

Legislature Resizing with Rent-Seeking Politicians: The Impact of Executive-Legislature Coalitions*

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Abstract

Legislature size impacts democracy quality. However, we know surprisingly little about how the rent-seeking motivations of politicians influence its choice, despite the extensive research on how these very incentives shape political regimes or electoral systems. This article helps to fill this gap by examining an expansion wave in 2,000+ municipal legislatures in Brazil, where local executives often use patronage to acquire the legislators' support. Using a regression discontinuity design, I find that the higher the mayoral coalition in the council, the lower the likelihood that legislators expand it. I interpret this finding within a logic where politicians decide whether or not to expand legislatures based on a trade-off between better reelection prospects and a dilution in rents: while the former benefits all legislators, the latter particularly hurts coalition councilors. Consistently, this effect is higher in municipalities with more patronage, and when councilors are less concerned with their reelection chances.

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Legislatures vary considerable in their size, both within and across countries. Why? A recent literature has shown that legislature size influences public good provision (Mignozzetti, 2021), electoral outcomes (Frey, 2022; Shugart and Taagepera, 2017), and the representation of marginalized groups (Boix, 1999). In this context, it is puzzling that little attention has been paid to how the rent-seeking motivations of political incumbents influence the choice of legislature size.¹ This is even more surprising in light of the extensive research that studies how these very incentives shape changes in other institutions such as political regimes or electoral systems (Acemoglu and Robinson, 2000; Benoit, 2004, 2007; Boix, 1999). Perhaps this gap can be attributed to the difficulty in isolating the determinant factors without an experimental setting, or because the debate has often been dominated by normative considerations on optimal representation and efficiency:² while proponents of larger chambers point to better representation,³ others argue that smaller legislatures provide better governability.⁴

This short article helps to fill this gap in two ways. First, I present a logic of legislature resizing where rent-seeking politicians face a trade-off between eligibility and access to rents. The argument is simple: while larger chambers increase the reelection probability, they also dilute the patronage available to legislators. Second, I examine its empirical implications using a recent wave of expansions in local councils in Brazil, where a 2009 constitutional amendment allowed municipalities with population above 15,000 to decide whether or not to expand their legislatures to newly created limits. This unprecedented event provides a suitable context to test the implications of this logic, particularly because Brazilian politicians are primarily rent-seeking (Boas, Hidalgo, and Richardson, 2014), and clientelism is ubiquitous (Gingerich, 2020; Hidalgo and Nichter, 2016).

The first part of the above trade-off follows directly from the fact that larger councils imply lower electoral thresholds in these Brazilian *at-large* elections, and therefore better reelection prospects for all legislators. The second part follows from the nature of the executive-council coalitions in Brazil. Although mayors have ample control over spending and hiring, they rely on the council's support for the approval of legislation and to avoid prosecution. This relationship is often mediated by multiparty coalitions, which the executive typically sustains with patronage jobs (Colonnelli, Prem, and Teso, 2020; Toral, 2023, 2022). Thus, to reach the same level of proportional support in larger councils, pro-mayor coalitions have to rely on more individual members and parties (Frey, 2022). This implies that legislators face a dilution in rents after a council expansion, one that is

¹The notable exception is Gerzso and van de Walle (2022), discussed in detail in the Theory section.

²This debate is exemplified by 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 (<http://nyti.ms/39I9zi0>).

⁴Examples from the UK (<http://bit.ly/3q1BYpc>) and France (<http://bit.ly/2YUSg7x>).

particularly hurtful to pro-mayor councilors.

The first testable implication of this logic is that councils with a **higher** share of pro-mayor members should also be **less** likely to expand. To precisely identify this pattern in the data, I obtain quasi-random variation on the size of the mayoral coalition in the council using a regression discontinuity design (RDD) on close races for the last seat in 2008, in cases where it was contested between pro-mayor and opposition candidates. The RD shows that one additional pro-mayor councilor reduces the council expansion probability by 31 p.p..

This logic has also two implications for patterns of heterogeneity in the effect. First, the effect should be stronger where pro-mayor coalitions are more reliant on patronage. I follow [Colonnelli, Prem, and Teso \(2020\)](#) to create a proxy for local patronage that relies on the public employment offered to campaign donors. Not surprisingly, the RD effects are concentrated in municipalities where donors to pro-mayor councilors are more likely to be employed by the bureaucracy after the election. Second, the effects should be weaker when councilors perceive their reelection chances as slim. In these cases, pro-mayor councilors facing the electability-patronage trade-off might prefer larger legislatures, just as their opposition counterparts would. I use a proxy for reelection “safety” based on the electoral performance of the marginally elected councilor in the municipality to show that the effects are indeed weaker for municipalities where the marginal councilor is “unsafe”.

I emphasize that this article does not aim to examine all potential factors that influence legislature resizing, or to adjudicate between different mechanisms. It rather isolates the effects of the single mechanism described above.⁵ In that, it complements a sparse literature that examines the drivers behind changes in national legislatures. Both [Jacobs and Otjes \(2015\)](#) and [Marland \(2019\)](#) focus on the role of the trade-off between representation and efficiency: the latter shows that Canadian politicians use both arguments to justify resizing, and the former uses 134 democracies to show that representation explains expansions better than reductions, which are mostly motivated by budget cuts. Finally, [Gerzso and van de Walle \(2022\)](#) shows how national executives in Africa use legislature expansions to increase their political power, in contrast to the mechanism here that presents a way in which the executive and its allies benefit from smaller legislatures.

BACKGROUND: LEGISLATURE RESIZING IN BRAZILIAN MUNICIPALITIES

Brazilian municipalities hold elections every 4 years for the executive (mayor), and a council of 9 to 21 members (in 2008), elected in an open-list, at-large system. The public sector is highly decentralized, and local ad-

⁵Nevertheless, in page 4 I briefly discuss anecdotal evidence of other potential motivations that, almost certainly, also influenced the wave of council expansion decisions in the particular case of Brazil.

ministrations control most public spending in areas such as health, education, and infrastructure, financed by transfers from higher levels. While mayors control both budget execution and hiring, they rely on the council to approve legislation, avoid prosecution (Poulsen and Varjao, 2019), and also as electoral brokers (Novaes, 2018).

Hence, the success of local administrations depends on the strength of the mayor's coalition in the council. However, in a country with nearly 30 parties and less than 3 mayoral candidates per race, these alliances are broad – the average mayoral coalition has 6+ parties – and often ideologically inconsistent (Frey, 2022). What is more, many parties are rent-seeking and pragmatic, surviving primarily on the “state largesse and exchange of favors” (Power and Rodrigues-Silveira, 2018). Not surprisingly, the council support is often acquired with patronage, primarily through public sector jobs (Colonnelli, Prem, and Teso, 2020; Toral, 2023, 2022).

In this context, this article examines a wave of expansions in local councils. Until the 2008 elections, federal legislation established the precise size of councils based on population thresholds. A constitutional amendment passed in 2009 changed this regulation in two ways. First, it stipulated a maximum number of councilors in each municipality, rather than an exact size. Second, it modified all population thresholds from the previous rule. As a result, the vast majority of municipalities larger than 15,000 were given the chance to expand their legislatures preceding the 2012 election. What is more, the potential increase varied between 1 and 10 seats. Table A.1 (appendix) shows the potential for expansion for every relevant population level. All in, expansions were approved by 79% of the eligible municipalities, a decision that required the vote of 2/3 of the council.

An expansion in council size would have at least two key implications for local political dynamics. First, larger houses imply lower electoral thresholds in at-large races. This means that incumbent councilors should be more likely to be reelected in 2012 in municipalities that expanded. Figure 1 shows that this is the case, as incumbent councilors were 3.3% more likely to attempt reelection in these locations; and those who did so were 14.6% more likely to be reelected.⁶ The placebo columns show that these patterns are absent for the same group of municipalities in 2004-2008, when the size of local councils remained constant.

