

**A Online Appendix for "Money and Politics: The Effects of Campaign Spending Limits on Political Entry and Competition" by Eric Avis, Claudio Ferraz, Frederico Finan and Carlos Varjao.**

## A.1 Additional details for the model section

**Note on the shape of the contest function** We first describe the marginal utility of a dollar spent for a candidate  $i$ . The derivative of candidate  $i$ 's utility with respect to his spending is:

$$\frac{\partial u_i}{\partial x_i} = \frac{a_i \tilde{Y}_i}{Y^2} - c_i \quad (5)$$

where  $Y$  denotes total inputs into the contest, and  $\tilde{Y}_i$  denotes all inputs other than  $i$ 's into the contest. We differentiate this function with respect to the spending of some other candidate  $j$ , where  $j \neq i$ . We obtain the following:

$$\frac{\partial^2 u_i}{\partial x_i \partial x_j} = \frac{a_i a_j (y_i - \tilde{Y}_i)}{Y^3} \quad (6)$$

Therefore, we see that the effect of an increase in spending by another contender on the marginal utility of a dollar for candidate  $i$  depends on the difference between his inputs into the contest  $y_i$  and the total inputs of all other candidates  $\tilde{Y}_i$ .

**Proof of proposition 1** We first note that given any pair of spending vectors  $(x_{-i}, z_{-i})$ , candidate  $i$ 's marginal utility is always higher with respect to formal spending compared to informal spending. Therefore, the candidate will only spend through informal channels when she is binding at the cap. Second, given the structure of the game, candidate  $i$ 's best response  $(x_i, z_i)$  can be written as a function of the aggregate input of other candidates  $\tilde{Y}_i := \sum_{k \neq i} y_k$ . Since the objective function is globally concave in spending, the unique best response function to  $\tilde{Y}_i$  is:

$$(x_i, z_i) = \begin{cases} (0, 0) & \text{if } x_i^* \leq 0 \\ (x_i^*, 0) & \text{if } 0 < x_i^* < \bar{x} \\ (\bar{x}, 0) & \text{if } x_i^* \geq \bar{x} \text{ and } z_i^* \leq 0 \\ (\bar{x}, z_i^*) & \text{otherwise} \end{cases} \quad (7)$$

where  $x_i^* = \frac{1}{a_i} \left[ \sqrt{\frac{a_i}{c_i} \tilde{Y}_i} - \tilde{Y}_i \right]$ , and  $z_i^* = \frac{1}{b_i} \left[ \sqrt{\frac{b_i}{c_i} \tilde{Y}_i} - \tilde{Y}_i \right] - \frac{a_i \bar{x}}{b_i}$ . Equation 7 distinguishes between four cases. In the first, the candidate does not enter the race because the costs of doing so outweighs her benefits. In the second case, the candidate enters the race and spends exclusively through formal means some amount under the cap. In the third, she spends the exact amount of the cap through formal channels, but does not spend additional funds informally. In the fourth and final case, the candidate spends up to the cap through formal channels, and then spends on top of this through

informal channels.

We rewrite the best response function  $(x_i(\tilde{Y}_i), z_i(\tilde{Y}_i))$  into the input  $y_i(\tilde{Y}_i)$  chosen by each candidate as a best response of the aggregate inputs of other candidates. The best response function  $(x_i(\tilde{Y}_i), z_i(\tilde{Y}_i))$  can be transformed to the best response function  $y_i(\tilde{Y}_i)$  as follows:

$$y_i = \begin{cases} 0 & \text{if } y_i^+ \leq 0 \\ y_i^+ & \text{if } 0 \leq y_i^+ \leq \bar{y}_i \\ \bar{y}_i & \text{if } y_i^- \leq \bar{y}_i \leq y_i^+ \\ y_i^- & \text{if } \bar{y}_i \leq y_i^- \end{cases} \quad (8)$$

where  $y_i^+ = \sqrt{\frac{a_i}{c_i} \tilde{Y}_i} - \tilde{Y}_i$ ,  $y_i^- = \sqrt{\frac{b_i}{c_i} \tilde{Y}_i} - \tilde{Y}_i$ , and  $\bar{y}_i = a_i \bar{x}$ .

Then, transform these best response functions into share functions  $s_i(Y)$  which represent the share of total inputs that a candidate will spend as a best response when total spending by other candidates is  $\tilde{Y}_i \equiv Y - y_i$ . We derive this function to be

$$s_i(Y) = \max \left\{ \min \left\{ \max \left\{ 1 - \frac{c_i Y}{a_i}, 0 \right\}, \frac{a_i \bar{x}}{Y} \right\}, 1 - \frac{c_i Y}{b_i} \right\} \quad (9)$$

We can then sum the individual share functions into an aggregate share function:  $S(Y) = \sum_{k=1}^I s_k(Y)$ . This function is greater than 1 for sufficiently small values of  $Y$ , equal to zero for sufficiently large values of  $Y$ , is strictly decreasing whenever positive, and is continuous. Thus, there is a unique  $Y^*$  such that  $S(Y^*) = 1$ , which is the aggregate input in equilibrium. This value pins down the unique equilibrium spending  $(x_i, z_i)$  of each candidate.

**Comparative Statics** We next consider how the spending cap  $\bar{x}$  affects equilibrium outcomes. For the remainder of this section, we assume that there is at least one candidate whose formal spending is binding at the cap (otherwise, there are trivially no effects from a marginal change in the cap). For expositional purposes, we also assume that no candidate is at a knife-edge case whenever computing derivatives (i.e. we ignore the special cases  $x_i^* = 0$ ,  $x_i^* = \bar{x}$ , and  $z_i^* = 0$ ).

**Lemma 1** *Total equilibrium inputs in the contest are increasing in the spending cap, i.e.  $\frac{\partial Y^*}{\partial \bar{x}} > 0$ .*

*Proof:* By equation (9), we have  $\frac{\partial s_k(Y)}{\partial \bar{x}} > 0$  for  $Y > 0$  if  $k$  is binding and  $\frac{\partial s_j(Y)}{\partial \bar{x}} = 0$  for  $Y > 0$  if  $j$  is not binding. Therefore, since at least one candidate is binding,  $\frac{\partial S(Y)}{\partial \bar{x}} > 0$  for  $Y > 0$ . Recall that equilibrium total inputs  $Y^*$  is given by  $S(Y^*) = 1$ . Hence it follows that  $\frac{\partial Y^*}{\partial \bar{x}} > 0$ .

**Proposition 2** (The effects of spending limits on campaign expenditures.)

$$\frac{\partial x_i^*}{\partial \bar{x}} = \begin{cases} \frac{1}{a_i} \frac{\partial Y^*}{\partial \bar{x}} \left(1 - \frac{2c_i Y^*}{a_i}\right) & \text{if } 0 < x_i^* < \bar{x} \\ 1 & \text{otherwise} \end{cases}$$

$$\frac{\partial z_i^*}{\partial \bar{x}} = \begin{cases} \frac{1}{b_i} \left[ \frac{\partial Y^*}{\partial \bar{x}} \left(1 - \frac{2c_i Y^*}{b_i}\right) - a_i \right] & \text{if } z_i^* > 0 \\ 0 & \text{otherwise} \end{cases}$$

*Proof:* Suppose that  $0 < x_i^* < \bar{x}$ . Then  $s_i(Y) = 1 - \frac{c_i Y}{a_i}$ , and  $x_i(Y) \equiv \frac{Y s_i(Y)}{a_i} = \frac{Y}{a_i} - \frac{c_i Y^2}{a_i^2}$ . Then the first result follows by differentiating  $x_i(Y)$  with respect to  $\bar{x}$ . Suppose instead that  $x_i^* > \bar{x}$ . Then  $x_i = \bar{x}$  and the result follows immediately.

Now suppose that  $z_i^* > 0$ . Then  $s_i(Y) = 1 - \frac{c_i Y}{b_i}$ ,  $y_i(Y) = Y - \frac{c_i Y^2}{b_i}$  and  $x_i(Y) = \bar{x}$ . Therefore, since  $y_i \equiv a_i x_i(Y) + b_i z_i(Y)$ , we have  $z_i(Y) = \frac{Y}{b_i} - \frac{c_i Y^2}{b_i^2} - \frac{a_i \bar{x}}{b_i}$ . The result then follows by differentiating  $z_i(Y)$  with respect to  $\bar{x}$ . Finally, suppose that  $z_i^* < 0$ . Then  $z_i = 0$  and the result follows immediately.

**Proposition 3** (The effects of spending limits on political entry.) A candidate enters the race if and only if

$$\frac{a_i}{c_i} > Y^*$$

Therefore, the number of entrants in equilibrium decreases in the spending limit.

*Proof:* From Lemma 1, we have that  $\frac{\partial Y^*}{\partial \bar{x}} > 0$ , that is, total inputs are increasing in the spending cap. From equation (9), the condition for strictly positive spending (and hence by definition, entry) is  $\frac{a_i}{c_i} > Y^*$ . Therefore the number of candidates for which this condition holds is decreasing in  $Y^*$ , and hence decreasing in the spending limit  $\bar{x}$ .

**Proposition 4** (The effects of spending limits on electoral outcomes.) Increasing the spending limit decreases the probability of winning of the candidates whose equilibrium formal spending is less than the cap, and increases the probability of winning of the candidates whose equilibrium formal spending equals the cap.

*Proof:* Let  $\mathcal{J}$  denote the set of candidates who are non-binding and let  $j$  index elements of this set. Then  $s_j(Y) = 1 - \frac{c_j Y}{a_j}$ . Since  $\frac{\partial Y^*}{\partial \bar{x}} > 0$  by Lemma 1, we have  $\frac{\partial s_j(Y^*)}{\partial \bar{x}} < 0$  for all  $j \in \mathcal{J}$ . Therefore  $\frac{\partial \sum_{j \in \mathcal{J}} s_j(Y^*)}{\partial \bar{x}} < 0$ , i.e. the probability of winning of non-binding candidates is decreasing in the spending limit.

