Supplemental Online Appendix to "The Incumbency Curse: Weak Parties, Term Limits, and Unfulfilled Accountability"

Marko Klašnja*
Assistant Professor
Georgetown University

Rocío Titiunik†
Assistant Professor
University of Michigan

Intended for Online Publication Only

May 18, 2016

*Georgetown University, School of Foreign Service and Department of Government, ICC 302-N, 3700 O St NW, Washington, DC 20057. Email: <marko.klasnja@georgetown.edu>, Web: http://markoklasnja.com.

†Corresponding author. Department of Political Science, 505 South State St., 5700 Haven Hall, University of Michigan, Ann Arbor, MI 48109. Email: <titiunik@umich.edu>, Web: http://www.umich.edu/~titiunik.

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Overview

This document is the supplemental appendix to the manuscript "The Incumbency Curse: Weak Parties, Term Limits, and Unfulfilled Accountability," and is intended for online publication only. All RD results estimated with the `rdrobust` software were calculated using the 2014 version of `rdrobust`.

Definition of Treated and Control Groups in Different Analysis

Table S1: Description of Treatment and Control Groups in Incumbent Party Analysis

Treatment Group
• A party wins at $t-1$, so it is the incumbent party at t; • The same party runs again at t and (barely) wins, irrespective of whether its candidate is incumbent or a new candidate; • We analyze outcomes for the party at $t+1$, when it is still an incumbent party (because it barely won election t) and has either an incumbent candidate running for reelection or a non-incumbent candidate.
Control Group
• A party wins at $t-1$, so it is the incumbent party at t; • The same party runs again at t and (barely) loses, irrespective of whether its candidate is incumbent or a new candidate; • We analyze outcomes for that party at $t+1$, when it is no longer the incumbent party (because it barely lost the t election), but some other first-term incumbent party either has an incumbent candidate who runs for reelection, has a new candidate, or does not have a candidate and it is an open race.

Table S2: Description of Treatment and Control Groups in Individual Party Analysis

Treatment Group
• A party (barely) wins at t, irrespective of whether its candidate is incumbent or a new candidate; • We analyze outcomes for that party at $t+1$, when it is an incumbent party and has either an incumbent candidate running for reelection or a non-incumbent candidate.
Control Group
• A party (barely) loses at t, irrespective of whether its candidate is incumbent or a new candidate; • We analyze outcomes for that party at $t+1$, when it is not an incumbent party, but some other first-term incumbent party either has an incumbent candidate who runs for reelection, or has a new candidate, or does not have a candidate and there is no incumbent party in the race.

Additional Details About Formal Model

Proof of Proposition 1

Proof. In the third period, there are no reelection incentives. Given the player utilities, neither type of politician exerts effort, and neither type of party exacts punishment. The voter is thus indifferent with respect to the possible payoff, as she always receives 0. Therefore, she focuses on $t = \{1, 2\}$.

Given the voter's and party's strategies, the good politician receives $r_1 - g_1 + r_2 - g_2 = 2(r-1)$ from providing the public good ("working") in both periods. Working in the first period, shirking in the second period and being punished by the party brings $r_1 - g_1 + r_2 - p_2 = 2(r-1)$. Shirking in the first period brings $r_1 - p_1$. Since $r_t > g_t$, the good politician prefers providing the public good in the first period to shirking, all else equal. In turn, the party does not need to exact punishment in the first period, i.e. $p_1 = 0$. If facing the prospect of punishment due to shirking, the good politician therefore gets at least as much benefit from working in both periods as shirking in the second period. Therefore, the good politician will work in the first period. Combined with the observation that the bad politician never provides $g_t = 1$, the voter and the party perfectly infer the politician's type in the first period. This allows the voter and the party to fully condition the second-period strategy solely on the observation of the second-period outcome and second-period punishment.

Since by assumption $c(1) = L \leq r$ for any $\kappa = L$, the party facing a low cost will punish the shirking politician. On the other hand, it is immediate that the party will choose $p_2 = 0$ if $c(1) = H > r$. The parties perfectly separate in the second period, and so the voter chooses $\sigma(g_2 = 0, p_2 = 0) = 0$, thus punishing the high-cost party. This establishes the claim in the proposition. □

We assume in the model that voters do not directly observe the type of the politician or the strength of the party. These assumptions are important for the result in Proposition 1.[1] We believe that these assumptions are not unrealistic; informational asymmetry is commonly invoked in other standard agency models (e.g. Besley 2007; Persson and Tabellini 2002). Moreover, the main purpose of our model is to identify meaningful implications that can be tested empirically, rather than build a comprehensive and robust theory of electoral dynamics with term limits and weak parties, which we believe merits separate effort. Nonetheless, here we discuss how changing the assumptions affects our results and what alternative assumptions can be made to get the same result as in Proposition 1.

Suppose that all politicians are "good" and that a party's type is known to the voter. Then, there is simple perfect "(non)compliance:" when $\kappa = H$ is sufficiently low, then all parties punish, all politicians provide the public good, and voters always reelect. If the high cost is too high, then no party punishes, no politician behaves, and the voter never reelects. Empirically, this type of result helps us distinguish electoral consequences for strong and weak parties, but it does not help us draw implications of the interaction of party strength and term limits.

[1] Another assumption on the information structure is that the party does not observe the politician's type. While this is in line with our conceptual framework of a politician being an agent of both the party and the voter, our results in the paper come through if we relax this assumption and allow the party to observe the type of the politician.

Suppose instead that party's strength is unobserved by the voter, but that all politicians are good, implying that all politicians can be induced to provide the public good either by the party or the voter. In this case, when faced with an election in t_1, voters know that they can throw the incumbent out and that if they do so they will be guaranteed a politician they can control in t_2, because that politician will face reelection. Unless there are some politicians they cannot control and there is some uncertainty about the politician's type, they may want to pursue this strategy in t_1, particularly if the probability of a weak party is high.[2] This again rules out our main result, because we get an equilibrium with no lame duck politicians, which clearly deviates from empirical evidence.

An alternative to assuming politicians of different type and imperfect information about them is to assume that the voter can ex ante credibly commit to a voting rule, for example: $\sigma(g_t) = \begin{cases} 0 & \text{if} \quad g_t = 0 \\ 1 & \text{if} \quad g_t = 1, \end{cases}$

In this case, the voter is indifferent between getting $g_1 = 1; g_2 = 0; g_3 = 0$ if she reelects the politician who provides the public good in the first period (whatever the party strength) and $g_1 = 0; g_2 = 1; g_3 = 0$ if she induces the strong party to reveal its type in the first period, thereby giving the same result as in Proposition 1.

Formalization of the RD design

Let municipality i at election t have J political parties that dispute the municipal mayoral elections. For $j = 1, \cdots, J$, let $V_{it,j}$ be the vote share obtained by party j in municipality i in election t and $V_{it,(1)}, \cdots, V_{it,(J)}$ be the corresponding order statistics. The margin of victory for party k is defined as the vote share obtained by party k minus the vote share obtained by party k's strongest opponent, where the latter is defined as the party that obtains the highest vote share if party k loses the election and the party that obtains the *second* highest vote share if party k wins. Formally, party k's margin of victory (to which we also refer as party k's *vote margin*) is given by:

$$M_{it,k} \equiv \begin{cases} V_{it,k} - V_{it,(J-1)} & \text{if } V_{it,k} = V_{it,(J)} \\ V_{it,k} - V_{it,(J)} & \text{otherwise.} \end{cases} \tag{1}$$

It follows that the rule that determines the incumbency status of party k at election $t+1$ in municipality i, denoted by $I_{it+1,k}$ is:

$$I_{it+1,k} = \begin{cases} 1 & \text{if } M_{it,k} \geq 0 \\ 0 & \text{if } M_{it,k} < 0. \end{cases} \tag{2}$$

Let $Y^1_{it+1,k}$ denote the outcome of interest for party k in municipality i at election $t+1$ when $I_{it+1,k} = 1$ and $Y^0_{it+1,k}$ denote the outcome of interest for party k when $I_{it+1,k} =$

[2] When the probability that the party is weak (call it γ) is high, the voter knows that using the strategy of reelecting when seeing $g_1 = 1$ implies there is a high chance that she will get $g_2 = 0$. By design, she will get $g_3 = 0$. Therefore, her expected utility is close to 1. But she then may decide to use the strategy of not reelecting when seeing $g_1 = 1, p_1 = 0$ in order to induce the low-cost party to reveal its type in the first period. If it does so, the voter will know that she will get $g_2 = 1$ for sure, and would be willing to reelect even if $g_1 = 0$ but $p_1 = 1$. In this case, our result is not an equilibrium for all values of γ.

