Legislature Resizing with Rent-seeking Politicians: Evidence from Brazil*

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Abstract

Legislature size affects the quality of democracy. However, the existent scholarship still lacks a positive theory of resizing in contexts of low accountability and pervasive rent-seeking, where the often posed trade-off between greater efficiency and better representation might be irrelevant. This article fills this gap with a new logic: rent-seeking politicians decide whether to expand legislatures following a trade-off between better reelection prospects and a dilution in rents. Evidence comes from a regression discontinuity design, and a wave of 3,000+ council expansions in Brazilian municipalities. The likelihood that legislators approve an expansion decreases with the size of the mayoral coalition in the chamber, given that coalition councilors lose more from rent dilution. This effect is higher for politicians from office-seeking parties, and in areas with more patronage. Finally, this mechanism seems to trump concerns with representation, as I find no evidence that representation deficits in the council drive the expansion.

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Across countries, legislatures vary considerable in the size of their membership. Why? An extensive literature has shown that chamber size is a key institutional component of democracies, as it can influence public good provision (Cepaluni and Mignozzetti, 2020; Chen and Malhotra, 2007; Primo and Snyder, 2008), electoral outcomes (Frey, 2020; Shugart and Taagepera, 2017), and the ability of marginalized groups to obtain political representation (Aksoy, 2014; Boix, 1999). However, despite the centrality of this institution, we still lack a positive theory of legislature resizing.¹ Perhaps this gap can be attributed to the difficulty in isolating the factors that determine chamber size without an experimental setting, or because the debate on the topic has been dominated by normative considerations on optimal representation and efficiency:² while proponents of larger chambers point to better representation, especially for minority groups,³ others argue that smaller legislatures provide better governability.⁴

What is more, the trade-off between representation and efficiency might be inadequate to explain institutional design in many developing democracies, where voters often fail to keep politicians accountable for either policies or administrative efficiency. Accordingly, this article proposes and tests a novel logic to explain the choice of legislature size in contexts where politicians are primarily rent-seeking rather than policy-motivated (Boas, Hidalgo, and Richardson, 2014; Ferraz and Finan, 2008), accountability is limited (Arias et al., 2019; Ferraz and Finan, 2011), many voters remain marginalized (Bueno and Dunning, 2017; Fergusson et al., 2021), and clientelism is pervasive (Gingerich, 2014; Hidalgo and Nichter, 2015; Larreguy, Marshall, and Querubín, 2016).

The logic here rather frames the problem around the incentives of rent-seeking politicians, and the trade-off that they face between eligibility and access to the rents of office when resizing a legislative house. The basic argument is simple: while larger legislatures increase the probability of incumbents being reelected, thus allowing them to continue to extract rents, they also dilute the resources available to every individual legislator.

I show evidence of this mechanism in the wave of council expansions in Brazilian municipalities

¹This is surprising, given the numerous positive theories that explain the choice of regime or electoral system, for example: Acemoglu and Robinson (2000); Benoit (2007); Boix (1999).

²The debate between representation and efficiency is as old as legislatures themselves, as exemplified by following excerpt from the Federalist No. 55: "in all cases a certain number at least seems to be necessary to secure the benefits of free consultation and discussion... on the other hand, the number ought at most to be kept within a certain limit, in order to avoid the confusion and intemperance of a multitude."

³See for example the NY Times op-ed piece from 2018 in http://nyti.ms/39I9zi0.

⁴For example, politicians in the UK (http://bit.ly/3q1BYpc), France (http://bit.ly/2YUSg7x), and Italy (http://bbc.in/3rEzL3v) have recently used governability to justify a push for smaller legislatures.

in 2010-2012. Up to 2008, the size of local councils was set in stone by federal legislation. In 2009, a constitutional amendment increased the size limits for all municipalities with population above 15,000, also giving councils full autonomy to decide whether or not to expand. As a result, 78% of the nearly 4,300 eligible municipalities upsized their legislatures. Brazil provides an ideal setting to examine this rent-seeking mechanism, given the low levels of accountability and trust in politicians (Ferraz and Finan, 2011; Weitz-Shapiro and Winters, 2017). In fact, the disconnect between representation demands and the choices of politicians is also underscored by the anecdotal evidence from municipalities that conducted opinion polls about this process in 2010-2012: even though the majority of municipalities decided to expand, these surveys showed massive popular resistance to the idea (90-95% of voters were against council increases).⁵