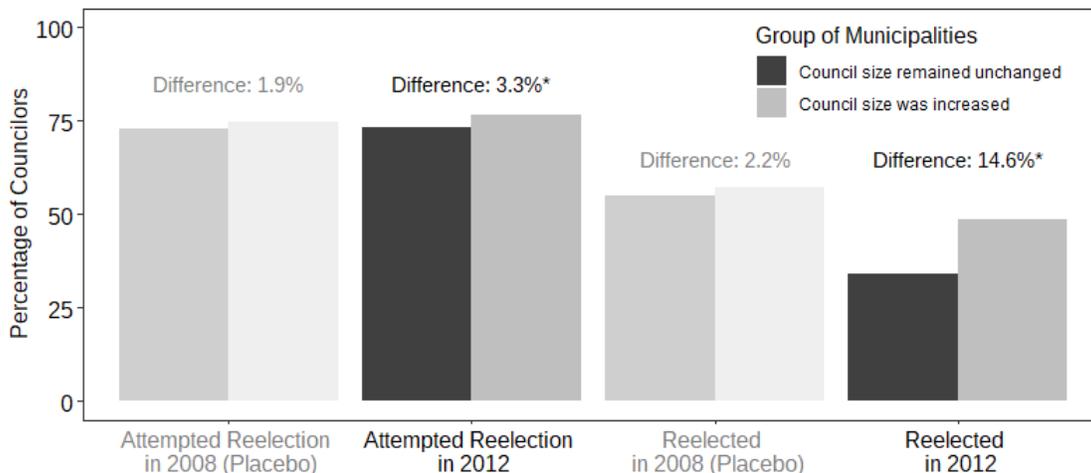
Second, larger councils were shown to weaken the patronage-based ties between the executive and the legislature. Frey (2022) shows that, post-2012, the mayor's party lost significant electoral power in municipal, state, and presidential elections in locations with larger councils due to a dilution in the resources available to its allies. Local coalitions were also more likely to collapse, and less likely to rely on patronage. The argument here is simple: when councils are larger, the mayor-council coalitions are also larger.⁷ Hence, all else being equal,

⁶Table A.7 (appendix) shows that the reelection probability is similar for pro-mayor and opposition councilors, and that the patterns are robust to the use of within-municipality variation to estimate the probability.

⁷Frey (2022) shows that mayor-council coalitions have more parties and more individual legislators under larger councils, even

pro-mayor councilors and their parties extract fewer benefits from the executive, which leads to a decrease in the perceived value of supporting the incumbent administration.

Figure 1: The Probability of Reelection is Higher when Councils are Larger



†p<0.1, *p<0.05. The y-axis shows the percentage of all councilors in the municipality elected in 2008, or 2004 (placebo).

THEORY: THE REELECTION VS. PATRONAGE TRADE-OFF IN LEGISLATURE RESIZING

The literature on the drivers of legislature re-sizing is surprisingly sparse, considering the many public debates over the issue in recent years (Jacobs and Otjes, 2015). I highlight here three contributions. Marland (2019) studies how politicians justify changes in the number of seats, and shows that the debate revolves around the well-known trade-off between representation (under larger chambers) and cost savings and better governability (under smaller ones). The limitation of this approach is that it fails to capture explanations that politicians avoid in public discourse, such as the rent-seeking mechanism uncovered in this article. Jacobs and Otjes (2015) test three potential drivers of resizing using changes in 134 national legislatures. They find little evidence linking resizing to population growth – as suggested by the early work of Taagepera and Shugart (1993) – particularly in the case of reductions. These are better explained by recessions, and the need to distract voters from budget cuts. They also link expansions to fractionalized party systems, as smaller parties push for better proportionality.

There is also anecdotal evidence that the factors above played a role in the broad wave of expansion in Brazilian councils. For example, politicians often used similar arguments to justify their vote: while in the city of Santa Maria (RS) councilors decided not to expand based on cost savings (<http://bit.ly/3YVZy7r>), in Contagem (MG), though they still reach the same level of proportional support.

they justified the expansion on the basis of a representation deficit (<http://bit.ly/40hGodr>). Public opinion was also important in cases such as *Londrina* (PR) and *Goiania* (GO), where pressure from the media led councils to give up voting on the expansion (<http://bit.ly/3JDOh7f> and <http://bit.ly/3FjnYAD>). Finally, the Brazilian party system is highly fractionalized, which could have contributed to the overall expansion rate of 79%.

Nevertheless, this brief article aims to isolate a specific mechanism that drives council resizing, as opposed to account for all plausible factors of influence. Within the context described above, I argue that two forces are jointly shaping the council's decision to resize in this environment of pervasive rent-seeking: on the one hand, a larger chamber is likely to increase the probability of reelection for all incumbent legislators. On the other, it dilutes the available patronage to the individual councilors and parties represented in the legislature.

Now, this trade-off is asymmetric within the council. While the lower electoral threshold benefits everyone, the drop in patronage particularly hurts pro-mayor councilors (Colonnelli, Prem, and Teso, 2020; Frey, 2022), which are then less likely to vote for an expansion. Under this logic, I aim to identify two patterns in the data. First, legislatures that elect a higher share of pro-mayor councilors should be **less** likely to approve an expansion. Second, this effect should be **stronger** in municipalities where these coalitions are more reliant on patronage.

Finally, Gerzso and van de Walle (2022) argue that expansions in African legislatures were mainly driven by the executive branch, as they aimed to weaken the legislature and to extend the executive's patronage reach. These theories are closer to the mechanism here in that they single out the role of the executive in the resizing, and arise from a context of pervasive patronage. That said, while they emphasize how expansions benefit the executive, I uncover an instance where both the executive and its allied legislators benefit from smaller legislatures.

DATA, EMPIRICAL DESIGN, AND RESULTS

This article first identifies the effect of the size of the mayor's coalition in the council on the legislature's decision to approve an expansion. I employ a regression discontinuity design (RDD) to obtain quasi-experimental variation in the share of pro-mayor councilors. The RDD identifies the causal effect of electing one pro-mayor candidate for the last council seat, in a close race against an opposition candidate in 2008. Hence, the effective sample includes 1,308 municipalities. These are the ones that (i) were eligible to council expansions; and (ii) had elections in which the last council seat was contested for by pro-mayor and opposition candidates.⁸

⁸Nearly 61% of Brazilian municipalities were ineligible to council expansions, as they have a population of less than 15,000, or a population for which the change in legislation did not create the opportunity for council expansions (the latter group is only 1% of all municipalities with population above 15,000 – see Table A.1 in the appendix). Table A.6 (appendix) compares the 1,308 sample and the remaining 836 municipalities that were eligible, but did not have the last seat decided between pro-mayor and opposition candidates. Both groups increased their council sizes at similar rates in 2009-2012, and elected mayors with similar partisanship in 2008. However,

The data containing election results and characteristics of candidates and coalitions comes from the Brazilian Electoral Court (TSE). The main outcome of interest, *Council Expansion* (ce), is a binary variable that indicates whether or not the council approved an expansion in 2009-2012.

I use the formal pre-electoral party coalitions as a proxy for the mayor’s support in the council during the 2008-2012 tenure. The literature has shown that this pre-electoral alliances are a good predictor of post-election distribution of patronage (Colonnelli, Prem, and Teso, 2020); public good provision (Mignozzetti, 2021); corruption and oversight (Poulsen and Varjao, 2019); and the electoral performance of the mayor’s party in future elections (Frey, 2022).⁹ What is more, although these mayor-council coalitions can be volatile in the 4-year period, they are a reliable predictor of the alliance sustained by the mayor’s party at the end of the tenure: 75% of pro-mayor councilors elected in 2008 were from a party that remained allied to the mayor’s party in 2012.