Let  $\mathcal{B}$  denote the set of candidates who are binding and index the elements of this set by  $b$ . These are candidates whose formal spending is equal to the spending limit, and whose informal spending may or may not be strictly positive. We have  $S(Y) = \sum_{j \in \mathcal{J}} s_j(Y) + \sum_{b \in \mathcal{B}} s_b(Y)$ . Since in equilibrium we must have  $S(Y^*) = 1$ , we have  $\frac{\partial S(Y^*)}{\partial \bar{x}} = 0$ . Therefore  $\frac{\partial \sum_{b \in \mathcal{B}} s_b(Y^*)}{\partial \bar{x}} > 0$ , that is the probability of winning of binding candidates is increasing in the spending limit.<sup>26</sup>

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<sup>26</sup>Note that this not necessarily imply that the probability of winning is increasing for *each* binding candidate.

## A.2 Additional Tables and Figures

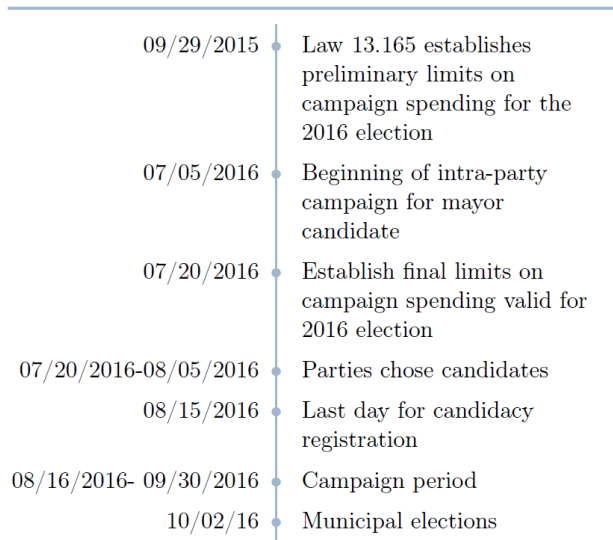


Figure A.1: Timeline

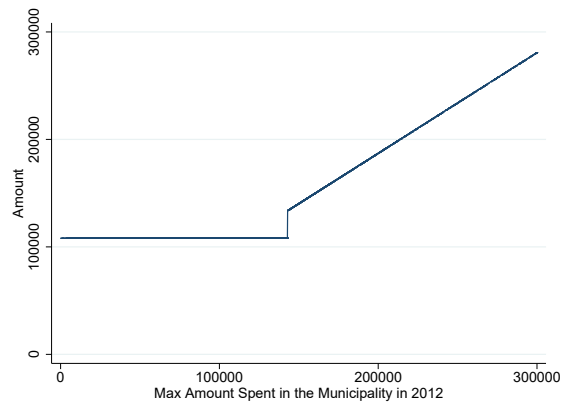


Figure A.2: Campaign Spending Limits in 2016

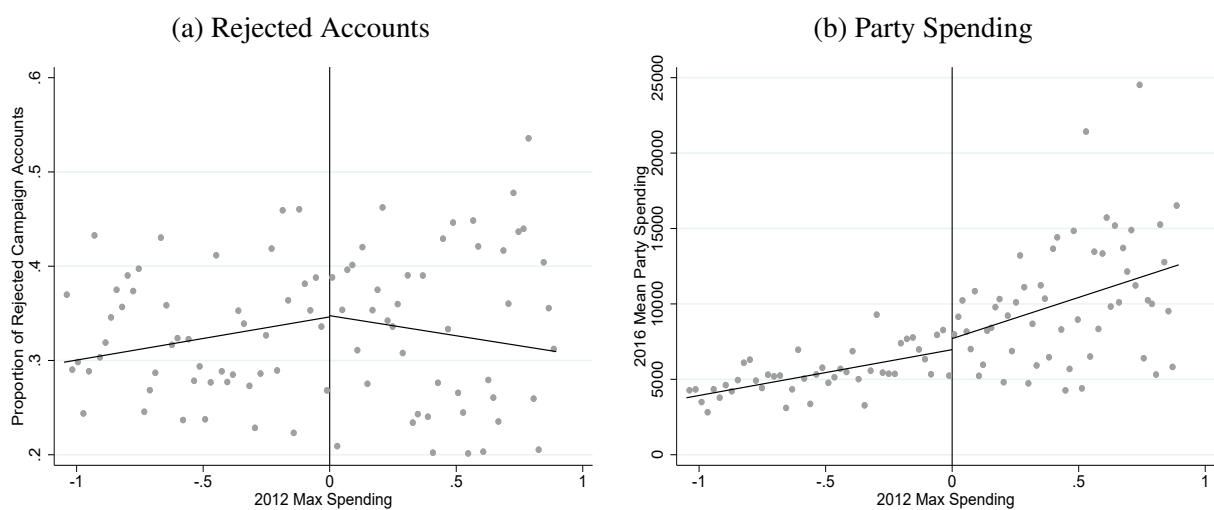


Figure A.3: Effects of Campaign Spending Limits on Other Forms of Spending

Notes: This figure plots the results of the regression discontinuity design, where the dependent variable is (a) the share of candidates whose campaign finances were found to be irregular, and (b) the mean spending by parties. The horizontal axis denotes the difference in maximum spending relative to the discontinuity at R\$142,857, in logs. In each regression, a first-order polynomial is estimated on each side of the discontinuity. Each point denotes the sample-average within a bin. The number of bins is chosen optimally according to [Calonico et al. \(2015\)](#).

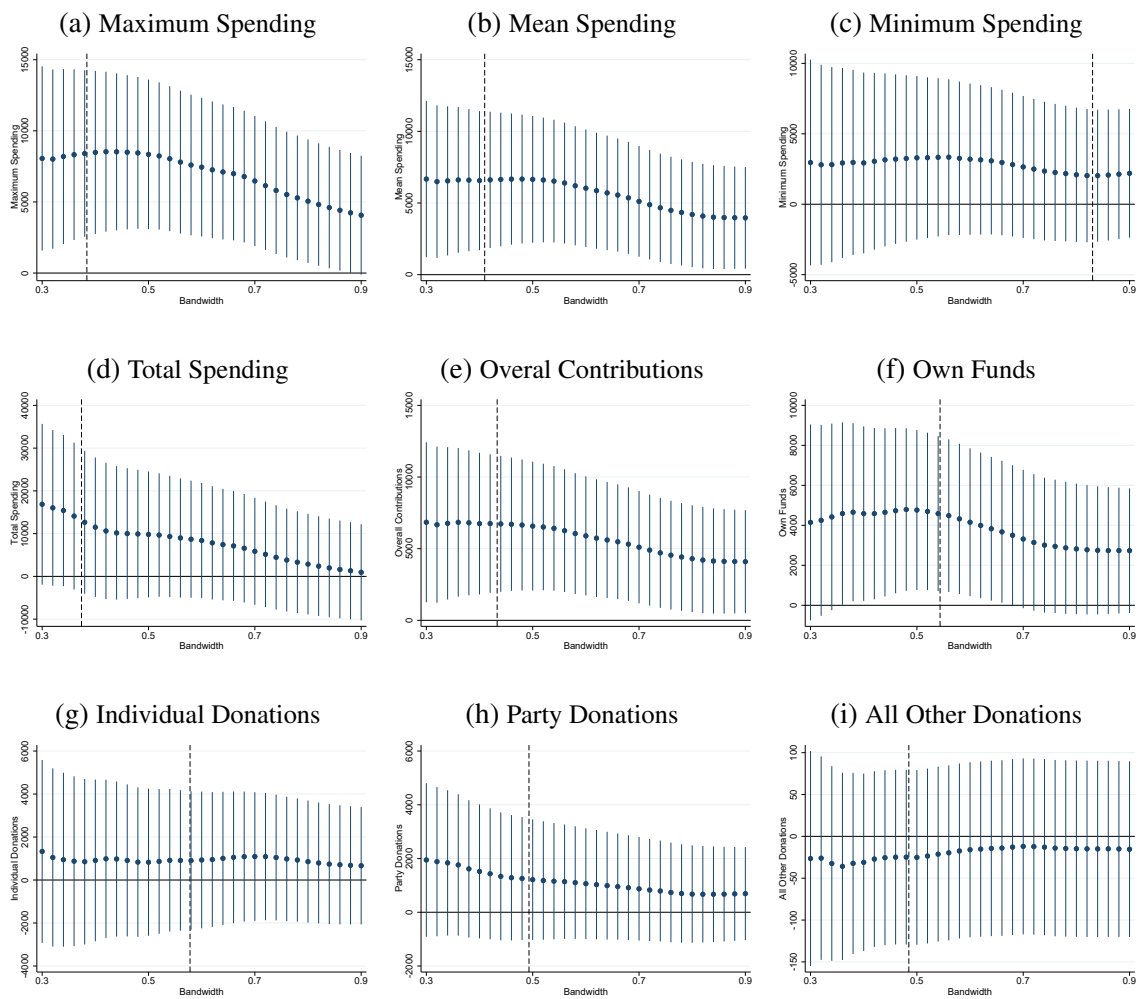


Figure A.4: Robustness to Bandwidth Choice: Campaign Spending and Contributions

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in logs. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line.