0. The effect of interest is $\tau_k \equiv \mathbb{E}\left(Y^1_{it+1,k} - Y^0_{it+1,k}\right)$. Of course, for a given election in a given municipality, a party cannot be the incumbent and not the incumbent simultaneously, and hence one only observes $Y_{it+1,k} = I_{it+1,k}Y^1_{it+1,k} + (1 - I_{it+1,k})\, Y^0_{it+1,k}$. Without further assumptions, τ_k cannot be recovered.

Assuming that $\mathbb{E}\left(Y^1_{it+1,k}|M\right)$ and $\mathbb{E}\left(Y^0_{it+1,k}|M\right)$ are continuous at $M_{it,k} = 0$ (Hahn, Todd, and van der Klaauw 2001), the expected causal effect of incumbency status on the outcome of interest can be recovered from observed outcomes at the discontinuity point. Formally,

$$\tau^{RD}_k \equiv \mathbb{E}\left(Y^1_{it+1,k} - Y^0_{it+1,k}|M = 0\right) = \lim_{M\downarrow 0} \mathbb{E}\left(Y_{it+1,k}|M\right) - \lim_{M\uparrow 0} \mathbb{E}\left(Y_{it+1,k}|M\right)$$

Therefore, the discontinuity in the rule that determines which party wins office provides an opportunity to observe the average difference in potential outcomes by comparing points on either side of the $M_{it,k} = 0$ threshold. The crucial assumption is the continuity of the expected potential outcomes at the threshold. This assumption is inherently unobservable but, as we show in Section S5 below, several empirical tests strongly support this assumption in our data.

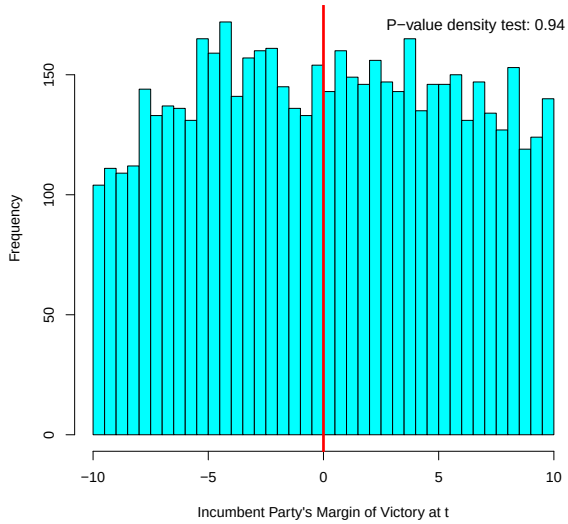
Validity of the RD Design

We asses the validity of the RD design in our application. In order to interpret the outcome change that occurs at the margin of victory cutoff as the effect of the party winning the mayoral office, any factors correlated with both the outcome of interest and electoral victory at t must be continuous at the cutoff. This is an identification assumption and, as such, is untestable. But if this assumption is true, it is reasonable to expect that certain empirical implications will hold, and it is now standard to present empirical evidence to validate this assumption.

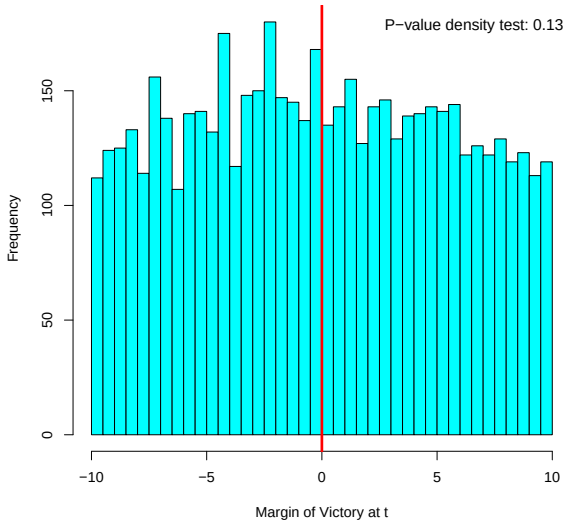
The first piece of evidence we show is that the density of the running variable, the party's margin of victory at t, is not discontinuous at the cutoff. If parties had the ability to influence precisely whether they lose or win, we would likely observe very few parties that barely lose, and many more parties that barely win. Since manipulation of electoral results at t would likely be correlated with future electoral performance, a discontinuity in the density of the margin of victory at t right around the cutoff might raise doubts about the design. But we do not observe any such discontinuity. Figures S1(a), S1(b), S1(c) and S1(d) show histograms of the vote margin at election t for the incumbent party, the PMDB, the PSDB and the DEM party. Each figure also reports the p-value of the null hypothesis that the density of the running variable is continuous at the cutoff using the local polynomial density estimator developed by Cattaneo, Jansson, and Ma (2015a) (see Cattaneo, Jansson, and Ma 2015b, for details about Stata implementation). The figures show that there is nothing peculiar about the parties' margin of victory at t around the cutoff, a conclusion that we corroborate formally as the density test fails to reject the null hypothesis in all cases (p-values range from 0.13 to 0.94).[3]

[3]The p-value corresponding to the density test of the PP and PT parties (the two parties not included in Figure S1) are, respectively, 0.59 and 0.79.

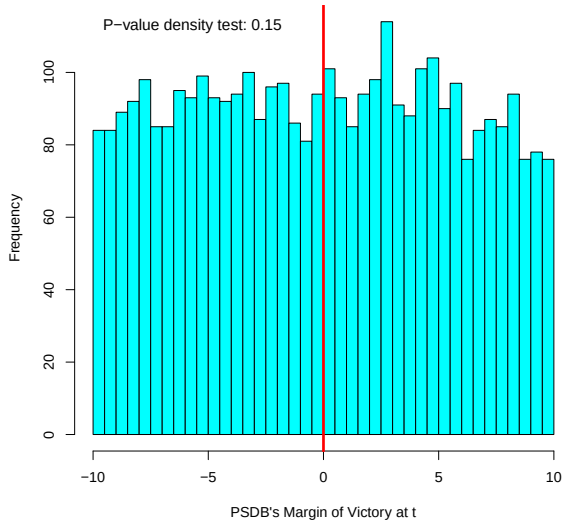
Figure S1: Histogram of Margin of Victory at t for Various Parties—Brazil Mayoral Elections, 1996-2012



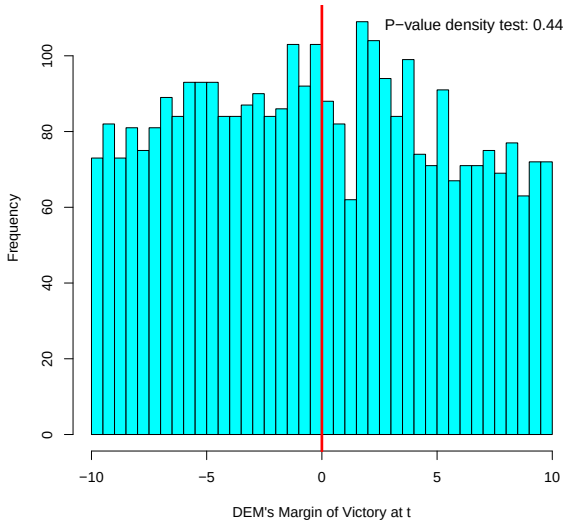
(a) Incumbent Party, 2000-2012



(b) PMDB, 1996-2012



(c) PSDB, 1996-2012



(d) DEM, 1996-2012

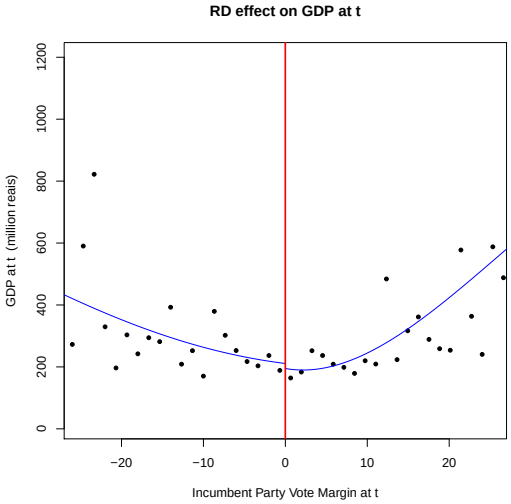
In addition, we estimate "placebo" RD effects on *predetermined* covariates—covariates that are determined before the treatment is assigned at t. Since treatment is assigned after these covariates are realized and measured, we expect the effect of parties' barely winning at t on these covariates to be indistinguishable from zero. A significant effect would be a strong indication that unobserved confounders are spuriously causing the effects on the outcomes of interest. We present some results graphically, and also include full details of the analysis

in Tables S3 and S4.