Close Council Elections. These elections are at-large races where voters cast a vote for either a candidate or a party. In either case, the vote counts for the coalition of the candidate/party. The total votes for each coalition determines its allotment of seats. Individual councilors are elected based on their vote ranking within the coalition. The running variable (rv) is based in the distance in the ratio of votes per seat between the coalitions that won and lost the last council seat in the municipality. Its construction is described in Appendix A, along with a full description of the seat allocation mechanism. The RD treatment effect is estimated with the equation below:

$$ce_i = \beta_0 + \beta_1 t_i + \beta_2 rv_i + \beta_3 t_i rv_i + \delta_{seats08} + \epsilon_i \quad (1)$$

where for municipality i , t_i indicates whether the last council seat was won by the mayoral coalition. The treatment effect is given by β_1 , and it is estimated for municipalities with comparable council size, pre-treatment, using fixed-effects for the number of 2008 seats ($\delta_{seats08}$). Regressions are weighted by the triangular kernel, and the sample is restricted to values of rv that fall within a coverage error rate (CER) optimal bandwidth (Calonico et al., 2019). In the appendix I show that both the density of the observations (Figure A.6) and several municipal covariates (Table A.2) are continuous at the cutoff.

Results. Table 1 shows the estimate of β_1 , also for specifications that include covariates and region fixed-effects.¹⁰ I report the conventional point estimates for each regression, paired with bias-robust standard errors

municipalities in the sample are slightly smaller and poorer than the excluded ones.

⁹Pre-electoral coalitions occasionally fail to predict the votes of individual councilors, either because they might change after the election or because councilors deviate from their party line in specific topics. For example, this happened in the state capital Recife (PE) in a 2019 vote to increase legislators’ wages (<http://bit.ly/42gvp5s>).

¹⁰All covariates are shown in Table A.2 (appendix). The 5 regions are: North, Northeast, South, Southeast, and Midwest. Covariates and FEs are included to improve the precision of the estimates, they do not play a role in the identification of the effects.

and 95% confidence intervals (Cattaneo, Idrobo, and Titiunik, 2020). Figures A.2 and A.3 (appendix) show that these estimates are robust to both wider and narrower bandwidths, and to the choice of local polynomial.

Table 1: Effects on Council Expansion and Support for the Mayor

Dependent Var.	COUNCIL EXPANSION			MAYOR'S SUPPORT		
	(A1)	(A2)	(A3)	(B1)	(B2)	(B3)
RD Effect	-0.256*	-0.263*	-0.261*	0.222*	0.213*	0.223*
	(0.153)	(0.136)	(0.133)	(0.049)	(0.047)	(0.047)
Robust C.I.	[-0.60,0.00]	[-0.55,-0.02]	[-0.54,-0.02]	[0.14,0.33]	[0.12,0.31]	[0.13,0.32]
Bandwidth	0.23	0.23	0.23	0.30	0.30	0.30
Observations	180	180	180	216	216	216

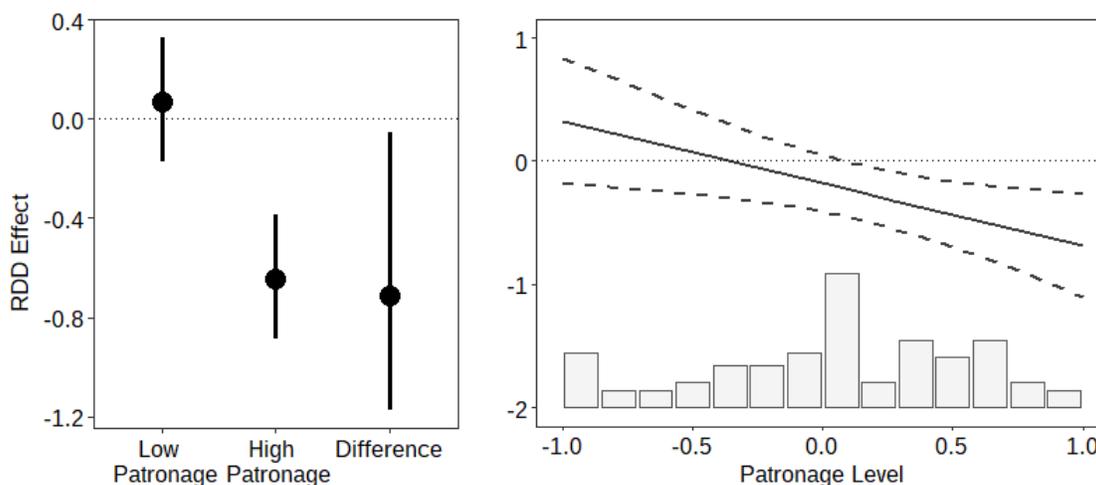
+p<0.1, *p<0.05. The RD effect corresponds to β_1 in equation 1. Standard errors and 95% confidence intervals are bias-robust. All variables are explained in the text. The optimal bandwidth is expressed as a ratio of the standard deviation of the running variable.

The effects on *Council Expansion* are shown in columns A1-A3. Column A1 shows that an additional pro-mayor councilor reduces the probability of an expansion by 26 percentage points (pp), from a baseline of 84%. Column B1 shows that the election of a pro-mayor councilor also increases the average council share held by the mayor's coalition by 22p.p., from a baseline of 41%. Both effects are stable and robust to the inclusion of covariates and fixed effects. Figure A.1 (appendix) shows the graphical representation of the results. The appendix (Table A.3 and A.4) also shows that they are not driven by differences in the personal characteristics of the average councilor in either the pro-mayor or opposition groups.

Heterogeneity. I also explore how this effect varies according to the level of patronage in local coalitions. To do so, I use a proxy for patronage that follows Colonnelli, Prem, and Teso (2020), and befits a context where employment is often extended to campaign donors by the winner. By combining data on donors (from TSE) with the universe of bureaucrats in municipal administrations in Brazil (from the *Relação Anual de Informações Sociais*), I track all donors that had a job in the local bureaucracy after the 2008 election.¹¹ For each municipality, I then measure patronage as the difference in the share of these donor-made-bureaucrats that donated to the campaigns of pro-mayor council candidates and opposition candidates. Figure 2 shows the estimates.

¹¹Nearly 50% of these donors already had a job in the administration at the end of 2008. Hence, the patronage measure captures both *continuation* and *new employment* in 2009-2012. Figure A.5 (appendix) shows that the results are very similar for a specification that excludes the group that was previously employed.

Figure 2: The Effect on Council Expansion Depends on the Patronage Level



The coefficients come from regressions where the patronage variable is interacted with t_i , rv_i , and $t_i * rv_i$ from equation 1. **Left-side:** Patronage is binary. The coefficients show the RD effect for each group, the 95% CIs are bias-robust. The CIs for the difference between the effects were bootstrapped with 500 draws. **Right-side:** Patronage is continuous. The signs indicate the following p-values: +p<0.1, *p<0.05. Here the CIs are heteroskedasticity robust. The bars show the sample density along the x-axis.

The left-side (right-side) plot uses a binary (continuous) version of the patronage proxy.¹² Overall, the negative effect of a pro-mayor councilor on expansion is concentrated in municipalities where patronage is higher.

Finally, Figure A.5 (appendix) shows two other sources of effect heterogeneity that are consistent with the mechanism. First, the left-side uses an alternative proxy of patronage based on the presence of the large, “rent-seeking” parties in local coalitions: PMDB, PP, PL, and PTB (Power and Rodrigues-Silveira, 2018). Similar to the findings above, the RD effect is stronger when the last elected councilor belongs to one of these parties.