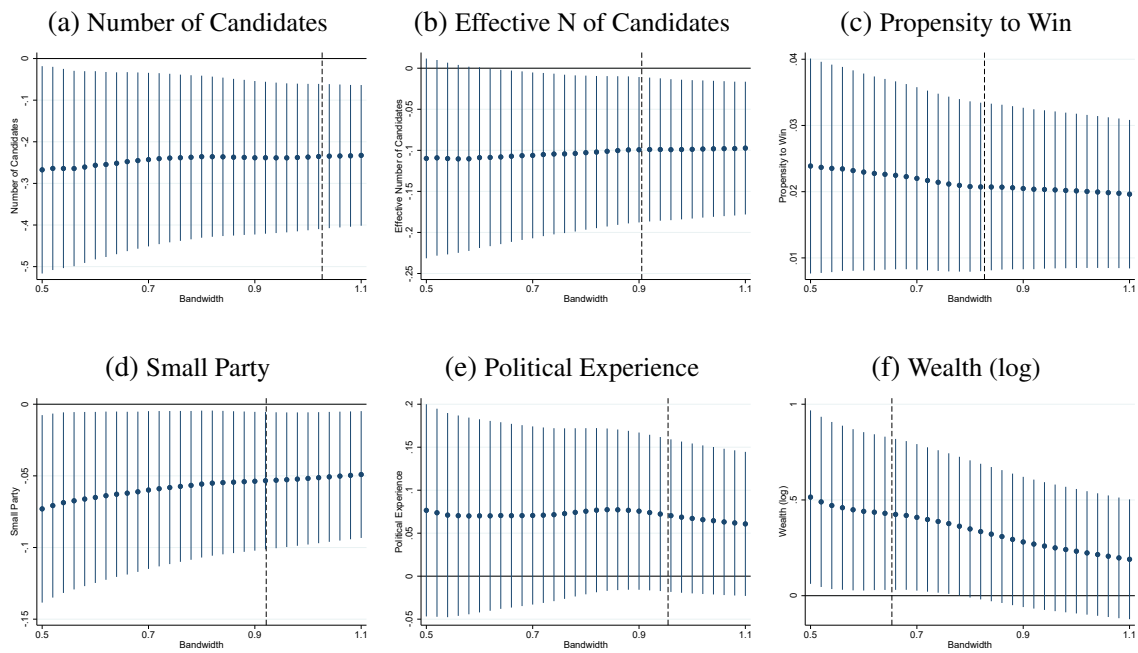


Figure A.5: Robustness to Bandwidth Choice: Candidate Entry

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in logs. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line.

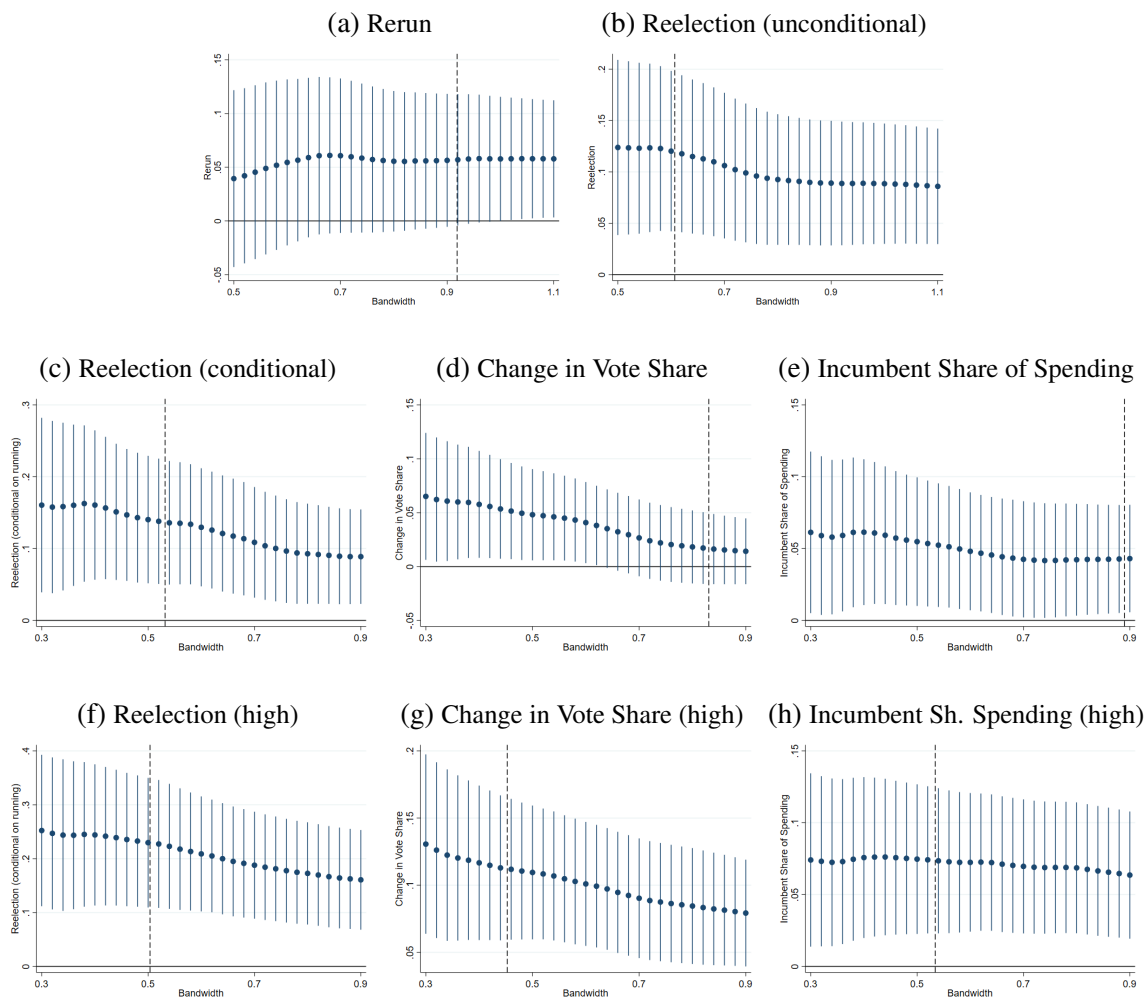


Figure A.6: Robustness to Bandwidth Choice: Incumbent Outcomes

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in logs. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line. Panels (f), (g) and (h) restrict the sample to incumbents with high levels of spending in 2012.

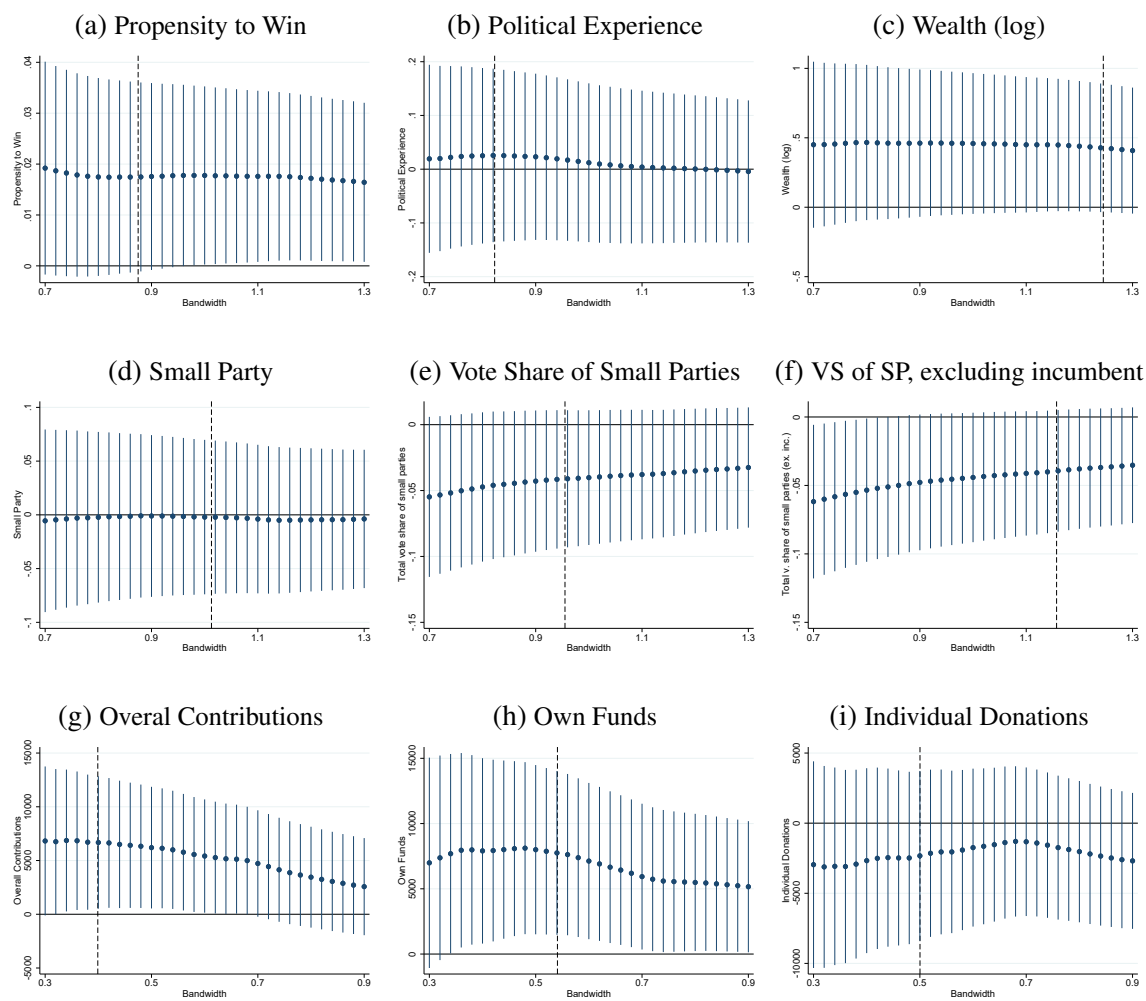


Figure A.7: Robustness to Bandwidth Choice: Political Selection

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in logs. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line.

