

Going Local to Win the Nation: Political Boosting in Mayoral Politics

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November 23, 2019

Abstract

In federal democracies, parties often invest in local politics for national gains. This strategy is crucial, particularly in noisy democracies where politicians need to find information shortcuts to attract inattentive voters. I define this strategy as political boosting and investigate its dynamics in Brazil, a textbook example of a fragmented party system. Using a regression discontinuity, I show that parties in Brazil boost their national performance earning more votes on House elections in districts where their members control the local office. I discuss how higher access to pork controlled by House members and information gains from local incumbency explain the effects. Using a Bayesian LASSO algorithm to address data sparsity in RD designs, I further show the existence of pro-large party bias. By disentangling the effects of boosting after winning local non-concurrent elections, the paper explains the general logic by which parties build electoral strength in fragmented democracies.

Introduction

“He who controls redistricting can control Congress,” stated Karl Rove in an op-ed editorial column.¹ The political strategist was explaining the Republican strategy of winning local legislatures to win big in national elections. Indeed, there is significant consensus that the redistricting goals of 2010 explain the partisan biases in House elections just a few years later ([Henderson et al., 2018](#); [Carson et al., 2014](#); [Lindgren and Southwell, 2013](#)). This is one example of how parties success in local elections translate to national gains. In this article, I study the structure and nature of going local to win the nation.

Parties often invest in local politics to gain critical advantages in national elections, a process that I define as political boosting. In statistics, boosting describes a family of algorithms that converts weak learners to strong predictors. Boosting algorithms allow researchers to gain precision when noisy data makes it difficult to measure a statistical event. In politics, the exchange of information between parties and voters is also inherently noisy ([Manin et al., 1999](#)). Fragmented environments increase information demands on voters, adding further noise to an already difficult relationship. Political boosting, I argue in this article, is the process of augmenting the precision of the political signals of parties by gaining local political capital. Winning local elections allows parties to deploy the resources and information gains of local offices to deliver policy and to communicate their intent; thereby, boosting their performance when competing for national upper-level positions. This article provides both a theoretical and a statistical model to understand how parties go local to win nationally.

With this goal in mind, I compare the electoral benefits parties gain from electing may-

¹See Karl Rove, The GOP Targets State Legislatures, Wall Street Journal. <http://www.rove.com/articles/219?tr=yauid=6021231>.

ors in Brazil on forthcoming upper-level legislative elections. I analyze all Brazilian mayoral polls between 2000 and 2012, with a regression discontinuity design (RD) to identify the effect of political boosting. Brazil is a typical example of a young democracy in which the importance of partisanship, at least as commonly depicted by the specialized scholarship on advanced democracies (Campbell et al., 1980; Lipset and Rokkan, 1967), is considered a weak predictor of the voters' preferences. The Brazilian party system is frequently described as *weakly institutionalized* (Mainwaring, 1991, 1999), with candidate-centered incentives driving politicians' electoral behavior (Samuels, 2003; Ames, 2001). Although recent scholarship challenges some of these preconceptions, showing that partisan and anti-partisan sentiments do matter for candidate evaluation and policy preferences among voters (Samuels and Zucco, 2018; Power and Rodrigues-Silveira, 2018; Baker et al., 2016), information demands for the voter are still recognized as being well above other democracies that elect politicians in single-member districts, closed-list PR, and mixed members rules. In advancing a theory of political boosting, this paper describes how controlling the local helps parties to overcome such informational demands when competing nationally to gain the support of voters.

I find robust evidence of boosting by modelling the effect of winning local elections on non-concurrent House elections in Brazil. I show that winning the local executive, even by a small margin, increases the vote share of the incumbent's party in the forthcoming legislative election. On average, the vote share of the incumbent's party on the forthcoming House Election increases by 2% compared to the runner up party. In a fragmented democracy such as Brazil, an increase in 2% of the party vote-share might be the difference between gaining a seat or not.

In the following section, I estimate the subgroup effects by parties. The identification of heterogeneous effects by parties are crucial to understand the incentives in place in an environment

where party fragmentation is extremely high. To estimate the effect of parties, I implement a novel methodological strategy by applying a Bayesian estimator, developed to deal with data sparsity across subgroups, in the context of Regression Discontinuity Designs ([Anastasopoulos, 2018](#); [Ratkovic and Tingley, 2017](#)). The results indicate that political boosting is most successful for large parties in Brazil, while small parties do not extract substantive national electoral gains from winning local offices.

After demonstrating that winning the local office provides electoral benefits for future national elections, I tease out the mechanisms behind boosting. I focus on how access to resources and gains in information explain the effects of boosting. Scholars have consistently shown that partisan alignment means more access to a variety of federal grants in Brazil ([Brollo and Nannicini, 2012](#); [Bueno, 2017](#); [Firpo et al., 2015](#)). I use new empirical tests to connect these results with the theory of boosting. I show that mayors compensate the costs of using their local capital for national elections by extracting benefits controlled by their copartisans on upper-level positions. I find a substantial increase of 10 percentage points in the probability of local incumbents to access pork controlled by copartisans in the House compared to the runner up party in the local race. I further show how these gains in pork explain the effects of boosting on upper-ticket elections.

Second, I identify the existence of information gains on political boosting. I demonstrate that winning local elections increases the strength of political signals in between elections working as an information shortcut for inattentive voters. I measure information gains by the concentration of votes for the incumbent and runner up's top candidates. If winning local increases the strength of partisan cues, one should expect a higher concentration of votes for the local incumbents' party top candidate running in the forthcoming legislative elections relative to the runner up party.

More information leads voters to pay more attention to the top candidates of the incumbent party, therefore, improving the party gains at the national level.

I conclude by discussing two extensions for the theory of political boosting. I analyze boosting effects conditional on the institutional strength of the incumbents' party and on career incentives at the local level. I show that state-level partisan alignment and holding a House seat in the district substantially increase the effect of political boosting. After that, I analyze the conditional effect of career incentives on political boosting, which thus far has been primarily used to explain local politics and incumbency effects in Brazil ([Titunik et al., 2015](#); [Novaes, 2017](#)), and find null effects for this explanation.

The article proceeds as follows: In the first section, I expand on the theory of political boosting. Then, I introduce the reader to the institutional environment in Brazil. The following section presents the identification strategy— and the research design employed in the paper. I then discuss the results for political boosting in federal democracies, the heterogeneous effects of parties, and the effects of winning local on access to pork and on information gains. I present a set of robustness checks for the paper, and then I end by considering the broader contributions of this paper.

Political Boosting in Multilevel Democracies

Scholars of multilevel democracies have long investigated how elections of different scales produce electoral incentives on voters and parties. Under the concept of coattails, much of the literature supports that horizontal forces from executive races shape the performance and fragmentation levels of legislative parties ([Golder, 2006](#); [Magar, 2012](#); [Meredith, 2013](#); [Samuels, 2000a](#)), while vertical effects between multilevel executive positions make presidents a key player

in gubernatorial races (Borges and Lloyd, 2016; Rodden and Wibbels, 2010). Likewise, scholars have shown mixed findings on how the reverse effects of local politics can impact national electoral competition (Ames, 1994; Broockman, 2009). Furthermore, a consistent pattern of this scholarship relates to the conditional effects over time; coattail effects are notably mitigated when elections are non-concurrent (Golder, 2006; Borges and Lloyd, 2016; Samuels, 2000a). Non-concurrent elections make the flow of information that explains coattails less effective on changing voters preferences. The theory of political boosting provides a road map to close this gap in the literature on partisan politics in federal democracies.