Second, the better the electoral performance of the marginal councilor in the municipality, the stronger the effect.¹³ This is consistent with the trade-off between reelection prospects and patronage dilution presented in page 5: municipalities where the marginal pro-mayor councilor perceives her reelection as “safer” are more likely to have a council that opposes an expansion, due to the patronage loss. On the contrary, municipalities where the marginal pro-mayor councilor feels “unsafe” might prefer larger legislatures, given that the marginal pro-mayor councilor might behave just as their opposition counterparts would, which explains the weaker RD effects for this group.

¹²The binary version defines the high (low) patronage group as the municipalities with patronage above (below) the median value of the proxy. Table A.5 (appendix) shows that both variables are continuous at the cutoff.

¹³Given the seat assignment rules in Brazil – explained in Appendix A – there is a significant variation in how many votes the last entrant had in the election (it varies from 2 to 26% of coalition votes).

CONCLUSION

This article examines a wave of resizing in Brazilian municipal councils preceding the 2012 elections. It first identifies the effect of the size of the mayor's coalition in the council on the legislature's decision to approve an expansion: where the mayor's support was higher, the legislature was also LESS likely to expand. I interpret this result within the following logic: while larger chambers might improve the reelection prospects for all legislators, they disproportionately dilute the rents for the ones with better access, i.e., the members of the coalition with the executive. Consistent with this argument, this effect is concentrated in municipalities (i) with more patronage in public jobs; (ii) where the marginal councilor belongs to one of the large office-seeking parties in Brazil; and (iii) where the marginal councilor has better reelection prospects.

These findings provide an useful framework for future research that aims to understand why, in many developing democracies with pervasive rent-seeking, representation deficits or cost considerations alone might not be enough to explain relevant institutional changes. It is likely that these conclusions apply to other developing contexts where the same incentives for legislature design are likely to hold, including pervasive patronage (Cruz and Schneider, 2017; Fergusson et al., 2021; Larreguy, Marshall, and Querubín, 2016).

That being said, there are at least a few scope conditions that might limit the generalization of the argument. First, the theory applies to legislature expansions when they directly imply lower electoral thresholds, which might not be the case in single-member district systems. Second, the findings might not carry to very small constituencies, as all results rely on a sample with population above 15,000. Finally, in contrast with the existing literature, this article is the first to examine the resizing of subnational legislatures. Would the argument apply to the national level? At least in Brazil, local councils are fairly similar to the federal congress: same electoral system; low barriers to entry; low reelection rates; multiple parties; ideologically inconsistent coalitions; and an executive-legislature relationship mediated by patronage. Nevertheless, national institutions are more salient to voters, and therefore more open to public scrutiny. This might hinder such institutional changes even when the same set of incentives is present. Future research would do well to examine how the framework here might drive resizing in these alternative contexts.

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Appendix for Online Publication

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A Methodology for the Allocation of Council Seats in Brazil

The electoral competition in local legislative elections is at the coalition level.¹ Seats are allocated to each coalition through the following process:

1. 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.
2. 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.
3. The remaining seats (2, in the example) are progressively allocated to the coalitions that have the highest marginal vote/(seat+1), which is called 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, the running variable is the distance in votes between the coalitions losing and winning the last seat, normalized by the total votes of the winning coalition. More specifically, $rv = \frac{(RR_m - RR_o) * seats_m}{totalvotes_{winner}}$. From item 3, $RR_m - RR_o$ is the difference in residual ratios for the allocation of the last seat between pro-mayor (m) and opposition (o) coalitions. The number of seats ($seats_m$) is the same one used to calculate the residual ratios in item 3, based on the pro-mayor coalition.² As usual, the running variable takes negative values in municipalities where the pro-mayor coalition lost the last seat.

¹This was true until the 2016 elections. Party coalitions were banned from legislative races in 2020 in Brazil.

²As per item 3, this means that $seats_m$ is the total number of seats won by pro-mayor councilors when the coalition WON the last seat, or the total number of seats +1 when it LOST.

B Tables

Table A.1: Potential Changes in Council Size for Each Population Level

Lower limit '000 Pop.	Higher limit* '000 Pop.	Seats in 2008	Max. Seats in 2012	Potential Change (seats)	Potential Change (%)
0.0	15.0	9	9	0	0.0
15.0	30.0	9	11	2	22.2
30.0	47.6	9	13	4	44.4
47.6	50.0	10	13	3	30.0
50.0	80.0	10	15	5	50.0
80.0	95.2	10	17	7	70.0
95.2	120.0	11	17	6	54.5
120.0	142.9	11	19	8	72.7
142.9	160.0	12	19	7	58.3
160.0	190.5	12	21	9	75.0
190.5	238.1	13	21	8	61.5
238.1	285.7	14	21	7	50.0
285.7	300.0	15	21	6	40.0
300.0	333.3	15	23	8	53.3
333.3	381.0	16	23	7	43.8
381.0	428.6	17	23	6	35.3
428.6	450.0	18	23	5	27.8
450.0	476.2	18	25	7	38.9
476.2	523.8	19	25	6	31.6
523.8	571.4	20	25	5	25.0
571.4	600.0	21	25	4	19.0
600.0	750.0	21	27	6	28.6
750.0	900.0	21	29	8	38.1
900.0	1000.0	21	31	10	47.6
1000.0	1050.0	33	31	-2	-6.1
1050.0	1121.9	33	33	0	0.0
1121.9	1200.0	34	33	-1	-2.9
1200.0	1243.9	34	35	1	2.9
1243.9	1350.0	35	35	0	0.0
1350.0	1365.9	35	37	2	5.7

CONTINUES IN THE NEXT PAGE *The numbers in **BOLD** in the second column denote the population thresholds valid for the 2012 election. All others were the ones valid for the 2008 election. In 2008, municipalities had to set their council size to the exact number of seats indicated above, for each population level. In 2012, the number of seats is a cap, so municipalities could choose not to increase their legislatures. For 1% of municipalities, the new 2012 caps were equal or higher than the size set in 2008 by the previous law (e.g. cities with population between 1mn and 1.2mn). These were excluded from the analysis as there was no potential for council expansion.

Table A.1: Potential Changes in Council Size for Each Population Level (Continued)

Lower limit '000 Pop.	Higher limit* '000 Pop.	Seats in 2008	Max. Seats in 2012	Potential Change (seats)	Potential Change (%)
1365.9	1487.8	36	37	1	2.8
1487.8	1500.0	37	37	0	0.0
1500.0	1609.8	37	39	2	5.4
1609.8	1731.7	38	39	1	2.6
1731.7	1800.0	39	39	0	0.0
1800.0	1853.7	39	41	2	5.1
1853.7	1975.6	40	41	1	2.5
1975.6	2400.0	41	41	0	0.0
2400.0	3000.0	41	43	2	4.9
3000.0	4000.0	41	45	4	9.8
4000.0	5000.0	41	47	6	14.6
5000.0	5119.0	42	49	7	16.7
5119.0	5238.1	43	49	6	14.0
5238.1	5357.1	44	49	5	11.4
5357.1	5476.2	45	49	4	8.9
5476.2	5595.2	46	49	3	6.5
5595.2	5714.3	47	49	2	4.3
5714.3	5833.3	48	49	1	2.1
5833.3	5952.4	49	49	0	0.0
5952.4	6000.0	50	49	-1	-2.0
6000.0	6071.4	50	51	1	2.0
6071.4	6190.5	51	51	0	0.0
6190.5	6309.5	52	51	-1	-1.9
6309.5	6428.6	53	51	-2	-3.8
6428.6	6547.6	54	51	-3	-5.6
6547.6	7000.0	55	51	-4	-7.3
7000.0	8000.0	55	53	-2	-3.6
8000.0	-	55	55	0	0.0

*The numbers in **BOLD** in the second column denote the population thresholds valid for the 2012 election. All others were the ones valid for the 2008 election. In 2008, municipalities had to set their council size to the exact number of seats indicated above, for each population level. In 2012, the number of seats is a cap, so municipalities could choose not to increase their legislatures. For 1% of municipalities, the new 2012 caps were equal or higher than the size set in 2008 by the previous law (e.g. cities with population between 1mn and 1.2mn). These were excluded from the analysis as there was no potential for council expansion.