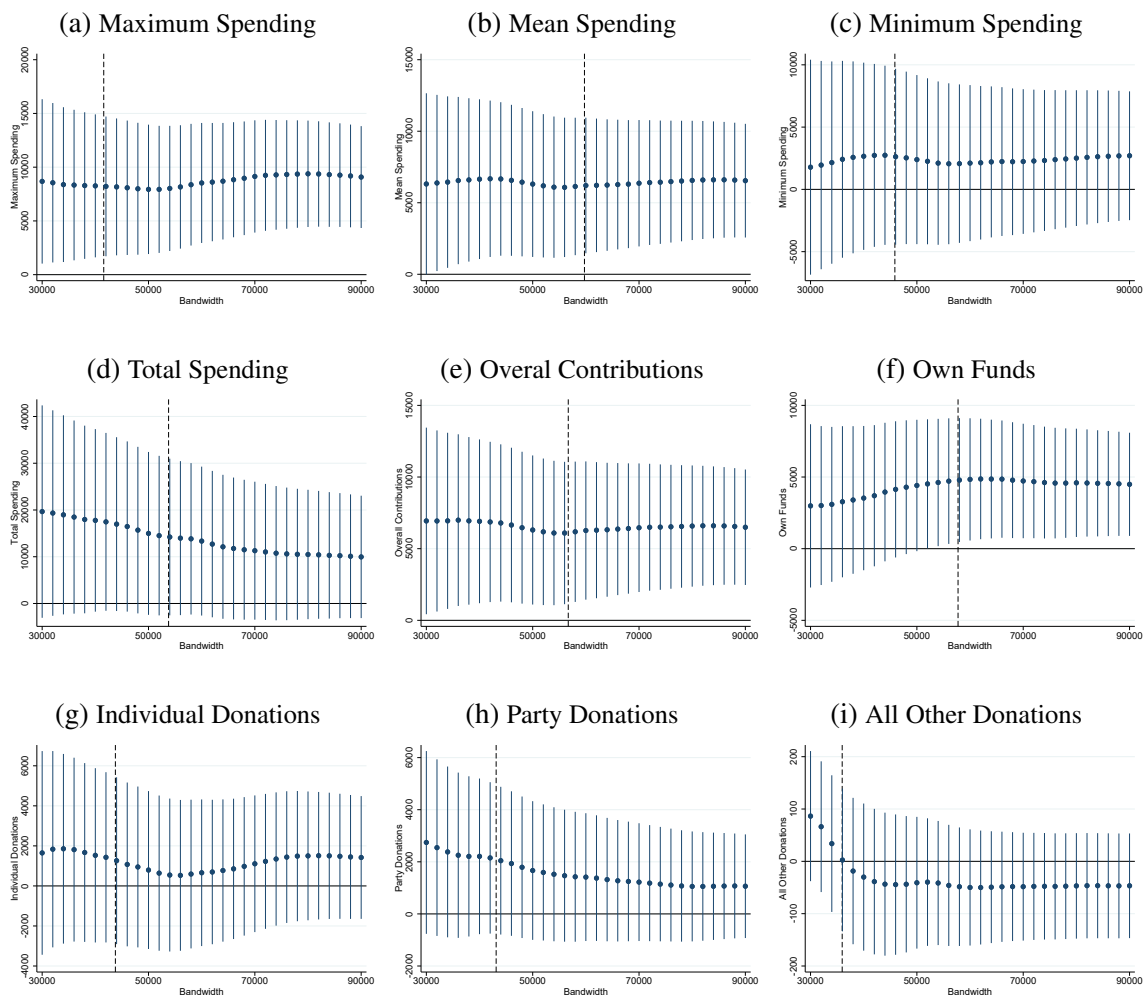


Figure A.8: Robustness to Bandwidth Choice: Campaign Spending and Contributions

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in levels. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line.

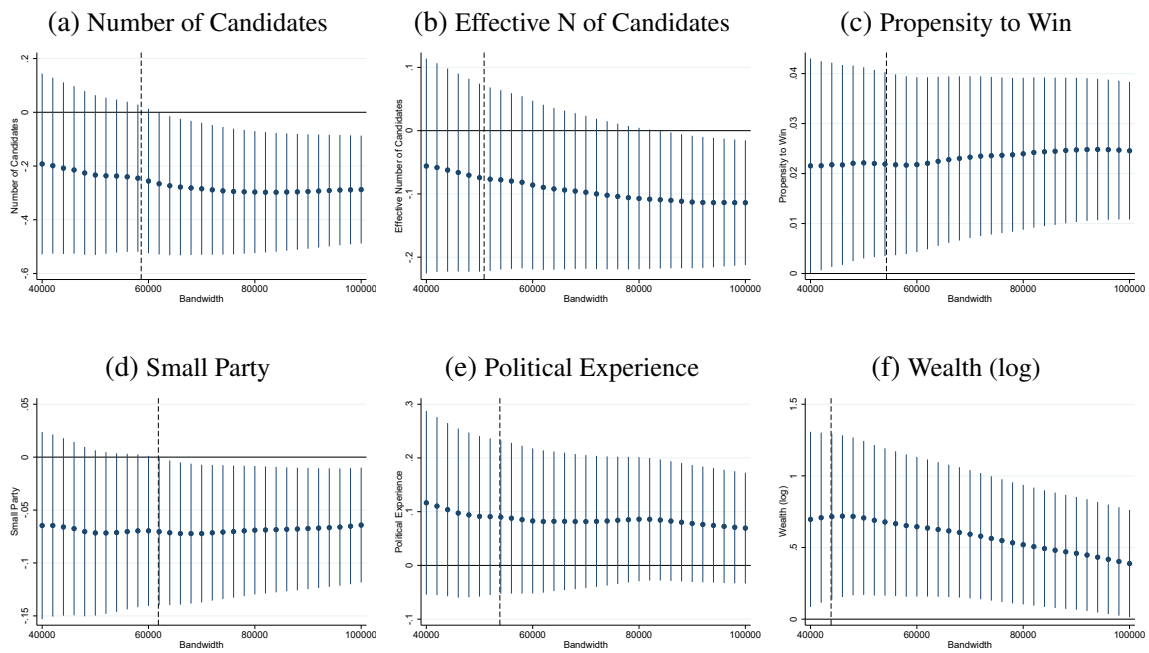


Figure A.9: Robustness to Bandwidth Choice: Candidate Entry

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in levels. The optimal bandwidth is computed using the methodology in Calonico et al. (2014) and is depicted by the dashed line.

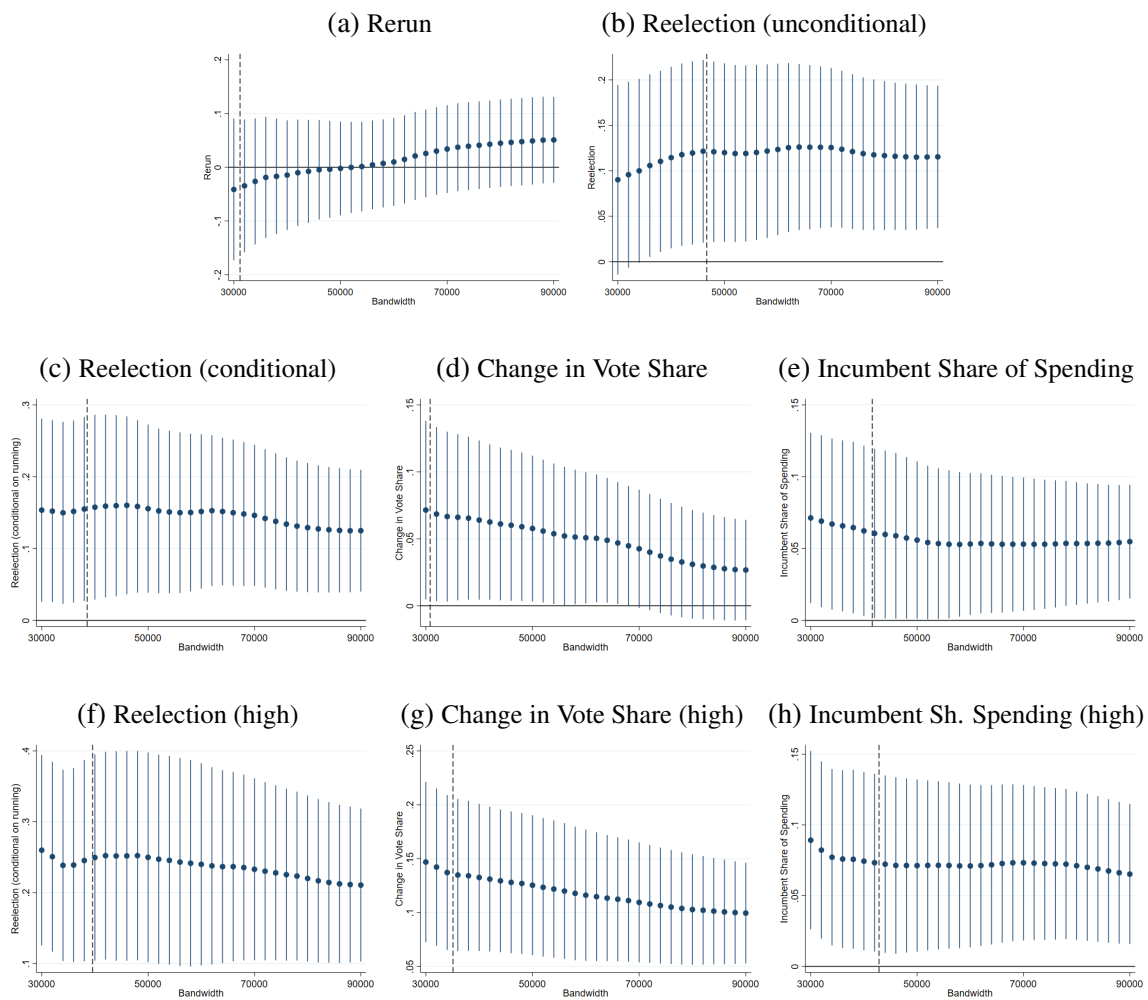


Figure A.10: Robustness to Bandwidth Choice: Incumbent Outcomes

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in levels. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line. Panels (f), (g) and (h) restrict the sample to incumbents with high levels of spending in 2012.