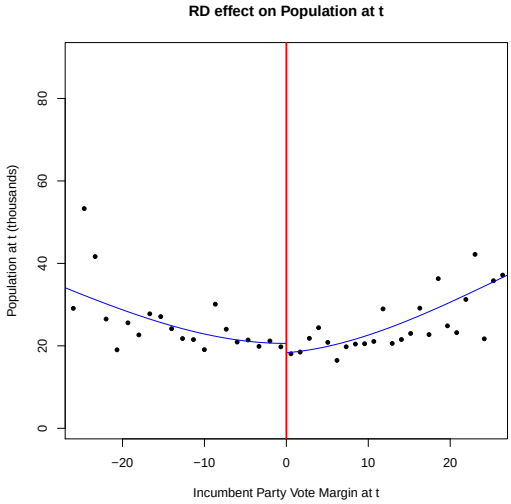
Figures S2(a), S2(b) and S2(c) show the effect of the incumbent party barely winning on the municipality's GDP at t, the municipality's population at t, and the number of effective parties in the mayoral election at t, respectively, while Figures S2(d), S2(e) and S2(f) show the effect of barely winning on the victory in the previous election for the PMDB, PSDB and DEM parties, respectively. As the figures show, the RD effect is indistinguishable from zero in all cases, as expected in a valid RD design. The formal RD estimation results are provided in Table S3 for all the covariates reported in the figures and also for additional covariates, for the effect of the incumbent party winning. In addition, Table S4 reports RD effects for every individual party—in particular, it reports the effect of each individual party winning on the party's lagged victory, a very important predetermined covariate.

Finally, we estimate the same effects as in Table 2 in the paper, but in each case including covariates in the local regression estimation. The covariates included are GDP, population, number of effective parties, dummy for municipality located in the north, dummy for municipality located in south, dummy for municipality located in northeast, total municipality revenues and total municipality expenditures. The results are substantively very similar to those in Table 2.

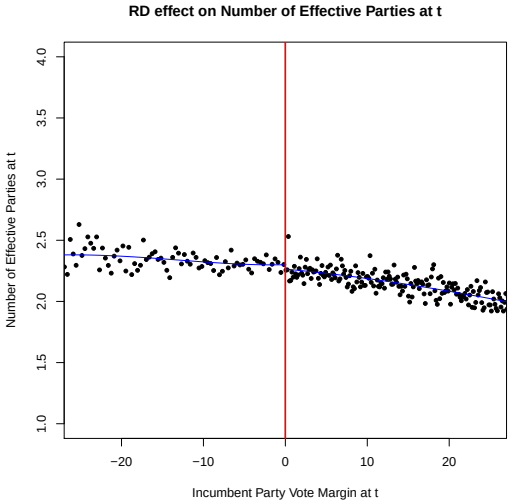
Figure S2: RD Effects of Several Parties' Winning at t on Predetermined Covariates—Brazil Mayoral Elections, 1996-2012



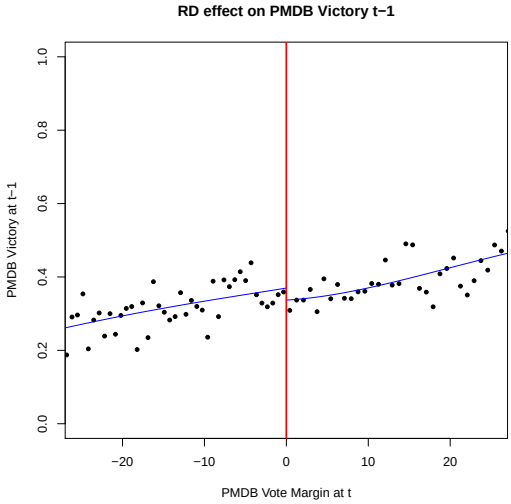
(a) Incumbent Party, GDP t



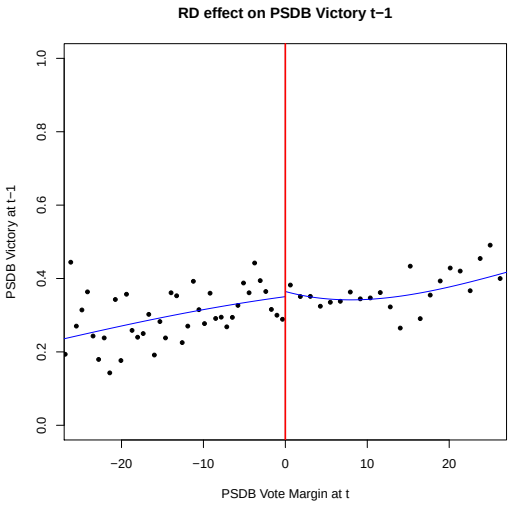
(b) Incumbent Party, Population t



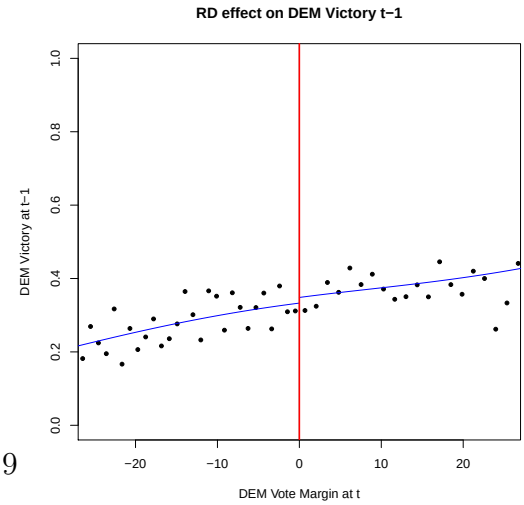
(c) Incumbent Party, Effective Parties t



(d) PMDB, Victory $t-1$



(e) PSDB, Victory $t-1$



(f) DEM, Victory $t-1$

RD Effects Disaggregated by Year

Table S3: RD Effect of Winning at t on Various Predetermined Covariates—Incumbent Party, Brazil Mayoral Elections, 2000-2012

	RD Effects on Several Covariates					
	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
GDP per capita						
All Seats	−0.01	[−0.03 , 0.01]	0.43	19.03	4,554	4,322
Incumbent Sample	−0.02	[−0.07 , 0.02]	0.36	16.70	1,377	1,592
Open Seat Sample	−0.01	[−0.04 , 0.03]	0.83	17.52	2,787	2,332
Population						
All Seats	0.01	[−0.03 , 0.06]	0.61	16.86	4,220	4,051
Incumbent Sample	0.02	[−0.06 , 0.10]	0.64	16.94	1,390	1,604
Open Seat Sample	−0.00	[−0.06 , 0.06]	0.97	16.58	2,658	2,263
Winner age						
All Seats	−0.02	[−0.06 , 0.01]	0.11	12.27	3,366	3,284
Incumbent Sample	−0.03	[−0.09 , 0.01]	0.10	12.94	1,194	1,353
Open Seat Sample	0.01	[−0.03 , 0.04]	0.78	17.43	2,776	2,325
Winner educ						
All Seats	−0.01	[−0.06 , 0.03]	0.48	16.85	4,220	4,050
Incumbent Sample	0.03	[−0.04 , 0.10]	0.38	17.46	1,409	1,632
Open Seat Sample	−0.05	[−0.12 , 0.01]	0.07	15.78	2,561	2,195
Winner male						
All Seats	−2,339,779.86	[−6,634,146.67 , 3,003,607.68]	0.46	6.48	1,816	1,796
Incumbent Sample	3,708,757.94	[−2,638,187.08 , 11,944,443.77]	0.21	8.00	795	857
Open Seat Sample	−4,900,398.70	[−11,565,585.70 , 1,756,952.10]	0.15	6.01	1,007	979
No. effective parties						
All Seats	−0.04	[−0.10 , 0.02]	0.17	12.78	3,485	3,374
Incumbent Sample	−0.01	[−0.10 , 0.08]	0.86	15.15	1,302	1,497
Open Seat Sample	−0.05	[−0.13 , 0.01]	0.11	12.74	2,174	1,897
North						
All Seats	−149.03	[−1,212.77 , 1,017.65]	0.86	13.48	3,593	3,484
Incumbent Sample	64.25	[−1,621.74 , 2,029.16]	0.83	15.27	1,307	1,501
Open Seat Sample	−141.63	[−1,562.60 , 1,191.18]	0.79	16.96	2,698	2,286
Northeast						
All Seats	756.02	[−2,553.28 , 5,097.92]	0.51	10.74	3,022	2,948
Incumbent Sample	3,527.11	[−1,584.88 , 10,158.27]	0.15	9.75	976	1,069
Open Seat Sample	−886.54	[−5,544.91 , 4,773.25]	0.88	10.76	1,887	1,688
Southeast						
All Seats	−2,199,736.84	[−6,477,392.53 , 3,242,819.61]	0.51	7.48	2,087	2,046
Incumbent Sample	3,403,149.14	[−3,109,403.21 , 11,782,991.45]	0.25	7.95	792	852
Open Seat Sample	−5,167,476.15	[−12,438,636.50 , 1,611,319.14]	0.13	6.27	1,047	1,017
Centerwest						
All Seats	1.30	[0.33 , 2.61]	0.01	15.00	3,478	3,432
Incumbent Sample	1.74	[−0.09 , 4.31]	0.06	10.83	930	1,059
Open Seat Sample	1.69	[0.42 , 3.15]	0.01	18.50	2,591	2,174
Total revenue						
All Seats	−0.03	[−0.21 , 0.16]	0.83	18.73	4,035	3,889
Incumbent Sample	−0.05	[−0.33 , 0.23]	0.71	23.99	1,436	1,732
Open Seat Sample	0.02	[−0.19 , 0.26]	0.74	20.77	2,789	2,283
Total expenditures						
All Seats	0.00	[−0.02 , 0.03]	0.72	20.23	4,219	4,044
Incumbent Sample	−0.01	[−0.05 , 0.05]	0.90	17.81	1,274	1,509
Open Seat Sample	0.01	[−0.03 , 0.05]	0.54	18.54	2,595	2,175