First, I examine how the differential access to the rents of office by local councilors changes the chamber's probability of expanding. Here, I use variation across municipalities in the number of councilors that belong to the coalition that supports the mayor. In Brazil, mayors have ample control over the execution of the public budget, but require the council's support for the approval of legislation and political survival. Councilors, on the other hand, depend on the executive to obtain rents (Colonnelli, Prem, and Teso, 2019; Novaes, 2018; Toral, 2019). This interdependence often takes the form of multiparty, ideologically inconsistent coalitions primarily sustained by patronage (Frey, 2020). In this context, when defining the chamber size, the incentives for councilors that support the mayor (*coalition councilors*) are different from the ones of *opposition councilors*: while both benefit from better reelection prospects when there are more seats, coalition councilors disproportionately lose from a dilution in rents. This logic motivates two predictions that I test in the data: (i) councils with large mayoral coalitions are *less* likely to approve an expansion; and (ii) this effect should be stronger when coalitions are more likely to be sustained by patronage rather than ideology.

Accordingly, I obtain quasi-random variation on the size of the mayoral coalition in the council using a regression discontinuity design (RDD) on close electoral races between mayoral and opposition councilors for the marginal seat in 2008. The results show that one additional coalition councilor reduces the probability of a legislature expansion by 46 percentage points, from a baseline of 78%. What is more, this effect is concentrated in two subsamples: one where the marginal coalition councilor comes from one of the following large, center-right, office-seeking parties in Brazil that form a

⁵For example, see the cases of Foz do Iguaçu (PR), Itapira (SP), and Montes Claros (MG) in http://bit.ly/39Asz1Y, http://bit.ly/36wGGUl, and https://bit.ly/36z4EOJ; respectively.

"weakly ideological, pragmatic, office-seeking" group whose political survival depends on the "state largesse and the exchange of favors" (Power and Rodrigues-Silveira, 2018): PMDB, PP, PL, and PTB. The effect is also stronger in municipalities where the local administration significantly increases expenses with personnel, likely because public sector jobs are a common form of political patronage in Brazil (Colonnelli, Prem, and Teso, 2019; Toral, 2019).

Finally, I also show that the narrative that legislatures are primarily designed to achieve optimal representation fails to explain the expansion pattern of local councils. Employing the same RD design, I now leverage quasi-random variation in the share of local legislators that belong to three underrepresented groups in local politics: women, leftist candidates, and less educated candidates – a proxy for class-based representation (Desai and Frey, 2021). Recent empirical work has shown that increases in political representation of marginalized groups can shift policies towards the group preferences (Brollo and Troiano, 2016; Desai and Frey, 2021; Pande, 2003). Thus, if larger councils lower the electoral threshold for eligibility, and successfully reduce representation deficits, then legislators from marginalized groups should be more likely to support expansions. The results, however, fail to show any evidence of this mechanism. This again suggests that rent-seeking incentives are much more likely to motivate politicians than concerns with representation in this context.

Hypotheses: the logic of council design in Brazil

Brazil has a fragmented political system characterized by multiple weak parties (Klašnja and Titiunik, 2017), low trust in politicians (Weitz-Shapiro and Winters, 2017), and personalistic politicianvoter linkages often based on clientelism (Gingerich, 2014; Nichter, 2018).

Municipal elections are highly relevant in this context, given that local administrations implement most public spending in areas such as heath, education, and infrastructure; with resources transferred from higher government levels. They hold simultaneous elections every four years for the executive position (mayor), and a council composed by 9 to 21 members (2008), elected in an open-list, atlarge system. While mayors control both budget execution and hiring, they rely on the support of councilors for the approval of legislation, to minimize the risk of prosecution (Poulsen and Varjao, 2019), and also as vote brokers (Novaes, 2018).