Table A.2: Continuity of Covariates at the Cutoff

Dependent Variable	(1)	(2)	(3)	Band
Votes per seat ('000)	-0.238 (0.264) [-0.74,0.29]	-0.019 (0.193) [-0.56,0.19]	-0.003 (0.112) [-0.27,0.17]	0.28
GDP pc	-0.012 (0.263) [-0.55,0.49]	-0.018 (0.150) [-0.33,0.26]	-0.011 (0.126) [-0.28,0.22]	0.21
Municipal Budget pc	0.047 (0.126) [-0.14,0.36]	0.038 (0.084) [-0.13,0.20]	0.011 (0.073) [-0.12,0.16]	0.24
Voters	-0.127 (0.113) [-0.36,0.09]	-0.012 (0.053) [-0.10,0.11]	-0.024 (0.049) [-0.11,0.09]	0.25
Poverty	0.017 (0.167) [-0.29,0.36]	-0.032 (0.110) [-0.25,0.18]	0.026 (0.076) [-0.12,0.18]	0.23
Municipal Area (km2)	-0.073 (0.148) [-0.36,0.22]	-0.104 (0.146) [-0.40,0.17]	-0.080 (0.142) [-0.37,0.18]	0.27
Rent-Seeking Right (Mayor)	0.374 (0.490) [-0.51,1.41]	0.204 (0.430) [-0.60,1.09]	0.039 (0.329) [-0.59,0.70]	0.22
PT Federal Base (Mayor)	0.050 (0.152) [-0.25,0.35]	0.053 (0.151) [-0.23,0.36]	0.052 (0.144) [-0.22,0.35]	0.28
Covariates (ex-outcome)	No	Yes	Yes	
Region F.E.	No	No	Yes	

+p<0.1, *p<0.05. The RD effect corresponds to β_1 in equation 1. Standard errors (parenthesis) and 95% confidence intervals (brackets) are bias-robust. The covariates include every variable in the Table except the outcome. Optimal bandwidth is expressed as a ratio of the standard deviation of the running variable.

The variables are defined as follows: **Votes per seat:** Valid votes for the council divided by the total seats in 2008 (x1000/seat); **GDP 2008:** Municipal GDP pc in 2005-2008, in R\$; **Municipal Budget:** Municipal budget pc in 2005-08, in R\$; **Voters:** Total number of voters in the 2008 election; **Poverty:** Number of households below the poverty line (2006) divided by the local population; **Municipal Area:** Area of the municipality in km2; **Rent-Seeking Right:** Dummy that indicates whether the elected mayor's party belongs to PMDB, PL, PP, or PTB; **Mayor's Party supports PT:** Dummy that indicates whether the elected mayor's party IS NOT one of these three large parties that opposed PT at the federal level: PSDB, DEM, or PPS.

Table A.3: Personal Characteristics of the Opposition Coalition at the Cutoff

Dependent Variable	(1)	(2)	(3)	Band
Gender	-0.031 (0.050) [-0.13,0.07]	-0.031 (0.049) [-0.13,0.06]	-0.030 (0.048) [-0.12,0.07]	0.23
Education	-0.031 (0.092) [-0.23,0.13]	-0.037 (0.086) [-0.22,0.12]	-0.003 (0.083) [-0.18,0.15]	0.22
Newcomer	0.027 (0.090) [-0.16,0.19]	0.026 (0.090) [-0.15,0.20]	0.039 (0.087) [-0.14,0.20]	0.23
Incumbent	-0.032 (0.081) [-0.19,0.12]	-0.018 (0.073) [-0.16,0.12]	-0.009 (0.072) [-0.15,0.13]	0.23
Rent-seeking Right	-0.096 (0.098) [-0.30,0.08]	-0.078 (0.096) [-0.27,0.11]	-0.059 (0.090) [-0.24,0.12]	0.30
PT Federal Base	-0.049 (0.104) [-0.27,0.14]	-0.025 (0.101) [-0.21,0.18]	-0.006 (0.088) [-0.17,0.17]	0.27
Covariates	No	Yes	Yes	
Region F.E.	No	No	Yes	

+ $p < 0.1$, * $p < 0.05$. The RD effect corresponds to β_1 in equation 1. Standard errors (parenthesis) and 95% confidence intervals (brackets) are bias-robust. The covariates are described in Table A.2. Optimal bandwidth is expressed as a ratio of the standard deviation of the running variable.

All variables reflect the share of the councilors with these characteristics that belong to the pre-electoral opposition coalition.

The variables are defined as follows: **Gender**: Share of female councilors; **Education**: Share of councilors with a 4-year bachelor's degree; **Newcomer**: Share of councilors that did not run for office in the previous municipal election; **Incumbent**: Share of councilors that were re-elected in 2008; **Rent-seeking Right**: Share of councilors from one of these four parties: PMDB, PTB, PL, or PP; and **PT Federal Base**: Share of councilors NOT from one of these parties: PPS, PSDB, or DEM.

Table A.4: Personal Characteristics of the Mayoral Coalition at the Cutoff

Dependent Variable	(1)	(2)	(3)	Band
Gender	0.045 (0.053) [-0.05,0.16]	0.034 (0.048) [-0.06,0.13]	0.034 (0.047) [-0.06,0.13]	0.31
Education	-0.081 (0.098) [-0.22,0.17]	-0.060 (0.070) [-0.19,0.09]	-0.039 (0.063) [-0.16,0.08]	0.22
Newcomer	-0.065 (0.091) [-0.23,0.12]	-0.068 (0.084) [-0.22,0.11]	-0.060 (0.082) [-0.21,0.11]	0.23
Incumbent	0.093 (0.095) [-0.14,0.23]	0.100 (0.074) [-0.05,0.24]	0.123 (0.074) [-0.03,0.26]	0.25
Rent-seeking Right	0.144 (0.106) [-0.04,0.37]	0.123 (0.094) [-0.04,0.33]	0.133 (0.093) [-0.03,0.33]	0.19
PT Federal Base	0.017 (0.106) [-0.18,0.24]	0.014 (0.081) [-0.14,0.18]	0.042 (0.077) [-0.10,0.20]	0.29
Covariates	No	Yes	Yes	
Region F.E.	No	No	Yes	

+p<0.1, *p<0.05. The RD effect corresponds to β_1 in equation 1. Standard errors (parenthesis) and 95% confidence intervals (brackets) are bias-robust. The covariates are described in Table A.2. Optimal bandwidth is expressed as a ratio of the standard deviation of the running variable.

All variables reflect the share of the councilors with these characteristics that belong to the pre-electoral mayoral coalition.

The variables are defined as follows: **Gender:** Share of female councilors; **Education:** Share of councilors with a 4-year bachelor's degree; **Newcomer:** Share of councilors that did not run for office in the previous municipal election; **Incumbent:** Share of councilors that were re-elected in 2008; **Rent-seeking Right:** Share of councilors from one of these four parties: PMDB, PTB, PL, or PP; and **PT Federal Base:** Share of councilors NOT from one of these parties: PPS, PSDB, or DEM.