Note: Running variable is party's margin of victory at t. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 2-6 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

Table S4: RD Effect of Winning at t on Victory at $t-1$ for Individual Parties—Brazil Mayoral Elections, 1996-2012

	Outcome: Unconditional Victory $t-1$					
	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
PMDB						
All Seats	-0.04	$[\,-0.10\,,\,0.01\,]$	0.13	18.56	3,152	3,457
Incumbent Sample	-0.07	$[\,-0.17\,,\,0.03\,]$	0.15	17.35	866	706
Open Seat Sample	-0.02	$[\,-0.07\,,\,0.04\,]$	0.59	14.96	2,015	2,319
PSDB						
All Seats	0.01	$[\,-0.05\,,\,0.09\,]$	0.51	15.73	1,955	2,022
Incumbent Sample	-0.02	$[\,-0.15\,,\,0.12\,]$	0.82	16.42	631	517
Open Seat Sample	0.05	$[\,-0.01\,,\,0.13\,]$	0.11	13.48	1,199	1,355
DEM						
All Seats	0.02	$[\,-0.06\,,\,0.09\,]$	0.68	18.16	1,733	1,961
Incumbent Sample	-0.05	$[\,-0.19\,,\,0.07\,]$	0.36	18.41	512	469
Open Seat Sample	0.03	$[\,-0.05\,,\,0.09\,]$	0.52	16.43	1,157	1,396
PP						
All Seats	0.03	$[\,-0.05\,,\,0.13\,]$	0.34	12.42	1,246	1,199
Incumbent Sample	-0.08	$[\,-0.20\,,\,0.04\,]$	0.21	15.20	397	298
Open Seat Sample	0.02	$[\,-0.05\,,\,0.11\,]$	0.47	14.08	955	1,032
PT						
All Seats	0.01	$[\,-0.06\,,\,0.08\,]$	0.87	25.96	1,429	1,856
Incumbent Sample	-0.04	$[\,-0.14\,,\,0.03\,]$	0.21	13.44	230	176
Open Seat Sample	0.06	$[\,0.01\,,\,0.13\,]$	0.02	14.95	839	1,002

Note: Running variable is party's margin of victory at t, outcome is dummy =1 if party wins the previous election at $t-1$, =0 otherwise. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 2-6 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

Table S5: RD effect of Winning at t on Victory at $t+1$ (Unconditional on Running) for Various Parties, Including Covariates—Brazil Mayoral Elections, 1996-2012

Outcome: Unconditional Victory $t+1$ with covariates						
Party	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
INCUMBENT	-0.14	$[\,-0.209\,,\,-0.095\,]$	0.000	13.55	2,645	2,378
PMDB	-0.13	$[\,-0.202\,,\,-0.064\,]$	0.000	14.63	1,978	2,121
PSDB	-0.03	$[\,-0.104\,,\,0.036\,]$	0.341	18.77	1,645	1,649
DEM	-0.10	$[\,-0.192\,,\,-0.032\,]$	0.006	12.16	1,099	1,190
PP	-0.20	$[\,-0.326\,,\,-0.127\,]$	0.000	12.43	937	889

Note: Running variable is party's margin of victory at t, outcome is dummy =1 if party wins the following election at $t+1$, =0 otherwise. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and including covariates, with MSE-optimal bandwidth. Columns 3-7 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

Table S6: Yearly RD Effect of Winning at t on Victory at $t+1$ (Unconditional on Running) for Various Parties—Brazil Mayoral Elections, 1996-2012

	Outcome: Unconditional Victory $t+1$					
	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
1996						
PMDB	−0.06	[−0.198 , 0.051]	0.250	16.07	596	690
PSDB	−0.10	[−0.209 , −0.008]	0.034	16.70	832	923
DEM	−0.05	[−0.172 , 0.089]	0.535	19.76	449	551
PP	−0.04	[−0.189 , 0.084]	0.453	16.31	575	572
PT	−0.14	[−0.441 , 0.120]	0.262	18.39	85	145
2000						
Incumbent	−0.19	[−0.281 , −0.122]	0.000	18.33	1,120	1,104
PMDB	−0.23	[−0.376 , −0.135]	0.000	12.38	502	534
PSDB	−0.14	[−0.239 , −0.011]	0.032	15.49	760	806
DEM	−0.26	[−0.435 , −0.140]	0.000	12.92	345	337
PP	−0.12	[−0.244 , −0.020]	0.021	21.70	653	666
PT	−0.18	[−0.498 , 0.099]	0.191	18.05	120	186
2004						
Incumbent	−0.09	[−0.209 , −0.013]	0.027	13.31	881	890
PMDB	0.00	[−0.126 , 0.107]	0.873	15.94	520	570
PSDB	−0.06	[−0.187 , 0.044]	0.223	15.61	693	800
DEM	−0.27	[−0.480 , −0.127]	0.001	10.09	284	279
PP	0.04	[−0.087 , 0.173]	0.515	17.36	588	595
PT	0.00	[−0.198 , 0.153]	0.801	16.02	278	337
2008						
Incumbent	−0.16	[−0.259 , −0.073]	0.000	16.53	1,115	856
PMDB	−0.10	[−0.243 , 0.010]	0.071	16.98	310	360
PSDB	−0.18	[−0.319 , −0.066]	0.003	13.70	688	683
DEM	−0.15	[−0.312 , −0.008]	0.039	18.97	395	360
PP	−0.03	[−0.163 , 0.108]	0.692	15.91	466	470
PT	−0.15	[−0.312 , 0.019]	0.084	21.11	405	396

Note: Running variable is party's margin of victory at t, outcome is dummy =1 if party wins the following election at $t+1$, =0 otherwise. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 2-6 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

Table S7: Yearly RD Effect of Winning at t on Victory at $t+1$ (Conditional on Running) for Various Parties—Brazil Mayoral Elections, 1996-2012

	Outcome: Conditional Victory $t+1$					
	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
1996						
PMDB	−0.12	[−0.291 , 0.032]	0.117	14.93	409	373
PSDB	−0.15	[−0.283 , −0.017]	0.027	15.21	610	561
DEM	−0.14	[−0.325 , 0.073]	0.215	18.30	277	238
PP	−0.15	[−0.341 , 0.008]	0.061	16.33	414	303
PT	−0.13	[−0.481 , 0.223]	0.472	16.01	63	93
2000						
Incumbent	−0.32	[−0.471 , −0.210]	0.000	16.13	575	569
PMDB	−0.28	[−0.467 , −0.139]	0.000	16.66	357	355
PSDB	−0.22	[−0.351 , −0.088]	0.001	21.13	618	597
DEM	−0.32	[−0.555 , −0.137]	0.001	13.69	204	186
PP	−0.14	[−0.327 , 0.094]	0.279	14.38	291	274
PT	−0.22	[−0.558 , 0.077]	0.137	18.62	106	150
2004						
Incumbent	−0.12	[−0.264 , −0.017]	0.026	16.73	638	562
PMDB	0.07	[−0.126 , 0.288]	0.445	15.26	248	194
PSDB	−0.11	[−0.271 , 0.006]	0.062	16.13	524	493
DEM	−0.31	[−0.578 , −0.115]	0.003	10.64	186	143
PP	−0.05	[−0.245 , 0.112]	0.464	19.74	414	307
PT	−0.07	[−0.298 , 0.109]	0.361	18.63	259	227
2008						
Incumbent	−0.20	[−0.343 , −0.083]	0.001	19.92	716	504
PMDB	−0.38	[−0.687 , −0.123]	0.005	18.07	139	94
PSDB	−0.33	[−0.502 , −0.186]	0.000	13.17	483	388
DEM	−0.45	[−0.735 , −0.241]	0.000	13.50	189	137
PP	−0.08	[−0.269 , 0.130]	0.495	17.06	304	252
PT	−0.16	[−0.350 , 0.102]	0.283	13.63	248	192

Note: Running variable is party's margin of victory at t, outcome is dummy =1 if party wins the following election at $t+1$, =0 if it runs and loses. Sample includes only municipalities where party contests the $t+1$ election. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 2-6 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

RD Effects on Candidacy $t+1$, Conditional Victory $t+1$ and Margin of Victory $t+1$

In this section, we consider the effects of barely winning on additional outcomes not reported in the paper. First, we analyze the effect of barely winning at t on whether the party is a candidate at $t+1$, which we treat as an outcome in its own right. Second, we analyze the effect of barely winning at t on the party's conditional victory at $t+1$—the party's victory at $t+1$ given that the party contests the $t+1$ election. Finally, we report the effects of barely winning on margin of victory at $t+1$.