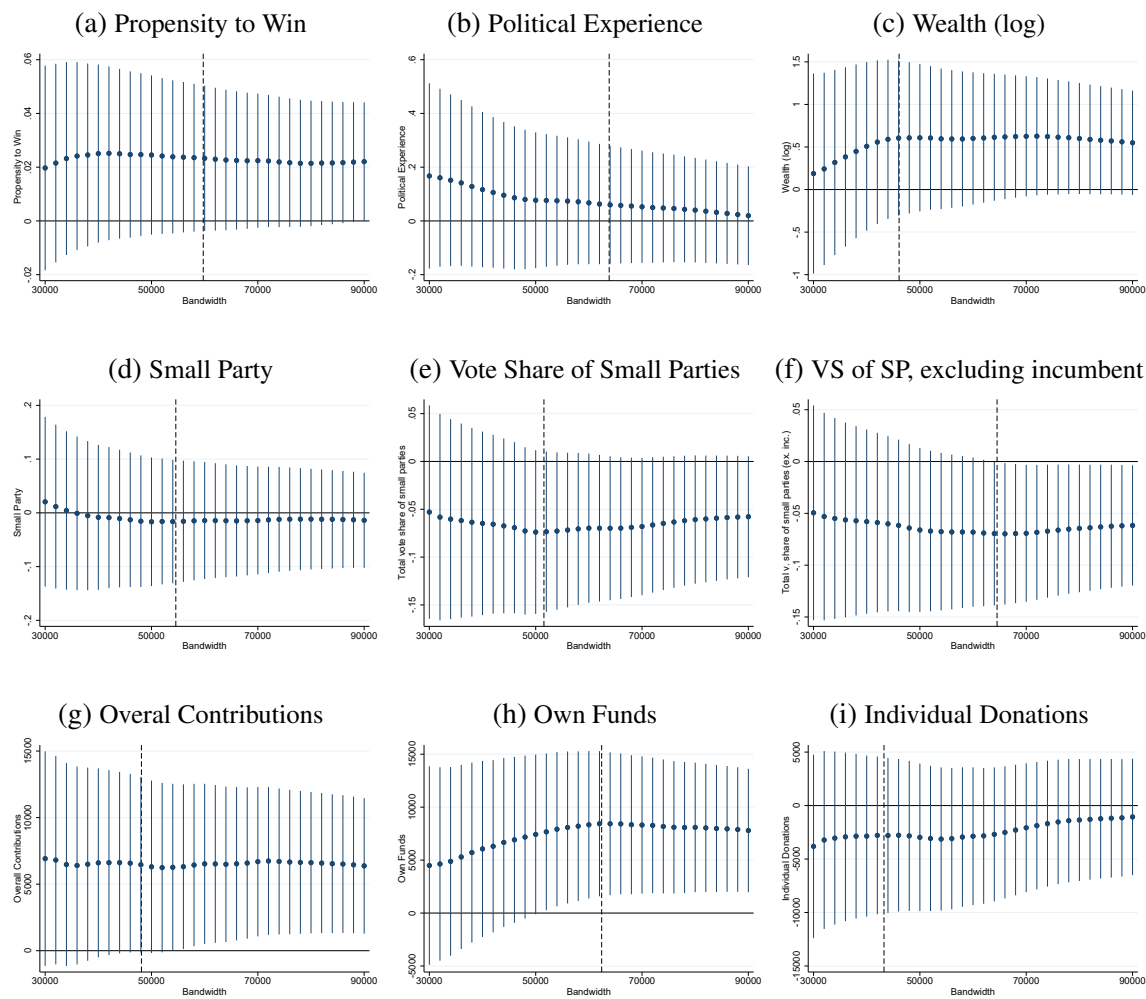


Figure A.11: Robustness to Bandwidth Choice: Political Selection

Notes: Each circle reports the point estimate of a separate RD regression, for varying bandwidths, with its 95 percent confidence interval. The running variable is measured in levels. The optimal bandwidth is computed using the methodology in [Calonico et al. \(2014\)](#) and is depicted by the dashed line.

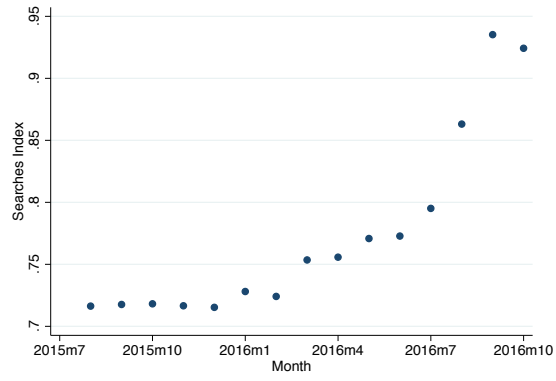


Figure A.12: Google Searches Index

Notes: Each dot on the plot represents the average Google Searches Index across all mayoral candidates in a given month



Table A.1: Covariate Smoothness (Quadratic Specification)

Dependent Variable	Mean (1)	BW (2)	Observations (3)	Estimate (4)
<i>Panel A: Municipal Characteristics in 2010</i>				
GDP per capita (log)	5.909 (0.038)	1.105	3435	0.045 (0.051)
Illiteracy	0.210 (0.008)	1.161	3571	-0.007 (0.011)
Share Urban	0.627 (0.015)	1.349	3959	-0.004 (0.020)
Gini Coefficient	0.513 (0.004)	1.531	4264	-0.001 (0.006)
Population (log)	9.706 (0.055)	1.268	3790	-0.100 (0.073)
<i>Panel B: Mean Candidate Characteristics in 2012</i>				
Number of Candidates	2.999 (0.088)	1.109	3464	-0.081 (0.118)
Effective Number of Candidates	2.176 (0.042)	1.267	3802	-0.026 (0.050)
Small Party	0.419 (0.020)	1.520	4265	-0.009 (0.027)
Female	0.116 (0.015)	1.446	4159	0.042 (0.020)
Age	48.064 (0.490)	1.349	3975	-0.322 (0.629)
High School Degree	0.847 (0.018)	1.243	3751	0.003 (0.025)
College Degree	0.489 (0.023)	1.435	4142	0.036 (0.031)
Campaign Spending	93534.51 (2167.23)	0.805	2724	1261.06 (2877.15)
Campaign Contributions	93771.07 (2149.25)	0.798	2701	806.22 (2897.30)
Own Funds	25840.72 (1915.99)	0.819	2751	2679.75 (2874.04)
Individual Donations	35047.98 (1570.04)	1.125	3500	362.51 (2364.91)
Party Donations	9745.69 (1621.73)	0.618	2120	-2264.32 (2013.38)
Corporate Donations	15044.33 (1287.54)	0.925	3051	444.68 (2063.97)
Wealth (log)	11.55 (0.16)	1.389	4052	-0.03 (0.20)

Notes: The mean in column (1) is the estimated value of the dependent variable for a municipality at the cutoff point with a spending limit of \$R108,039 in 2016. The optimal CCT bandwidth is reported in column (2) and the number of observations in column (3). Each figure in column (4) reports the estimate and standard error for the treatment effect from a separate regression. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.2: Covariate Balance (Means Specification)

Dependent Variable	Mean (1)	BW (2)	Observations (3)	Estimate (4)
<i>Panel A: Municipal Characteristics in 2010</i>				
GDP per capita (log)	5.902 (0.057)	0.2	703	0.051 (0.041)
Illiteracy	0.212 (0.013)	0.2	703	-0.010 (0.009)
Share Urban	0.629 (0.025)	0.2	703	-0.000 (0.018)
Gini Coefficient	0.511 (0.007)	0.2	703	0.003 (0.005)
Population (log)	9.662 (0.089)	0.2	703	-0.009 (0.065)
<i>Panel B: Mean Candidate Characteristics in 2012</i>				
Number of Candidates	2.988 (0.133)	0.2	708	-0.038 (0.096)
Effective Number of Candidates	2.178 (0.075)	0.2	708	-0.013 (0.044)
Small Party	0.446 (0.036)	0.2	708	-0.039 (0.026)
Female	0.127 (0.029)	0.2	708	0.028 (0.019)
Age	48.118 (0.735)	0.2	708	-0.132 (0.562)
High School Degree	0.843 (0.023)	0.2	708	0.004 (0.021)
College Degree	0.491 (0.039)	0.2	708	0.026 (0.028)
Wealth (log)	11.491 (0.287)	0.2	708	0.145 (0.189)

Notes: The mean in column (1) is the estimated value of the dependent variable for a municipality at the cutoff point with a spending limit of \$R108,039 in 2016. The bandwidth is reported in column (2) and the number of observations in column (3). Each figure in column (4) reports the estimate and standard error for the treatment effect from a separate regression. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.3: Probability of Winning the Election