As a result, the effectiveness of local administrations depends on the mayor's ability to maintain a

large coalition in the council. However, in a country with roughly 30 parties, and where the average municipality has less than 3 mayoral candidates, these coalitions are often broad - the average mayor is supported by 6+ parties – ideologically inconsistent, and unstable (Frey, 2020). What is more, many of the large center-right parties in Brazil belong to a "weakly ideological, pragmatic, office-seeking" group whose political survival depends on the "state largesse and the exchange of favors" (Power and Rodrigues-Silveira, 2018). Not surprisingly, the strength of local coalitions often depends on the *quid-pro-quo* between mayor and individual councilors, where the latter exchange their political support for patronage (Cepaluni and Mignozzetti, 2020; Colonnelli, Prem, and Teso, 2019).

This paper examines the logic of council resizing in this environment. In doing so, it argues that rent-seeking incentives lead councilors to face the following trade-off when deciding whether or not to increase the legislature's size: in the one hand, a larger chamber lowers the electoral threshold, likely increasing the probability of reelection for incumbents. Not surprisingly, the 2009 constitutional amendment in Brazil was primarily a demand from the parties, as opposed to voters.⁶ On the other hand, if resources are limited, a larger chamber dilutes the available patronage to each individual councilor. Now, although the electoral threshold falls for *ALL* politicians, coalition councilors are the ones more likely to lose from a dilution in rents.⁷ This simple logic generates the following two hypotheses that can be tested in the data.

- **H1:** The *higher* the number of coalition councilors in the legislature, the *less* likely an increase in the number of seats.
- **H2:** The effect in H1 should be *stronger* in municipalities where mayor-council coalitions are more likely to rely on patronage instead of common ideology and policy goals.

This mechanism deviates from the conventional wisdom that legislatures are primarily sized to provide optimal representation (Taagepera and Shugart, 1993). Despite the adoption of political systems that largely resemble developed democracies, with a nearly universal voting franchise, many developing democracies still sustain severe representation gaps. Brazil, for example, still has legislatures where women, non-whites, and candidates that descriptively resemble the poor are severely

⁶As stated by Political Scientist and Director of the NGO *Transparência Brasil*, Claudio Abramo, this legislation had "nothing to do with the communities". https://bit.ly/2YxFifJ.

⁷Note that larger councils imply that mayors need to acquire the loyalty of more individual councilors to reach the same level of proportional support in the legislature as before (one councilor, one vote).

underrepresented (Brollo and Troiano, 2016; Bueno and Dunning, 2017). This problem also extends descriptive representation to ideological preferences: right-wing parties that represent the economic interests of the elite often "win elections in developing nations where voters are overwhelmingly poor" (Desai and Frey, 2021).⁸ Such deficits can generate policy biases, given that both descriptive and ideological representation often translate into favorable policy outcomes (Brollo and Troiano, 2016; Pande, 2003). In this context, the conventional wisdom above implies the following hypothesis.

H3: The *higher* the number of councilors from underrepresented groups, the *more* likely an increase in the number of seats.

Empirical design and data

The constitutional amendment 58/2009 gave Brazilian municipalities with population above 15,000 the option to increase their council size from the previous, mandatory seat assignments in place for 2008.⁹ Thus, the main outcome in this paper is a binary variable that indicates whether or not the council approved a seat increase during the 2009-2012 tenure. Overall, 78% of the 4,280 eligible municipalities increased their councils preceding the 2012 municipal election, despite the fact that the resizing requires the approval of 2/3 of the council votes.

This paper primarily examines the effect of the size of the mayoral coalition in the council on the legislature's decision to approve an expansion. To this end, it employs a regression discontinuity design (RDD) to obtain quasi-experimental variation in the number of coalition councilors. More precisely, the RDD identifies the causal effect of electing one coalition candidate for the last council seat, in a close race against an opposition candidate. Thus, the effective sample here only includes elections in which the last council seat was contested for by one coalition and one opposition candidate – a total of 1,303 municipalities.¹⁰

In legislative elections for all government levels in Brazil, parties form pre-electoral coalitions to compete for proportional representation.¹¹ Municipal races are open-list, at-large elections, where

⁸Only 26% of the local councilors elected in Brazil in 2008 came from Center-left or Left-wing parties.

⁹See Figure A.3 in the appendix (page 8) for the seat limits for different population levels. The minimum number of seats remained at 9 for all municipalities.