Table S8 presents the results for candidacy at $t+1$, a dummy variable that is equal to one if the party contests the mayoral election at t+1 and equal to zero otherwise. The first row reports the results from the incumbent party analysis for the 2000-2012 period; the other rows report the individual party analyses in the full 1996-2012 period for the five parties of interest: PMDB, PSDB, DEM, PP and PT. The results for the incumbent party indicate that when the incumbent party barely wins the t election it is 6 percentage points less likely to contest the following election than when it barely loses, and this effect is different from zero at the 5% level (the robust 95% confidence interval ranges between -0.12 and -0.001). We show this result graphically in Figure (S3a). This negative effect on candidacy at $t+1$, however, is not observed for any of the individual parties analyzed.

Table S8: RD Effect of Winning at t on Candidacy at $t+1$ for Various Parties—Brazil Mayoral Elections, 1996-2012

Outcome: Candidacy $t+1$						
Party	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
INCUMBENT	−0.06	[−0.119 , −0.001]	0.047	17.56	3,295	3,012
PMDB	0.04	[−0.012 , 0.084]	0.142	20.38	3,498	3,868
PSDB	0.06	[−0.006 , 0.124]	0.075	20.27	2,464	2,522
DEM	−0.01	[−0.091 , 0.045]	0.507	15.37	1,967	2,184
PP	0.00	[−0.087 , 0.073]	0.870	16.55	1,579	1,615
PT	0.00	[−0.111 , 0.081]	0.763	13.57	737	835

Note: Running variable is party's margin of victory at t, outcome is dummy =1 if party contests the following election at $t+1$, =0 otherwise. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 3-7 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

Table S9 shows the results for margin of victory at $t+1$. Since the margin of victory is undefined for races where a party does not contest the election, these results condition on the party's contesting the $t+1$ election.

Table S10 shows the results for electoral victory at $t+1$, conditional on the party contesting the $t+1$ election. The outcome analyzed in this table is a dichotomous variable that is equal to one if the party contested and won the $t+1$ election, and equal to zero if the party contested but lost the election.

Table S9: RD Effect of Winning at t on Margin of Victory at $t+1$ (Conditional on Running) for Various Parties—Brazil Mayoral Elections, 1996-2012

Outcome: Vote Margin $t+1$						
Party	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
INCUMBENT	−6.24	[−10.245 , −2.482]	0.001	13.44	1,589	1,412
PMDB	−7.37	[−10.943 , −4.339]	0.000	13.73	2,006	1,827
PSDB	−0.10	[−4.211 , 4.750]	0.906	16.55	1,417	1,137
DEM	−3.48	[−8.331 , 0.864]	0.111	14.07	1,075	939
PP	−5.32	[−10.804 , −0.795]	0.023	12.78	801	669
PT	−5.65	[−11.151 , 0.656]	0.081	15.42	660	608

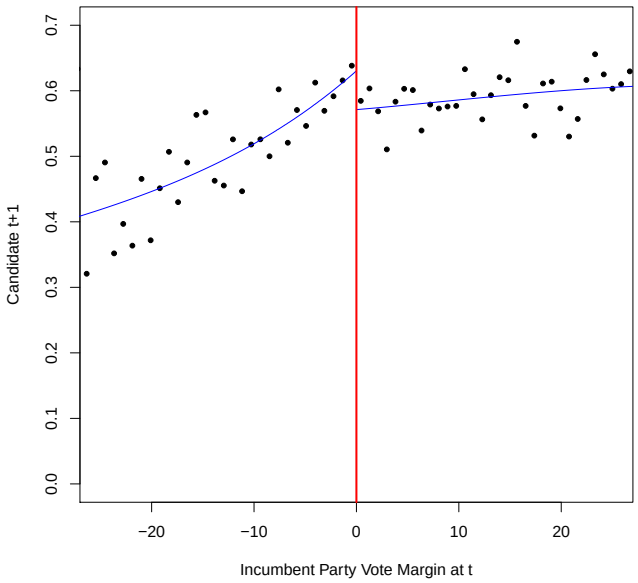
Note: Running variable is party's margin of victory at t, outcome is margin of victory at in the following election at $t+1$. Sample includes only municipalities where party contests the $t+1$ election. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 3-7 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

The results are strongly negative for both the incumbent party and the individual parties. The effect in the first row indicates that in those municipalities where the incumbent party is barely reelected at t it is 21 percentage points less likely to win at $t+1$ than in those municipalities where it barely lost at t (among those municipalities where the incumbent party contests the $t+1$ election). The illustration of this effect in Figure (S3b) shows that the incumbent party wins in about 50% of the municipalities where it barely lost at t and runs at $t+1$, where it only wins in roughly 30% of the municipalities where it barely won at t and runs at $t+1$. The effects are strongly statistically significant. These negative results are seen in the individual party analysis as well, with point estimates that range between -0.11 and -0.27, all distinguishable from zero.

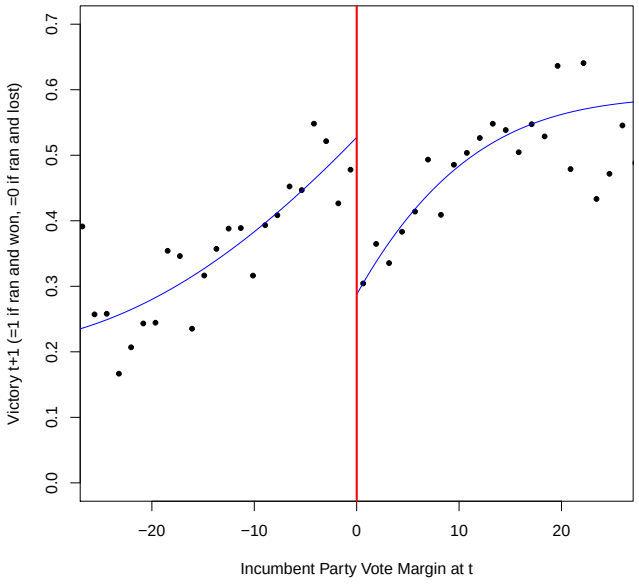
These results are stronger (more negative) than the unconditional effects reported in the paper. However, given the significant effect of incumbency on Candidacy at $t+1$ reported in Table S8 and the fact that parties choose not to contest a large proportion of mayoral elections, looking at the effects of incumbency on future victory only for the subset of municipalities where the party contests the $t+1$ election could introduce biases. There are two issues that should be considered. The first is whether the difference in the proportion of contested elections at $t+1$ between the treatment and control groups is driving the negative results. Consider an example with 100 municipalities in each of the treatment and control groups where, at $t+1$, (i) the party contests all 100 elections in the treatment group but only 50 elections in the control group, and (ii) the party wins 25 elections at $t+1$ in each group. Analyzing only the municipalities where the party runs at $t+1$ yields a negative effect of -0.25, since the party wins 25% (25/100) of races in the treatment group and 50% (25/50) in the control group. However, an unconditional analysis that compares whether the party wins regardless of whether it ran, yields an effect of 0, as the proportion of electoral victories is 25/100 in both groups.

The results for unconditional $t+1$ victory reported in the paper show that a scenario

Figure S3: RD Effect of Winning at t on Candidacy and Victory at $t+1$ (Conditional on Running at $t+1$) for Incumbent Party—Brazil Mayoral Elections, 2000-2012



(a) Candidacy $t+1$



(b) Conditional Victory $t+1$ (given running)

Table S10: RD Effect of Winning at t on Victory at $t+1$ (Conditional on Running at $t+1$) for Various Parties—Brazil Mayoral Elections, 1996-2012

Outcome: Conditional Victory $t+1$						
Party	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$
INCUMBENT	−0.21	[−0.303 , −0.141]	0.000	14.36	1,665	1,475
PMDB	−0.19	[−0.271 , −0.129]	0.000	15.07	2,127	1,946
PSDB	−0.11	[−0.206 , −0.032]	0.007	19.92	1,594	1,262
DEM	−0.15	[−0.260 , −0.059]	0.002	14.57	1,100	962
PP	−0.27	[−0.402 , −0.180]	0.000	14.38	880	707
PT	−0.14	[−0.262 , −0.023]	0.020	18.69	735	720

Note: Running variable is party's margin of victory at t, outcome is dummy =1 if party wins the following election at $t+1$, =0 if it runs and loses. Sample includes only municipalities where party contests the $t+1$ election. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 3-7 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth.

such as the one just described is not driving our results. Table 2 in the paper shows that, with one exception, the negative effects reported in Table S10 are somewhat reduced but are still large, negative and strongly statistically significant in the unconditional analysis.

