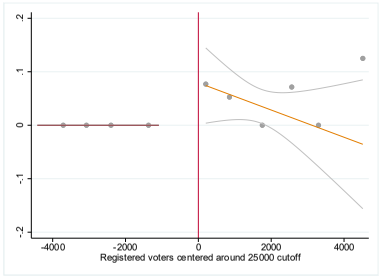


Figure E4: Effect of looser campaign contribution limits on quality of contracts

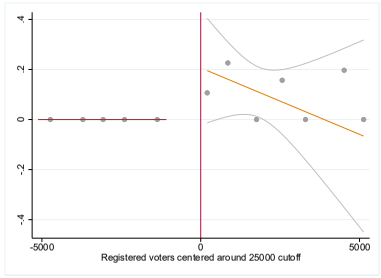
(a) Cost overruns



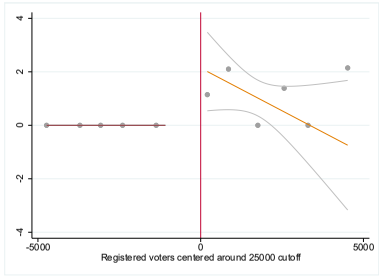
(b) Extensions



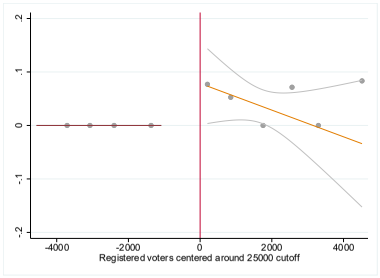
(c) Logged additional days



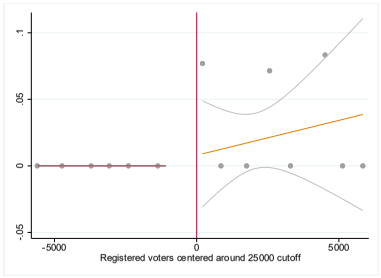
(d) Logged value cost overruns



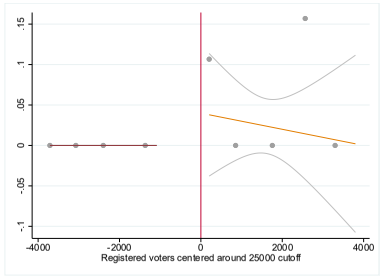
(e) Cost overruns Minimum Value



(f) Extensions Minimum Value



(g) Logged additional days Minimum Value



(h) Logged value cost overruns Minimum Value

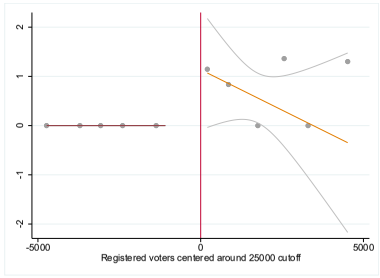
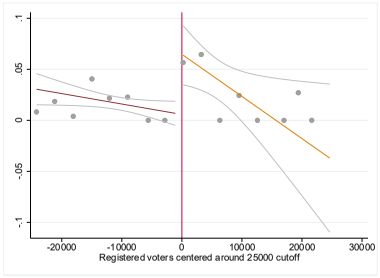
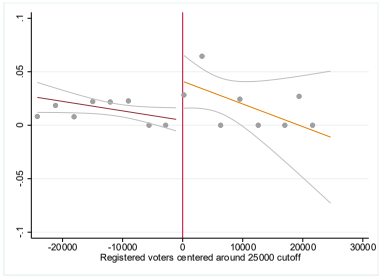


Figure E5: Effect of looser campaign contribution limits on quality of contracts (full range of forcing variable)