¹⁰The data containing all results and characteristics of candidates for the 2008 and 2012 elections comes from the Brazilian Electoral Court (TSE).

¹¹Starting in the recent 2020 municipal election, coalitions are no longer allowed in legislative races.

voters cast a vote for either a candidate or a party. In either case, the vote counts for the coalition. For the running variable in the RDD (rv), I use the distance in the ratio of votes per seat between the two coalitions competing for the last council seat. The precise construction of this running variable is described in detail in Appendix A, where I also describe the seat allocation mechanism in Brazilian legislative elections.¹² Thus, the RD treatment effect is estimated with the equation below:

$$y_i = \beta_0 + \beta_1 t_i + \beta_2 r v_i + \beta_3 t_i r v_i + \delta_{sta} + \delta_{seat} + \theta_i + \epsilon_i$$
(1)

where the effect of treatment t_i on y_i is given by β_1 . I estimate this effect for municipalities with a comparable number of seats, pre-treatment, with fixed-effects for the council seats in 2008 (δ_{seat}). I also include state fixed-effects (δ_{sta}), and a vector of pre-treatment covariates (θ_i).¹³ As usual, regressions are weighted by the triangular kernel, and the appendix shows both covariate balance (Table A.1) and the density of the observations at the discontinuity (Figure A.4).

I note that the council increases approved in 2008-12 only became effective in the subsequent tenure (2013-16). Thus, this empirical strategy only fits the hypotheses if the **coalition councilors** elected in 2008 are more likely than **opposition councilors** to believe that they will remain in the mayoral coalition after the 2012 election. That said, this assumption is highly consistent with the information available to these politicians in 2008-12. Figure A.2 (appendix) shows that coalition councilors in 2004 where 63% more likely to run for reelection (in 2008) in the coalition of the mayoral coalidate that eventually won in 2008.

Finally, I also use the RDD to assess H3 for three categories of politicians: women, Left-wing candidates, and candidates with low education. These demographic/ideological groups are under-represented in Brazilian politics: of all municipal legislators elected in 2008, 13% were women, 43% had less than a high-school degree – in contrast to 60% of the adult population – and 26% were from Left or Center-Left parties (nearly 50% of voters placed themselves in that range of the ideological spectrum).¹⁴ Here, the RD leverages quasi-experimental variation in council composition based on the traits of the marginal candidates in the coalitions that competed for the last seat.

¹²Poulsen and Varjao (2019) use a similar empirical strategy.

¹³The list of covariates in shown in Table A.1 in the appendix (page 2). In RD designs covariates are used to improve the precision of the estimates, and they do not play a role in the identification of the effects. The results are robust to the exclusion of covariates, as shown in the appendix (Table A.2).

¹⁴Voters that scores 5 and below in a 1-10 LR scale, from the 2010 Brazil LAPOP survey (Desai and Frey, 2021).

Results

Table 1 shows a direct test of H1, with results for different bandwidths and polynomials in the RDD. Figure A.1 (appendix) shows the graphical representation of the results.¹⁵

	(1)	(2)	(3)	
Panel A: Did the council approve a seat incre	ase? (share of muni	cipalities that did)		
RD Effect	-0.458* (0.167)	-0.428* (0.165)	-0.386* (0.155)	
Pre-Tre. mean	0.776	0.737	0.745	
Optimal bandwidth	1.28	2.31	4.10	
Observations	178	312	507	
Panel B: Size of the mayoral coalition in the council (share of seats)				
RD Effect	0.119*	0.136*	0.113*	
	(0.054)	(0.056)	(0.056)	
Pre-Tre. mean	0.479	0.483	0.486	
Optimal bandwidth	1.48	2.60	4.51	
Observations	198	345	553	
Polynomial	Linear	Quadratic	Cubic	

Table 1: Cout	ncil size i	ncreases and	d support	for the	mayor
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 $\dagger p < 0.1$, $\star p < 0.05$. The dependent variable in Panel A indicates whether or not the municipality increased the council size. In Panel B, it is the share of seats that belong to the mayoral coalition. Standard errors are heteroskedasticity robust (parenthesis). The coefficients reflect the regression in equation 1.