Bound Analysis for Conditional Victory $t+1$

An alternative strategy to deal with uncontested races is to treat all municipalities where the party does not contest the $t+1$ election as missing data, and calculate bounds for the effect of interest under the different values that the missing data could have taken. We note that the most plausible assumption is that parties avoid running in municipalities where they expect to do poorly at $t+1$, a situation that in a single sample would tend to overestimate the advantages to incumbency.

However, our situation is complicated by the fact that we are comparing two samples, municipalities where the party barely won (treated group) versus municipalities where the party barely lost (control group), so we need to consider the impact of endogenously different decisions to run in each group. Our task is much simplified by the fact that we find negative results. The negative effects of incumbency on conditional victory at $t+1$ reported in Table S10 could arise if the parties' selectively avoided all municipalities in the control group where they expected a poor electoral performance at $t+1$ but did not avoid such municipalities in the treatment group, a situation we cannot entirely rule out.

We now use bounds (see, e.g. Manski 2007) to show that, under plausible scenarios regarding the missing data, we can rule out non-negative effects on conditional $t+1$ victory for the incumbent party analysis.

Let $Y_{it+1,k}$ denote the outcome of interest for party k in municipality i at election $t+1$, and $I_{it,k}$ be equal to one if party k wins the t election in municipality i and zero otherwise. Let $Z_{it+1,k}$ be equal to one if party k contests the $t+1$ election and zero otherwise.

$$\begin{aligned}\lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k}=m) = \\ &\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k}=m, Z_{it+1,k}=1)\cdot \lim_{m\uparrow 0}\Pr(Z_{it+1,k}=1|M_{it,k}=m)+ \\ &\lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k}=m, Z_{it+1,k}=0)\cdot \lim_{m\downarrow 0} Pr(Z_{it+1,k}=0|M_{it,k}=m)\end{aligned}$$

All the terms can be estimated except for $E(Y_{it+1,k}|M_{it,k}=m, Z_{it+1,k}=0)$. Assuming the support of Y is bounded by γ_l and γ_u, the identification region for $\lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k}=m)$ is:

$$\begin{aligned}H^{Tr} = \Bigg[&\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k}=m, Z_{it+1,k}=1)\cdot \lim_{m\uparrow 0}\Pr(Z_{it+1,k}=1|M_{it,k}=m)+ \\ &\gamma_l \cdot \lim_{m\downarrow 0} Pr(Z_{it+1,k}=0|M_{it,k}=m), \\ &\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k}=m, Z_{it+1,k}=1)\cdot \lim_{m\uparrow 0}\Pr(Z_{it+1,k}=1|M_{it,k}=m)+ \\ &\gamma_u \cdot \lim_{m\downarrow 0} Pr(Z_{it+1,k}=0|M_{it,k}=m)\Bigg]\end{aligned}$$

Defining $p^{Tr} = \lim_{m\uparrow 0} \Pr(Z_{it+1,k} = 1 | M_{it,k} = m)$ this simplifies to:

$$H^{Tr} = \Big[\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Tr} + \gamma_l \cdot (1 - p^{Tr}),$$
$$\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Tr} + \gamma_u \cdot (1 - p^{Tr})\Big]$$

And H^{Co} can be defined analogously for the control group, with $p^{Co} = \lim_{m\downarrow 0} \Pr(Z_{it+1,k} = 1|M_{it,k} = m)$.

Letting $H^{Tr} = [L^{Tr}, U^{Tr}]$ and $H^{Co} = [L^{Co}, U^{Co}]$, the identification region for the average treatment effect at the cutoff is:

$$H = \left[L^{Tr} - U^{Co}, U^{Tr} - L^{Co}\right]$$

In our case, Y is a binary outcome that indicates whether party k won election $t + 1$, so $\gamma_l = 0$ and $\gamma_u = 1$, which leads to the extreme value identification regions:

$$\breve{H}^{Tr} = \Big[\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Tr},$$
$$\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Tr} + (1 - p^{Tr})\Big]$$

and:

$$\breve{H}^{Co} = \Big[\lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Co},$$
$$\lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Co} + (1 - p^{Co})\Big]$$

As discussed above, however, assuming that parties would have won every election that they did not contest is implausible and, in addition, not even possible since at most one party can win each election and there are many parties competing in every election.

Thus, to construct the bounds we still set $\gamma_l = 0$, but use the alternative assumption that in those municipalities where the party did not contest the election, its electoral performance would have been no better than it was in those municipalities where it did run, $\gamma_u = \lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1)$, which leads to the alternative identification regions:

$$\widetilde{H}^{Tr} = \left[\lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Tr}, \lim_{m\uparrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1)\right] \equiv \left[\widetilde{L}^{Tr}, \widetilde{U}^{Tr}\right]$$
$$\widetilde{H}^{Co} = \left[\lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1) \cdot p^{Co}, \lim_{m\downarrow 0} E(Y_{it+1,k}|M_{it,k} = m, Z_{it+1,k} = 1)\right] \equiv \left[\widetilde{L}^{Co}, \widetilde{U}^{Co}\right]$$

So the bounds we estimate and report are:

$$\widetilde{H} = \left[\widetilde{L}^{Tr} - \widetilde{U}^{Co}, \widetilde{U}^{Tr} - \widetilde{L}^{Co}\right]$$

Table S11: Bounds for Victory t+1 – Full Sample

Variable	NTr	NCo	Prz_Tr	Prz_Co	mu1	mu0	Ident Region	CI Ident Regio
Inc	1665	1475	0.5721461	0.6294808	0.3002077	0.5103586	[-0.339,-0.021]	[-0.416,0.067]
PSDB	1594	1262	0.6363178	0.5746394	0.4433453	0.5563673	[-0.274,0.124]	[-0.366,0.215]
PMDB	2127	1946	0.7391543	0.6987606	0.3939958	0.5841156	[-0.293,-0.014]	[-0.372,0.067]
DEM	1100	962	0.5525205	0.5664525	0.4486014	0.599	[-0.351,0.109]	[-0.452,0.209]
PT	735	720	0.7766826	0.7461571	0.4867812	0.6267169	[-0.249,0.019]	[-0.383,0.162]
PP	880	707	0.6014848	0.5929944	0.3759787	0.6504857	[-0.424,-0.01]	[-0.547,0.103]

We estimate $\widetilde{L}^{Tr}$, $\widetilde{U}^{Co}$, $\widetilde{U}^{Tr}$ and $\widetilde{L}^{Co}$ from our data, and calculate confidence intervals using bootstrapping. Since the effect we estimate is negative, we are interested in whether $\widetilde{U}^{Tr} - \widetilde{L}^{Co}$ is less than zero. If $\widetilde{U}^{Tr} - \widetilde{L}^{Co} < 0$, the conclusions of our analysis remain unchanged. In contrast, if $\widetilde{U}^{Tr} - \widetilde{L}^{Co} \geq 0$, a nonnegative effect of incumbency cannot be ruled out with our assumption that $\gamma_u = \lim_{m \uparrow 0} E(Y_{it+1,k} | M_{it,k} = m, Z_{it+1,k} = 1)$ (note that $\gamma_l = 0$ is not an assumption).

Positive Incumbency Advantage Cannot Explain Negative Result

Imagine there is a positive personal incumbency advantage equal to γ which is the same for incumbent candidates of all parties and all time periods, and also that each party i receives baseline vote B_i in open seat races that is constant over time. When Party i is contesting the $t+1$ election, the vote that it receives in an open seats is $V_{it+1} = B_i$, the vote that it receives when Party i is running with an incumbent candidate is $V_{it+1} = B_i + \gamma$, and the vote that it receives when another party is running with an incumbent candidate is $V_{it+1} = B_i - \gamma$ (because the incumbent running for the opposition party takes the personal incumbency advantage).

Now define the RD estimand as $V^{Tr}_{it+1} - V^{Co}_{it+1}$, where Tr and Co indicate, respectively, the municipalities where Party i barely won and lost the previous election (election t). Thus, V^{Tr}_{it+1} is the vote share obtained by party i at $t+1$ in municipalities where the party won at t, and V^{Co}_{it+1} is the vote share obtained by party i in municipalities where it lost at t. Consider the table below, where each row is a possible scenario, and note that a positive advantage can never result in a negative RD effect in the Incumbent Sample. When Party i loses, some other opposition party wins; we call this opposition party Party j. We assume this party is an opposition party (i.e., the votes that j gets, it takes away from i).