Table A.5: Patronage is Continuous at the Cutoff

Dependent Variable	(1)	(2)	(3)	Band
Patronage (binary)	0.083 (0.172) [-0.23,0.45]	0.058 (0.143) [-0.19,0.37]	0.060 (0.142) [-0.20,0.36]	0.30
Patronage (continuous)	0.213 (0.201) [-0.24,0.55]	0.210 (0.174) [-0.12,0.56]	0.224 (0.174) [-0.13,0.55]	0.23
Rent-seeking Right	0.015 (0.167) [-0.31,0.35]	0.019 (0.155) [-0.29,0.31]	0.009 (0.159) [-0.29,0.33]	0.22
Councilor's Safety	-0.742 (1.254) [-3.47,1.44]	-0.798 (1.199) [-3.48,1.21]	-0.994 (1.199) [-3.66,1.04]	0.22
Covariates	No	Yes	Yes	
Region F.E.	No	No	Yes	

+p<0.1, *p<0.05. The RD effect corresponds to β_1 in eq. 1. Standard errors (parenthesis) and 95% confidence intervals (brackets) are bias-robust. The covariates are described in Table A.2. Bandwidths are optimal. The variables are described in the main text.

Patronage: Patronage is the difference in the share of donor-made-bureaucrats that donated to the campaigns of pro-mayor council candidates and opposition candidates, as described in the text. The binary version takes the value of 1 when the variable is above the median.

Rent-seeking Right: A dummy that indicates whether the marginal councilor elected in the municipality belongs to PTB, PMDB, PL, or PP.

Councilor's Safety: The votes of the marginal councilor elected in the municipality, as a share of the total votes in her/his coalition.

Table A.6: Comparison Between Samples

	In Sample	Out of Sample	Difference
Council Expansion (yes=1)	0.793	0.776	0.016
Council Seats in 2008	9.625	10.026	-0.402*
Mayor's Support (share of councilors)	0.534	0.557	-0.023*
Votes per Seat	2.635	3.250	-0.615*
GDP pc	8.979	11.337	-2.358*
Budget pc	0.923	1.009	-0.086*
Voters	33.253	44.046	-10.793*
Poverty	0.148	0.141	0.007*
Area	2.475	2.843	-0.368
Mayor's party in PMDB/PP/PL/PTB	0.398	0.402	-0.004
Mayor's party in PT federal base	0.677	0.650	0.027
Municipalities	1308	836	472

+p<0.1, *p<0.05. This Table compares the average value of each variable for the 1,308 municipalities used in the estimation, and the remaining 836 municipalities with population above 15,000 where the last council seat was not decided in a dispute between a party in the pro-mayor coalition and a party in the opposition. More details on these variables can be found in Table A.2.

Table A.7: Reelection of Incumbent Councilors: Changes from 2008 to 2012

DV:	ATTEMPTS REELECTION			WINS REELECTION		
	(A1)	(A2)	(A3)	(B1)	(B2)	(B3)
Intercept	0.728*			0.549*		
	(0.009)			(0.011)		
Seat Increase (A)	0.019*			0.022+		
	(0.010)			(0.012)		
2012 Election (B)	0.004	0.002	0.003	-0.208*	-0.196*	-0.170*
	(0.012)	(0.012)	(0.014)	(0.012)	(0.013)	(0.017)
A x B	0.014	0.016	0.015	0.124*	0.122*	0.112*
	(0.013)	(0.013)	(0.015)	(0.014)	(0.014)	(0.018)
Coalition (C)			0.002			0.038*
			(0.008)			(0.010)
A x B			-0.002			-0.050*
			(0.016)			(0.020)
A x B x C			0.001			0.018
			(0.016)			(0.020)
Observations	35603	35603	35603	26793	26793	26793
F.E. Municipality	No	Yes	Yes	No	Yes	Yes

+p<0.1, *p<0.05. Standard errors are cluster-robust by municipality (parenthesis). The data includes two elections: 2008 and 2012, and all incumbent councilors in each municipality at the time of each election. Incumbent councilors in 2008 (2012) are those elected in 2004 (2008). The estimation in columns B1-B3 only includes councilors that actually attempted reelection.

The dependent variables are defined as follows: (i) ATTEMPTS REELECTION: a binary variable that assumes one when the incumbent councilor attempted reelection; (ii) WINS REELECTION: a binary variable that assumes one when the incumbent councilor that attempted reelection succeeds.

For councilor i , in municipality m , coalition c , and election t , the estimating equations are shown below:

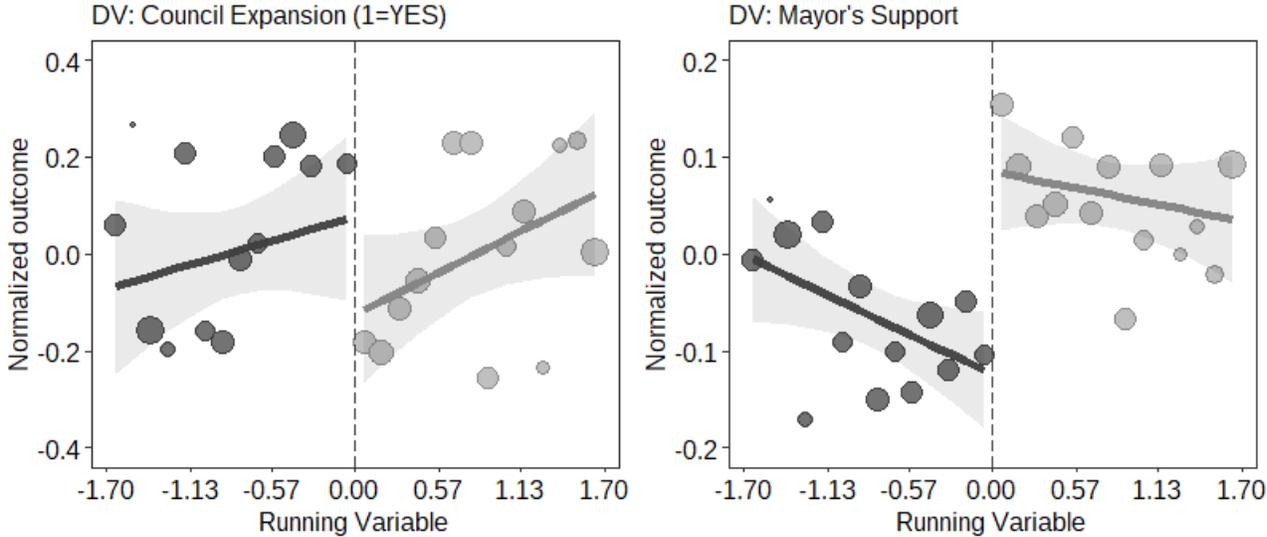
$$y_{cimt} = \beta_0 + \beta_1 \text{expand}_m + \beta_2 2012_t + \beta_3 \text{expand}_m 2012_t + \delta_m + \mu_{cimt}$$

$$y_{cimt} = \beta_0 + \beta_1 \text{expand}_m + \beta_2 2012_t + \beta_3 \text{expand}_m 2012_t + \beta_4 \text{mayor}_c + \beta_5 \text{expand}_m \text{mayor}_c + \beta_6 2012_t \text{mayor}_c + \beta_7 \text{expand}_m 2012_t \text{mayor}_c + \delta_m + \mu_{cimt}$$

where y_{cimt} is the dependent variable specified in the Table header. The dummy expand_m indicates whether the specific municipality m approved a council expansion in 2009-2012. The dummy 2012_t assumes 1 if the election year is 2012 (and 0 if it is 2008). The dummy mayor_c indicates whether the councilor belongs to the coalition supporting the incumbent mayor in the period. The first equation corresponds to the specifications 1-2 (specification 1 does not include municipality fixed-effects); the second equation to specification 3.