National candidates battling for votes have incentives to structure their campaigns around local intermediaries who are not running for elections. In particular, in democracies with low levels of partisanship, party identification does not remedy the informational deficits on the voter side; competing candidates must do more than put forth a party label to attract the support of inattentive voters. One way to patch information gaps is by using powerful local allies and the resources at their disposition to convince voters to support the incumbents' copartisans. Local incumbents have a variety of tools to deploy to help a copartisan running in an upper-level election. Winning control over the local executive gives the local party leader access to clientelistic (jobs and pork) and non-clientelistic goods (information) that can be crucial to help copartisans running for upper-level legislative positions. In federal democracies with high decentralization, as in Brazil, mayors usually control both types of goods, and voters interact directly with social services provided by these local offices.

In non-concurrent election, when the mayor decides to use policy or non-policy resources under her control to generate partisan gains, voters risk paying externalities from a non-optimal allocation of resources. The use of policy and non-policy resources to directly benefit her party

renders a sub-optimal provision of policy for the local voters. Thereby, the incumbent's decision to help a candidate from her same party competing in an upper-level election involves a critical trade-off. With this trade-off, the political boosting dilemma then becomes: When subjected to the risk of being punished by the party, should local incumbents shirk and move towards the voter's ideal point? Or should local incumbents comply with the party proposal, therefore facing the risk of being punished by the voter? The answer for this dilemma depends inherently on the benefits local incumbents gain from boosting and the costs for the local politicians to engage in national politics.

Analyzing benefits from partisan alignment, scholars have frequently called attention to the intertwined use of these intergovernmental resources to advance specific political interests. Brollo and Nancinni (2012) show how partisan alignment increase federal transfers to municipal governments in Brazil and similar findings have been shown for a variety of federal democracies (Berry et al., 2010; Bracco et al., 2015). Bueno (2017) shows how central authorities bypass an opposition mayor by redirecting resources to nonstate organizations, avoiding credit hijacking by local rivals; Bueno also shows voters punish mayors who suffer from bypassing in Brazil, which is consistent with other studies about voters observing the local politicians make decisions about national politics (Feierherd, 2018). Following these previous investigations, I argue that the access to pork provided by national elites are crucial on affecting the mayor's decision to use their local capital to help national candidates improve their electoral performance. Pork alleviates the costs of diverging local capital to upper-ballot elections.

National legislators in Brazil have a variety of tools to convince local politicians to engage in national partisan efforts. These tools vary from more direct benefits, such as introducing local incumbents to a national network of bureaucrats, to more direct benefits like access to pork under

their control. The power to propose individual amendments to the budget to be allocated to local governments is the main type of pork under direct control of House members. Even though the payment depends on the political interests of the President and Cabinet Members ([Luz and Dantas, 2017](#); [Vasselai and Mignozzetti, 2014](#); [Raile et al., 2011](#); [Limongi and Figueiredo, 2005](#)), promises of pork are under full control of House members. I use data on individual budgetary amendments proposed by legislators to the local level to measure how pork influences boosting. If boosting matters for access to resources, local executives should receive more resources from the party of the mayor than from the party of the runner-up candidate. Consistent with this hypothesis, I find positive treatment effects using a regression discontinuity design of close races. Second, to examine the effects by party, I show how differences in the allocation of pork from individual amendments after winning a local election increases for stronger parties. For small parties, winning and losing make no difference in the money sent by a national legislator to their local incumbent relative to the local runner up party, while large parties more faithfully redistribute goods to their local members engaging in upper-ballot elections.

In addition, the theory of boosting also predicts that winning local elections will produce information gains for the incumbents' party. Open List Proportional Representation (OLPR) is commonly recognized as a source of major information challenges for voters, who are required to choose among thousands of individual candidates within dozens of lists. These information demands have been given a central role when explaining the non-ideological and unstable coalitions that populate the menu of electoral options ([Amorim Neto et al., 2003](#); [Zucco, 2009](#)). Information demands are also central to explain pro-small party bias in legislative seats ([Calvo et al., 2015](#)) as well as frequent party-switching in Congress ([Desposato, 2006](#)). Still missing in this literature is a proper investigation on the information effects of winning local on upper-ballot

non-concurrent elections.

I argue that winning a local election makes political signals by parties stronger. Voters needing to make a decision in a noisy environment, observe the party of the mayor as a cue for upper-ballot candidates. As evidence for information gains, I show how winning a local election, even by a small margin, make within-list coordination more effective for the candidates of the incumbent party in the forthcoming House election. To measure information gains, I use as an outcome the effective number of candidates for the list of the incumbent's party compared to the party of the runner up candidate at the mayoral race. This parameter identifies the concentration of votes on the top candidates in the incumbents' party list compared to the runner-up; a decrease in the number of effective candidates represents better information flow relative to incumbents' party top candidates. The change in the ratio of the effective number of candidates of the incumbent's list means voters convert information shortcuts from the local office to greater support to top candidates of the incumbents' party. This measure teases out the information gains from winning local elections and the effect on upper-level legislative elections.

To conclude, I discuss two extensions for the theory of boosting. I analyze how institutional party strength in the local district and mayoral career ambition relates to the effects of boosting. First, Parties with a strong institutional presence in a district have an economy of scale in the district in motion at their disposal. More information about the voters and a previously constituted partisan network decreases the costs for the local incumbent to engage in a partisan effort. This argument is consistent with a theory of mayors as brokers in Brazil proposed by [Novaes \(2017\)](#). I assess the degree to which political boosting varies according to the affiliation of the mayor with the State Governor's Party and if the incumbents' party holds at least one seat in the House when the coming Federal election occurs. Second, I assess whether a mayor's career

ambition matters for political boosting. I analyze heterogeneous effects of political boosting conditional on the decision of the incumbent to run for reelection, to be in an open-seat, or be a lame duck. Employing the same logic outlined on previous studies of incumbency effects in Brazil (Klašnja and Titunik, 2017), I expect that mayors facing reelection in the short run have higher incentives to help her copartisans. For example, having a copartisan elected for the House can help the mayor to access federal resources which might be crucial to her reelection goals. When a Lame-Duck or in an Open-Seat (when the mayor decides not to run at t_{+4}), local incumbents have fewer incentives to help the national parties sending strong signs about her copartisans running for the House elections.

I expect political boosting to occur in federal democracies as a consequence of national leaders using local copartisans as instruments to increase their performance in low-informational political environments. These improvements occurs because national elites can offer pork for local incumbents and locally, controlling the office renders information gains in the candidate-voter connection. Larger parties win more nationally from investing in local compared to smaller parties; greater access to pork and information gains are more accessible for large parties in Brazil. In conclusion, beyond explaining how parties build strength in fragmented democracies, political boosting also provides insights about which parties extract larger benefits, and their strategic motivation behind investing in local politics.