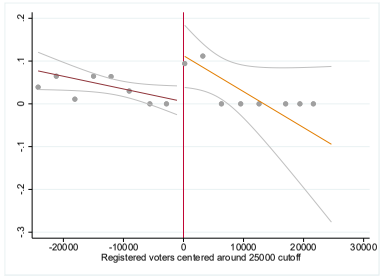
(a) Cost overruns



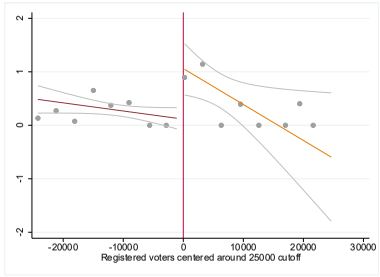
(b) Extensions



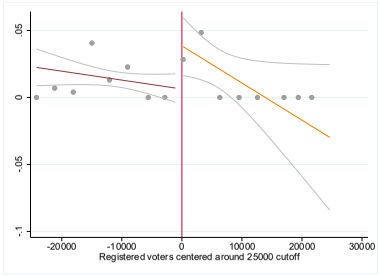
(c) Logged additional days



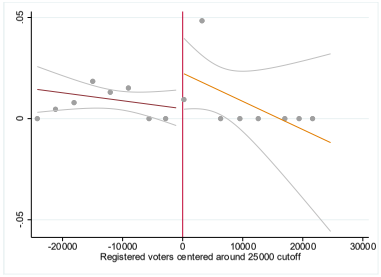
(d) Logged value cost overruns



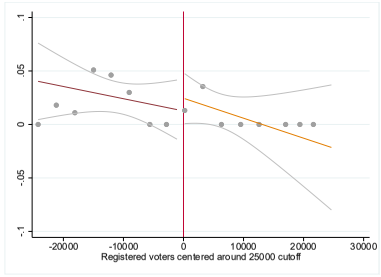
(e) Cost overruns Minimum Value



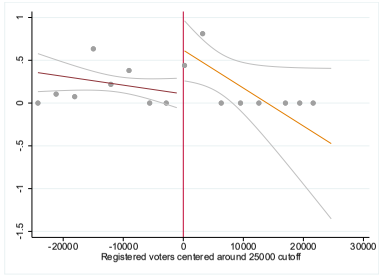
(f) Extensions Minimum Value



(g) Logged additional days Minimum Value



(h) Logged value cost overruns Minimum Value

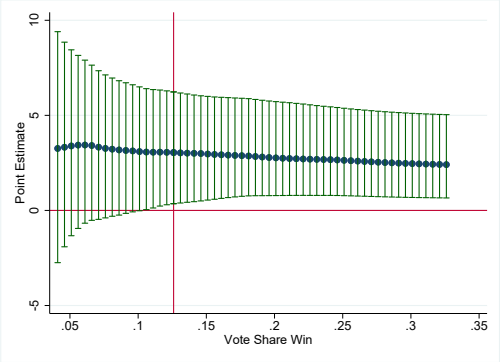


F Bandwidth Sensitivity Figures

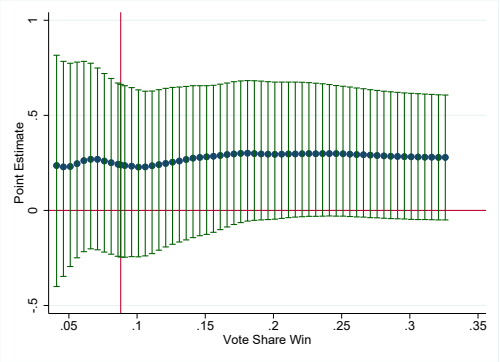
The following figures present estimates of the effects of interest on all dependent variables reported in the paper at different bandwidths. A red vertical line denotes the bandwith that minimizes the MSE used to compute the point estimates reported in the paper tables. Following Cattaneo, Idrobo and Titiunik (2020), we report point estimates with no bias approximation correction and robust 95% confidence intervals. As a result, the point estimate might not be at the center of the interval. That would be the case only when the estimated approximation bias is zero. We fix the x-axis to allow comparisons across outcomes for a fixed bandwidth.

Figure F1: Effect of donating to a winner on contract assignment

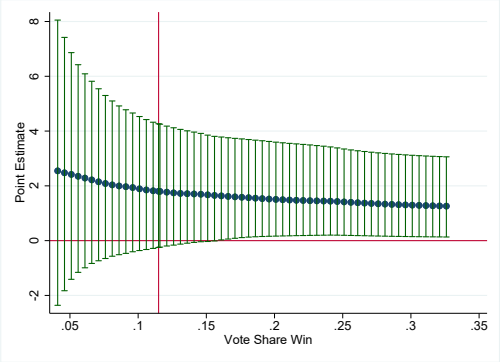
(a) Number of contracts



(b) Logged value of all contracts



(c) Number of Minimum Value contracts



(d) Logged value of Minimum Value contracts

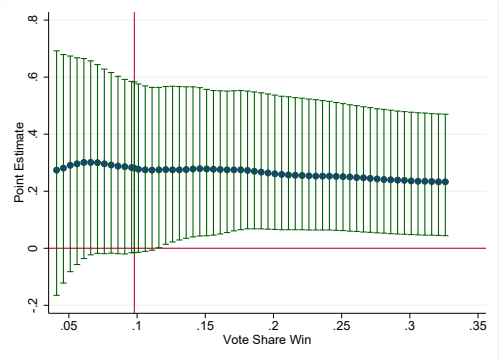
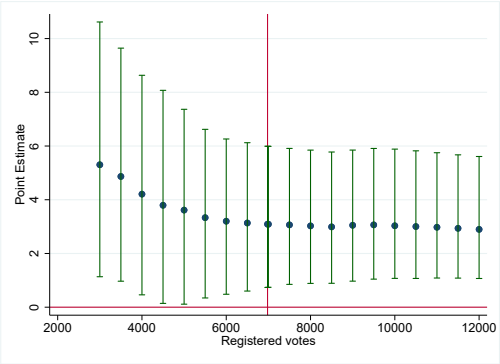
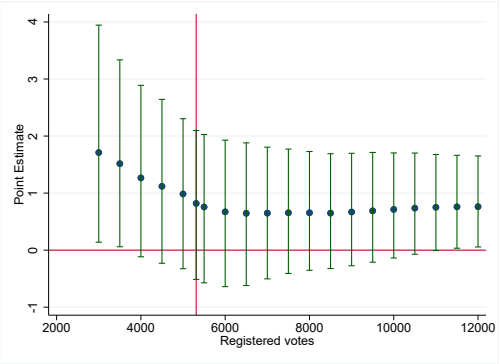


Figure F2: Effect of looser campaign contribution limits on contracts assigned to donors to the mayor