	(1) Winner of the Election
Age	-0.0166*** (0.00295)
Age Squared	0.0000219*** (0.00000342)
Female	-0.212** (0.0856)
White	-0.191 (0.382)
Black	-0.575 (0.431)
Brown	-0.328 (0.386)
High School	-0.114 (0.0822)
College	-0.0388 (0.0620)
Log Assets	0.0322*** (0.00837)
Incumbent	0.583*** (0.0723)
Political Experience	0.0536** (0.0260)
Party Fixed Effects	Yes
Observations	6525

Notes: Robust standard errors are in parentheses. The sample is restricted to observations that are excluded from the main RD regressions. The dependent variable is equal to one if the candidate wins the election and zero otherwise. The regression also controls for party fixed effects. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.4: Effects on Incumbents, Heterogeneity by 2012 Corporate Donation Share

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
<i>Panel A: Incumbents with high corporate donations in 2012</i>							
Reelection	0.452 (0.057)	0.641	502	0.131* (0.073)	0.181** (0.072)	0.142 (0.089)	0.128*** (0.040)
Change in Vote Share	-0.147 (0.027)	0.501	391	0.060* (0.033)	0.074** (0.033)	0.078* (0.044)	0.082*** (0.019)
<i>Panel B: Incumbents with low corporate donations in 2012</i>							
Reelection	0.339 (0.035)	0.504	459	0.182*** (0.044)	0.142*** (0.047)	0.173*** (0.066)	0.124*** (0.022)
Change in Vote Share	-0.105 (0.021)	0.527	476	0.043* (0.025)	0.041 (0.025)	0.039 (0.035)	0.023** (0.010)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The sample is split between incumbents with an above-median share of corporate donations in 2012 (Panel A) and incumbents with a below-median share (Panel B). See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.5: Additional Effects of Campaign Spending Limits on Political Selection

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Ideology Index	5.334 (0.114)	0.933	2425	-0.049 (0.133)	-0.054 (0.137)	-0.015 (0.174)	0.002 (0.145)
Female	0.120 (0.019)	1.044	3295	0.033 (0.026)	0.030 (0.027)	0.021 (0.034)	0.019 (0.030)
Age	49.003 (0.689)	0.931	3050	-0.345 (0.880)	-0.304 (0.839)	-0.720 (1.215)	-0.910 (0.950)
White	0.616 (0.031)	0.907	2983	0.026 (0.038)	0.016 (0.033)	0.026 (0.049)	0.006 (0.040)
College Degree	0.563 (0.032)	0.875	2894	-0.016 (0.040)	-0.015 (0.037)	0.007 (0.054)	0.014 (0.041)
Worker's Party (PT)	0.033 (0.010)	1.251	3748	-0.005 (0.013)	-0.008 (0.013)	-0.002 (0.017)	-0.008 (0.016)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variables are characteristics of the winning candidates. See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.6: Effects of Campaign Spending Limits on the Campaign Contributions of Winners

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Overall Contributions	76425.62 (2313.86)	0.399	1425	6672.96** (3143.04)	8883.47*** (3108.65)	7545.58** (3641.51)	14230.77*** (2257.39)
Own Funds	30248.90 (2123.25)	0.541	1871	7749.12** (3201.00)	7484.31** (3204.85)	8089.07** (3714.39)	9067.23*** (2677.34)
Individual Donations	37812.22 (2299.56)	0.500	1732	-2326.42 (3087.72)	-1403.69 (3023.49)	-595.04 (3411.30)	3192.90 (2432.40)
Party Donations	8188.13 (1400.88)	0.441	1559	1028.52 (1961.47)	2630.49 (1908.50)	2592.98 (2368.41)	2031.94 (1441.69)
All Other Donations	207.59 (100.33)	0.723	2463	-31.50 (142.66)	-21.88 (143.71)	-79.38 (160.92)	-61.30 (115.76)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.7: Effects of Spending Limits on Facebook Campaign Activity

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
Has Facebook Page	0.332 (0.020)	0.943	3093	-0.016 (0.025)	-0.022 (0.026)	-0.032 (0.032)	-0.034 (0.027)
Number of Posts (log)	1.164 (0.072)	1.004	3228	-0.058 (0.093)	-0.063 (0.098)	-0.099 (0.123)	-0.076 (0.105)
Number of Reactions (log)	2.219 (0.140)	0.962	3140	-0.072 (0.181)	-0.093 (0.191)	-0.139 (0.230)	-0.116 (0.201)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variables are respectively, the proportion of candidates with a Facebook Page, the log plus one of the average number of candidates' posts and the log plus one of the average number of reactions candidates' posts, computed at the municipality-level between the beginning of the campaign period and election day. See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.8: Effects of Spending Limits on In-Kind versus Cash Contributions

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
<i>Panel A: Candidates</i>							
Estimated Donations	10854.61 (550.28)	0.728	2497	1186.53 (782.91)	1036.90 (780.55)	1603.16 (1042.54)	1657.00** (767.74)
Money Donations	46894.64 (1720.27)	0.456	1615	5235.97** (2321.34)	5320.99** (2255.09)	6446.42** (2692.31)	9092.59*** (1782.29)
<i>Panel B: Winners</i>							
Estimated Donations	14482.01 (954.78)	0.704	2397	-236.35 (1246.23)	-105.50 (1222.98)	97.56 (1548.31)	820.15 (1200.21)
Money Donations	61914.02 (2356.67)	0.420	1488	6208.42* (3344.30)	8150.90** (3328.71)	7166.69* (3861.30)	13410.62*** (2451.34)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: For each panel, the dependent variables are respectively the amount of contributions given in kind (Estimated Donations) and the amount of contributions given in cash (Money Donations). See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.9: Effects of Campaign Spending Limits on Voter Information

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
Turnout	0.840 (0.003)	1.110	3464	-0.003 (0.004)	-0.006 (0.004)	-0.003 (0.005)	-0.004 (0.004)
Share of Blank or Invalid Votes	0.069 (0.004)	1.162	3586	0.004 (0.006)	0.005 (0.006)	0.007 (0.008)	0.002 (0.007)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The “Turnout” dependent variable is the number of votes divided by the number of eligible voters. The “Share of Blank or Invalid Votes” dependent variable denotes the number of votes cast which are either blank or invalid divided by the number of eligible voters. See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



Table A.10: Distribution of Candidates' Number of Searches in September 2016

Number of Searches	Index Value	Number of Candidates
0 -10	0	5,796
11 - 100	1	5,532
101 - 1,000	2	2,796
1,001 - 10,000	3	834
10,001 - 100,000	4	116
100,001 - 1,000,000	5	3
Total		15,077

Notes: This table displays the distribution of Candidates' Google searches in September 2016.

Table A.11: Effects of Spending Limits on Google Searches

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
Google Searches	0.894 (0.039)	0.879	2896	-0.049 (0.046)	-0.048 (0.044)	-0.049 (0.053)	-0.029 (0.050)
Incumbents' Google Searches	0.430 (0.043)	1.019	3259	0.062 (0.056)	0.069 (0.059)	0.082 (0.080)	0.094 (0.067)
Challengers' Google Searches	0.823 (0.043)	0.743	2540	-0.093* (0.052)	-0.098* (0.052)	-0.104* (0.061)	-0.072 (0.052)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variables are respectively the average September Google searches index for all mayoral candidates, for incumbents, and for challengers computed at the municipality-level. See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.12: Correlation Between September Google Search and Candidates' Ad Time Share

	September Google Search (1)
Ad Share	0.18** (0.08)
Ln(Campaign Spending)	0.09*** (0.01)
Incumbent	0.09*** 0.03
Political Experience	0.06*** (0.01)
Female	0.03 (0.03)
Age	-0.00 (0.00)
College	-0.02 (0.02)
Race FE	Yes
Party FE	Yes
City FE	Yes
Obs	14,590

Notes: Robust standard errors are in parentheses. The dependent variable is the September Google Search Index for the mayoral candidate. Ad Share is the advertisement time share of the mayoral candidate in the municipality. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