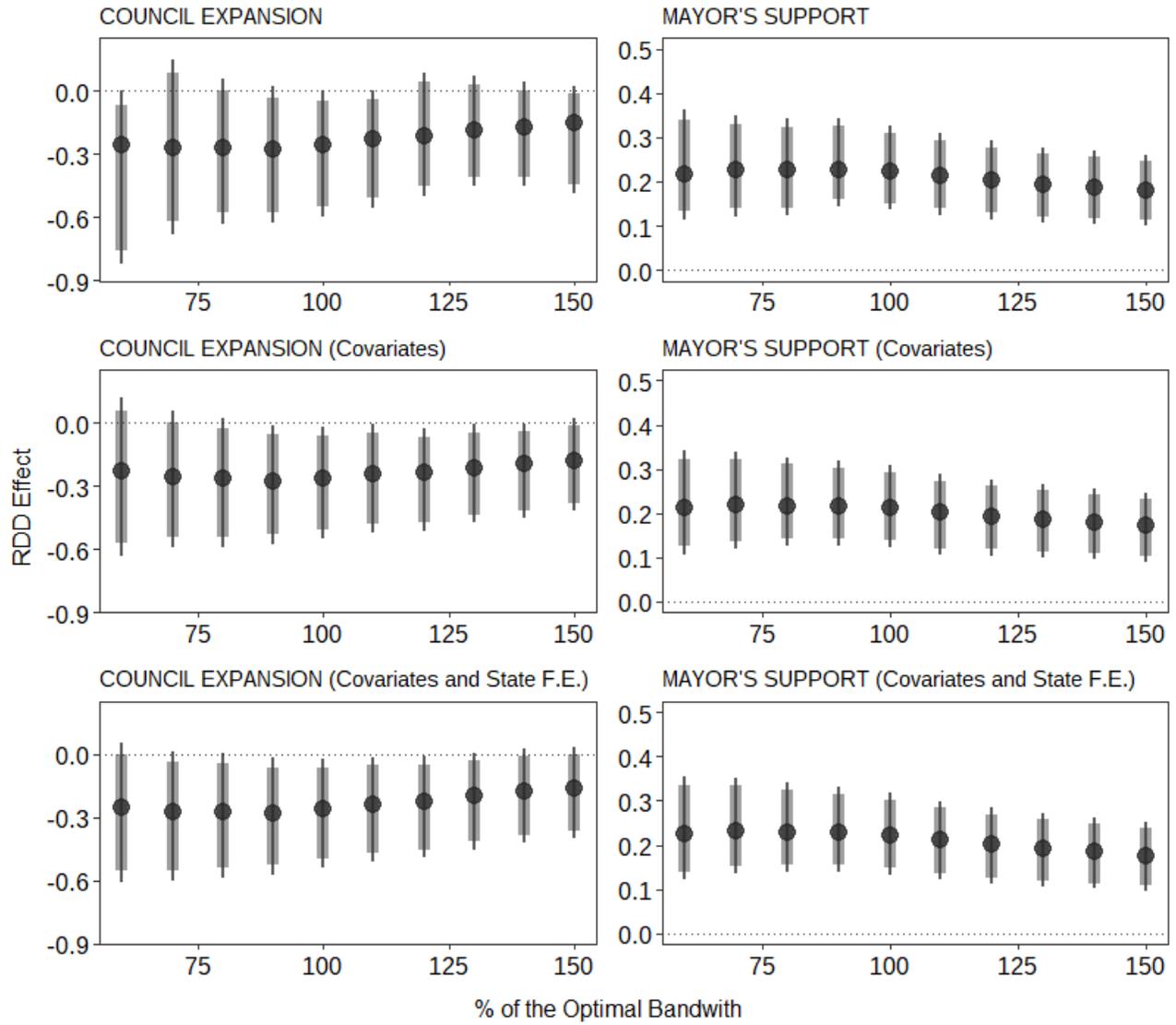
C Figures

Figure A.1: Graphical Representation of the RD Effects



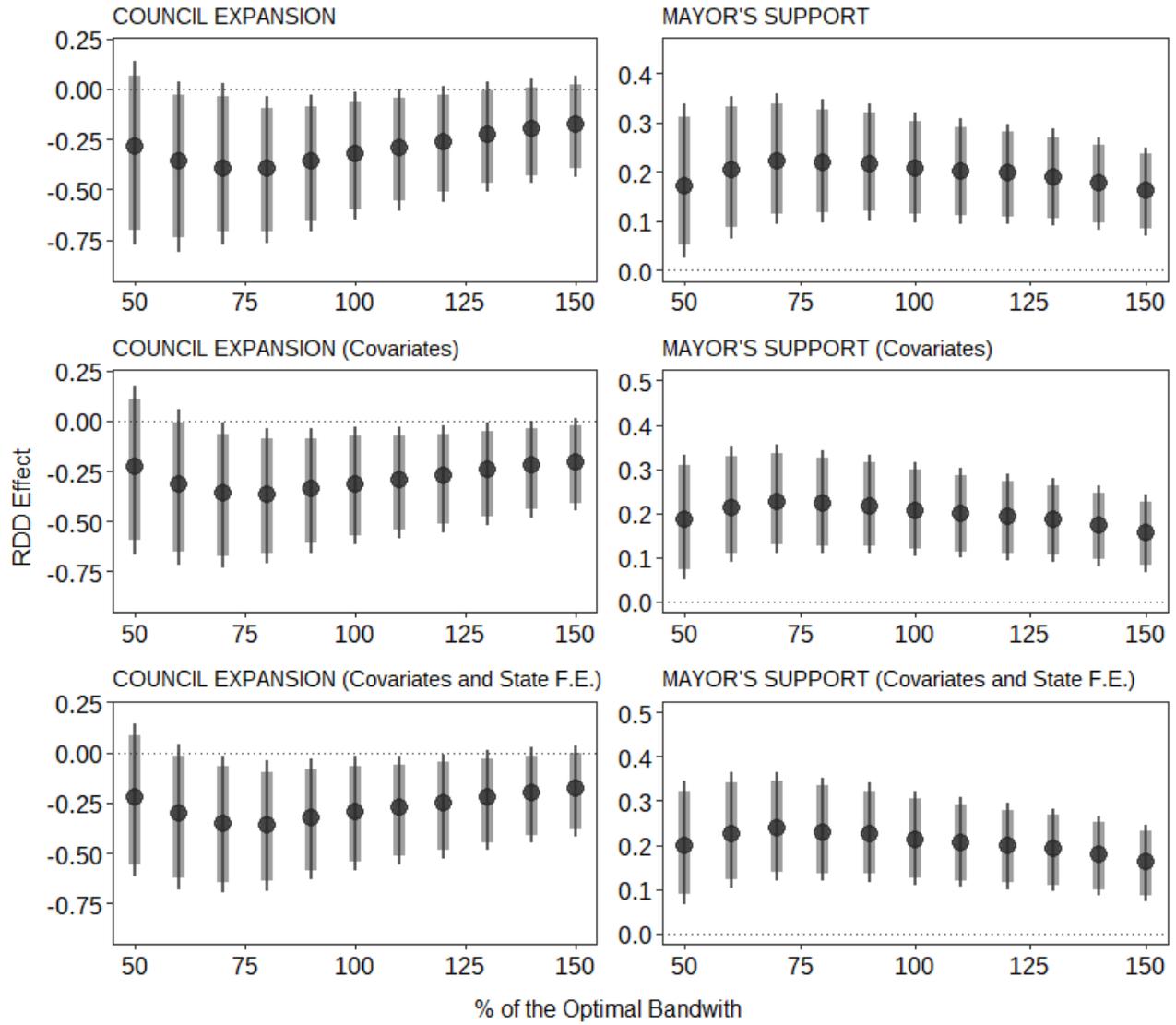
The right side of each plot shows the treatment observations. The first plot shows effects for the probability of a council increase (Panel A of Table 1). The second shows effects for the share of the council that supports the mayor (Panel B of Table 1). The outcome variables are normalized (demeaned) by the 2008 seats F.Es in equation 1. The lines show a linear fit.