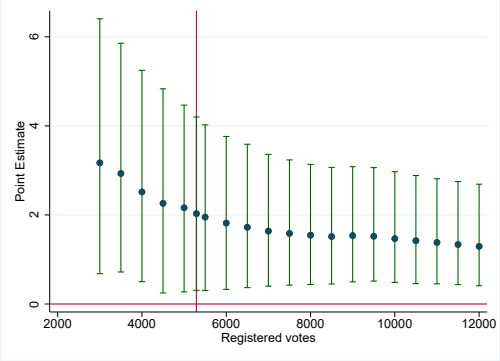
(a) Number of contracts



(b) Logged value of all contracts



(c) Number of Minimum Value contracts



(d) Logged value of Minimum Value contracts

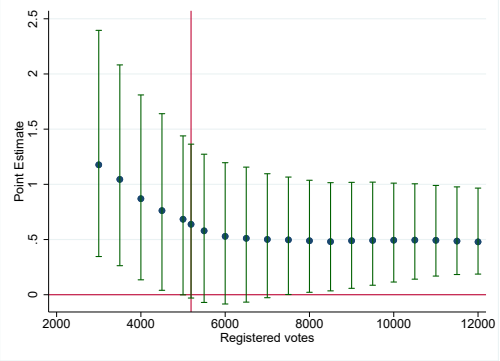
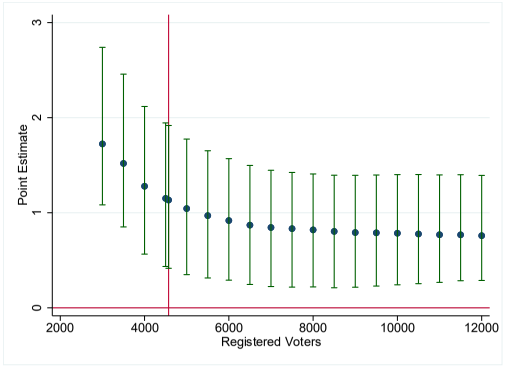
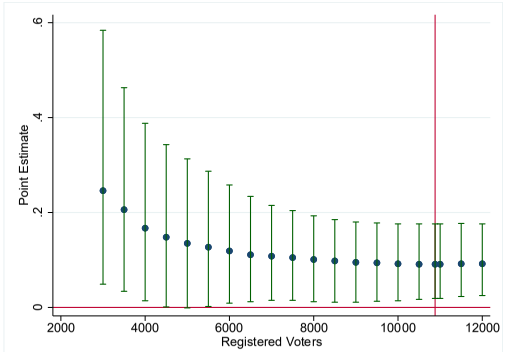


Figure F3: Effect of looser campaign contribution limits on campaign revenues (top and non-top donors)

(a) Logged average donation



(b) Top donor's contribution (share of campaign revenue)



(c) Non-top Donor's contribution (share of campaign revenue)

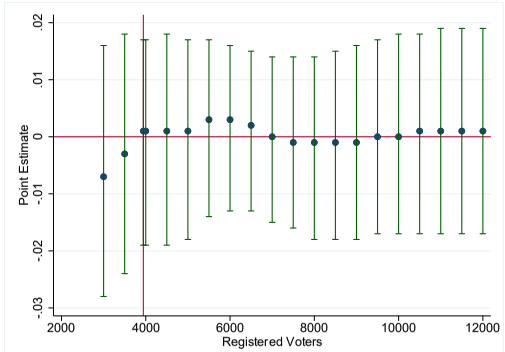
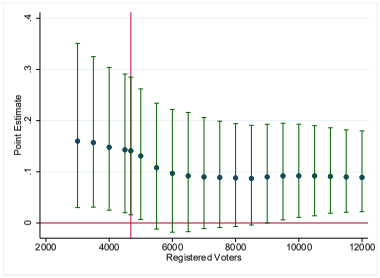
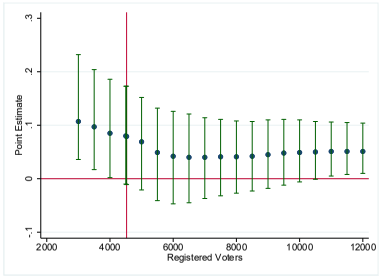


Figure F4: Effect of looser campaign contribution limits on quality of contracts

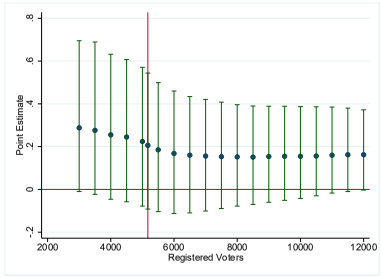
(a) Cost overruns



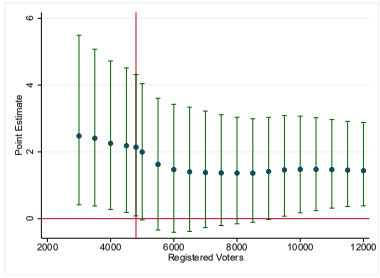
(b) Extensions



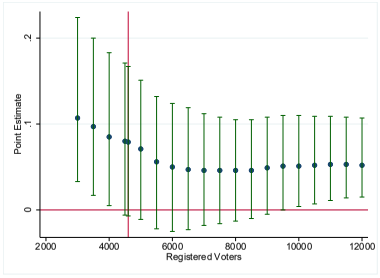
(c) Logged additional days



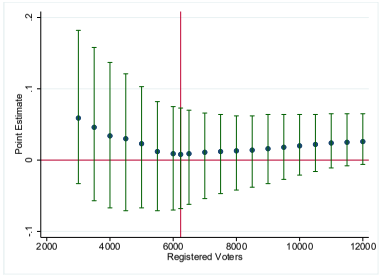
(d) Logged value cost overruns



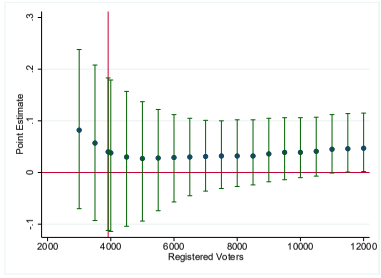
(e) Cost overruns Minimum Value



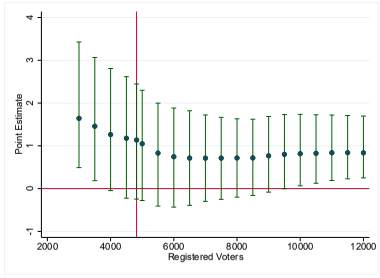
(f) Extensions Minimum Value



(g) Logged additional days Minimum Value



(h) Logged value cost overruns Minimum Value



G Other Implications

Table G1: Effect of looser contribution limits on profitability of contracts

Outcome:	ln(Profitability All)	ln(Profitability Min. Val)
	(1)	(2)
Looser contribution limit	1.457	0.792
Robust p-value	0.068	0.023
CI 95%	[-0.113,3.216]	[0.117,1.588]
Observations	2,043	2,043
Bandwidth obs.	301	278
Mean	0.299	0.116
Effect mean(%)	487.29	682.76
Bandwidth	4,861	4,499

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Profitability denotes the ratio of value of all contracts given to a donor over the value of the donation.

Table G2: Effect of looser limits on profitability of contracts (top vs. non-top)

Outcome:	ln(Profitability All)	ln(Profitability Min. Val)
	(1)	(2)
Non-top	-2.318	-1.852
	(1.378)	(1.071)
Top 2	3.834*	2.563
	(1.924)	(1.467)
Difference	6.153***	4.415***
	(2.211)	(1.695)
Observations	493	493
Bandwidth obs.	57	50
Bandwidth	4,861	4,499

Bandwidth is set at optimal MSE bandwidth. Observations in each subgroup (top and non-top) are weighted by the inverse of their conditional probabilities to belong to that subgroup. Variables included in the propensity score are: registered as company with the chamber of commerce, producer as main activity, and age of the company (in months). Clustered bootstrap standard errors at the municipality level with 500 replications in parentheses. Profitability denotes the ratio of value of all contracts given to a donor over the value of the donation. *** p<0.01, ** p<0.05, * p<0.1

Table G3: Effect of looser campaign contribution limits on electoral manipulation

	Mean	Std. Dev.	Looser limits	CI 95%	Obs.	Band. Obs.	Bandwidth	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vote buying	0.359	1.252	-0.410	[-1.389,0.371]	999	65	3915	0.257
Turnout suppression	0.170	1.542	-0.010	[-0.528,0.535]	999	109	6277	0.989
Attacks	0.616	2.814	0.554	[-1.134,2.385]	998	159	8352	0.486
Paramilitary attacks	0.194	1.535	-0.281	[-0.836,0.210]	998	89	5160	0.241

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth.

H Measurement Error

Table H1: Effect of looser contribution limits on campaign finance reporting of runner-up candidate

Outcome:	Campaign reports finance info	
	(1)	(2)
Looser contribution limit	-0.118	0.072
Robust p-value	0.202	0.472
CI 95%	[.112,0.081]	[-0.138,0.299]
Sample	All	Close elections
Observations	1013	663
Bandwidth obs.	178	133
Mean	0.961	0.961
Effect mean(%)	-12.28	7.49
Bandwidth	9,029	10,092

Outcome is 1 if runner-up candidate reports campaign finance information and 0 otherwise. Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth.

Table H2: Effect of looser contribution limits on share of contracts typically received by donors

Outcome:	Min. Val. Materials	Min Val. Supplies
	(1)	(2)
Looser contribution limit	0.041	0.059
Robust p-value	0.065	0.072
CI 95%	[-0.003,0.103]	[-0.007,0.152]
Observations	992	995
Bandwidth obs.	77	75
Mean	0.096	0.166
Effect mean(%)	42.71	35.54
Bandwidth	4,564	4,451

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth.

I Polynomial Order

In the paper, we follow the most recent literature by presenting local linear estimates combined with triangular kernels which have been shown to reduce bias relative to local constant models (Fan and Gijbels 1996) and avoid multiple inference problems of higher order polynomials (Gelman and Imbens 2019). In this section, we present results estimated using local constant and quadratic (local) specifications, while maintaining the triangular kernel, optimal MSE bandwidth, and robust inference methods as proposed by Calonico, Cattaneo and Titiunik (2014). Substantive conclusions presented in the paper are similar to the ones derived from these models and, in some cases, they even show stronger effects of looser limits.

Table I3 shows that donors to the election winner are rewarded with more contracts with the local constant specification and the quadratic one, although in the latter, the estimate is more noisy. In Table I4 we see that using local constant and quadratic specifications, we can conclude the benefits to donors to the mayor increase not only in the number of contracts, but also in the number of minimum value contracts, and their size. Both alternative specifications also show strong support for our proposed theoretical mechanism indicating that looser limits cause an increase in the weight top donors' individual contributions have in overall campaign revenue but no change in what non-top donors contribute to the campaign (Table I5). Finally, once again we see a positive effect of looser limits on the cost overruns of contracts given to donors to the mayor. The local constant results also suggest significant effects on the probability of cost overruns in minimum value contracts and the quadratic specification results on the probability of contracts managed by donors requiring extensions, as shown in Table I6.

Table I3: Effect of donating to a winner on contract assignment

	(1)	(2)	(3)	(4)
Outcome:	# Contracts		ln(Value All)	
Election victory	2.865	3.293	0.300	0.242
Robust p-value	0.026	0.106	0.235	0.333
CI 95%	[0.371,5.928]	[-0.697,7.240]	[-0.158,0.643]	[-0.261,0.769]
Observations	1,982	1,982	1,982	1,982
Bandwidth obs.	751	1691	639	1420
Mean	0.931	0.931	0.346	0.346
Effect mean(%)	307.73	353.71	86.71	69.94
Bandwidth	0.05	0.15	0.04	0.11
Polynomial order	0	2	0	2
Outcome:	# Min. Value Contracts		ln(Value Min. Value)	
Election victory	1.637	2.155	0.283	0.283
Robust p-value	0.057	0.158	0.032	0.119
CI 95%	[-0.057,3.810]	[-0.912,5.619]	[0.025,0.558]	[-0.069,0.605]
Observations	1,982	1,982	1,982	1,982
Bandwidth obs.	711	1603	671	1595
Mean	0.462	0.462	0.182	0.182
Effect mean(%)	354.33	466.45	155.49	155.49
Bandwidth	0.05	0.14	0.05	0.14
Polynomial order	0	2	0	2

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a municipality-candidate.

Table I4: Effect of looser campaign contribution limits on contracts assigned to donors

	(1)	(2)	(3)	(4)
Outcomes:	# Contracts		ln(Value All)	
Looser contribution limit	2.235	3.352	0.539	0.986
Robust p-value	0.010	0.034	0.049	0.228
CI 95%	[0.705,5.316]	[0.261,6.436]	[0.004,1.394]	[-0.625,2.629]
Observations	2,049	2,049	2,049	2,049
Bandwidth obs.	234	779	370	500
Mean	0.280	0.280	0.205	0.205
Effect mean(%)	798.21	1197.14	262.93	480.98
Bandwidth	3,420	10,976	5,479	8144
Polynomial order	0	2	0	2
Outcomes:	# Min. Value Contracts		ln(Value Min. Value)	
Looser contribution limit	1.328	2.650	0.356	1.045
Robust p-value	0.010	0.036	0.013	0.030
CI 95%	[0.438,3.157]	[0.182,5.401]	[0.098,0.845]	[0.109,2.187]
Observations	2,049	2,049	2,049	2,049
Bandwidth obs.	198	490	249	402
Mean	0.210	0.210	0.101	0.101
Effect mean(%)	632.38	1261.90	352.48	1034.65
Bandwidth	2,584	7,721	3,727	6,340
Polynomial order	0	2	0	2

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a donor.

Table I5: Effect of looser campaign contribution limits on campaign revenues (top and non-top)

	(1)	(2)	(3)	(4)
Outcome:	ln(Avg. Donation)		Share Top	
Looser contribution limit	0.730	1.501	0.077	0.159
Robust p-value	0.003	0.001	0.003	0.053
CI 95%	[0.285,1.337]	[0.677,2.509]	[0.031,0.153]	[-0.002,0.376]
Observations	999	999	999	999
Bandwidth obs.	64	117	79	155
Mean	0.716	0.716	0.068	0.068
Effect mean(%)	101.96	209.64	113.24	233.82
Bandwidth	3,765	6,488	4,798	8,119
(Local) polynomial order	0	2	0	2
Outcome:	Share Non-top			
Looser contribution limit	0.002	0.001		
Robust p-value	0.930	0.959		
CI 95%	[-0.016,0.017]	[-0.024,0.023]		
Observations	999	999		
Bandwidth obs.	79	159		
Mean	0.009	0.009		
Effect mean(%)	22.22	11.11		
Bandwidth	4,781	8,362		
Polynomial order	0	2		

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a municipality.

Table I6: Effect of looser campaign contribution limits on quality of contracts

	(1)	(2)	(3)	(4)
	Panel A: All contracts			
Outcome:	Cost Overruns		Extension	
Looser contribution limit	0.066	0.154	0.039	0.107
Robust p-value	0.026	0.033	0.070	0.032
CI 95%	[0.010,0.161]	[0.014,0.327]	[-0.004,0.097]	[0.010,0.225]
Observations	2,049	2,049	2,049	2,049
Bandwidth Obs.	269	452	232	419
Mean	0.008	0.008	0.007	0.007
Effect mean(%)	825.00	1925.00	557.14	1528.57
Bandwidth	4,270	6,886	3,404	6,418
(Local) polynomial order	0	2	0	2
Outcome:	ln(Added Days)		ln(Val. Cost Overruns)	
Looser contribution limit	0.115	0.189	1.031	2.249
Robust p-value	0.101	0.251	0.021	0.054
CI 95%	[-0.030,0.335]	[-0.137,0.526]	[0.201,2.446]	[-0.044,4.885]
Observations	2,049	2,049	2,049	2,049
Bandwidth obs.	261	610	291	460
Mean	0.017	0.017	0.123	0.123
Effect mean(%)	676.47	1111.76	838.21	1828.46
Bandwidth	4,134	9,567	4,653	7,078
Polynomial order	0	2	0	2
	Panel B: Minimum value contracts			
Outcome:	Cost Overruns		Extension	
Looser contribution limit	0.039	0.113	0.018	0.024
Robust p-value	0.042	0.021	0.567	0.663
CI 95%	[0.002,0.097]	[0.019,0.234]	[-0.034,0.063]	[-0.087,0.136]
Observations	2,049	2,049	2,049	2,049
Bandwidth Obs.	244	385	198	470
Mean	0.004	0.004	0.003	0.003
Effect mean(%)	975.00	2825.00	600.00	800.00
Bandwidth	3,560	6,104	2,721	7,521
(Local) polynomial order	0	2	0	2
Outcome:	ln(Added days)		ln(Val. Cost overruns)	
Looser contribution limit	0.023	0.032	0.611	1.450
Robust p-value	0.154	0.722	0.053	0.053
CI 95%	[-0.014,0.086]	[-0.120,0.173]	[-0.011,1.537]	[-0.021,3.261]
Observations	2,049	2,049	2,049	2,049
Bandwidth obs.	239	505	232	422
Mean	0.007	0.007	0.059	0.059
Effect mean(%)	328.57	457.14	1035.59	2457.63
Bandwidth	3,511	8,476	3,402	6,520
Polynomial order	0	2	0	2

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a donor.

J Extended Sample (2011 and 2015 Elections)

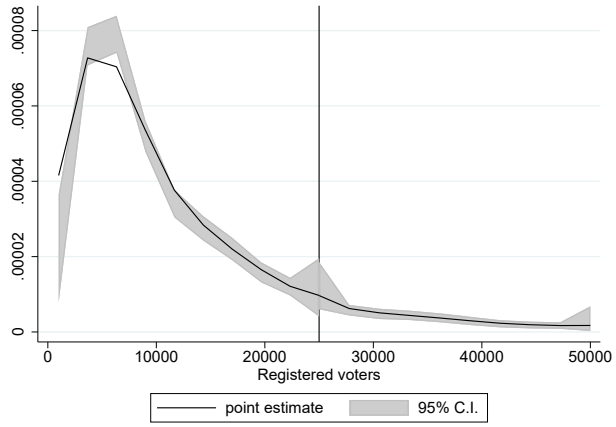
This section presents the results that use an extended sample with elections of 2011 and 2015, as well as contract information from the incumbency periods 2011–2015 and 2015–2019. We also report falsification tests of discontinuities in predetermined covariates and a test of sorting in the running variable at the cutoff to assess the validity of standard RD assumptions in the expanded dataset. Towards the end of the section, we present models that evaluate whether changes in electoral competition can account for the findings with this extended sample.

All results adopt the estimation choices described in the paper regarding kernel, bandwidth selection, confidence intervals, and robust p-value computations. Although we focus on the local linear regression results for interpretation, we have also included local constant and quadratic results. Since we are using two separate election periods, we control for the 2015 election period dummy. This allows us to make comparisons across municipalities with different regulations in the same time period and the estimand is a weighted average of the local average treatment effects of both periods.

Table J1 presents the effects of electoral victory on candidate's characteristics for the winner an runner-up candidates. Consistent with the original findings, we see no discontinuous jumps at a zero margin of victory in previous participation in elections, having been elected to public office, ideology, nor proxies for malfeasance.

Table J2 shows that there are no significant effects of looser limits on predetermined municipality characteristics like municipality revenues, municipality category (that determines transfers from the central government), population, educational establishments, nor total number of contracts signed by the mayor. Figure J1, shows no indication of a discontinuity in the number of municipalities at the cutoff. This suggests there is no manipulation of the running variable.

Figure J1: Sorting Tests (2011 and 2015)



The figure shows the density of the running variable. The test of no discontinuity at the cutoff (Cattaneo, Jansson and Ma 2019) gives a statistic of 0.1 and a p-value of 0.92).

Table J1: Mayor's characteristics around the electoral victory cutoff (2011 and 2015)

	Mean (1)	Std. Dev. (2)	Victory (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Panel A:Individual characteristics								
Women	0.122	0.327	0.017	[-0.048,0.094]	4112	2129	0.07	0.529
Age	45.293	10.390	1.413	[-0.738,4.082]	3906	1760	0.06	0.174
Leftist party	0.021	0.143	0.001	[-0.031,0.034]	3517	2406	0.11	0.938
Rightwing	0.170	0.375	-0.050	[-0.135,0.016]	3647	1932	0.07	0.125
Sanctioned	0.121	0.326	-0.012	[-0.074,0.046]	4112	2851	0.11	0.655
Illegal Registration of ID.	0.189	0.392	0.014	[-0.054,0.085]	4112	2764	0.10	0.660
Has political experience	0.414	0.493	0.048	[-0.052,0.146]	4107	2297	0.08	0.353
Held office before	0.339	0.473	0.030	[-0.051,0.118]	4107	2735	0.10	0.437
Panel B: Funding covariates								
Donors	3.847	6.476	0.456	[-0.933,1.865]	4112	2427	0.08	0.514
Campaign Revenues	55.817	128.969	10.412	[-13.556,34.753]	4112	2099	0.07	0.390
Donations/Revenues	0.168	0.272	-0.013	[-0.067,0.032]	4112	2708	0.10	0.494

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth

Table J2: Municipality characteristics around campaign contribution limits cutoff (2011 and 2015)

	Mean	Std. Dev.	Looser limits	CI 95%	Obs.	Band. Obs.	Bandwidth	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Revenues	46098.200	363897.921	-1.0e+04	[-2.4e+04,2900.725]	1998	338	8406	0.126
Municipal category	5.681	1.044	0.227	[-0.087,0.542]	2007	217	5750	0.156
Population	42718.380	262530.694	2639.673	[-828.791,6108.137]	2011	257	6603	0.136
Schools	52.871	112.932	6.073	[-14.778,26.924]	2011	280	7063	0.568
Contracts	672.957	2004.887	-114.097	[-464.306,236.111]	1989	197	5375	0.523

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth.

The results of Tables J3, J4, and J5 support the general conclusions of the paper. Moreover, while originally we found that benefits accrued to the donors to the mayor were given via more contracts, we now also see clear evidence of large increases in the total value of those contracts. Regarding the magnitude of the effects, while in terms of the number of contracts donors receive, the effect is smaller than that found with the 2011 sample (but still substantively large), the effects on the sizes of contracts are larger and precisely estimated. A donor of the mayor in a municipality with looser limits receives an amount in contracts that is three times as large as one who donated to the mayor in a municipality with more restrictive donations. Table J5 again shows a significant increase of 6 percentage points in the weight of a top donor's contribution in the campaign revenue caused by looser contribution limits.

Table J3: Effect of donating to a winner on contract assignment (2011 and 2015)

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	# Contracts			ln(Value All)		
Election victory	2.476	2.509	2.689	2.396	2.147	1.979
Robust p-value	0.002	0.002	0.009	0.000	0.000	0.002
CI 95%	[0.997,4.342]	[1.004,4.372]	[0.677,4.761]	[1.509,3.024]	[1.078,2.974]	[0.715,3.187]
Observations	4,112	4,112	4,112	4,112	4,112	4112
Bandwidth obs.	1,332	3,001	3,669	1,534	2,449	2,568
Mean	1.408	1.408	1.408	1.960	1.960	1.960
Effect mean(%)	175.85	178.20	190.98	122.24	109.54	100.97
Bandwidth	0.04	0.12	0.17	0.05	0.09	0.09
Polynomial order	0	1	2	0	1	2
Outcome:	# Min. Value Contracts			ln(Value Min. Value)		
Election victory	1.153	1.241	1.378	0.977	0.959	0.997
Robust p-value	0.009	0.011	0.069	0.002	0.002	0.019
CI 95%	[0.325,2.221]	[0.309,2.373]	[-0.109,2.975]	[0.369,1.604]	[0.340,1.568]	[0.172,1.889]
Observations	4,112	4,112	4,112	4,112	4,112	4112
Bandwidth obs.	1,566	3,268	3,485	1,208	2,855	2,746
Mean	0.592	0.592	0.592	0.690	0.690	0.690
Effect mean(%)	194.76	209.63	232.77	141.59	138.99	144.49
Bandwidth	0.05	0.13	0.15	0.04	0.11	0.10
Polynomial order	0	1	2	0	1	2

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a municipality-candidate.

Table J4: Effect of looser campaign contribution limits on contracts assigned to donors (2011 and 2015)

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	# Contracts			ln(Value All)		
Looser contribution limit	1.807	2.390	2.567	0.980	3.271	3.666
Robust p-value	0.001	0.005	0.025	0.082	0.000	0.006
CI 95%	[0.933,3.804]	[0.767,4.352]	[0.327,4.887]	[,2.328]	[1.728,5.942]	[1.149,6.915]
Observations	3,605	3,605	3,605	3,605	3,605	3,605
Bandwidth obs.	339	589	789	325	310	473
Mean	0.272	0.272	0.272	0.683	0.683	0.683
Effect mean(%)	664.34	878.68	943.75	143.48	478.92	536.75
Bandwidth	3,395	6,021	7,545	3,285	3,186	4,898
Polynomial order	0	1	2	0	1	2
Outcome:	# Min. Value Contracts			ln(Value Min. Value)		
Looser contribution limit	1.244	1.698	1.726	0.814	2.925	3.348
Robust p-value	0.001	0.005	0.025	0.019	0.001	0.006
CI 95%	[0.747,2.449]	[0.672,3.071]	[0.297,3.363]	[0.157,1.721]	[1.410,5.320]	[1.045,6.230]
Observations	3,605	3,605	3,605	3,605	3,605	3,605
Bandwidth obs.	200	373	540	283	302	499
Mean	0.150	0.150	0.150	0.212	0.212	0.212
Effect mean(%)	829.33	1132.00	1150.67	383.96	1379.72	1579.25
Bandwidth	2,145	3,866	5,350	2,966	3,075	5,005
Polynomial order	0	1	2	0	1	2

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a donor.

Table J5: Effect of looser campaign contribution limits on campaign revenues (top and non-top donors- 2011 and 2015)

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome:	ln(Avg. Donation)			Share Top		
Looser contribution limit	0.785	0.863	0.882	0.056	0.062	0.064
Robust p-value	0.000	0.013	0.014	0.005	0.044	0.083
CI 95%	[0.413,1.302]	[0.184,1.580]	[0.182,1.591]	[0.018,0.103]	[0.002,0.126]	[-0.009,0.142]
Observations	1,997	1,997	1,997	1,997	1,997	1,997
Bandwidth obs.	143	192	439	160	250	455
Mean	0.775	0.775	0.775	0.065	0.065	0.065
Effect mean(%)	101.29	111.35	113.81	86.15	95.38	98.46
Bandwidth	3,929	5,221	9,939	4,463	6,504	10,191
Polynomial order	0	1	2	0	1	2
Outcome:	Share Non-top					
Looser contribution limit	0.009	0.007	0.002			
Robust p-value	0.294	0.554	0.886			
CI 95%	[-0.008,0.028]	[-0.014,0.027]	[-0.019,0.022]			
Observations	1,997	1,,997	1,997			
Bandwidth obs.	123	181	250			
Mean	0.010	0.010	0.010			
Effect mean(%)	90.00	70.00	20.00			
Bandwidth	3,351	4,962	6,503			
(Local) polynomial order	0	1	2			

Local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth. 95% robust confidence intervals and robust p-values with clustering at the municipality level are computed following Calonico, Cattaneo and Titiunik (2014). Bandwidth obs. denotes number of observations in the optimal MSE bandwidth. Each observation is a municipality.

Table J6: Mayor's characteristics around contribution limits cutoff (2011 and 2015)

	Mean (1)	Std. Dev. (2)	Looser limits (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Panel A: Individual covariates								
Women	0.111	0.314	0.004	[-0.221,0.256]	1997	238	6214	0.887
Age	44.871	10.460	-4.701	[-13.257,2.163]	1902	180	5368	0.158
Leftist party	0.022	0.148	0.014	[-0.099,0.120]	1753	173	5410	0.848
Rightwing	0.165	0.372	-0.077	[-0.344,0.213]	1814	253	6954	0.645
Sanctioned	0.112	0.315	-0.136	[-0.356,0.016]	1997	172	4765	0.073
Illegal Registration of ID.	0.201	0.401	0.027	[-0.216,0.335]	1997	220	5808	0.671
Political experience	0.410	0.492	-0.032	[-0.356,0.229]	1996	329	8163	0.670
Held office before	0.334	0.472	-0.039	[-0.412,0.231]	1996	211	5630	0.581
Panel B: Funding covariates								
Donors	4.364	6.814	2.302	[-0.867,5.678]	1997	311	7662	0.150
Campaign revenue	62.662	133.553	11.518	[-12.048,34.501]	1997	259	6645	0.344
Donations/Revenue	0.178	0.271	0.156	[-0.023,0.324]	1997	238	6188	0.088

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth.

Table J7: Election characteristics across campaign contribution limits cutoff (2011 and 2015)

	Mean (1)	Std. Dev. (2)	Looser limits (3)	CI 95% (4)	Obs. (5)	Band. Obs. (6)	Bandwidth (7)	p-value (8)
Panel A: Electoral race covariates								
Candidates	4.033	1.698	0.187	[-0.725,1.363]	2000	330	8212	0.549
Effective N. Candidates	2.746	0.831	-0.239	[-0.885,0.316]	1931	245	6537	0.353
Vote share winner	0.484	0.108	0.049	[-0.017,0.137]	1931	243	6440	0.125
Vote share margin	6.917	10.820	-1.748	[-6.394,2.410]	1926	281	7276	0.375
Herfindahl big donors (p50)	0.580	0.431	-0.012	[-0.244,0.183]	2000	302	7542	0.778
Herfindahl big donors (p75)	0.615	0.444	0.056	[-0.171,0.257]	2000	286	7269	0.693
Panel B: Pool of candidates								
Age	45.815	6.038	0.965	[-2.769,5.058]	1996	274	6997	0.567
Women	0.135	0.183	0.049	[-0.080,0.207]	2000	268	6779	0.385
Sanctioned	0.115	0.172	-0.037	[-0.119,0.041]	2000	432	9789	0.335
Illegal reg of ID.	0.188	0.273	-0.068	[-0.199,0.037]	2000	355	8675	0.177
Has political experience	0.322	0.268	-0.164	[-0.340,-0.041]	1999	248	6444	0.013
Held office before	0.248	0.244	-0.109	[-0.253,-0.004]	1999	314	7723	0.043

Columns 1 and 2 report descriptive statistics. Column 3 reports local linear estimates of average treatment effects at cutoff estimated with triangular kernel weights and optimal MSE bandwidth (reported in column 7). Columns 4 and 8 report 95% robust confidence intervals and robust p-values computed following Calonico, Cattaneo and Titiunik (2014). Columns 5 and 6 report total observations and observations in optimal MSE bandwidth.

References

Calonico, Sebastian, Matias D. Cattaneo and Rocio Titiunik. 2014. "Robust Nonparametric Confidence Intervals for Regression-Discontinuity Designs." *Econometrica* 82(6):2295–2326.

Cattaneo, Matias D., Michael Jansson and Xinwei Ma. 2019. "Simple Local Polynomial Density Estimators." *Journal of the American Statistical Association* 0(0):1–7.

Cattaneo, Matias D., Nicolás Idrobo and Rocío Titiunik. 2020. *A Practical Introduction to Regression Discontinuity Designs: Foundations*. New York: Cambridge University Press.

Fan, Jianqing and Irene Gijbels. 1996. *Local Polynomial Modelling and Its Applications*. London: Chapman and Hall.

Gelman, Andrew and Guido Imbens. 2019. "Why High-Order Polynomials Should Not Be Used in Regression Discontinuity Designs." *Journal of Business & Economic Statistics* 37(3):447–456.