Institutional Background

Brazil is administratively divided into 27 states, which are further subdivided into 5,570 municipalities. The political structure at the local level mirrors the presidential arrangement of the central government, except that states and cities have a unicameral legislature while the

national level has an Upper and Lower level chamber. The chief executive in all three federal levels are directly elected using a runoff majority rule, although, for mayors of municipalities with under 200,000 eligible voters who represent the absolute majority of the towns, mayors are chosen through plurality rule. Brazil has used the same electoral rules for electing its legislative representatives since the democratization of the country, including the period discussed here. Legislators are selected in an open-list proportional system in which coalition-building occurs at extraordinary levels ([Calvo et al., 2015](#); [Amorim Neto et al., 2003](#); [Figueiredo and Limongi, 2000](#)). Municipal governments answer for a relevant share of the provision of public goods and services, mainly those related to education, health, and infrastructure projects. Elections for all national and state-level offices take place at the same time every four years, whereas all municipal elections occur by two years and also take place every four years.

The Brazilian party system is famous for exhibiting high levels of fragmentation. After the most recent 2018 national election, the largest party in the House, the Worker's Party, holds only slightly more than 10% of the seats, whereas thirty parties won at least one seat for the House. Even though the Legislative Branch has approved some minor changes over time to reduce the partisan fragmentation, the trend of the number of effective parties has consistently moved upward in the last two decades. Based on the Laakso-Taagepera index which uses vote share as the unit of analysis, Brazil had a total of 8.16 effective parties in the Lower Chamber in 1998. In 2014, the last year under scrutiny here, the total number of effective parties almost doubled, achieving the impressive mark of 14.1 effective parties. Yet, party fragmentation is not limited to the national level. Not surprisingly, the local level of party fragmentation resembles the findings depicted above for the House composition. In 2000, the number of effective parties winning local executive offices was 7.38, while in 2012, the value jumped to 11.

Figure 1 depicts the parties' vote share for the House elections aggregated at the municipal level. The left figure plots the evolution of the number of effective parties using the vote share of the parties for the Lower Chamber, while the right plot shows the average vote share of the parties in each municipality ². The figures reveal a worrisome indication of the growing partisan fragmentation in Brazil over the years.

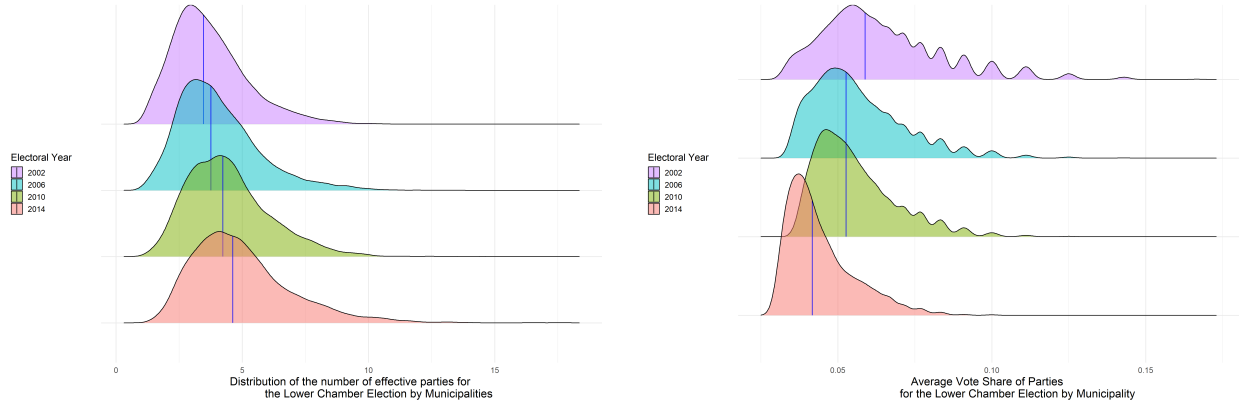


Figure 1: Distribution for the Effective Number of Parties and the average vote share for the House by municipality. The vertical blue line indicates the median for each distribution. The mean over the years and the standard deviation for the number of Effective Parties are 4.29 and 1.74, respectively. Whereas, the mean and the standard deviation for the vote share are 5.5% and 1.1%

An important aspect about the Brazilian party system relates to the uniqueness of the Workers Party (PT) in the context of a fragmented party system. The scholarship on political parties in Latin America points to the PT as an example of a leftist, unlikely example of a mass-based party in the continent. Previous research suggests various peculiarities about the PT compared to other large parties in Brazil. For example, the strength of the PT's label (Feierherd, 2018; Samuels and Zucco, 2018), the PT's capacity to mobilize and activate local grassroots organizations (Samuels and Zucco, 2015; Keck, 1992), and the party's capacity to discipline its members at the national and local level (Klašnja and Titiunik, 2017; Amaral, 2013; Hunter, 2010). I extend the discussion about the uniqueness of the PT when discussing the partisan effects of

²The Superior Electoral Court does not provide information of the parties who had zero votes for the years of 2002, 2006 and 2010; therefore, I exclude these cases to calculate the average

political boosting in Brazil. The findings indicate that although the PT effectively connects local and national non-concurrent electoral performance, the effects of boosting are not restricted to the PT.

Brazil offers a unique opportunity for a thorough investigation of strategies of parties in fragmented polities. First, Brazilian political system produce low incentives for intra-partisan cooperation, as the paper has extensively discussed. Second, due to the non-coincidence of the local and national elections, I can disentangle without further problems the boosting effect of local politicians on upper-level elections, therefore filling a critical gap in the literature on party building in multilevel democracies.

Data and Methods

I assess mayors' political boosting by measuring at what degree electing a local executive chief affects the party performance for the subsequent Lower Chamber (national) election. I analyze all the elections between 2000 and 2014. The years of 2000, 2004, 2008, and 2012 represent years with local elections (t), while 2002, 2006, 2010, and 2014 ($t + 2$) are years with state and national elections. Therefore, the analysis covers a total of four electoral cycles. The data is available from the Superior Electoral Court in Brazil. All the other variables related to the electoral dynamics are extracted from the same source.

The pressing empirical challenge for this paper relates to the chance of omitted or reverse bias affecting the party vote share for the House (y) and the election of the copartisan mayor (T) simultaneously. In other words, in municipalities where the mayor for party j is elected, the level of support for the same party is likely to be higher; therefore, party j has, from the beginning, a distinct baseline in its likelihood of being better off in the upcoming legislative race

in this particular district. Thus, positive results might be spurious due to this different baseline propensity instead of related to the effort of the mayor on delivering support for their copartisans. To overcome this empirical challenge, I use a regression discontinuity design. This design has become one of the most credible and accessible strategies in political science to deal with causal effects using observational data and has been extensively applied on close elections in Brazil (Avelino et al., 2012; Klašnja and Titiunik, 2017; Novaes, 2017; Boas and Hidalgo, 2011; Brollo and Nannicini, 2012), as well as other countries (Lee, 2008; Eggers et al., 2015; Broockman, 2009). The model provides a clear identification for political boosting, which I operationalize as the effect of electing the mayor on the vote share of the incumbents' copartisans for upper-level legislative elections .