Panel A shows that an additional coalition councilor reduces the probability of an expansion by more than 40 percentage points (pp), from a baseline of 78% (column 1). This effect represents on average a 10% increase in council size – as shown in Table A.2 (appendix). Panel B confirms that, at the discontinuity, the average share of the mayoral coalition in the council increases by nearly 12pp from a baseline of 48%.

Effect heterogeneity as evidence for the mechanism

H2 suggests that the effect above should be stronger in municipalities where patronage is a more significant component within the mayoral coalition, as opposed to ideological and policy considera-

¹⁵In the appendix, Table A.2) shows robustness to the exclusion of covariates.

tions. Despite the ample anecdotal evidence of the *quid-pro-quo* between mayors and councilors in Brazil (Frey, 2020), there is no systematic measure of this rent-seeking behavior across municipalities. Thus, here I use two proxies for the level of patronage in the mayor-councilor relationship.

First, I examine how the RD effect above varies by the party of the marginal coalition councilor. More precisely, I focus on the subsample where they belong to one of the following large, office-seeking parties: PMDB, PP, PL, PTB – 35% of all observations. These parties have been part of every presidential coalition since 1994 (under Left or Right incumbents), a behavior that is also often observed in state and municipal governments. The left-side plot in Figure 1 shows the results:¹⁶ most of the effect estimated in Table 1 comes from councilors that belong to "rent-seeking" parties, as opposed to other large, more ideological parties such as PT, PSDB, and DEM.



Figure 1: RD effect heterogeneity

All intervals reflect a 95% confidence level. The left-side plot shows the coefficients for both subsamples, and their difference. The right-side plot shows the marginal RD effect along the value of the x-axis variable.

Second, local patronage in Brazil often takes the form of public sector jobs (Colonnelli, Prem, and Teso, 2019; Toral, 2019). Accordingly, I use the FINBRA database¹⁷ on local spending to compute the change in the share of the municipal budget spent with personnel for each municipality between council tenures (2008-12 vs. 2005-08). The intuition here is that administrations that had more

¹⁶The coefficients represent the interaction of the treatment variable with a dummy (r_i) that indicates whether the marginal council candidate is from one of the parties above.

¹⁷https://www.gov.br/tesouronacional/pt-br/estados-e-municipios/dados-consolidados/finbra-financas-municipais.

significant increases in this spending category were the ones that more likely increased patronage. Figure 1 (right-side plot) shows that the marginal RD effect on council resizing significantly increases along the value of this variable, and it is strong and statistically significant for the 60% of the sample with the larger increases in personnel spending.

COUNCIL RESIZING AND REPRESENTATION DEFICITS

Finally, I examine whether the council's decision to expand is also influenced by the conventional wisdom that legislators from underrepresented groups are more likely to prefer a larger council (H3). To this end, I replicate the RD design described before, now examining quasi-experimental variation in the number of councilors that are (i) women; (ii) less educated; and (iii) Left-wing.

Table 2 below shows a null effect for all categories, i.e, councils with larger shares of underrepresented groups are no more or less likely to add seats. One might be concerned that this estimation lacks statistical power in some cases, given that samples are fairly small under the optimal bandwidths. Nevertheless, the appendix (Table A.4) shows that the results remain insignificant for different bandwidths and polynomials in the estimation. Overall, these results suggest that rent-seeking incentives are more likely to motivate legislature resizing than concerns with representation in this context.

Marginal councilor is	Female	Less Educated	Left-wing
RD Effect	0.314	0.252	-0.158
	(0.338)	(0.164)	(0.178)
Pre-Tre. mean	0.695	0.672	0.858
Optimal bandwidth	1.24	1.29	1.15
Observations	65	134	121

Table 2: Council resizing and the presence of underrepresented groups

p<0.1, p<0.05. The dependent variable is a dummy that indicates whether the municipality increased the council size. Standard errors are heteroskedasticity (parenthesis). The coefficients reflect the regression in equation 1.