Table S12: Possible Scenarios and Sign of RD Effect at $t+1$ Under Positive Personal Incumbency Advantage

	Treatment Group	Control Group	RD effect ($V^{Tr}_{it+1} - V^{Co}_{it+1}$)
(1)	Incumbent candidate runs	Incumbent candidate runs	$(B_i + \gamma) - (B_i - \gamma) = 2\gamma > 0$
(2)	Incumbent candidate runs	Open Seat	$(B_i + \gamma) - B_i = \gamma > 0$
(3)	Open Seat	Incumbent candidate runs	$B_i - (B_i - \gamma) = \gamma > 0$
(4)	Open Seat	Open Seat	$B_i - B_i = 0$

Note: Treatment group defined as municipalities where Party i won election t and control group as municipalities where Party i lost to some opposition party j at election t.

In the Incumbent sample, we only have scenarios (3) and (4), since there are no incumbents running at $t+1$ in the treatment group. We can see that the effect is either 0 or γ, never negative. In the Open Seat Sample, we have all four scenarios, so the effect can be 0, γ or 2γ. On average, the RD effect will be larger in the Open Seat sample, due to the inclusion of scenarios (1) and (2) (especially (1)). Thus, a positive personal incumbency advantage may explain why the effect in the Incumbent Seat Sample is *smaller* than the effect in the Open Seat sample, but it cannot explain why it is negative.

Thus, if the loss of the mayor's personalistic support were the true cause of the difference between the samples that we report in the paper, the negative effects we see would be caused by an unknown factor that affects both samples and causes an effect of equal absolute value to the effect observed in the Incumbent sample, but with a positive sign—this is how large the negative effect would have to be to turn a positive personal incumbency advantage into the negative results of the magnitude we observe. In the incumbent party analysis, this

unknown factor would need to account for a negative effect of 15 percentage points, equally affecting both samples. The fact that we have no theory for what this unknown factor may be, together with the fact that in the paper we corroborate several empirical implications of our model, suggests that this alternative explanation is implausible.

Additional Career Path Analysis

Overall

Table S13: Career Path of Brazilian Mayors Elected in 1996 (Full Sample)

1998	**Yes**		**No**
Runs	26		5350
	Yes	**No**	
Wins	2	24	
Runs with same party	9	17	
Runs and wins with same party	2		
2000	**Yes**		**No**
Runs	3646		1730
	Yes	**No**	
Wins	2097	1549	
Runs with same party	2575	1071	
Runs and wins with same party	1504		
2002	**Yes**		**No**
Runs	275		5101
	Yes	**No**	
Wins	43	232	
Runs with same party	116	159	
Runs and wins with same party	19		
2004	**Yes**		**No**
Runs	1282		4094
	Yes	**No**	
Wins	377	905	
Runs with same party	630	652	
Runs and wins with same party	198		
2006	**Yes**		**No**
Runs	390		4986
	Yes	**No**	
Wins	123	267	
Runs with same party	151	239	
Runs and wins with same party	63		
2008	**Yes**		**No**
Runs	2105		3271
	Yes	**No**	
Wins	605	1500	
Runs with same party	912	1193	
Runs and wins with same party	292		
2010	**Yes**		**No**
Runs	221		5155
	Yes	**No**	
Wins	85	136	
Runs with same party	85	136	
Runs and wins with same party	40		
2012	**Yes**		**No**
Runs	1079		4297
	Yes	**No**	
Wins	459	620	
Runs with same party	399	680	
Runs and wins with same party	188		

Note: All cells report counts, i.e. the number of mayors in each category. Results for all mayors elected in 1996.

Table S14: Career Path of Brazilian Mayors Elected in 2004 (Full Sample)

	Full Sample			**Elected to 2nd term**			**Elected to 1st term**		
2006	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	36		5484	23		1332	13		4152
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	8	28		7	16		1	12	
Runs with same party	15	21		9	14		6	7	
Runs and wins with same party	5			4			1		
2008	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	3251		2269	26		1329	3225		940
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	2141	1110		13	13		2172	1053	
Runs with same party	2253	998		13	13		2240	985	
Runs and wins with same party	1510			8			1502		
2010	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	334		5186	188		1167	146		4019
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	79	255		49	139		30	116	
Runs with same party	163	171		95	93		68	78	
Runs and wins with same party	46			26			20		
2012	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	1244		4276	621		734	623		3542
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	481	763		241	380		240	383	
Runs with same party	683	561		359	262		324	299	
Runs and wins with same party	274			145			129		

Note: All cells report counts, i.e. the number of mayors in every category. First two columns (labeled *Full Sample*) report results for all mayors who were elected in 2004, while the sets of columns labeled *Elected to 2nd term* and *Elected to 1st term* subset these results by reelection status. Columns labeled *Elected to 2nd term* report results for the subset of mayors elected in 2004 who in 2004 were reelected to their second consectuive term, while columns labeled *Elected to 1st term* report results for the subset of mayors who was elected in 2004 for their first consecutive term.

Table S15: Career Path of Brazilian Mayors Elected in 2008 (Full Sample)

	Full Sample			**Elected to 2nd term**			**Elected to 1st term**		
2010	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	55		5642	28		2098	27		3544
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	12	43		10	18		2	25	
Runs with same party	28	27		20	8		8	19	
Runs and wins with same party	12			10			2		
2012	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	2523		3174	22		2104	2501		1070
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	1393	1130		11	11		1382	1119	
Runs with same party	2034	489		15	7		2019	482	
Runs and wins with same party	1132			7			1125		

Note: All cells report counts, i.e. the number of mayors in every category. First two columns (labeled *Full Sample*) report results for all mayors who were elected in 2008, while the sets of columns labeled *Elected to 2nd term* and *Elected to 1st term* subset these results by reelection status. Columns labeled *Elected to 2nd term* report results for the subset of mayors elected in 2008 who in 2008 were reelected to their second consectuive term, while columns labeled *Elected to 1st term* report results for the subset of mayors who was elected in 2008 for their first consecutive term.

PT Versus Other Parties

Table S16: Career Path of Brazilian Mayors Reelected in 2004 to Second Consecutive Term: PT vs Other Parties

	All			**PT**			**Other Parties**		
2006	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	23		1332	2		70	21		1262
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	7	16		1	1		6	15	
Runs with same party	9	14		1	1		8	13	
Runs and wins with same party	4			1			3		
2008	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	26		1329	1		71	25		1258
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	13	13		1	0		13	12	
Runs with same party	13	13		0	1		13	12	
Runs and wins with same party	8			0			8		
2010	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	188		1167	33		39	155		1128
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	49	139		12	21		37	118	
Runs with same party	95	93		25	8		70	85	
Runs and wins with same party	26			11			15		
2012	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	621		734	33		39	588		695
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	241	380		8	25		233	355	
Runs with same party	359	262		28	5		331	257	
Runs and wins with same party	145			7			138		

Note: All cells report counts, i.e. the number of mayors in every category. First two columns (labeled *All*) report results for all mayors who were reelected in 2004 for their second consecutive term, while the sets of columns labeled *PT* and *Other Parties* subset these results by type of party. Columns labeled *PT* report results for PT mayors who in 2004 were reelected to their second consecutive term, while columns labeled *Other Parties* report results for mayors from all other parties who were reelected in 2004 for their second consecutive term.

Table S17: Career Path of Brazilian Mayors Reelected in 2008 to Second Consecutive Term: PT vs Other Parties

	All			**PT**			**Other Parties**		
2010	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	28		2098	7		196	21		1902
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	10	18		4	3		6	15	
Runs with same party	20	8		6	1		14	7	
Runs and wins with same party	10			4			6		
2012	**Yes**		**No**	**Yes**		**No**	**Yes**		**No**
Runs	22		2104	1		202	21		1902
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Wins	11	11		1	0		10	11	
Runs with same party	15	7		1	0		14	7	
Runs and wins with same party	7			1			6		

Note: All cells report counts, i.e. the number of mayors in every category. First two columns (labeled *All*) report results for all mayors who were reelected in 2008 for their second consecutive term, while the sets of columns labeled *PT* and *Other Parties* subset these results by type of party. Columns labeled *PT* report results for PT mayors who in 2008 were reelected to their second consecutive term, while columns labeled *Other Parties* report results for mayors from all other parties who were reelected in 2008 for their second consecutive term.