Figure A.2: Robustness of the Effects to Bandwidth Changes (Linear Polynomial)



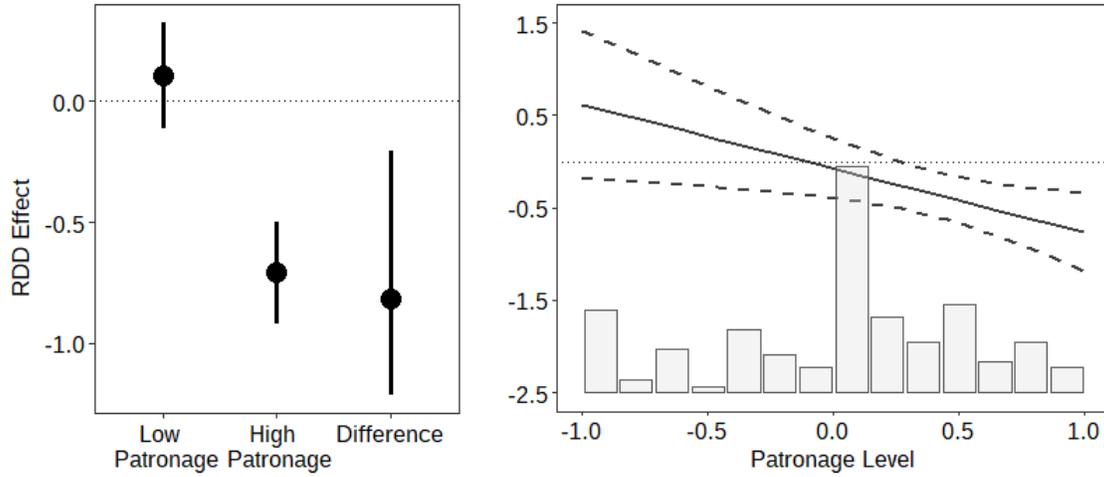
The optimal bandwidths are 0.23 for *council expansion* and 0.30 for *mayor's support*. These correspond to the 100% value in the x-axis.

Figure A.3: Robustness of the Effects to Bandwidth Changes (Quadratic Polynomial)



The optimal bandwidths are 0.42 for *council expansion* and 0.53 for *mayor's support*. These correspond to the 100% value in the x-axis.

Figure A.4: The Effect on Expansion Depends on the Patronage Level (New Employment)

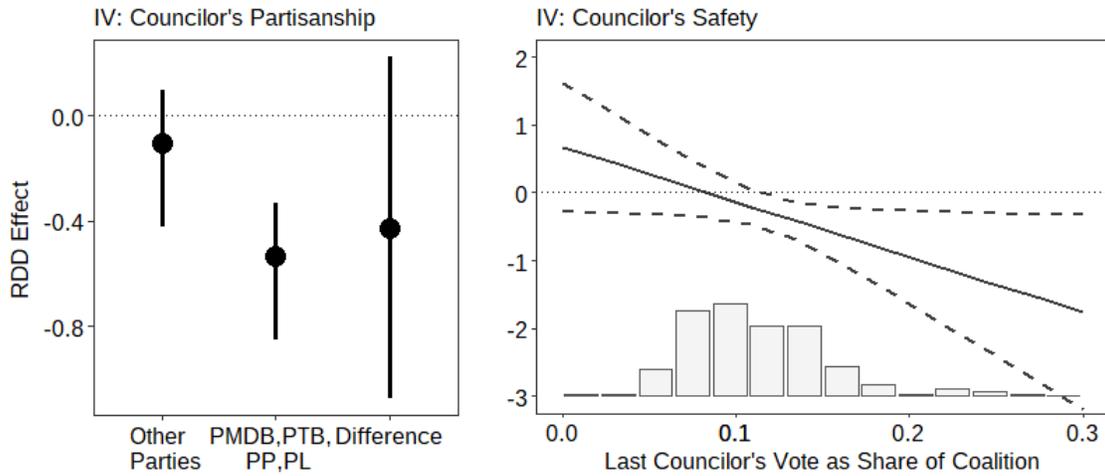


The coefficients come from regressions where the patronage variable is interacted with t_i , rv_i , and $t_i * rv_i$ from equation 1.

Left-side: Patronage is binary. The coefficients show the RD effect for each group, the 95% CIs are bias-robust. The CIs for the difference between the effects were bootstrapped with 500 draws. **Right-side:** Patronage is continuous. The signs indicate the following p-values: +p<0.1, *p<0.05. Here the CIs are heteroskedasticity robust. The bars show the sample density along the x-axis.

Patronage: Patronage is the difference in the share of donor-made-bureaucrats that donated to the campaigns of pro-mayor council candidates and opposition candidates, as described in the text. The binary version takes the value of 1 when the variable is above the median.

Figure A.5: The Effect on Expansion Depends on Partisanship and Councilor's Safety



The coefficients come from regressions where the patronage variable is interacted with t_i , rv_i , and $t_i * rv_i$ from equation 1. Observations are always at the municipality level.

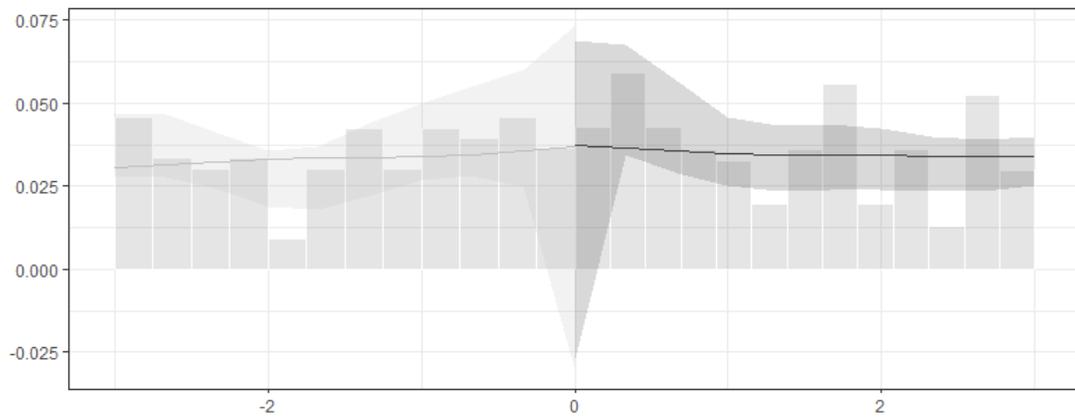
Left-side: Patronage is binary. The coefficients show the RD effect for each group, the 95% CIs are bias-robust. The CIs for the difference between the effects were bootstrapped with 500 draws.

Right-side: Patronage is continuous. The signs indicate the following p-values: +p<0.1, *p<0.05. Here the CIs are heteroskedasticity robust. The bars show the sample density along the x-axis.

Partisanship: A dummy that indicates whether the marginal councilor elected in the municipality belongs to PTB, PMDB, PL, or PP.

Councilor's Safety: The votes of the marginal councilor elected in the municipality, as a share of the total votes in her/his coalition.

Figure A.6: Density of Observations Around the Discontinuity



The p-value of the density test is 0.97.