CONCLUSION

This article proposes and tests a theory of legislature resizing centered around the trade-off faced by rent-seeking politicians: while larger chambers might improve the reelection prospects for ALL legislators, they disproportionately dilute the rents for the ones with better access. Evidence for this mechanism comes from close races for Brazilian local council seats between candidates that support the mayor, and thus receive more patronage, and opposition ones. The results show that the higher the mayor's support in the council, the lower the probability that the chamber approves an expansion. This effect is higher for politicians from pragmatic, office-seeking parties, and in municipalities with more patronage. What is more, there is no evidence that concerns with optimal representation of marginalized groups play a role in the council's decision to resize. Overall, these findings provide an useful framework for future research that aims to understand why, in many developing democracies, representation deficits alone might not be enough to motivate institutional changes that increase the inclusiveness of the political system.

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Appendix for Online Publication

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A METHODOLOGY FOR ALLOCATION OF COUNCIL SEATS IN BRAZIL

The electoral competition in local legislative elections is at the coalition level. Seats are allocated to each coalition through the following process:

- (i) every municipality has an electoral quotient (*QE*), which is the number of valid votes divided by the seats. Only coalitions that obtain more votes than the *QE* gain seats in the council. Consider a municipality with 10,000 votes and 10 seats in contention (*QE* = 1,000). If there are three coalitions (A, B and C) with 5,700, 3,500, and 800 votes; only A and B win seats.
- (ii) The first batch of seats allocated to every winning coalition depends on the number of coalition votes divided by *QE*, rounded down to the lowest integer. For example, coalitions A and B above win 5 and 3 seats; respectively.
- (iii) The remaining seats (2, in the example) are progressively allocated to the coalitions that have the highest marginal vote/(seat+1) – the residual ratio (*RR*). For example, A wins the 9th seat, given that $RR_A = 5,700/(5 + 1) = 950$, and $RR_B = 3,500/(3 + 1) = 875$. The process is repeated for every seat until all are allocated among the winning coalitions. Individual seats are allocated to candidates according to their within-coalition vote ranking.

For the RD design, I define the running variable as $rv = (RR_c - RR_o)/QE$, where RR_c and RR_o are the residual ratios for the allocation of the last council seat between a candidate in a coalition that supports the mayor (RR_c), and other in one that does not (RR_o). This difference in ratios is normalized by the average votes/seat ratio in the municipality (QE).

B TABLES

	(1)	(2)	(3)
Votes per seat	-0.090	-0.051	-0.056
-	(0.114)	(0.121)	(0.121)
	180	314	502
GDP 2008 (log)	-0.102	-0.062	-0.229
	(0.248)	(0.254)	(0.238)
	172	298	488
Semi-arid	0.035	0.069	0.068
	(0.067)	(0.077)	(0.071)
	159	251	426
Metro-area	-0.151	-0.172	-0.177
	(0.135)	(0.144)	(0.144)
	178	307	478
Lameduck mayor	-0.134	-0.171	-0.106
	(0.177)	(0.189)	(0.177)
	192	336	544
Municipal Budget	0.111	0.106	0.065
	(0.112)	(0.115)	(0.110)
	180	321	518
Admin. Spending	0.016	-0.010	-0.009
	(0.033)	(0.030)	(0.026)
	137	236	407
Polynomial	Linear	Quadratic	Cubic

Table A.1: Balance of covariates	(continues on the next page)
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 $p^{0.1}$, $p^{0.05}$. The RD effect is shown for each variable. Standard errors are heteroskedasticity robust and presented in parenthesis. The number of observations is shown below. Bandwidths are optimal, and the regressions include fixed-effects for state and 2008 council seats. The Table continues on the next page...

	(1)	(2)	(3)
Party is Big 5	-0.163	-0.263	-0.151
	(0.188)	(0.193)	(0.184)
	180	308	506
PT's federal base	0.073	0.074	0.109
	(0.178)	(0.186)	(0.176)
	195	338	533
New Party	0.137	0.185	0.201
	(0.145)	(0.150)	(0.146)
	193	340	540
Polynomial	Linear	Quadratic	Cubic

Table A.1: Balance of covariates (continued)

p<0.1, p<0.05. The RD effect is shown for each variable. Standard errors are heteroskedasticity robust and presented in parenthesis. The number of observations is shown below. Bandwidths are optimal, and the regressions include fixed-effects for state and 2008 council seats.