A variety of methods have been proposed to estimate regression discontinuity designs. I follow the recommended setting of using non-parametric local linear regression (LLR) to approximate the treatment effect at the cutoff point (De la Cuesta and Imai, 2016; Skovron and Titiunik, 2015; Gelman and Imbens, 2018). I employ a local polynomial with one degree to fit two separate regression functions above and below the cutoff of zero margin of victory in the mayoral dispute, with the treatment effect being the difference in the limits of the cutoff, or in other words, the intercepts from each direction. To smooth the local regression function, I employ triangular kernel weights as a function to the distance between each observation's score and the cutoff. Therefore, observations far away from the cutoff are under-weighted by the estimation strategy, allowing for a better approximation of the treatment effect. I use a data-driven search to select an optimal bandwidth for the estimation which minimizes the Mean Square Error (MSE) of the model. To address bias on the treatment effects due to approximation errors, I report the robust treatment effects and confidence intervals developed by Calonico, Cattaneo, and Titiunik (2014).

To ensure robustness, I report results using different bandwidths for the average treatment boosting effects.

Estimation Strategy

For the baseline setup of the paper, I estimate the effects when party j barely wins (loses) the mayoral election at t on the vote share of the party j co-partisan candidates to the congressional race at t_{+2} . I cover the last four electoral cycles in Brazil; hence, t represents the local election, and t_{+2} represents the national elections that occur two years later. The dependent variable employed is the vote share of the two top candidates (the mayor and the runner up) from party j for the House election at t_{+2} in the municipality i . Therefore, the causal effect indicates the increase/decrease in the vote share of the incumbents' party at t_{+2} *vis-a-vis* the vote share of the runner up candidate's party.

To estimate the returns mayors receive from boosting, I first estimate the effects when the party j barely wins (loses) the mayoral election at t on the access to pork allocations proposed by House members of party j . I restrict the analyses only to the individual budgetary amendments proposed by the party j legislators in the following two years after the local election. This quantity provides a well-identified effect of electing a mayor on promises of pork from one's national copartisans. I use a Bayesian LASSO model to estimate the heterogeneous treatment effects by party - the advantages of this modelling strategy receives a proper introduction in the following section. The estimator allows the identification of partisan variation on how effectively these political parties reward their local incumbents with promises of pork after a local victory.

For the information gains, I estimate the effect of incumbency on the concentration of top candidates for House elections. As before, the treatment group and control conditions are the same; the outcome is now the effective number of candidates on each legislative list in which the

party j runs at t_{+2} . I weight the outcome using the average number of effective candidates in each group to control for the heterogeneity of list composition in Brazil. The treatment effect is estimated using a regression discontinuity design. The parameter approximates the vote concentration of the top candidates within the list of the incumbent party j compared to the runner-up's party. In the supplemental files, I provide a detailed description of the subgroups, the estimation strategy for the mechanisms.

Subgroup effects using Bayesian Lasso for Regression Discontinuity Designs

To estimate the heterogeneous effect of political boosting by parties, I use a novel methodological strategy applying a Bayesian sparse estimator to a regression discontinuity design. Previous work on heterogeneous partisan effects relying on RDD as an identification strategy commonly handpicks the largest parties for their analyzes (Boas et al., 2014; Klačnja and Titiunik, 2017; Novaes, 2017), which renders statistical and theoretical problems. First, ad-hoc decisions about subgroup effects can generate false discoveries when no true relationship exists, notably under the condition of sparsity on the data (Pocock et al., 2002; Imai and Strauss, 2011). Second, throwing out part of the data might render inefficient estimators, as the literature on multilevel modeling has commonly argued (Gelman and Hill, 2016). Third, local linear models with sparse data, as in Boas et al. (2014)'s example in which some models have less than 50 observations, are likely to render instability in the asymptotic properties of the treatment effect and raises warranted suspicion about the findings.

To overcome this limitation, I employ the LASSOplus method developed by Ratkovic and Tingley (2017) to identify the subgroup effects in the case of close-races in Brazil. A simple LASSO model works by zeroing out non-relevant parameters when dealing with high-dimensional data (Tibshirani, 1996; Tibshirani et al., 2015). In the Bayesian setup, the LASSO estimator uses

some form of prior distribution over the parameters for the regularization process ³. [Anastopoulos \(2018\)](#) shows that when data is sparse, the Bayesian LASSO estimation of treatment effects has superior performance compared to local linear models minimizing false negative and false positive rates under small sample sizes. To estimate the model, I estimate the LASSO-plus model using the Gibbs sampler with 1,000 burn-in iterations, 1,000 posterior samples, and thinning every 30 samples, which yields 1,000 draws. I use the same bandwidth calculated by the data-driven approach for the general model ([Calonico et al., 2014](#)). The implementation of sparse modeling to regression discontinuity designs is a methodological contribution of this paper to the emerging literature combining machine learning methods to improve the causal identification of statistical parameters ([Grimmer et al., 2017](#); [Athey and Imbens, 2015](#); [Imai and Ratkovic, 2013](#); [Ratkovic and Tingley, 2017](#); [Green and Kern, 2012](#); [Hainmueller and Hazlett, 2014](#)).

Results

I start by providing evidence for the effects of winning the local executive on the party vote share for House seats. Figure 2 presents the results for the RD estimation, pooling all of the years together. Analyzing all electoral years, the average effect of controlling the local executive leads to an increase of two percentage points in the vote share of the incumbent’s party for the House. The results are aggregated at the municipal level; therefore, it should be understood as an increase on average at the local level.

Figure 2 visually presents the treatment effect of winning a local election on the vote share

³The Bayesian version of the estimator has been proved to exhibit better performance compared to its frequentist counterparts. First, the broad family of Bayesian methods has been shown to work better when groups have few observations ([Stegmueller, 2013](#)). Second, it deals appropriately with the estimation of standard errors in the LASSO setting; in particular, it may provide measures of uncertainty for the parameters in which the penalty term shrinks to zero ([Kyung et al., 2010](#))

Figure 2: Smoothed Regression Discontinuity of the Treatment Effect (Red lines represent the optimal bandwidth decision)