### A.3 Robustness: Excluding Open Seats

Table A.13: Effects of Spending Limits on Campaign Expenditures (Excluding Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Maximum Spending	84802.04 (2450.71)	0.390	1080	7470.90** (3337.97)	9752.40*** (3252.12)	8602.71** (3867.83)	16280.25*** (2296.07)
Mean Spending	58399.78 (1864.22)	0.477	1279	5416.69** (2570.82)	5506.84** (2545.51)	6294.37** (2949.83)	10405.53*** (1989.34)
Minimum Spending	32773.85 (2147.98)	0.699	1844	2758.60 (2903.68)	1063.35 (2841.53)	2258.73 (3818.84)	3543.66 (2617.11)
Total Spending	169003.91 (6404.44)	0.428	1180	-1520.55 (8512.94)	6621.29 (8296.58)	2709.86 (9489.85)	21302.86*** (6062.96)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: Each figure in columns (1)-(4) reports the estimate of a separate regression. Standard errors are in parentheses. The Mean is the estimated value, based on specification (1), of the dependent variable for a municipality at the cutoff point with spending limit \$R108,039. The dependent variables are respectively the mean, maximum, minimum, and total campaign expenditures by candidates computed at the municipality-level. The optimal bandwidth is selected with the optimal procedure by [Calonico et al. \(2014\)](#) and is reported for specification (1) together with the associated number of observations. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.14: Effects of Spending Limits on Campaign Contributions (Excluding Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Overall Contributions	58203.54 (1859.99)	0.504	1339	5800.29** (2548.68)	5843.39** (2535.35)	7017.53** (3097.10)	10660.87*** (2031.91)
Own Funds	23850.45 (1542.33)	0.545	1446	5885.10** (2321.79)	4571.19** (2206.29)	5731.49** (2664.18)	6024.13*** (1885.74)
Individual Donations	25736.49 (1378.68)	0.559	1481	-807.84 (1809.95)	-410.32 (1777.03)	-701.73 (2247.99)	2759.63* (1486.15)
Party Donations	7041.15 (923.35)	0.575	1527	679.17 (1151.49)	1419.89 (1119.55)	703.37 (1382.45)	1570.07 (954.71)
All Other Donations	114.29 (45.21)	0.647	1701	10.35 (63.11)	26.31 (63.35)	-3.99 (67.74)	-15.98 (47.67)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.15: Effects of Campaign Spending Limits on Candidate Entry (Excluding Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Number of Candidates	3.184 (0.099)	0.803	2092	-0.367*** (0.110)	-0.278*** (0.100)	-0.419*** (0.130)	-0.262** (0.109)
Effective Number of Candidates	2.252 (0.042)	0.906	2302	-0.167*** (0.050)	-0.153*** (0.049)	-0.203*** (0.062)	-0.150*** (0.055)
Small Party	0.486 (0.021)	0.951	2393	-0.045* (0.027)	-0.039 (0.027)	-0.060* (0.034)	-0.046 (0.030)
Small Party (excluding incumbent)	0.417 (0.022)	0.788	2063	-0.057** (0.027)	-0.052* (0.027)	-0.073** (0.034)	-0.048* (0.028)
Propensity to Win	0.352 (0.005)	0.801	2089	0.024*** (0.007)	0.021*** (0.007)	0.028*** (0.009)	0.020*** (0.007)
Wealth (log)	11.483 (0.185)	0.656	1719	0.506** (0.229)	0.378* (0.215)	0.674** (0.273)	0.451** (0.209)
Political Experience	0.878 (0.039)	0.987	2466	0.047 (0.048)	0.054 (0.050)	0.062 (0.065)	0.037 (0.054)
Ideology Index	5.157 (0.071)	1.284	2892	0.117 (0.092)	0.078 (0.101)	0.124 (0.117)	-0.028 (0.112)
Female	0.151 (0.016)	0.797	2076	-0.021 (0.020)	-0.020 (0.019)	-0.043 (0.026)	-0.021 (0.020)
Age	49.025 (0.506)	0.833	2150	-0.326 (0.604)	-0.436 (0.544)	-0.256 (0.774)	-0.600 (0.619)
College Degree	0.560 (0.023)	0.805	2098	-0.033 (0.029)	-0.025 (0.028)	-0.038 (0.032)	-0.009 (0.028)
White	0.608 (0.025)	0.801	2089	0.001 (0.031)	-0.006 (0.028)	-0.002 (0.036)	-0.002 (0.027)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variables are two measures of the number of candidates who run for office, followed by municipality-level averages of various candidate characteristics. The “Propensity to Win” denotes the propensity for a candidate to win an election based on his observable characteristics (see Table A.3). See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.16: Effects of Campaign Spending Limits on Political Selection (Excluding Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Propensity to Win	0.383 (0.008)	0.909	2292	0.018* (0.011)	0.017 (0.011)	0.022* (0.013)	0.023** (0.011)
Wealth (log)	11.775 (0.244)	1.129	2683	0.540* (0.278)	0.443* (0.255)	0.568* (0.334)	0.569* (0.337)
Total vote share of small parties	0.426 (0.024)	0.947	2373	-0.024 (0.030)	-0.020 (0.029)	-0.043 (0.039)	-0.050 (0.033)
Total v. share of small parties (ex. inc.)	0.344 (0.022)	0.990	2461	-0.027 (0.026)	-0.037 (0.028)	-0.060 (0.038)	-0.049 (0.030)
Small Party	0.395 (0.033)	1.007	2484	0.003 (0.041)	0.003 (0.039)	0.000 (0.047)	-0.021 (0.046)
Political Experience	0.919 (0.074)	0.806	2087	0.016 (0.092)	0.034 (0.094)	0.031 (0.101)	0.051 (0.096)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The “Propensity to Win” dependent variable denotes the propensity for a candidate to win an election based on his observable characteristics (see Table A.3). See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.17: Effects of Spending Limits on Winners' Contributions (Excluding Open Seats)

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
Overall Contributions	76164.99 (2561.62)	0.403	1103	5808.56 (3561.93)	8588.64** (3610.42)	6958.63 (4233.14)	14225.27*** (2602.74)
Own Funds	29576.67 (2573.19)	0.524	1388	10399.19*** (3711.28)	10281.50*** (3721.55)	11795.52*** (4569.15)	11405.56*** (3059.62)
Individual Donations	38681.81 (2675.98)	0.440	1201	-4706.61 (3535.94)	-3534.62 (3436.55)	-5321.34 (4226.09)	1391.66 (2655.86)
Party Donations	8133.98 (1565.52)	0.462	1243	-263.89 (2072.85)	1524.61 (2029.99)	1405.87 (2493.05)	1501.49 (1578.82)
All Other Donations	245.62 (123.24)	0.709	1862	-14.95 (176.16)	10.79 (177.13)	-89.01 (197.17)	-73.44 (141.54)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	0.2
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## A.4 Robustness: Running Variable in Levels

Table A.18: Effects of Spending Limits on Campaign Expenditures (Levels Specification)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Maximum Spending	84454.35 (2490.74)	41580.582	1110	8235.61** (3331.09)	9337.77*** (3058.53)	8724.72** (4442.97)	16184.34*** (1987.01)
Mean Spending	58068.69 (1720.63)	59736.914	1655	6199.29** (2421.39)	6133.09** (2539.12)	6830.90* (3642.22)	10623.51*** (1744.25)
Minimum Spending	31482.36 (2765.58)	45861.894	1228	2626.42 (3606.44)	986.30 (3548.01)	2571.75 (4776.47)	3868.98* (2277.14)
Total Spending	166284.94 (5947.88)	53776.482	1460	14242.20* (8565.18)	16167.09** (7157.44)	22121.77* (12553.76)	26830.00*** (5321.94)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: Each figure in columns (1)-(4) reports the estimate of a separate regression. Standard errors are in parentheses. The Mean is the estimated value, based on specification (1), of the dependent variable for a municipality at the cutoff point with spending limit \$R108,039. The dependent variables are respectively the mean, maximum, minimum, and total campaign expenditures by candidates computed at the municipality-level. The optimal bandwidth is selected with the optimal procedure by [Calonico et al. \(2014\)](#) and is reported for specification (1) together with the associated number of observations. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



Table A.19: Effects of Spending Limits on Campaign Contributions (Levels Specification)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Overall Contributions	57973.83 (1819.28)	56689.653	1548	6114.49** (2521.34)	6212.22** (2649.23)	7493.57* (3833.14)	10576.56*** (1775.46)
Own Funds	24063.44 (1578.96)	57743.518	1581	4779.79** (2209.55)	3574.50* (2124.65)	3210.69 (2952.25)	5046.46*** (1567.94)
Individual Donations	25046.60 (1687.09)	43771.447	1170	1285.08 (2130.20)	1472.41 (2090.59)	2457.30 (3096.03)	3768.22*** (1354.36)
Party Donations	6654.75 (1053.83)	43127.859	1148	2092.90 (1461.78)	3078.59** (1506.24)	2722.18 (1878.66)	1651.53* (871.51)
All Other Donations	56.60 (38.14)	35953.476	949	3.21 (69.52)	29.51 (69.05)	24.32 (83.08)	-33.44 (41.12)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.20: Effects of Campaign Spending Limits on Candidate Entry (Levels Specification)