The variables are defined as follows:

Votes per seat: Valid votes for the council divided by the total council seats in 2008 (source: TSE).

GDP 2008: Municipal GDP calculated in 2008, in R\$ (source:IBGE).

Semi-arid: Dummy that indicates whether the municipality is one of the 1,133 located in the semi-arid region (source:IBGE).

Metro-area: Dummy that indicates whether the municipality belongs to a metropolitan area (source:IBGE).

Lameduck mayor: Dummy that indicates whether the 2008 mayor is term limited (source: TSE).

Municipal Budget: Per capita average municipal budget, pre-treatment (2005-08), in logs (source: FINBRA).

Admin. Spending: Average share of the municipal budget spent in administrative functions, pre-treatment (source: FINBRA).

Party is Big 5: Marginal councilor belongs to one of the largest 5 parties in Brazil: PMDB, PSDB, PP, PT or PFL (source: TSE).

PT's federal base: Marginal councilor DOES NOT belong to one of the following parties that opposed PT's federal administration: PSDB, PFL (DEM), PPS or PV (source: TSE).

New Party: Marginal councilor belongs to a party that was not yet represented in the council (source: TSE).

Dependent Variable	Council Resizing	Share of Mayoral Coalition	Change in the Number of Seats
RD Effect	-0.432*	0.113*	-0.108*
	(0.162)	(0.056)	(0.054)
Optimal bandwidth	1.28	1.48	1.41
Observations	178	198	193

Table A.2: Robustness to the exclusion of covariates

p<0.1, p<0.05. Standard errors are heteroskedasticity robust and presented in parenthesis. The coefficients reflect the regression described in equation 1 (linear polynomial), without the vector of covariates from Table A.1. The first two outcome variables are defined in the text. The one in column 3 is the log change in the number of seats between 2008 and 2012.

Marginal councilor is	Female	Less Educated	Left-wing
RD Effect	0.352*	0.149*	0.139*
	(0.135)	(0.059)	(0.059)
Pre-Tre. mean	0.110	0.300	0.280
Optimal bandwidth	1.39	1.46	1.61
Observations	73	151	160

Table A.3: Share of underrepresented groups in the council

p<0.1, p<0.05. The dependent variable is the share of the council composed by politicians that fit the profile described in the header. Standard errors are heteroskedasticity robust and presented in parenthesis. The coefficients reflect the regression described in equation 1.

Marginal councilor is	Female	Less Educated	Left-wing
Panel A: Quadratic Polynomial			
RD Effect	0.088	0.260	-0.218
	(0.293)	(0.170)	(0.174)
Pre-Tre. mean	0.660	0.649	0.842
Optimal bandwidth	2.24	2.33	2.13
Observations	106	239	215
Panel B: Cubic Polynomial			
RD Effect	-0.139	0.236	-0.246
	(0.257)	(0.181)	(0.175)
Pre-Tre. mean	0.702	0.644	0.839
Optimal bandwidth	3.78	3.91	3.65
Observations	171	368	352

Table A.4: Council resizing and underrepresented groups (Robustness)

p<0.1, p<0.05. The dependent variable is a dummy that indicates whether the municipality increased the council size. Standard errors are heteroskedasticity robust and presented in parenthesis. The coefficients reflect the regression described in equation 1, with additional interactions the treatment dummy with a higher degree polynomial of the running variable.

C FIGURES



Figure A.1: Graphical representation of the RD effects

The right side of each plot shows the treatment observations. The left-side plot shows effects for the probability of a council increase (Panel A of Table 1). The right-side for the share of the council that supports the mayor (Panel B of Table 1). The outcome variables are normalized (demeaned) by the fixed-effects and pre-treatment covariates in equation 1. The lines show a quadratic fit.



Figure A.2: Coalition councilors in 2004 are also more likely to support the mayor in 2008

Each column represents the share of councilors in that status.



Figure A.3: Seat caps by population for 2012

Valid in 2012. The lowest level is 9 seats, the cap increases by 2 at every new range, up to 55.

Figure A.4: Density of observations around the discontinuity

For each one of the four RD designs, according to the profile of the candidates competing for the marginal seat.