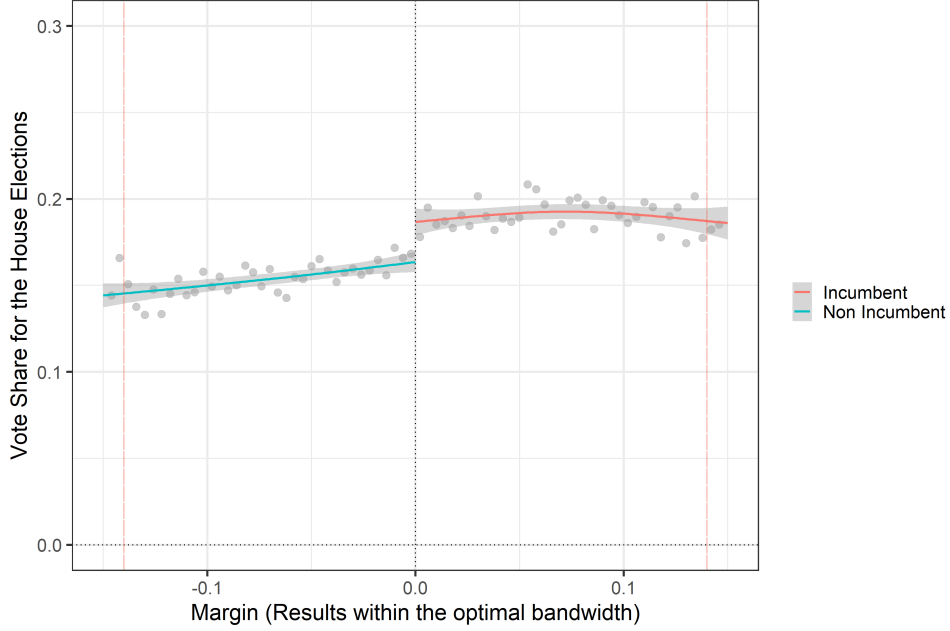


Table 1: Political Boosting: Local Average Treatment Effects

Outcome: Vote Share Co-partisans for the House Election				
Bandwidth (Margin of Victory)	Estimate	Lower Bound CI	Upper Bound CI	Number of Pairs
Optimal Bandwidth (14.4%)	0.022	0.011	0.032	12768
1%	0.019	-0.024	0.086	1080
5%	0.018	-0.006	0.036	5374
10%	0.019	0.001	0.031	9962
25%	0.024	0.012	0.032	17482
100%	0.025	0.017	0.030	21384

of the incumbent’s copartisans for the House election. The numerical results for the treatment effect are displayed in table 1. Electing the mayor (t) increases the vote share for the mayors’ copartisan candidates for the House election (t_{+2}) by 2.2 percentage points, compared to the runner-up party vote share. Under different specifications for the bandwidth, the results remain positive, although with some variation on statistical significance within very narrow windows.

The average vote-share per party for the House across all the electoral years is 5.5%, with a

standard deviation of 1.1% in each city (See figure 1). Therefore, electing the mayor increases, on average, two standard deviations in the vote share of the parties for the Brazilian House election in each municipality. Undoubtedly, an increase of two standard deviations is a substantial effect on elections. More important, considering how competitive House Seats are in Brazil, (Calvo et al., 2015), a two standard deviation increase in the party vote share might be the difference between winning or losing a seat.

The Effects of Political Boosting by Parties

Figure 3 presents the Bayesian LASSO non-zero coefficients for the party effects. The results indicate five parties have treatment effects different from zero: the *Partido do Movimento Democrático Brasileiro* (PMDB), the *Democratas* (DEM, formerly Partido da Frente Liberal), the *Partido da Social Democracia Brasileira* (PSDB), and the *Partido Progressista* (PP), and the *Partido dos Trabalhadores* (PT). The effects are positive, statistically distinct from zero, and the PP has the largest conditional effect.

These five parties are the largest in the Brazilian system considering the number of seats in the House and the number of elected mayors over the last three decades, which suggests that party size matters notably for the successful alignment between local-national politicians. The PP, a non-programmatic, clientelistic party, appears in the results as having the largest effect, suggesting that the treatment is hardly related to the strength of party labels, as the literature supposes when analyzing incumbency effects (Titunuk et al., 2015).

Second, programmatic preferences and coattail-presidential effects also seem to have no impact on boosting. These five parties represent a fair amount of variation regarding policy preferences, and with the exception of the PT and PSDB, none of the other three parties have had competitive presidential candidates in the recent Brazilian elections. To test for presidential

coattails, I provide models for robustness checks in the supplemental files. The results show no consistent effects of having a competitive presidential candidate on the treatment effect.

Finally, the existence of partisan bias on boosting in favor of larger parties validates theories on party strength, moderating the effect of boosting. Larger parties in Congress have more representatives spread throughout the districts as well as governors elected, therefore exhibiting a higher ability to coordinate the mayors' behaviors. The next section provides empirical evidence for this.

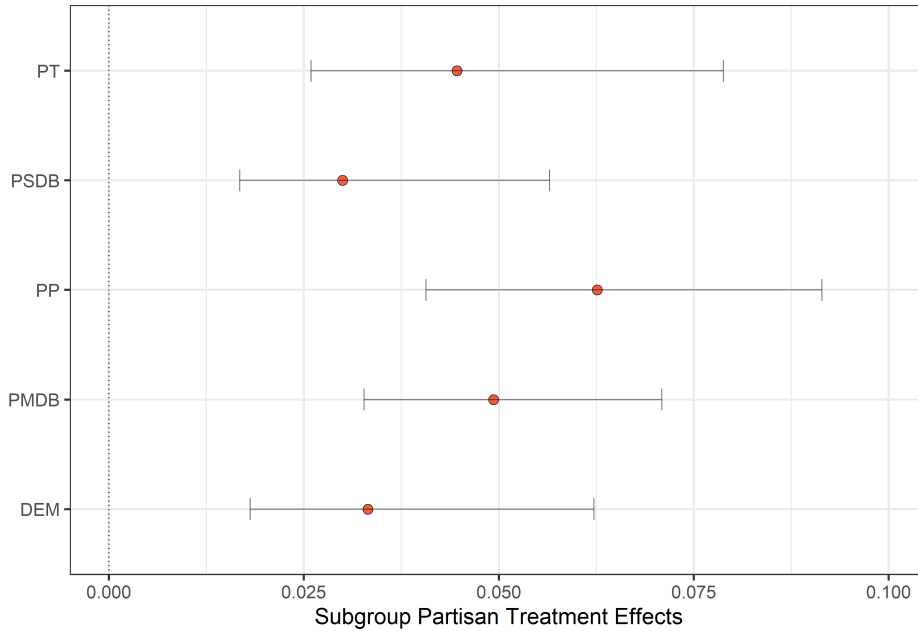


Figure 3: Nonzero conditional treatment effects by parties using the Bayesian Sparse LASSO algorithm. The estimation uses a data-driven bandwidth selection and presents the median point estimates with 95% confidence intervals.

Political Boosting, Access to Pork, and Information Gains

Figure 4 presents the effect of winning a local on access to the allocation of pork from the House by the incumbents' copartisans. After a local election, a municipality increases the probability of having an allocation of pork by the party of the incumbent by 12 percentage points,

compared to the runner-up. In other words, House members send more money to municipalities that their party wins, versus the places where the parties were barely defeated. To connect this finding with political boosting, I estimate the mediated effect of pork on boosting; I separate the data according to the access pork for the incumbent and the runner up local candidate. In the sequence, I estimate the political boosting effect conditional on the subgroups. The results demonstrates how promises of pork works affects how successfully local incumbents engage boost their copartisans performance on upper-ticket legislative elections. Incumbents who have promises of pork from copartisans increase their party vote share by 10%, while those with no promises in the next two years after being elected exhibit null results. In addition, when incumbents do not have promises of pork from House Members, but the runner up does, the vote-share of the incumbents party is abruptly reduced.

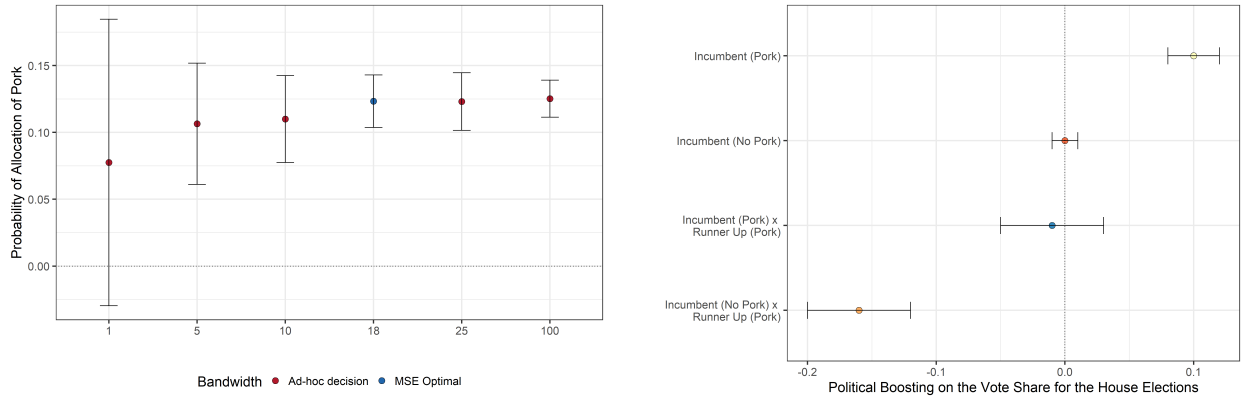


Figure 4: Political Boosting and Access to Pork. The left figure shows the treatment effect of winning a local election on the allocation of pork by House Members from the same party. The right plot shows the effect of Political Boosting mediates by access to Pork and report only coefficients using the optimal bandwidth. Both plots use the robust 95% confidence intervals and point estimates.

Figure 5 presents the conditional effect of access to pork by parties using the Bayesian LASSO estimator. For the theory of boosting, the existence of differential effects on the allocation of pork explains how the benefits provided by boosting varies by parties. In the same direction of the partisan effects of boosting, the results indicate that the four largest parties in Brazil

are more efficient in rewarding their local incumbents that win election. The effects by parties is roughly similar to the average effect, except for the case of the PT; large parties increase, on average, the chances that their local incumbent will receive an individual amendment in the following two years after being elected by 15 percentage points . On the other side, smaller parties show no substantial effects. When a large party wins the local executive, their copartisans bring 'home the bacon' by sending resources under their control to the municipalities controlled by their copartisans. Meanwhile, smaller parties, even when successful in electing a mayor, do not receive the support of their copartisans in the House. From the perspective of the local incumbent therefore, boosting, or using her local capital to help a copartisan running for an upper-level election, is more efficient for only a few major parties in the Brazilian system ⁴

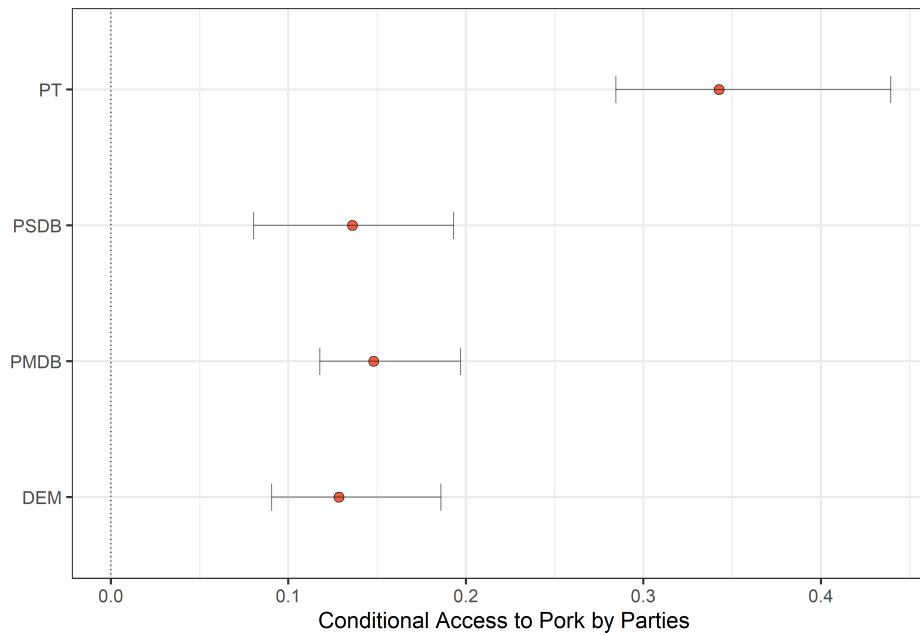


Figure 5: Nonzero conditional effects by parties on access to pork using the Bayesian Sparse LASSO algorithm. The estimation uses a data-driven bandwidth selection and presents the median point estimates with 95% confidence intervals.

⁴The supplemental files show similar results when estimating a single model for each party using the local linear estimator (Titunik et al., 2015). Although more positive cases appear when using a local modeling strategy, the general findings about a large party bias do not change.

Figure 6 presents the information gains parties extract from winning a local election. I estimate two distinct models to ensure robustness. First, I show the effect of incumbency on the effective number of candidates, considering the entire sample of four elections. Second, I isolate the effect only for the cases where the mayor and the runner up's parties are competing for House seats in the same coalition. The latter case provides a more accurate picture of information gains; even running in the same coalition, incumbency has a stronger negative effect - an increase in coordination - on the number of effective candidates running for upper-level legislative elections. Both parameters are statistically distinct from zero using 95% confidence intervals. Top candidates from the incumbent's party gain higher attention *vis-a-vis* the runner-up's party, which renders a more efficient allocation of votes for the party as a consequence of information gains.

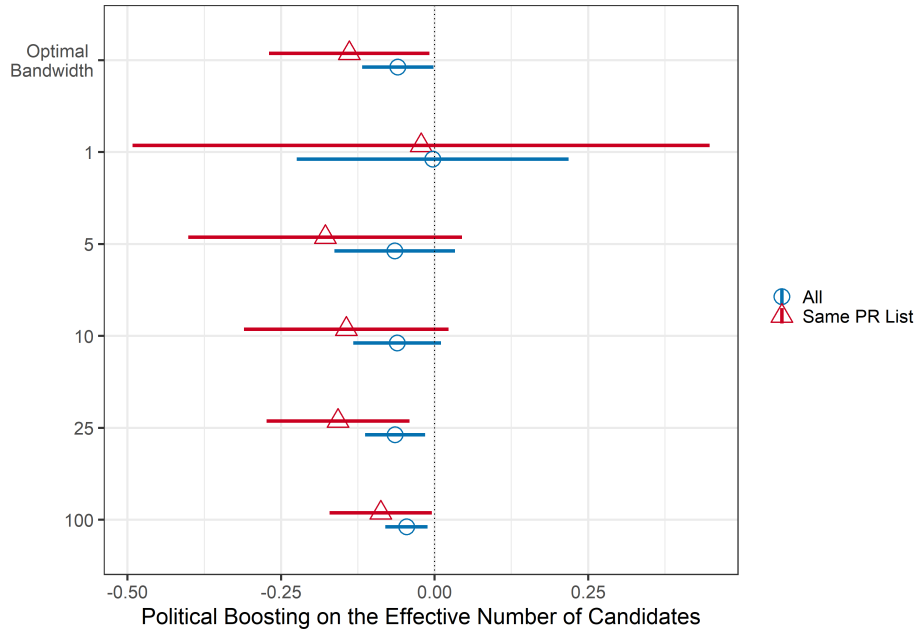


Figure 6: Information Gains from Boosting: effects on winning local the effective number of candidates by list. The estimation uses a data-driven bandwidth selection and presents point estimates with 95% confidence intervals.

Extensions: Party Institutional Strength and Incumbents' Career Incentives

In this section, I present two extensions to the theory of political boosting. I estimate whether the boosting effects are conditional on partisan institutional strength and the mayor's career incentives. Specifically, I measure whether the effects of electing the local incumbent changes if i) the state governor is from the same party of the barely elected mayor; ii) the party of the incumbent has a House Representative running for reelection on t_{+2} . For the career-centered incentives, I split the data into three subgroups: i) Incumbent; when the mayor runs for reelection at t_{+4} ii) Lame-duck, when the mayor hits term limits and cannot run for reelection; iii) Open Seat, when mayor could but decided not to run for reelection. This research design closely replicates the model in [Titunik et al. \(2015\)](#).

I first present evidence for the importance of party strength on political boosting. The results in figure 7 show that conditional on being from the same party of the governor, winning the mayoral race increases the party vote share for the House election by 13.5% percentage points. This conditional effect on the governor subsample is six times larger than the average treatment effect, indicating the importance of vertical alignment for political boosting. This substantial effect confirms previous research about the relevance of governors for electoral dynamics in Brazil ([Samuels, 2003](#); [Abrucio, 1998](#)). Figure 7 shows a similar effect for the mayors who have at least one elected House representative at the time of the election in t_{+2} . The effect is twice the size of the average treatment effect

These results align with the theory of political boosting. In an economy of scale, political elites have more loyal allies at the local level when party strength in the district is higher. In the

case of larger parties, the costs for an incumbent to help her copartisans running in upper-level elections decreases, rendering the incumbent's effort to help her copartisans more effective. The increase in efficiency might come from different channels: promises of access to state-level or national resources, a stronger partisan network controlled by the governor, or merely the threat of being punished.

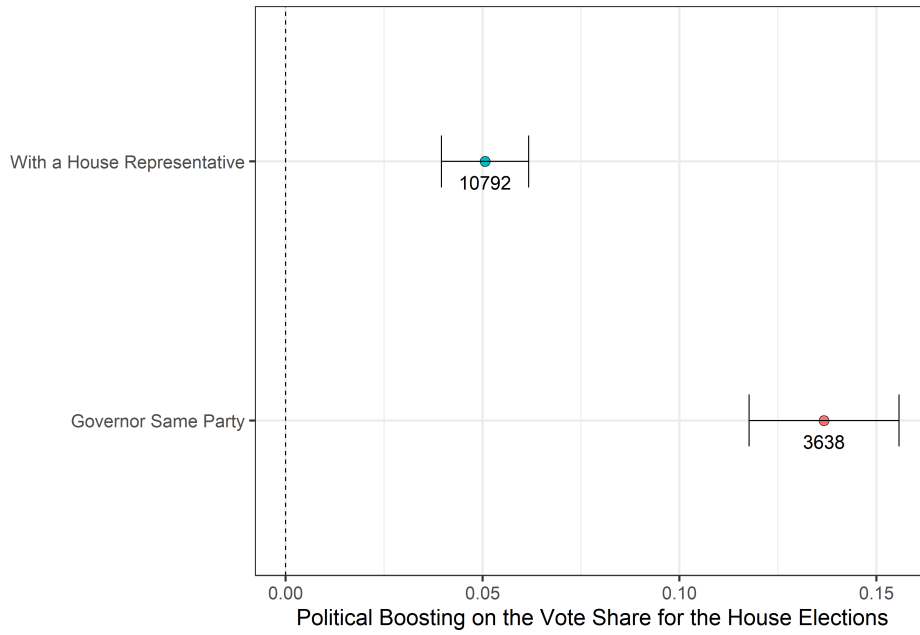


Figure 7: Conditional Treatment effect for the Party Coordination mediator on Political Boosting. The figures plot robust 95% confidence intervals. The number of cases is printed above each point estimate.

Following the literature on incumbency effects ([Titiumik et al., 2015](#)), I estimate the effect of career incentives of local incumbents on boosting. Figure 8 indicates no consistent difference between career paths and the effect of winning local elections in the House results. Across the three subsamples - incumbents, open-seat, and lame-duck mayors - the effects are similar in magnitude to the average treatment effect of a 2% increase in the vote share for the House elections. However, in the Lame-Duck sample, the effect is not statistically different from zero using the robust 95% confidence intervals, which is a consequence of sparsity in this subgroup.

To summarize, political boosting occurs independently of the mayors' career ambition. Party institutional strength has stronger mediator effects on political boosting in federal democracies. A plausible explanation for the effects of party strength on boosting relates precisely with the access to pork and information gains. First, stronger parties have more access to intergovernmental transfers in Brazil (Brollo and Nannicini, 2012; Bueno, 2017). Additionally, since the effects of boosting also come from reducing noise in a fragmented political environment, the null effect of career ambition indicates voters do not discount the perspectives of the mayor when using the political offices as an informational device to decide on upper-ticket elections.

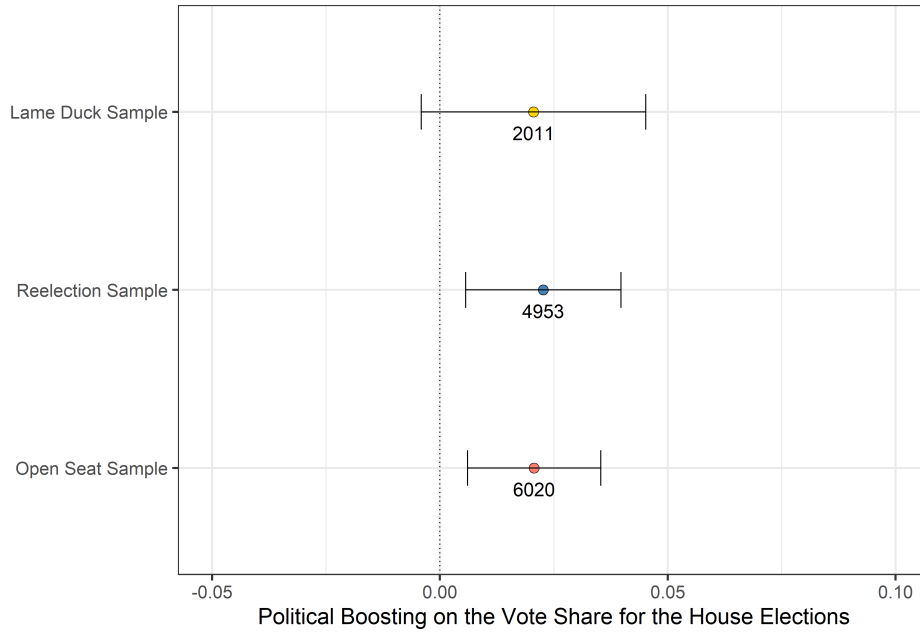


Figure 8: Conditional Treatment effect for Mayors' career ambition on political boosting. The figures plot robust 95% confidence intervals. The number of cases is printed above each point estimate.

Robustness Checks

For the discontinuity design to be internally valid, the continuity assumption must hold (De la Cuesta and Imai, 2016; Skovron and Titiunik, 2015; Imbens and Lemieux, 2008). Although

the continuity assumption is untestable, best practices suggest looking carefully for signs of violations. In this case, it is standard procedure to provide empirical evidence that no unobserved cofounders exist in the running variable and outcome. I perform two sorts of tests for the validity of the RD design. In the supplemental files, I first show no evidence of sorting on the margin of victory in the pooled data, the data by year, the subsamples, and the five parties with positive conditional effects; none of the cases have robust p-values for the null hypothesis of sorting smaller than .11 using the test developed by Cattaneo, Jansson, and Ma (2018). I also run a "placebo" test regressing the treatment on lagged values for the vote share for House Election (t_{-2}) for the pooled data, for the year subsamples, and the five parties. The results using the lagged vote share are particularly reassuring regarding the validity of the RD setup, as it implies that predetermined electoral outcomes are not related to close races. Except for the case of the PMDB, with a negative coefficient which is statistically distinct from zero, I find no evidence of spurious correlation with the pre-treatment vote share.

To further test the robustness of the results, I re-estimate the treatment effect in the supplemental files using the rate of change of party support for House elections before and after electing the mayor and the vote share of state legislators as the dependent variables. If winning locally matters to explain different electoral gains between the incumbent and the runner up in the upcoming elections, it is reasonable to expect the incumbent's vote share *vis-a-vis*, as well as the runner-up candidate's vote share, to increase over time. Therefore, in the supplemental files, I re-estimate the models using the rate of change of the barely elected (loser) mayor's vote share from the previous to the next election as explanatory variables. The logic applies correspondingly for state legislators who win elections on the same day of House members in Brazil; if informational shortcuts run from below, I should expect that winning locally also matters to

copartisans state legislators. I direct the reader to the Supplemental Files for a more extended discussion, where I report more detailed results.

In brief, the findings converge for change of electoral support over time; indeed, the treatment effect is more substantial when the baseline vote share in previous elections is included in the model. However, the effects on state legislators do not seem as strong. In the latter case, boosting is more dependent on party strength than in the general case of House elections . The findings for state-level elections speak to the fact that state deputies usually are closer to local political dynamics than their copartisans in the House but also institutionally weaker, therefore both relying less upon, but also having less to offer local incumbents. I also test in the supplemental files if having nationally competitive candidates for the presidency works as a mediator for political boosting. The effects do not provide evidence for this argument.

Conclusion

In this paper, I propose a theory to understand if and how parties invest in local political capital, and whether that action renders substantial national gains. I label the process of aligning local capital to national gains as political boosting, and I test this theory in Brazil—a noisy, fragmented political environment. I find strong evidence that electing a mayor increases the incumbents’ party vote share for future House elections. However, not all parties win from going local to boost their national performance. Large parties are more efficient when using their local incumbents for national gains compared to their smaller contenders. The paper discusses different mechanisms behind boosting. I show incumbency renders greater access to pork on average, but the effect is greater for larger parties; mayors from strong parties receive more resources upon winning than do incumbents from small parties. Besides, incumbency - even

in a close-race and when the incumbent and the runner up party belongs to the same list - generates information gains for top candidates and reduces the number of effective candidates in upper-ticket elections. Both mechanisms increase the effectiveness of aligning local capital to national elections, and explain how winning local improves party performance on upper-level forthcoming elections.

The findings of this paper make several contributions. I contribute to the literature on multi-level democracies by discussing the existence of political effects on non-concurrent elections. The theory of political boosting and its empirical findings show that voters incorporate information from local politics to decide upper-level elections on federal democracies with non-concurrent elections. Therefore, I offer a new explanation to the null finding in the coattails literature when dealing with non-concurrent races ([Golder, 2006](#); [Samuels, 2000b](#); [Borges and Lloyd, 2016](#)).

My findings are consistent with [Avelino et al. \(2012\)](#) and [Novaes \(2017\)](#): mayors are crucial for upper-ticket electoral performance in Brazil. In their previous work, macro-level institutional changes and intra-partisan coordination appears as explanations. Here, I expand the findings in a few different directions. I add to this scholarship a discussion about pro-large party bias, the importance of pork and information gains mediating the effects of winning local offices.

The theory of political boosting speaks highly to the literature on information shortcuts in democratic regimes. In the opposite direction of Rodden and Wibbels' ([2010](#)) argument, when elections are non-concurrent, I argue that information runs from below, from the local to the upper level. In this sense, controlling the local information becomes key for party building in fragmented polities. Voters seem to pay attention to local politics, in our case, affiliation with the mayor, to reward her copartisans running for House election. In the specific case of Brazil, recent scholarship has argued that party labels interacting with local incumbency might actually

hurt presidential candidates when voters are dissatisfied with the local government ([Feierherd, 2018](#)). The findings for political boosting go in the opposite direction; when voting for upper-level legislative elections, in which information is more scarce than in presidential elections, local incumbency helps parties. In addition, the paper also detects that the heterogeneous effects of winning local are mostly independent of the mayors' decisions about their career; partisan institutional strength seems to dominate the career ambition incentives at the local level. Therefore, the causes of political boosting diverge from the argument behind incumbency effects in Brazil ([Titiumik et al., 2015](#)), which explains why although incumbency has a negative effect on local elections, parties still fiercely fight to control the local offices in Brazil.

The theory of political boosting offers a road map to understand how parties utilize different strategies to pursue national goals. In no sense is political boosting restricted to the case of Brazil. Future research needs to explore further how politicians invest in local politics to advance national gains on non-concurrent elections for other cases of federal democracies, as the literature in American Politics has consistently shown for the use of redistricting. For the case of Brazil, political boosting shows how access to pork and information gains explain gains on upper-level elections. While previous research has identified the presence of small-party bias for House elections in Brazil, due to the rule for coalition-building ([Calvo et al., 2015](#)), political boosting shows large parties have a distinctively dominant strategy: to boost their political performance, large parties in Brazil go local to win the nation.

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