Public Good Provision Indicators for PT

Table S18: RD Effects of PT's Winning at t on Five Public Good Provision Indicators at $t+1$—Brazil Mayoral Elections, 1996-2012

	Outcome: Various Proxy Measures of Public Good Provision						
	Estimate	95% CI	p-val	h	$n_{\texttt{tr}}$	$n_{\texttt{co}}$	Difference
Share HESA Expend.							
All Seats	−0.48	[−2.47 , 1.14]	0.47	16.39	814	972	
Incumbent Sample	−1.90	[−7.44 , 3.24]	0.44	14.09	160	98	-1.77
Open Seat Sample	−0.14	[−2.22 , 1.65]	0.77	17.25	657	909	[−7.49 , 3.87]
Adm. Employment Growth							
All Seats	−0.13	[−8.09 , 6.77]	0.86	19.64	678	789	
Incumbent Sample	−8.17	[−30.02 , 8.55]	0.28	13.89	133	80	-9.29
Open Seat Sample	1.12	[−7.89 , 10.44]	0.79	16.30	471	588	[−33.37 , 9.35]
Social Assistance Expend.							
All Seats	−9,271.50	[−24,107.04 , 2,336.28]	0.11	13.06	361	382	
Incumbent Sample	−40,734.09	[−105,253.57 , 18,379.00]	0.17	11.50	65	39	-37,510.48
Open Seat Sample	−3,223.61	[−13,802.49 , 5,306.72]	0.38	13.52	287	353	[−101,740.88 , 23,362.08]
Housing Program							
All Seats	0.09	[0.02 , 0.17]	0.01	23.33	883	1,138	
Incumbent Sample	0.02	[−0.18 , 0.25]	0.76	17.12	178	113	-0.08
Open Seat Sample	0.11	[0.03 , 0.19]	0.01	24.41	674	1,060	[−0.31 , 0.15]
Housing Materials Program							
All Seats	−0.01	[−0.14 , 0.09]	0.68	15.42	703	768	
Incumbent Sample	−0.26	[−0.65 , 0.05]	0.09	10.37	112	84	-0.32
Open Seat Sample	0.05	[−0.09 , 0.17]	0.53	16.08	547	689	[−0.72 , 0.03]

Note: Running variable is party's margin of victory at t, outcome is public good provision indicator as indicated in row group label. Estimate is average treatment effect at cutoff estimated with local linear regression with triangular kernel and MSE-optimal bandwidth. Columns 2-6 report, respectively, 95% robust confidence interval, robust p-value, main optimal bandwidth, treated observations within bandwidth, and control observations within bandwidth. Last column reports difference in point estimates between Incumbent and Open Seat sample and corresponding 95% confidence interval.

Mayoral Victories: Incumbent versus Non-incumbent Candidates

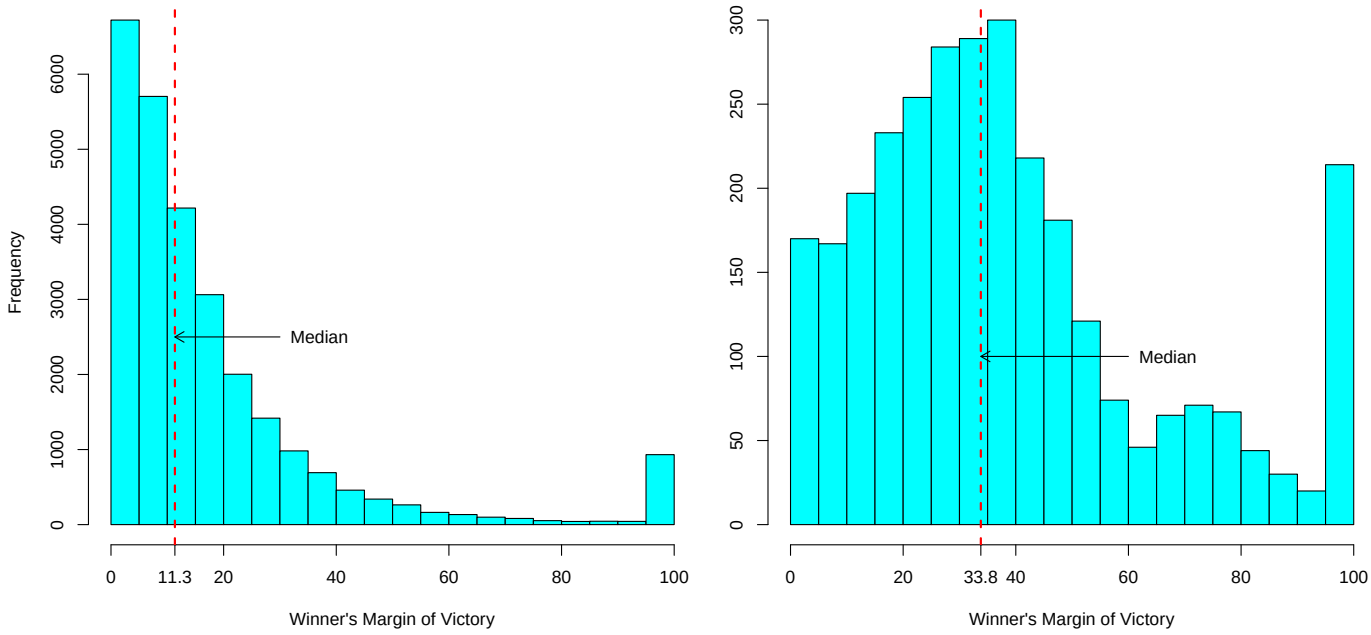
Table S19: Mayoral Victories of Incumbent Party by Type of Seat, 2000-2012

	Non-incumbent candidate runs	Incumbent Mayor Runs	Total
Incumbent Party Loses	2,492	3,201	5,693
Incumbent Party Wins	2,042	4,954	6,996
Total	4,534	8,155	12,689

Histogram of Close Races in Brazil and United States

Figure S4a shows the winner party's margin of victory in all mayoral elections in Brazil between 1996 and 2012, and shows that the majority of mayoral elections are highly competitive. In this period, the median margin of victory by the winning party is just 11.3 percentage points, and roughly a quarter of the races are decided by five percentage points or less. This is in stark contrast to noncompetitive settings such as the U.S. House elections, shown in Figure S4(b) for a similar time period, where the median margin of victory by the winning party is 33.8 percentage points, and where only about five percent of races are decided by less than five percentage points.

Figure S4: Histogram of Margin of Victory at t for Winner Party: Brazil vs. United States



(a) Brazil Mayoral Elections, 1996-2012

(b) U.S. House Elections, 1996-2010

Exploring the Correlation Between Negative Effects of Incumbency and Party Weakness Across Countries

We developed a proxy measure for party weakness based on the data from the Democratic Accountability and Linkages Project (DALP, Kitschelt 2013) in order to conduct a tentative cross-country analysis of the correlation between negative effects of incumbency and party weakness. Our measure incorporates the extent to which parties maintain continued presence at the municipal level, resort to clientelistic strategies, and are programmatically structured.[4] We performed individual party RD analyses analogous to those reported in rows 2-4 of Table 2 for Brazil, studying the effect of barely winning office at t on the probability of unconditional victory at $t+1$ for 21 different political parties from the six countries analyzed—Brazil, Chile, Colombia, Costa Rica, Mexico and Peru. Then, for each party, we created a "negative effect" indicator variable equal to one if the RD effect was statistically different from zero (at 5%) and negative, and zero otherwise.

In order to explore the correlation between negative party effects, term limits and party weakness, we regressed the negative effect indicator on the party weakness measure and an indicator equal to one if term limits restrict the reelection of incumbent mayors. We stress that this analysis is highly tentative: the sample size is limited, the party weakness measure we use does not perfectly capture the nature of the ties between individual candidates and party organizations central to our framework, and we are simply looking at associations. Thus, we see this analysis as suggestive and exploratory, not as definitive. The results are reported in Table S20. First, consistent with our findings in Figure 3 in the paper, the first column (second row) shows that there is a positive correlation between the presence of term limits and a significant negative effect of incumbency. Second, there is tentative evidence that party weakness, as measured by our proxy, is also positively associated with an incumbent party suffering subsequent electoral losses (the first row of column 1). Moreover, in line with our theoretical framework, this positive correlation between party weakness and costs of incumbency is present even when countries with term limits are analyzed separately (column 2), suggesting an interaction between party weakness and term limits.[5]

In sum, our preliminary analysis from five additional Latin American countries shows that the electoral losses associated with winning access to office are not unique to Brazil, and tentatively suggests that these effects are related to the existence of term limits and the extent of weakness of political parties. This preliminary analysis together with the generality of our theoretical framework suggests that our framework could be applied more widely to study the evolution of party systems in developing democracies.

[4] In particular, each party's score is the average of the local presence (variables a1-a3), clientelism (b1-b3), and the inverse of the CoSalPo score of programmatic structuration. See DALP codebook for details (Kitschelt 2014).

[5] The results are substantively unchanged if we fit a non-linear probability model such as probit rather than an OLS model.

Table S20: Party-Level Negative Effects, Term Limits, and Party Weakness

	All Countries	Countries With Term Limits
Party weakness score	1.24	1.24
	(0.41)	(0.50)
Term limits	0.37	
	(0.19)	
Parties	21	12

Note: Countries included are Brazil, Chile, Colombia, Costa Rica, Mexico and Peru.

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