	Linear Optimal Bandwidth				w/ Controls	Quadratic	Means
	Mean	BW	Obs	(1)	(2)	(3)	(4)
Number of Candidates	3.135 (0.122)	58628.986	1615	-0.248* (0.139)	-0.180 (0.129)	-0.125 (0.228)	-0.158* (0.092)
Effective Number of Candidates	2.266 (0.059)	50864.353	1391	-0.076 (0.075)	-0.063 (0.076)	-0.029 (0.113)	-0.075 (0.048)
Small Party	0.500 (0.028)	61856.395	1719	-0.070** (0.036)	-0.063* (0.037)	-0.070 (0.047)	-0.043* (0.026)
Small party (excluding incumbent)	0.442 (0.030)	55003.412	1498	-0.073** (0.036)	-0.069** (0.035)	-0.068 (0.047)	-0.047* (0.025)
Propensity to Win	0.343 (0.007)	54276.775	1472	0.022** (0.009)	0.018** (0.009)	0.019 (0.013)	0.017*** (0.006)
Wealth (log)	11.462 (0.250)	43863.675	1172	0.715** (0.295)	0.626** (0.288)	0.804** (0.337)	0.404** (0.179)
Political Experience	0.806 (0.055)	53828.064	1462	0.090 (0.073)	0.094 (0.073)	0.099 (0.092)	0.058 (0.049)
Ideology Index	5.224 (0.113)	53587.517	1422	-0.182 (0.148)	-0.237 (0.149)	-0.232 (0.233)	-0.130 (0.098)
Female	0.140 (0.022)	49435.657	1345	-0.019 (0.027)	-0.014 (0.026)	-0.011 (0.038)	-0.005 (0.018)
Age	49.360 (0.748)	40714.478	1083	-1.108 (0.873)	-0.967 (0.867)	-1.309 (1.177)	-0.657 (0.543)
College Degree	0.553 (0.031)	51594.978	1412	-0.009 (0.039)	0.003 (0.039)	-0.003 (0.051)	-0.007 (0.025)
White	0.596 (0.037)	47938.578	1299	0.017 (0.044)	0.002 (0.040)	0.021 (0.061)	0.001 (0.025)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variables are two measures of the number of candidates who run for office, followed by municipality-level averages of various candidate characteristics. The “Propensity to Win” denotes the propensity for a candidate to win an election based on his observable characteristics (see Table A.3). See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.21: Effects of Campaign Spending Limits on Political Selection (Levels Specification)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Propensity to Win	0.369 (0.010)	59732.678	1648	0.023* (0.014)	0.025* (0.014)	0.023 (0.020)	0.021** (0.010)
Wealth (log)	11.813 (0.415)	46094.093	1234	0.605 (0.465)	0.554 (0.455)	0.510 (0.548)	0.529* (0.285)
Total vote share of small parties	0.461 (0.034)	51551.129	1404	-0.074* (0.043)	-0.072 (0.044)	-0.059 (0.061)	-0.050* (0.029)
Total v. share of small parties (ex. inc.)	0.388 (0.029)	64519.956	1805	-0.070** (0.035)	-0.070* (0.036)	-0.046 (0.058)	-0.051* (0.027)
Small Party	0.407 (0.046)	54572.131	1472	-0.016 (0.058)	-0.015 (0.060)	-0.008 (0.072)	-0.010 (0.040)
Political Experience	0.837 (0.083)	63823.230	1787	0.060 (0.112)	0.075 (0.112)	0.125 (0.164)	0.034 (0.084)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The “Propensity to Win” dependent variable denotes the propensity for a candidate to win an election based on his observable characteristics (see Table A.3). See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.22: Effects of Spending Limits on Winners' Contributions (Levels Specification)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Overall Contributions	76527.34 (2475.63)	48105.822	1297	6457.20* (3360.34)	8622.28*** (3336.40)	6212.30 (4849.12)	14012.97*** (2197.25)
Own Funds	30312.46 (2334.55)	62409.703	1734	8440.75** (3484.42)	7953.71** (3671.26)	3399.74 (5187.05)	9174.49*** (2626.10)
Individual Donations	38149.78 (2822.12)	43248.266	1148	-2791.88 (3719.59)	-2208.84 (3638.19)	-3487.50 (4540.37)	3300.56 (2377.85)
Party Donations	5067.53 (1733.28)	28039.652	720	6822.26** (2654.97)	8571.44*** (2534.54)	7517.30** (3034.28)	1617.10 (1433.06)
All Other Donations	163.46 (93.47)	41575.339	1106	-122.72 (204.03)	-90.87 (208.13)	22.90 (246.93)	-79.18 (120.70)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## A.5 Robustness: Running Variable in Levels, Excluding Open Seats

Table A.23: Effects of Spending Limits on Campaign Expenditures (Levels, No Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Maximum Spending	85371.22 (2245.42)	57825.142	1208	7277.50** (3278.77)	9310.35*** (3095.98)	7811.67 (5134.41)	16206.91*** (2235.68)
Mean Spending	57332.73 (2325.50)	43672.851	898	5394.85* (3079.73)	5265.89* (3076.00)	5778.77 (4242.44)	10150.19*** (1936.09)
Minimum Spending	30981.54 (3271.76)	43577.313	895	1311.75 (4183.88)	-1430.93 (4160.60)	1687.63 (5500.03)	3195.77 (2540.82)
Total Spending	170124.82 (6056.81)	61578.135	1307	823.65 (8419.72)	8433.40 (8241.09)	8866.78 (12550.93)	21198.61*** (5848.52)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: Each figure in columns (1)-(4) reports the estimate of a separate regression. Standard errors are in parentheses. The Mean is the estimated value, based on specification (1), of the dependent variable for a municipality at the cutoff point with spending limit \$R108,039. The dependent variables are respectively the mean, maximum, minimum, and total campaign expenditures by candidates computed at the municipality-level. The optimal bandwidth is selected with the optimal procedure by [Calonico et al. \(2014\)](#) and is reported for specification (1) together with the associated number of observations. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.24: Effects of Spending Limits on Campaign Contributions (Levels, No Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Overall Contributions	57055.87 (2337.17)	44862.302	921	5823.44* (3116.85)	5698.47* (3148.08)	6799.12 (4431.33)	10383.77*** (1976.24)
Own Funds	23796.71 (1850.46)	55246.885	1144	5561.92** (2689.18)	3477.44 (2834.97)	3628.09 (3773.68)	6067.92*** (1848.47)
Individual Donations	25673.73 (1668.84)	49854.178	1050	-474.59 (2186.31)	82.83 (2165.98)	2992.50 (3546.09)	2634.20* (1442.64)
Party Donations	6892.79 (1180.13)	46013.358	949	845.30 (1476.11)	2062.43 (1459.23)	889.09 (1762.66)	1431.64 (932.70)
All Other Donations	72.77 (43.03)	38627.222	792	-34.99 (89.13)	-15.08 (90.16)	-6.22 (105.76)	-22.94 (48.14)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.25: Effects of Campaign Spending Limits on Candidate Entry (Levels, No Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Number of Candidates	3.263 (0.163)	43966.374	903	-0.378** (0.177)	-0.254 (0.177)	-0.366 (0.243)	-0.247** (0.104)
Effective Number of Candidates	2.273 (0.062)	64009.789	1379	-0.194*** (0.070)	-0.175** (0.073)	-0.180 (0.113)	-0.143*** (0.053)
Small Party	0.504 (0.033)	57660.904	1202	-0.060 (0.041)	-0.054 (0.041)	-0.048 (0.057)	-0.040 (0.029)
Small party (excluding incumbent)	0.430 (0.034)	52884.556	1097	-0.065 (0.040)	-0.062 (0.040)	-0.058 (0.052)	-0.044 (0.027)
Propensity to Win	0.348 (0.008)	47599.604	983	0.025** (0.011)	0.019* (0.010)	0.020 (0.014)	0.019*** (0.007)
Wealth (log)	11.525 (0.266)	45650.244	935	0.731** (0.329)	0.629** (0.312)	0.797** (0.391)	0.465** (0.203)
Political Experience	0.864 (0.055)	63463.948	1363	0.039 (0.069)	0.039 (0.069)	0.042 (0.098)	0.025 (0.052)
Ideology Index	5.119 (0.138)	46136.879	932	-0.026 (0.179)	-0.119 (0.175)	-0.035 (0.242)	-0.034 (0.109)
Female	0.160 (0.024)	49300.518	1029	-0.038 (0.031)	-0.033 (0.030)	-0.009 (0.047)	-0.019 (0.020)
Age	49.680 (0.842)	38378.228	784	-1.173 (0.988)	-0.878 (0.959)	-1.505 (1.254)	-0.544 (0.598)
College Degree	0.564 (0.037)	44672.481	917	-0.028 (0.047)	0.004 (0.046)	-0.023 (0.062)	-0.010 (0.028)
White	0.610 (0.036)	48601.658	1011	-0.000 (0.048)	-0.011 (0.043)	-0.012 (0.070)	-0.004 (0.026)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variables are two measures of the number of candidates who run for office, followed by municipality-level averages of various candidate characteristics. The “Propensity to Win” denotes the propensity for a candidate to win an election based on his observable characteristics (see Table A.3). See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A.26: Effects of Campaign Spending Limits on Political Selection (Levels, No Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Propensity to Win	0.377 (0.012)	57564.112	1191	0.027* (0.016)	0.025 (0.016)	0.014 (0.025)	0.023** (0.011)
Wealth (log)	11.847 (0.455)	48031.071	994	0.602 (0.529)	0.557 (0.504)	0.327 (0.718)	0.606* (0.325)
Total vote share of small parties	0.456 (0.039)	50543.288	1055	-0.065 (0.049)	-0.063 (0.049)	-0.020 (0.073)	-0.045 (0.032)
Total v. share of small parties (ex. inc.)	0.374 (0.034)	59070.149	1230	-0.060 (0.041)	-0.066 (0.041)	-0.025 (0.068)	-0.046 (0.029)
Small Party	0.404 (0.049)	60556.494	1270	-0.018 (0.061)	-0.021 (0.063)	0.004 (0.085)	-0.020 (0.045)
Political Experience	0.880 (0.097)	61340.167	1298	0.057 (0.127)	0.076 (0.125)	0.055 (0.195)	0.031 (0.093)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The “Propensity to Win” dependent variable denotes the propensity for a candidate to win an election based on his observable characteristics (see Table A.3). See Table 3 for more details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



Table A.27: Effects of Spending Limits on Winners' Contributions (Levels, No Open Seats)

	Linear Optimal Bandwidth			(1)	w/ Controls	Quadratic	Means
	Mean	BW	Obs		(2)	(3)	(4)
Overall Contributions	75555.52 (2903.40)	43018.660	881	5644.46 (3991.32)	8411.95** (3972.75)	4306.72 (5695.63)	14002.80*** (2542.76)
Own Funds	29590.36 (2650.73)	62867.298	1341	10415.82*** (4000.36)	9938.74** (4246.91)	4475.62 (6181.95)	11504.93*** (3007.25)
Individual Donations	38921.00 (2813.72)	50240.885	1050	-4240.09 (3828.58)	-3028.71 (3780.64)	-2578.59 (5059.51)	1514.25 (2598.15)
Party Donations	6410.23 (1824.65)	34140.572	697	1613.34 (2410.26)	4185.65* (2374.86)	2461.15 (2749.05)	1074.86 (1562.29)
All Other Donations	213.57 (109.33)	42277.090	864	-169.55 (253.22)	-120.10 (253.34)	70.98 (310.83)	-91.24 (147.30)
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal	30000
Polynomial Order	One	One	One	One	One	Two	Zero
Municipal Controls	No	No	No	No	Yes	No	Yes

Notes: The dependent variable "Overall Contributions" is equal to the sum of the four contribution categories: own funds, individual donations, party donations, and all other donations. See Table 3 for additional details. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .