

Can Descriptive Representation Help The Right Win Votes From The Poor? Evidence From Brazil

Zuheir Desai[†] & Anderson Frey[‡]

June, 2020

Abstract

The electoral success of the Right in poor nations is typically attributed to non-policy appeals such as clientelism. Candidate profiles are usually ignored, because if voters value class-based descriptive representation, it should be the Left that uses it. In this article we develop and test a novel theory of policy choice and candidate selection that defies this conventional wisdom: it is the Right that capitalizes on descriptive representation in high poverty areas. The Right is only competitive in poor regions when it matches the Left's pro-poor policies. To credibly shift its position, it nominates candidates that are descriptively closer to the poor. Using a regression discontinuity design in Brazilian municipal elections, we show that Right-wing mayors spend less on pro-poor sectors than Left-wing mayors only in low-poverty municipalities. In high-poverty municipalities, not only does the Right match the Left's policies, it also does so while nominating less-educated candidates.

We thank Tasos Kalandrakis, Alexander Lee, Jack Paine, Umberto Mignozzetti, and all participants in the APSA 2019 panel for comments and suggestions. All errors are our own.

[†]Department of Political Science, University of Rochester. Harkness Hall, 336. Rochester, NY, 14627. email: zuheir.desai@rochester.edu.

[‡]Department of Political Science, University of Rochester. Harkness Hall, 320B. Rochester, NY, 14627. email: anderson.frey@rochester.edu.

Right-wing parties often win elections in developing nations where voters are overwhelmingly poor. Prevailing explanations for this puzzle typically focus on how they build a portfolio of electoral appeals such as clientelism (Murillo and Calvo, 2019; Debs and Helmke, 2010),¹ credit claiming for foreign aid (Cruz and Schneider, 2017), ethnic mobilization (Huber, 2017), control of the media (Boas and Hidalgo, 2011), or private provision of basic social services (Thachil, 2014). The case of Brazil is similar: clientelism and personalistic politician-voter ties have been the primary explanation for why “conservative parties fare best electorally among relatively poor, less educated” voters (Mainwaring et al., 2000), despite the fact that Left-wing politicians are more likely to support redistributive policies.²

Not surprisingly, these explanations focus on party mobilization strategies rather than on the descriptive profile of the candidates nominated by the Right. The literature on political behavior suggests that voters value descriptive representation (Carnes and Lupu, 2016; Dal Bo et al., 2019; Pitkin, 1967), and are more likely to trust and feel included by politicians descriptively closer to them (Gay, 2002; Hayes and Hibbing, 2017; Lawless, 2004). In turn, when politicians stress that “I am one of you” (Fenno Jr., 1978), their common identity helps them to better understand the needs of voters (Carnes and Lupu, 2015), and provides incentives for the betterment of the status of their shared social group (Shayo, 2009). Thus, if there are electoral returns to class-based descriptive representation, it is natural to expect that Left-wing parties are the ones that capitalize on it in poor areas. Former Leftist Brazilian President Lula (2003-2010) is a clear example. He often used his lack of education to emphasize his ability to succeed as a politician, and to implement redistributive policies, mentioning for example that “a steelworker without a bachelor’s degree created more universities than the PhDs that previously governed the country.”³

However, in this article we uncover an empirical pattern in Brazilian municipalities that at first defies this conventional wisdom: it is the Right that capitalizes on descriptive representation in poor areas. We interpret this finding within the literature on party strategies in developing nations, with a novel theory of policy choice and candidate selection. The key idea is simple: Right-wing parties are only competitive in very poor areas if they implement pro-poor policies that voters most often identify with the Left, and might not be credible for the Right. However, if voters are also more likely to trust candidates that ‘look like them’, the Right can credibly shift local policy positions leftwards with strategic candidate selection, by nominating candidates that are less educated than the average politician, and therefore descriptively closer to the poor.⁴

Our argument is best illustrated by the 2016 mayoral race in Camaçari, state of Bahia.⁵ Right-wing DEM (*Democratas*) and Left-wing PT (*Partido dos Trabalhadores*) had mayoral candidates with opposite profiles: DEM nominated Elinaldo Araújo, a former manual laborer with only a secondary education.

¹The literature provides several examples of clientelistic electoral strategies in the developing world (Cruz, Labonne, and Querubín, 2017; Hidalgo and Nichter, 2015; Larreguy, Marshall, and Querubín, 2016).

²Especially in the period “post-Lula” (Power and Zucco Jr., 2012), which is the focus of this study.

³Tania Monteiro, “Lula diz querer eleger alguém para fazer mais do que fez”, *Politica*, June 2009, <https://bit.ly/2X0U3rq>.

⁴Education is highly correlated with economic class within countries (Krueger and Lindahl, 2001).

⁵The state politics in Bahia have been dominated by the rivalry between Right-wing DEM (previously *Partido da Frente Liberal*) and Left-wing PT for decades.

PT's candidate was Luiz Caetano, a congressman with a biochemist degree. Camaçari is a small, but strategic municipality for parties, as it houses the largest petrochemical complex in Brazil. Nevertheless, it is highly unequal and poor. Not surprisingly, Elinaldo's campaign emphasized that he was a 'true' representative of the people, in spite of being nominated by the traditional elite party in the state. A party leader described him as follows: "a humble person, who does not have many possessions, (he) is an individual that identifies with the poorer people in Camaçari."⁶ After his victory, the candidate himself framed his low education as a virtue, saying that his Left-wing opponent "cannot accept the fact that he lost the election to a humble person, without a college degree, but that understands the people."⁷

We first develop this theory in a formal model of electoral competition between two policy-motivated parties, building on [Desai \(2019\)](#). The model provides the following testable hypothesis for both the implemented policy and the profile of Left and Right-wing candidates: (i) in high poverty areas, both parties promise similar redistributive policies. Lower programmatic differentiation at the local level boosts the chances of the Right winning the election. However, because only the Left's policy announcement is in line with known party ideals, the Right nominates less educated candidates; and (ii) in low poverty areas the prediction is reversed: policies are more divergent, following the national pattern of party ideals, and both candidates come from the educated elite.

The empirical evidence comes from Brazilian municipalities in three election cycles (2004, 2008, and 2012). Brazil offers a suitable environment to test this theory for two main reasons. First, it is a large and unequal democracy where we can observe candidate profiles and policy choices by the same parties in municipalities of high and low poverty. Second, Brazil's multiparty system exhibits a clear Left-Right divide between the main parties ([Power and Jr., 2009](#); [Samuels and Zucco Jr., 2018](#)), and for the period under analysis, politicians in these Left and Right-wing groups display significantly different preferences for redistribution ([Power and Zucco Jr., 2012](#)).

We identify the causal effect of party ideology on the policies implemented by mayors with a regression discontinuity design (RDD), which compares municipalities where a Right-wing candidate barely won against a Left-wing opponent, to municipalities where she barely lost. We measure local pro-poor policy as the share of the municipal budget spent in health, sanitation, education and social insurance. We also use the education level of mayoral candidates as a measure of their ability to descriptively identify with the lower economic classes. Because this variable is determined before the election, RDD estimates based on this specific outcome cannot be interpreted as a causal effect, but rather as a correlation between party ideology and candidate education.

The estimates show a significant policy effect in low poverty areas: Right-wing mayors apportion a relatively lower share of the budget to pro-poor spending, in line with the revealed preferences by Left and Right-wing politicians in national level surveys. In these locations, both parties nominated mayoral

⁶Aparecido Silva, "Recepção de Elinaldo em Camaçari é demonstração de que o povo confia, diz Neto", *BNews*, December 2015, <http://bit.ly/32qpAmJ>.

⁷Alexandre Galvão and Gabriel Nascimento, "Elinaldo nega dedo de Neto, de Azi em reforma administrativa", *Metro1*, April 2018, <http://bit.ly/2IYqGys>.

candidates with similar education achievements, which on average are much higher than the education level of voters. In high poverty areas, policy differences disappear, and both Right and Left-wing mayors increase their pro-poor spending to similar levels. However, Right-wing candidates are on average less educated than their competitors from the Left, and therefore descriptively closer to the poor.

We use several pieces of evidence to argue that this pattern is in fact better explained by our theory. First, our explanation is only valid if voters recognize party brands, and if these brands also drive policy at the municipal level. The latter is clearly shown by the well-identified RDD effect on policy outcomes in low poverty municipalities, where Right-wing parties do not need to shift their pro-poor spending leftwards. This congruence between national party preferences and local policies is not surprising, given the incentives created by the co-dependence between mayors and party leaders in the Brazilian political system: while mayors are important brokers for party votes in national elections (Brollo and Nannicini, 2012; Novaes, 2018), they depend on partisans in congress to access non-discretionary budget resources. In addition, we use survey evidence from the Latin American Public Opinion Project (LAPOP) to show the former point holds as well, and party brands are recognized by voters. LAPOP results show that voters correctly place parties on Left and Right-wing groups, consistent with the placement of experts and politicians themselves.

Second, the RDD shows that the Left consistently nominates highly educated politicians in poor areas. This has strong implications for how we interpret the overall pattern in the data, as it suggests that candidate selection is not simply another non-policy strategy that has value independent of parties' programmatic brands. If it were so, the Left could match the nomination pattern of the Right and wipe out any electoral advantage obtained with descriptive representation. On the contrary, we argue that this nomination pattern is unnecessary precisely because voters already expect the Left to credibly commit to pro-poor spending.

Third, we find evidence of heterogeneity in the candidate nomination pattern, which also supports our proposed mechanism. If Right-wing parties nominate less educated candidates to reinforce their commitment to pro-poor policies, this should be more likely in areas where (i) the incumbent mayor is Leftist, so that voters have not recently been exposed to a Right-wing administration; and (ii) voters are used to high levels of pro-poor spending. Accordingly, we show that the nomination pattern described here is much stronger in these areas. Fourth, we use the LAPOP survey to show that poor voters feel better represented by political parties compared nonpoor voters in (and only in) poor municipalities governed by uneducated mayors.

We also assess three plausible alternative explanations for this selection pattern. The first is clientelism, which is ubiquitous in Brazil (Hidalgo and Nichter, 2015; Nichter, 2018). If less educated politicians in Right-wing parties are systematically better at clientelism than educated or Leftist ones, this selection pattern could be interpreted as consequence of the practice. However, the empirical evidence shows otherwise. We restrict the analysis to municipalities where the race was between the PT on the Left and the PSDB on the Right. These are the two more "programmatic" parties in Brazil, relying less on clientelistic

networks compared to other parties. The correlation between ideology and candidate education is in fact stronger when we restrict the analysis to these two parties, suggesting that clientelism might actually *attenuate* the need for descriptive representation by the Right. Furthermore, even though the Right could be arguably better at clientelism if it had more access to financial resources during the election period, we show that this is not the case using campaign spending data. Finally, using the LAPOP survey, we also show that the education of the Right-wing candidate does not systematically affect the electorate's perceptions about vote buying in high poverty areas.

The second alternative explanation is that Left and Right-wing parties might face a systematically different pool of potential candidates in poor areas. That is, perhaps the candidate pool available to the Right in high poverty municipalities is biased towards low-educated candidates. We use the education level of elected council members in each location to show that this is not the case – if anything Right-wing council members are weakly more educated than Left-wing council members. Finally, the selection could also arise if Left and Right-wing parties face differential costs of electing an uneducated mayor. Using several measures of administrative performance, including how well mayors broker votes for their parties in national elections, we find that electing less educated mayors is indeed costly to the national party structure. The results, moreover, strongly suggest that this cost is uniform across ideological groups.

This article also provides insights to dimensions often deemphasized by the literature on electoral competition in developing nations. First, it complements the existing literature on party portfolio strategies, particularly on programmatic shifts. Recent work in Latin America has already shown that Right-wing parties become more attractive to poor voters by shifting policy to offer higher redistribution across time and constituencies (Garay, 2016; Murillo and Calvo, 2019). However, less attention has been paid to the credibility problem around these policy changes, which is the basis of the theory proposed here. In interpreting the empirical findings within this framework, this article also relates to the literature on the diverse mechanisms used by parties to commit to targeted redistribution (Finan and Schechter, 2012; Gottlieb et al., 2019; Huber, 2017). Finally, these findings have significant implications for the burgeoning literature on political selection and its concern with the profile and quality of citizens that enter politics (Carnes and Lupu, 2015; Dal Bó et al., 2017; Dal Bó and Finan, 2018). By suggesting that, in this context, elite parties optimally nominate candidates with lower human capital, our article particularly speaks to the work that highlights different institutional incentives that shape the selection of politicians (Besley et al., 2017; Buisseret et al., 2019; Folke and Rickne, 2016; Folke, Persson, and Rickne, 2016).

A MODEL OF CANDIDATE NOMINATION AND POLICY CHOICE

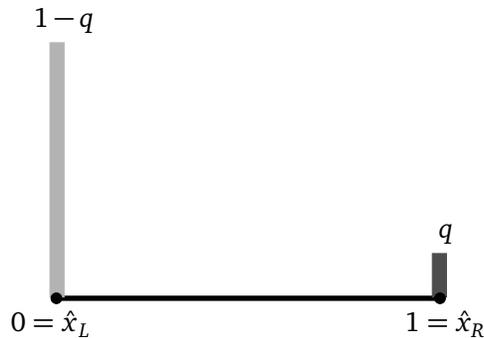
We develop a simple theory that incorporates findings of the political behavior literature on descriptive representation with policy-motivated parties that strategically offer programmatic policies. The model is intended to be applied to developing democracies, where the majority of voters is poor, and in particular to Brazil. The main theoretical insight is summarized as follows: When the electorate is overwhelmingly

poor, local policies offered by Right and Left-wing parties are fairly similar, otherwise the Right is not competitive. However, because voters recognize national ideological brands, the Right cannot easily commit to pro-poor promises. In order to demonstrate such commitment, they nominate candidates that are less educated like poor voters, and are therefore more likely to be trusted by them. As the electorate becomes wealthier, the policies offered by the parties diverge, in line with their ideological positions, and candidate profiles converge.

MODEL SETUP

Our framework is based on [Desai \(2019\)](#), with two ideologically opposed parties L and R . The programmatic Left-Right dimension is defined as the $[0, 1]$ interval, and positions closer to 0 represent Leftist, pro-poor policies. The ideal point of party i is given by \hat{x}_i . Accordingly, L 's ideal point is situated at 0, while that of R is situated at 1. There are two classes of voters, poor (P) and affluent (A), where P voters share the ideal point of L , and A voters share the ideal point of R . The distribution of voters is indexed by the parameter q , which is the proportion of A voters. Since we focus on the context of a developing country, we maintain the assumption that the affluent are in the minority. That is, $q < \frac{1}{2}$. This setup is reflected in [Figure 1](#).

Figure 1: The electoral environment



The light and dark bars represent the distribution of voter types P and A . Poor voters share their ideal point with party L and affluent voters share their ideal point with party R .

Parties: Before the election, parties announce policies and choose candidates. The candidate pool for each party contains elite candidates, which are more educated and descriptively similar to affluent voters, and non-elite candidates, which are less educated and descriptively similar to poor voters. Policy promises are credible when they coincide with the party's brand, i.e., its ideal point. When parties offer positions that differ from their ideal points, they can gain credibility by nominating a candidate descriptively closer to the group that they target. This necessarily implies that party L (R) must nominate elite (non-elite) candidates to demonstrate its commitment to any policy position to the right (left) of 0 (1).⁸

⁸We make this stark assumption about credibility for the sake of a cleaner exposition. A more nuanced assumption would

While policies are chosen from the $[0, 1]$ interval, candidate selection is thus binary. We say that if $c_i = 1$, then i 's candidate provides descriptive representation to the group that does not share its ideal point, and $c_i = 0$ otherwise. Essentially, $c_L = 1$ represents the selection of an elite candidate by party L and $c_R = 1$ represents the selection of a non-elite candidate by party R . Let $\mathbf{x}_i = (x_i, c_i) \in [0, 1] \times \{0, 1\}$ be the policy announcement and candidate choice of party i . Denote

$$\varphi(\mathbf{x}_i) = \begin{cases} \hat{x}_i & \text{if } c_i = 0 \\ x_i & \text{if } c_i = 1 \end{cases} \quad (1)$$

as the policy implemented by i on winning the election with candidate c_i .

Both parties are policy-motivated and care about the final implemented policy. As stated before, the candidate pool contains Left-wing and Right-wing elites as well as non-elites, and an observable feature of elitism is, for example, education. All-else equal, parties face a cost of κ when choosing a non-elite candidate. We provide empirical evidence for this assumption in the context of Brazil in Appendix B (page B-4). In a nutshell, we show that less educated mayors (from both Left and Right) are less efficient vote brokers for their parties in congressional elections, and also display worse administrative performance during their tenure.⁹ The objective functions of the two parties are thus given by

$$V_L(\mathbf{x}_L, \mathbf{x}_R) = (1 - F(\mathbf{x}_L, \mathbf{x}_R)) \cdot u_L(\varphi(\mathbf{x}_L)) + F(\mathbf{x}_L, \mathbf{x}_R) \cdot u_L(\varphi(\mathbf{x}_R)) - (1 - c_L)\kappa \quad (2)$$

$$V_R(\mathbf{x}_L, \mathbf{x}_R) = (1 - F(\mathbf{x}_L, \mathbf{x}_R)) \cdot u_R(\varphi(\mathbf{x}_L)) + F(\mathbf{x}_L, \mathbf{x}_R) \cdot u_R(\varphi(\mathbf{x}_R)) - c_R\kappa, \quad (3)$$

where $u_i(x) = -|\hat{x}_i - x|$ and $F(\mathbf{x}_L, \mathbf{x}_R)$ is the probability that party R wins the election. An equilibrium of the game is a quadruple $(\mathbf{x}_L^*, \mathbf{x}_R^*)$, such that the expected payoff from equilibrium strategies is weakly greater for both parties than any other deviation. Voters sincerely vote for the party that delivers a higher payoff. Parties implement the policy $\varphi(\mathbf{x}_i)$ upon winning the election.

Voter behavior: A voter of class j receives the following utility from party i

$$u_j(\mathbf{x}_i) = -|\hat{x}_j - \varphi(\mathbf{x}_i)|. \quad (4)$$

Let

$$\Delta u_j(\mathbf{x}_L, \mathbf{x}_R) := u_j(\mathbf{x}_L) - u_j(\mathbf{x}_R) \quad (5)$$

be the utility differential to voter of class j from the candidate-policy pairs of both parties. Each voter certainly have some form of continuity between descriptive features of candidates and the level of credibility that they can accord to a given policy position.

⁹There may be other ways that this cost may manifest. It could, for example, arise through the potential lower quality of less educated candidates (Dal Bó and Finan, 2018), which would negatively affect the party nominating such candidates in the election at hand. Our theoretical results are robust to such a specification, which is available upon request.

j has two idiosyncratic components to her utility, individual and aggregate. The voter has an individual preference η_j for party R , which is drawn identically and independently from a distribution G . This represents how voter j evaluates party R 's characteristics on any other criteria other than economic policies. It thus encompasses R 's relative popularity for this voter on other dimensions of political conflict (e.g. clientelism). In addition to this individual-level idiosyncratic component, all voters receive an aggregate shock ϵ , which is distributed according to the distribution H . This shock represents the aggregate popularity of party L over party R . It affects each voter identically, thereby resulting in parties facing aggregate uncertainty about the outcome of the election. A negative realization of ϵ means that the electorate is biased on aggregate towards party R , and, correspondingly, a positive shock is in favour of L . Voter j votes for party R if and only if the condition below holds

$$\begin{aligned} u_j(\mathbf{x}_R) + \eta_j &\geq u_j(\mathbf{x}_L) + \epsilon \\ \iff \eta_j &\geq \Delta u_j(\mathbf{x}_L, \mathbf{x}_R) + \epsilon. \end{aligned}$$

Thus, the proportion of voters voting R is $1 - G(\Delta u_j(\mathbf{x}_L, \mathbf{x}_R) + \epsilon)$. The total vote share for party R is given by the following random variable

$$VS_R(\mathbf{x}_L, \mathbf{x}_R; \epsilon) = \underbrace{(1-q) \left(1 - G(\Delta u_P(\mathbf{x}_L, \mathbf{x}_R) + \epsilon)\right)}_{\text{Vote share from poor}} + \underbrace{q \left(1 - G(\Delta u_A(\mathbf{x}_L, \mathbf{x}_R) + \epsilon)\right)}_{\text{Vote share from affluent}}, \quad (6)$$

and the vote share of party L is analogously $1 - VS_R(\mathbf{x}_L, \mathbf{x}_R; \epsilon)$. Note that the model implies that the smaller Δu_j , the *less* voters vote according to economic lines, in the sense that fewer voters are voting on the basis of their economic preferences. The probability that R wins the election is the probability that its vote share is greater than that of party L , and is given by

$$F(\mathbf{x}_L, \mathbf{x}_R) := \int \mathbb{I} \left\{ VS_R(\mathbf{x}_L, \mathbf{x}_R; \epsilon) \geq \frac{1}{2} \right\} h(\epsilon) d\epsilon. \quad (7)$$

The probability that L wins the election is simply $1 - F(\mathbf{x}_L, \mathbf{x}_R)$. We assume that G is uniform on $[-2, 2]$ and H is uniform on $[-\psi, \psi]$, where $\psi < 1$, for tractability.

The game proceeds as follows:

1. Parties choose their policy announcement x_i and candidate c_i .
2. Individual and aggregate shocks η_j and ϵ are realized.
3. Voters vote for their most preferred party.
4. The winning party implements its policy according to $\varphi(\mathbf{x}_i)$.

The potential to select candidates that provide descriptive representation to voters that do not share the party's ideal point reduces the problem of parties to a simple choice: announce the party's ideal

point, or choose a ‘dissonant’ candidate and tailor the implemented local policy to maximize the objective function. Whenever it is optimal to the party to offer its ideal point to voters, the potential for descriptive representation is irrelevant. However, when the party offers a dissonant policy, then there is a clear trade-off between the cost and the credibility-related benefits of descriptive representation. This is rather the case of Party R in very poor locations. In what follows we make the following assumption on the cost to nominate a non-elite candidate.

Assumption 1. *The cost to nominate a non-elite candidate is such that $\kappa < \frac{\psi}{8}$.*

MODEL RESULTS

We present the results in terms of two comparative statics in order to motivate our empirical specifications. In particular, we divide the parameter space for q into two partitions. Let \bar{q} solve

$$F((0, 1), (x_R^*, 1)) \left(\frac{\psi}{2(1-2q)} \right) - F((0, 1), (1, 0)) = \kappa. \quad (8)$$

We compare equilibrium strategies and outcomes in the following partitions, $(0, \bar{q})$ and $(\bar{q}, \frac{1}{2})$, which correspond to high and low poverty regions respectively. The derivation of \bar{q} is discussed in detail in Appendix A. There exists a unique political equilibrium in these two regions.¹⁰ The main strategic trade-offs in the model arise from how programmatic differentiation affects the prospects of either party. The first result outlines the policy choices by candidates of either party in high and low poverty areas.

Proposition 1 (Policy implementation). *In every pure-strategy equilibrium,*

1. *Party L implements $x_L^* = 0$.*
2. *For all $q < \bar{q}$, R implements $x_R^* = \frac{\psi}{2(1-2q)}$.*
3. *For all $q > \bar{q}$, R implements $x_R^* = 1$.*

Since $q < \frac{1}{2}$, party L maximizes policy divergence with R in order to capitalize on its advantage from class-based voting. As a result, party L 's best-response to any candidate-policy pair from party R is to announce its ideal point. Party R faces a trade-off in extremely poor regions. If it promises its preferred policy, it implements its ideal point without paying the cost of a non-elite candidate, albeit with very low probability. When policy promises are very similar, individual and aggregate shocks matter more to the election result, which may swing the race in R 's favor. Party R can thus improve its probability of winning the election significantly by announcing a compromised policy position very close to that of L . This policy promise, however, is far from R 's ideal point, and therefore not credible. In order to convince voters that its platform is credible, R must pay the cost to nominate a non-elite candidate. Party R thus faces a trade-off between winning the election on the basis of its ideal point with a standard elite candidate, and

¹⁰At exactly \bar{q} , there are two pure-strategy equilibria.

winning the election using a tailored policy position by paying the cost for using a non-elite candidate to credibly commit to a non-brand policy. As q increases, this trade-off becomes more and more binding, because the optimal tailored policy by R is increasing in q . As a result, this affects the choice of candidate by party R as outlined in the following proposition.

Proposition 2 (Candidate selection). *In every pure-strategy equilibrium,*

1. *Party L never recruits a non-elite candidate.*
2. *For all $q < \bar{q}$, R recruits a non-elite candidate,*
3. *For all $q > \bar{q}$, R does not recruit a non-elite candidate.*

The intuition here is simple. When the electorate is extremely poor, party L offers a policy in line with its ideal point, which is already credible to voters. In this environment, L does not need to ‘pay the cost’ of nominating a less educated politician. As for party R , even though the chances of victory increase if it moves its policy announcement away from its ideal point, it needs the non-elite candidate to lend credibility to its promised platform. If the cost is low enough, then it becomes optimal to do so. As the share of poor voters decreases, the gains from class-based descriptive representation start to decrease in relation to the selection cost. Thus, in low poverty areas, party R nominates elite candidates, and diverges more in terms of policy from L . Together, Propositions 1 and 2 imply the following testable hypothesis:

Hypothesis 1. *Candidate profiles and policies are such that*

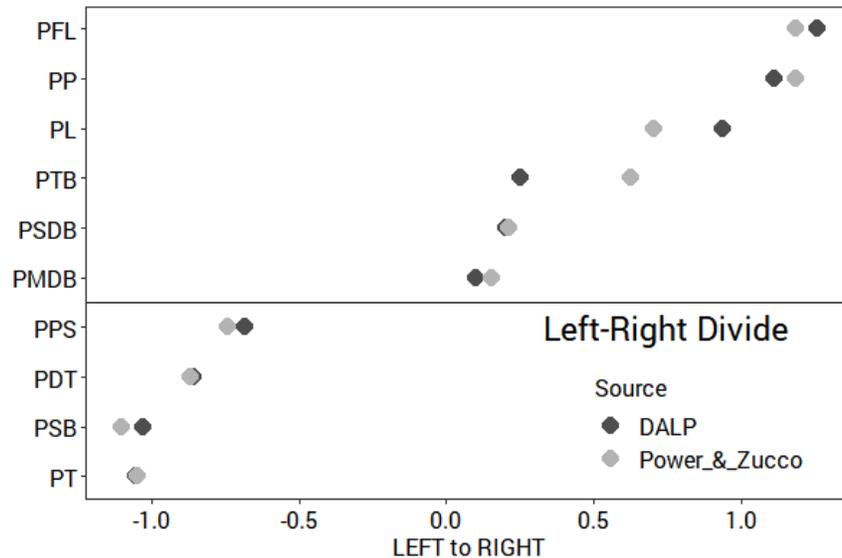
- *In high poverty regions, while policy differentiation is low, the candidate profiles of the Left and Right are distinct, i.e., Right-wing candidates are less educated.*
- *In low poverty regions, candidate profiles are similar, but programmatic differentiation is higher, with the Right implementing less pro-poor policies.*

IDEOLOGY AND REPRESENTATION IN BRAZIL

Similar to other young democracies, Brazil has a highly fragmented party system with institutions that favor candidate-centered elections, and where a sizable share of the electorate does not identify with any political party (Ames and Smith, 2010).¹¹ Moreover, clientelistic linkages between politicians and voters are pervasive (Nichter, 2018), and parties often form ideologically inconsistent electoral coalitions. In recent work, Samuels and Zucco Jr. (2018) argue that the main partisan cleavage in the period under analysis is between partisans and ‘anti-partisans’. This dichotomy has, on one side, voters that favor the

¹¹The authors show, however, that the voters less likely to identify themselves with party ideologies also “tend to be latent Rightists and to choose Rightist presidential candidates.”

Figure 2: Left-Right Categorization of Brazilian Parties



All parties below (above) the line are categorized as Left-wing (Right-wing) for the purpose of this empirical application. DALP data is from 2008; the “Power and Zucco” data shown here is from 2005.

labor party PT (the ‘partisans’),¹² and on the other side, voters that reject it but do not necessarily identify with any specific Right-wing party.

However, even if this context undermines the ability of scholars to build a fine-grained ideological scale for all Brazilian parties, there is a widely accepted consensus by experts, voters and politicians alike on what constitutes the broader Left-Right (L-R) divide of the main parties. Recent scholarship has shown that extensive surveys with legislators place the main parties in a fairly cohesive scale (Power and Jr., 2009; Lucas and Samuels, 2010; Power and Zucco Jr., 2012), and display a clear-cut divide between Left and Right (Figure 2).¹³ In fact, these articles emphasize how the ideological distances between parties are less meaningful within broad Left and Right groups, but significantly large across the divide. These results are also mirrored by the widely used DALP survey (2008) with local experts.¹⁴

The way in which voters and politicians understand Left-Right ideology might also vary across countries and time. For the period of our empirical analysis (i.e. post-2002 election of Lula, PT), this L-R divide is highly aligned with politicians’ views on redistributive policies: as expected, politicians from the Left are much more likely to express pro-poor preferences (Power and Zucco Jr., 2012). The same is shown in contemporary voter surveys. Lupu (2016) compares voters’ preferences for the two main parties on the national stage, PT (L) and PSDB (R), and finds that, “when asked which party most protects them, poor

¹²PT is the main Leftist party in the country. It was founded at the end of the military regime in 1980, and elected the President four times in a row (2002-2014).

¹³The 10 largest parties by the number of mayors in the period were PMDB, PSDB, PT, PFL, PP, PTB, PL, PDT, PSB and PPS. Many of these changed their name since. PMDB became MDB, PFL became DEM, and PPS became CIDA.

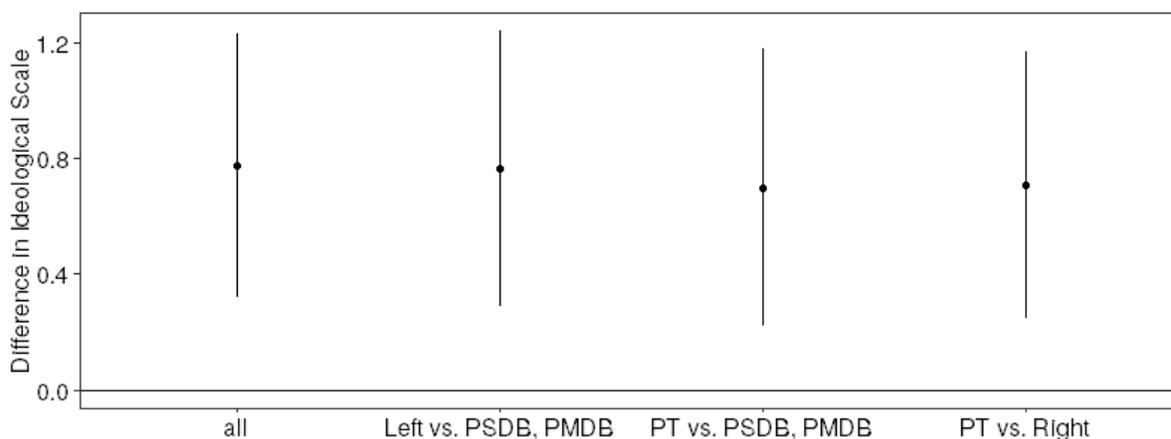
¹⁴Democratic Accountability Linkages Survey. <https://sites.duke.edu/democracylinkage/>.

respondents in 2006 were far more likely to choose the PT than any other party.”¹⁵

In this context, [Samuels and Zucco Jr. \(2014\)](#) also show that partisanship in Brazil is, in fact, meaningful to voters, and that party identification shapes voter attitudes and behavior even in this political environment. They also focus on PT and PSDB, which are known for being more ‘programmatic’ than their counterparts. They argue that “even though Brazil’s two main parties have converged on the political center, agree on many of the issues, and have allied with a confusing array of parties, party labels for the PT and PSDB have the same effects scholars find for parties in older democracies.”¹⁶

Accordingly, for the purpose of the empirical application, we classify parties in two broad Left and Right categories, in line with the broad consensus on the subject (Figure 2). This classification is also widely supported by the 2010 LAPOP survey results (Figure 3),¹⁷ which shows that voters identifying themselves with a Left party are also significantly more likely to declare their personal ideological leaning as Leftist. In Appendix C (on page C-10), we also provide results for alternative specifications that exclude some parties from the analysis (for example, we compare PT vs. the Right-wing parties).

Figure 3: Correlation between self-identified ideology and party preference in Brazil



The point estimates represent the difference in the average ideology of voters that identify with Right vs. Left parties. The self-identified ideological score is on a L-R scale, from 0 to 10. The sample comes from the LAPOP 2010 survey, with 560 respondents when all 10 parties in Figure 2 are included. 95% confidence intervals are shown.

Figure 4 below shows the number of mayorships won by each of these 10 major parties in the three elections of interest (2004, 2008 and 2012). PT, the largest Left-wing party has also won four presidential elections in 2002-2014. Among the other Left-wing parties, PSB has been a loyal ally to PT during this period, PDT and PPS less so.¹⁸ As for the Right parties, PSDB and PFL remained the most consistent

¹⁵The author also shows that “in 2010, when survey respondents were asked to locate national figures on a 0-10 scale of closeness to the poor, they placed Lulas successor, Dilma Rousseff, closer to the poor, and the PSDBs José Serra closer to the rich.”

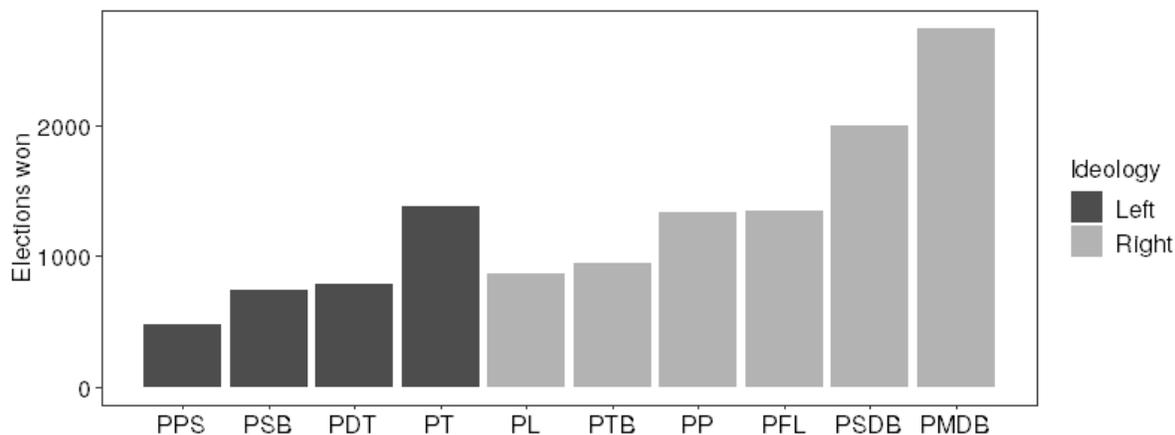
¹⁶They also conclude that “partisan identification in a relatively young democracy with a highly fragmented party system is fundamentally the same phenomenon as in more mature democracies.”

¹⁷www.lapopsurveys.org.

¹⁸Despite having historical roots in the Left, PPS has consistently aligned itself with Center-Right parties against the Leftist

opposition to PT at the national level, while the other parties have traditionally supported, at the national level, whatever party won the presidency.

Figure 4: Mayorships won by each party in 2004-2012



Left-wing parties are shown in dark. Total of 12,562 election-municipality pairs.

CANDIDATE SELECTION AND POLICYMAKING IN MUNICIPALITIES

The Brazilian party system is fairly decentralized, which gives the municipal party committee ample control over the nomination of mayoral candidates. Nevertheless, state or national party leaderships might be inclined to actively interfere in the case of larger or more strategic municipalities, as for example Camaçari, Bahia, described in the introduction. The intensity of local disputes for nominations is illustrated by the pattern of party recruiting in Brazil. Even though many voters do not identify with a political party in surveys, the party membership rate in the country is among the highest in all democracies (nearly 10% of the adult population). The vast majority of new members join parties in the year before local elections (Figure C.3, appendix, page C-8), which underscores how local potential candidates use their recruiting networks to earn the nominations.

In this decentralized nomination system, why would local politicians implement policies that are aligned with party preferences at higher levels? The answer lies in the relationship of mutual benefit between mayors and other partisan politicians. Mayors play an important role in supporting the vertical strength of their parties, as they have ample control over the distribution of public goods and services. Public investment in Brazil is very decentralized, and municipalities implement the bulk of spending in the areas of health, education, and infrastructure. Not surprisingly, mayors effectively use public resources to raise votes for their parties in both executive and legislative elections at higher levels (Brollo and Nannicini, 2012; Novaes, 2018). On the other hand, mayors also depend on their parties to obtain

federal government. Thus, many would argue that it is not a Left party anymore. Accordingly, we show that the empirical results are extremely robust to the exclusion of PPS from the analysis.

these resources. Although the bulk of these funds comes in the form of direct (and earmarked) federal transfers,¹⁹ congress members have access to budget amendments that can be targeted to municipalities. Also, many local electoral campaigns are fairly dependent on the party coffers, and from corporate donations obtained with the influence of state or national leaders.²⁰ Thus, this decentralized system creates incentives for both mayors and party leaderships to cultivate strong and long-lasting ties, and as we show in the results, also programmatic policy alignment.²¹

EMPIRICAL DESIGN, DATA, AND CONSTRUCTION OF VARIABLES

Our measure of pro-poor policy implemented by mayors is the share of the four-year municipal budget invested in the following four categories: health, sanitation, education, and social insurance.²² As mentioned before, our measure of descriptive representation is based on the education level of mayoral candidates.²³ Unlike the policy variable, where we only observe the winner's choice, here we have the education level for both candidates. The variable is thus defined as the difference between the education level of winner and loser in the election. Education is measured on a scale of 1 to 8, the lowest level meaning that the candidate is illiterate, and the highest that she has at least a 4-year college degree.²⁴

This measure is an especially attractive proxy for descriptive representation of poor voters for three reasons. First, it is easily obtainable and verifiable, and not open to interpretation as is the case with race in Brazil, for example (Bueno and Dunning, 2017). Second, education has been shown to be highly correlated with socioeconomic status around the world, especially within countries (Krueger and Lindahl, 2001). Third, we highlight that our theory does not require a perfect correlation, i.e., we do not expect every less educated politician to be poor, or vice versa. In fact, the idea here is to measure the candidate's ability to descriptively *identify* herself with the lower classes of the population, as opposed to actually *be* poor. For example, many local candidates in Brazil are self-made entrepreneurs that grew up in poverty, and became successful despite their low educational level. They identify with the poor because of their "humble origins," and not because of their acquired wealth. In fact, their ability to identify with the lower classes is more likely to be correlated with their education level than to current wealth levels. Thus, all that our theory requires is that poor voters, when in the presence of a less educated candidate, perceive

¹⁹Locally raised taxes play only a very minor role in financing such investments.

²⁰Public campaign funds are allocated to parties according to their seats in the federal lower house. For the period under analysis, corporate donations were still allowed in Brazil, and also played an important role in these campaigns.

²¹Even though the majority of mayoral candidates in smaller municipalities do not run for higher office (state or federal legislative), they very often retain careers within the party structure, either as local party representatives or in elective positions (council members or mayors).

²²Both Fujiwara (2015) and Frey (2019) use similar definitions. In Brazil, although public health and education services are formally 'universal', they are effectively used only by the poor. Most middle and upper-class citizens use private alternatives. In Appendix C (page C-11), we show that the results are robust to alternative specifications where we either subtract public security spending (a salient Right-wing policy) or add expenditures on housing. The breakdown of budget expenses for Brazilian municipalities was obtained from the FINBRA database produced by the National Treasury. <http://www.tesouro.fazenda.gov.br/contas-anuais>.

²³Data on the profile of candidates, and on election results was obtained from by the Superior Electoral Court (TSE).

²⁴This is how the electoral courts in Brazil code the education of candidates. See the full scale in the appendix, page C-8.

her to be “one of them.”

Furthermore, politicians often use their lack of education to emphasize the role of innate ability in their success. Former president Lula provides another salient example: he was by no means poor at the time of his presidential runs. Nevertheless, he often used his humble origins and lack of formal education to vouch for his ability to be in touch with the populace.

REGRESSION DISCONTINUITY DESIGN

We provide empirical evidence to support our two main theoretical predictions by comparing both the policy and personal profile of mayors elected by Right and Left-wing parties in Brazilian municipalities. While our main outcomes were described above, our main explanatory variable is a dummy that assumes value of one (zero) when the elected mayor belongs to a Right-wing (Left-wing) party, following the categorization described in the previous section, on page 10. A simple comparison of our outcomes between Right and Left-wing mayors is likely to be biased by unobserved municipal characteristics that influence either policy outcomes or the profiles of the politicians that run and/or win local elections. We address this source of bias employing a regression discontinuity design (RDD) that compares only municipalities where a Right-wing candidate won (or lost) to a Left-wing candidate by a close margin. With this design, we achieve a quasi-random assignment of the ideology of the mayor’s party for the 4-year tenure.

For the policy variable, the RDD estimates represent the local treatment effect of electing a Right-wing mayor (vs. a Leftist one), identified for a municipality where the margin of victory in the past election was zero. However, our estimates for the education outcome cannot be interpreted as an *effect* of electing a Rightist politician, given that the nominations happen before the elections. Instead, they should be interpreted as the correlation between the winner’s party ideology and the education of candidates. That being said, using the RDD to estimate this correlation is very useful, given that it is done for the exact same points of the sample for which the local policy effect is identified. This allows us to connect the ideology-education correlation to both the policy effect and our theoretical predictions. What is more, it provides robust evidence that this pattern is not driven by a potential correlation between ideology and other unobserved variables. We show in Appendix C (page C-7) that many pre-determined or fixed characteristics of the municipalities are balanced around the discontinuity.

We estimate the RDD using the municipal elections of 2004, 2008 and 2012, and consider only the 10 largest parties in the country (Figure 2). We provide estimates for two sub-samples with municipalities with poverty rate above and below the median.²⁵ Poverty for each municipality is measured by the share of poor families, which comes from the Ministry of Social Development (MDS), and serves the base for several federal government benefits including *Bolsa Família*. Thus, the main estimating equation is:

²⁵The average share of poor households in the high (low) poverty group is 49% (16%) of the population. We show in the appendix (Table C.4, C-10) that the results are robust to the choice of poverty cutoff.

$$y_{mt} = \beta_0 + \beta_1 R_{mt} + \beta_2 W_{mt} + \beta_3 R_{mt} W_{mt} + \left(\beta_4 + \beta_5 R_{mt} + \beta_6 W_{mt} + \beta_7 R_{mt} W_{mt} \right) MV_{mt} + \delta_t + \xi_{mt} \quad (9)$$

where outcome y_{mt} for municipality m in period t is regressed on the party ideology dummy R_{mt} , and on the dummy that indicates whether the municipality is in the low poverty group (W_{mt}). The margin of victory is defined as the difference in the share of votes between the winner and runner-up (MV_{mt}), and δ_t represents election fixed-effects. Accordingly, the effects of having a Right-wing mayor in a high-poverty municipality are given by β_1 , and the same effects in a low-poverty one are given by $\beta_1 + \beta_3$.

RESULTS

Table 1 shows the RDD estimates (equation 9) for different bandwidths around the discontinuity.²⁶ Figure 5 shows the graphical representation of the results. Robustness to the inclusion of covariates and choice of polynomial are shown in Appendix C, page C-9.

Table 1: Mayor’s partisanship, education, and pro-poor spending

Dependent Variable:	Pro-poor spending as % of budget			Education Gap (winner minus loser)		
	(1)	(2)	(3)	(4)	(5)	(6)
High Poverty	0.388 (1.264)	0.710 (1.133)	0.483 (0.975)	-0.826* (0.426)	-0.854** (0.375)	-0.812** (0.311)
Pre-Treatment Baseline	59.663	59.514	59.565	0.103	0.170	0.209
Low Poverty	-2.380** (1.209)	-2.488** (1.058)	-2.143** (0.902)	0.282 (0.386)	0.087 (0.341)	-0.128 (0.292)
Pre-Treatment Baseline	52.633	52.445	52.213	-0.255	0.009	0.181
Bandwidth	3.74	4.99	7.49	3.46	4.61	6.92
Observations	1116	1480	2112	1041	1356	1974
Bandwidth rules	0.75 x opt.	optimal	1.5 x opt.	0.75 x opt.	optimal	1.5 x opt.

*p<0.1, **p<0.05. Standard errors are clustered by municipality (in parenthesis). The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity.

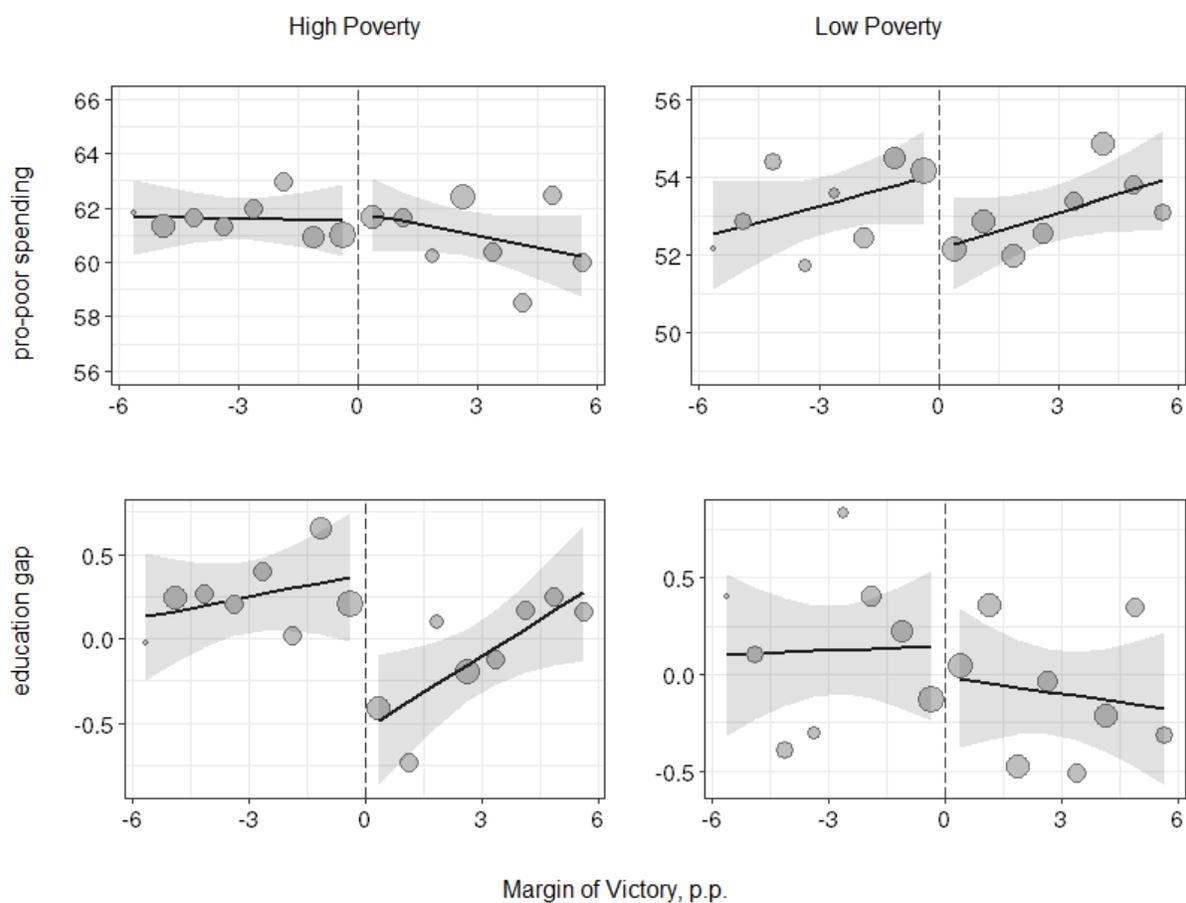
The pattern that emerges from the estimation is clear: in high-poverty locations, Right and Left implement indistinguishable policies, given that mayors from both parties allocate nearly 60% of the budget to pro-poor spending. However, for the same sample, we find that Right-wing winners are on average less educated than their Leftist opponents by nearly one point, on average, on the 1-8 scale. As municipalities

²⁶Bandwidths are estimated using the algorithm in Calonico, Cattaneo, and Titiunik (2014).

become less poor, we observe a significant policy effect: Right-wing incumbents spend 2.5pp less than Left-wing ones in pro-poor categories, from a baseline of 52% of the total budget (a 5% effect). In the same sample, however, the education gap between the candidates is uncorrelated with party ideology, i.e., both parties nominate politicians with virtually indistinguishable education levels.

This pattern is illustrated in Figure 5, and robust to various definitions of Left-Right groups (appendix, Table C.3, page C-10). In fact, our baseline categorization provides results that are often more conservative than the alternative specifications. For example, when we restrict our comparison to PT vs. Right-wing parties, point estimates indicate that the magnitude of the policy effects are 36% higher, and that the ideology-education correlation doubles.

Figure 5: RDD effects by variable and poverty level

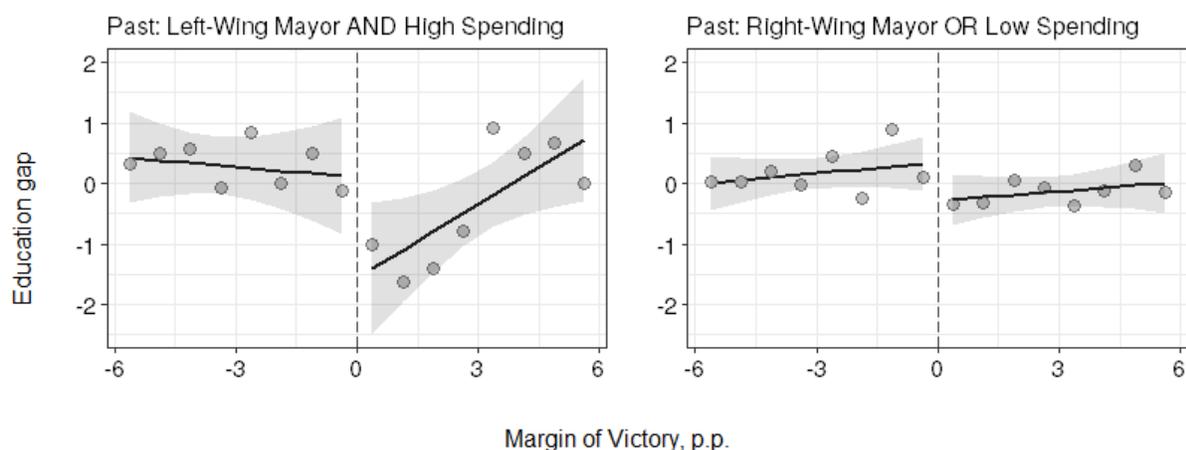


For every plot, the Right (Left) side shows the municipalities where a Right-wing (Left-wing) party has won the mayoral election. The lines are a linear fit, and the points represent the average outcome for the corresponding level of margin of victory in each bin.

HETEROGENEITY IN THE NOMINATION PATTERN

Our theoretical framework suggests that Right-wing parties nominate less educated candidates in high-poverty municipalities to reinforce their commitment to match the pro-poor policies of the Left. The pressure to nominate less educated candidates should therefore be stronger in areas where (i) the incumbent mayor is Leftist, and voters have not recently been exposed to the local policies of a Right-wing party; *and* (ii) voters are used to high levels of pro-poor spending.²⁷ These are the municipalities where the Right has more to do to convince voters of its ability to match pro-poor spending levels. Accordingly, Figure 6 shows that this is indeed the case: the Right is more likely to nominate a less educated candidate when the past incumbent was a Leftist that had high pro-poor spending.

Figure 6: Heterogeneity in the education gap in high-poverty areas



For every plot, the Right (Left) side shows the municipalities where a Right-wing (Left-wing) party has won the mayoral election. The lines are a linear fit, and the points represent the average outcome for the corresponding level of margin of victory in each bin.

SELF-REPORTED PROXIMITY TO POLITICAL PARTIES

We also provide support for the main findings using survey results from the America's Barometer conducted by the Latin American Public Opinion Project (LAPOP).²⁸ The surveys of 2008 and 2012 are especially relevant as they contain a question where voters express the extent to which they believe political parties properly represent them.²⁹ Proximity is measured in a 1-7 scale, 7 being the highest level, and it is available from 1776 voters in 170 municipalities. We use these questions to show that the

²⁷20% of the municipalities in our sample had a past Leftist incumbent with above-median pro-poor spending.

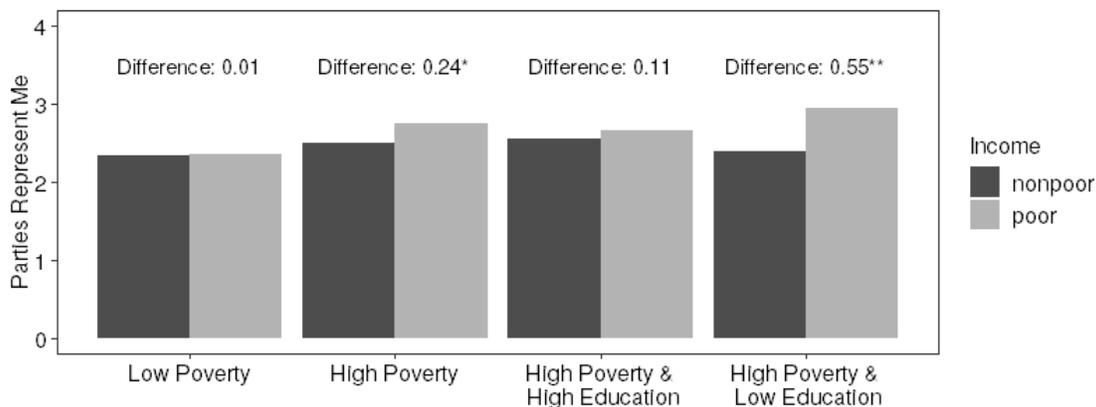
²⁸www.lapopsurveys.org. We thank the Latin American Public Opinion Project (LAPOP) and its major supporters (the United States Agency for International Development, the Inter-American Development Bank, and Vanderbilt University) for making the data available.

²⁹In the 2008 wave, the question was: *To what extent political parties are close to people like me?* In 2012: *How much do political parties listen to people like you?*

correlation between poverty, the politician’s education, and the voter’s self-reported ‘proximity’ to political parties is consistent with both the theory and the results presented in this article. Note that this proximity could be both in terms of policy preferences or descriptive representation. Our theory predicts that it is only in high-poverty municipalities, and under a less educated politician, that we should expect poor voters to always feel more represented by mayors from either ideological group, compared to nonpoor voters.³⁰

We classify municipalities into four groups, by poverty level (low and high), and by the mayor’s education (low and high).³¹ We also split voters in each municipality into poor and non-poor.³² Figure 7 shows that, for three out of the four groups, poor and nonpoor voters feel equally represented by political parties. It is only in high-poverty areas under a less educated mayor that the poor feels significantly closer to politicians than the nonpoor.

Figure 7: Self-reported political representation



*p<0.1, **p<0.05. Data includes 1776 voters in 170 municipalities. Low education refers to municipalities where the mayor has graduated high school, at most.

ALTERNATIVE EXPLANATIONS: CLIENTELISM AND THE POOL OF POTENTIAL CANDIDATES

There is no doubt that clientelistic linkages between politicians and voters play a significant role in Brazilian politics. The 2010 LAPOP survey shows that nearly 20% of voters were offered goods or services in exchange for their vote. Hundreds of mayors have been ousted from office for vote buying since the early 2000s, and the practice has been extensively studied in Brazil (Hidalgo and Nichter, 2015; Frey,

³⁰Poor voters might feel less represented by a Rightist mayor that is more educated, or by a Rightist mayor that implements less pro-poor spending (as it is the case in low-poverty municipalities).

³¹Low education is defined as having, at most, a high school degree.

³²In both waves, income is reported in categories. Poor households are the ones with monthly income below R\$380 in 2008, which is the first recorded category, and it is slightly below the national minimum wage level. Adjusted by inflation, this corresponds to R\$440 in 2012, so poor voters in 2012 are the ones with income below the closest recorded level (R\$410).

2019). Rather than ruling out the relevance of clientelism in this environment, in this section we argue that it coexists with the mechanism proposed here.

We interpret the previous empirical estimates within a framework where Right-wing parties nominate politicians that are descriptively closer to the poor in order to become more competitive in high poverty areas. However, one could argue that it is clientelism, and not our nomination mechanism, that is generating the type of political selection identified in the data. To be more precise, our results could be interpreted as a consequence of clientelism if (i) Right-wing parties are consistently better at it than Left-wing parties (e.g. either because they possess better networks of brokers or more resources); and (ii) less educated candidates always have a competitive advantage in the practise of vote buying. Under these assumptions, the Right selects less educated candidates to boost clientelism in poor areas, which would not be efficient for Left-wing parties due to the lack of clientelistic capacity. We emphasize that this narrative does not invalidate our results on programmatic policies, i.e., that Right-wing parties spend less on pro-poor sectors than the Left in low poverty municipalities. It only provides an alternative explanation for the descriptive representation component of the argument.

We assess this alternative explanation with three empirical exercises. First, we examine the correlation between ideology and education gap for candidates in a smaller subset of our Left and Right-wing parties. Similar to [Samuels and Zucco Jr. \(2014\)](#), we focus on the two most “programmatic” parties on each group, PT (Left) and PSDB (Right),³³ which dominated presidential elections between 1994 and 2014, and are also among the largest in Brazil. We check whether the political selection mechanism still holds for this less clientelistic subset. Accordingly, [Table 2](#) shows results that are similar to the full sample: PSDB is much more likely to recruit less educated politicians in poor areas than PT. This difference also disappears in non-poor areas. Interestingly enough, the magnitude of the correlation is more than double the one of the full sample. This could suggest that clientelism, rather than being an alternative explanation to our results, it is complementary, i.e., it actually attenuates the Right’s need to appeal to descriptive representation to become competitive among poor voters.

³³PT and PSDB received similar scores on the 2008 DALP survey in terms on how programmatic their policies are, even though their ideological scores were different.

Table 2: Mayor’s partisanship, education, and campaign expenses

Dependent Variable:	Education Gap (PSDB minus PT)			Campaign Expenses (Right minus Left)		
	(1)	(2)	(3)	(4)	(5)	(6)
High Poverty	-3.436** (1.318)	-2.736** (1.247)	-2.388** (1.015)	1.354 (0.884)	1.040 (0.836)	0.684 (0.674)
Pre-Treatment Mean	0.808	0.934	0.987	-0.256	-0.288	-0.257
Low Poverty	0.136 (0.820)	0.046 (0.696)	-0.238 (0.597)	-0.293 (0.589)	-0.190 (0.473)	0.074 (0.376)
Pre-Treatment Mean	-0.081	-0.019	0.276	0.577	0.602	0.391
Bandwidth	3.92	5.22	7.83	3.72	4.96	7.44
Observations	113	154	221	102	139	201

*p<0.1, **p<0.05. Standard errors are clustered by municipality (in parenthesis). The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity.

Second, we show that there is no evidence that Right-wing parties spend more than Left wing-parties in mayoral campaigns, both in poor and non-poor areas. Although this is not a direct measure of clientelistic capacity, it is a good proxy for the parties’ local financial capacity, and their ability to conduct non-programmatic exchanges with voters during the election period. In Table 2 (columns 4-6,) we use our RDD framework to examine the correlation between ideology and campaign spending. The outcome variable here is the difference between the spending of the Right and Left mayoral candidates in each race – all coefficients are statistically insignificant.

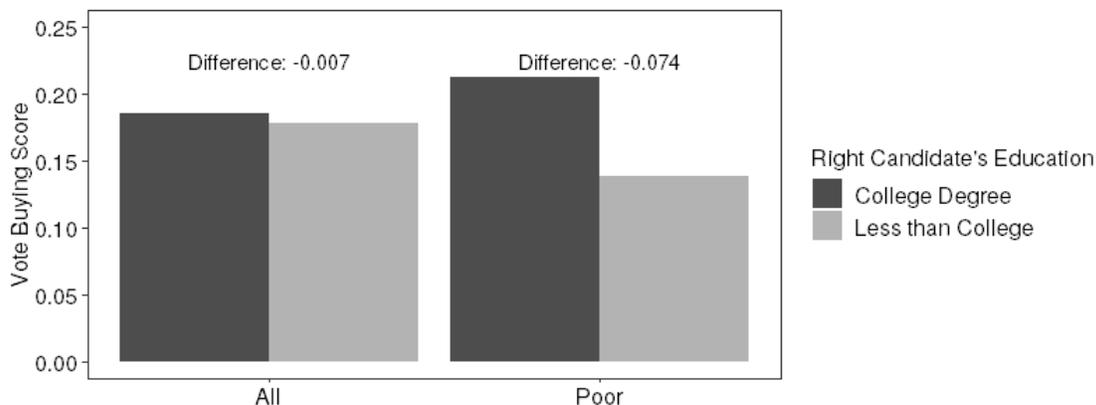
Third, we also use the 2010 LAPOP survey to elicit voters’ perceptions on vote buying, and how they vary according to the education level of the Right-wing mayoral candidate in the municipality.³⁴ The variable of interest takes value zero when voters were not offered to sell their vote, value of one when they said it happened occasionally, and two when it happened frequently. We focus on the municipalities with higher than median poverty level (the data contains 920 voters in 23 municipalities).

On average, 19% of voters had any contact with politicians or brokers attempting to buy their vote. Figure 8 shows how the responses vary according to the education level of the Right-wing candidate in the previous election (2008). The first two columns consider all voters, the last two include only poor voters. In short, the education of the Right-wing candidate does not trigger significant differences in response, suggesting that the candidate’s education is uncorrelated with the amount of vote buying. What is more, the coefficient for the sample of poor voters is actually negative. This means that, even if it was statistically significant, it would imply that voters were more (and not less) likely to have experienced vote buying

³⁴The 2010 wave of this survey had the following question pertaining vote buying: In recent years and during electoral campaigns, did any candidate or any member of a political party offered you something like a favor, food, or any other benefit or good in exchange for your vote or support? The 2008 and 2012 waves did not have a vote buying question.

when the Right-wing candidate was a college graduate.

Figure 8: Self-reported vote buying and the education of Right-wing candidates



* $p < 0.1$, ** $p < 0.05$. Data includes 920 voters in 23 municipalities.

A second alternative explanation for the education gap result is that Right and Left-wing parties face a different pool of candidates in high-poverty municipalities. For example, the same nomination pattern would arise if Left parties simply have better recruitment networks among the highly educated in high poverty municipalities, and Right-wing parties fail to attract such candidates. We assess this narrative using the education of the elected council members for each party, as opposed to mayoral candidates, given that candidates for local council come precisely from the same pool as mayors (the party membership rolls).³⁵

In these regressions, the outcome variable is the difference in the number of highly educated elected council members³⁶ between the mayor's party and the runner-up party (this construction is similar to the one used in measuring the education gap of mayoral candidates, as described on page 13). Table 3 shows the RDD estimates for the high-poverty sample. As it is evident, the education level of council members is statistically indistinguishable at the discontinuity. If anything, a victory of a Right-wing mayor is (weakly) correlated with the Right-wing party also electing more candidates with at least a secondary education. In columns (3) and (4) we focus only on the two most voted council members in the election, and the results remain very similar.

³⁵We must note here that Right-wing parties, on average, have much larger party memberships than Leftist ones in most Brazilian municipalities, already making this alternative argument less likely.

³⁶We use two different specifications for "high education". The first includes at least secondary education (levels 6, 7 and 8 of our scale), and other that considers only post-secondary studies (levels 7 and 8).

Table 3: Education of partisan council members

Dependent Variable: Share of Local Council	All elected		Voted top 2	
	Secondary	Post-Secondary	Secondary	Post-Secondary
Right-wing mayor	0.433* (0.226)	-0.093 (0.142)	0.100 (0.125)	0.014 (0.077)
Pre-Treatment Baseline	-0.304	0.088	-0.025	0.027
Bandwidth	4.72	4.14	4.12	3.98
Observations	735	641	639	618

*p<0.1, **p<0.05. Standard errors are clustered by municipality (in parenthesis). The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors, at the discontinuity.

Finally, a slightly different version of this alternative narrative is the one where the recruitment of less educated candidates is particularly costly to the Left. Although our theory assumes that such recruitment is indeed costly, the cost is uniform for all parties. In Appendix B (on page B-4), we show evidence of at least one relevant dimension in which the education of mayors has an impact on the national party strength: lower educated mayors raise fewer votes for their parties in congressional elections. The results also show that this effect is uniform across Left and Right-wing parties. In the same appendix, we also present evidence that this is likely driven by the negative impact of low education on the mayor's administrative ability. Overall, these results suggest that the nomination pattern observed in the data is not a consequence of parties facing different pools of candidates or different costs from less educated candidates.

CONCLUSION

This paper uses a regression discontinuity design in Brazilian municipal elections to uncover a puzzling empirical regularity: in high poverty municipalities, Right and Left-wing mayors devote a similar share of budget to pro-poor policies. However, Right-wing candidates are less educated than their competition in the Left, and therefore descriptively closer to the poor. In low poverty areas the effects are reversed: the candidate profiles are similar, but Right-wing mayors apportion a lower share of the budget to pro-poor areas. We interpret these findings within a theoretical framework where Left-wing parties attempt to capitalize on class-based voting by always choosing pro-poor policies. The Right, on the other hand, can only credibly promise more redistribution when it pays the cost to nominate candidates that are closer in their education level to the poor. This strategy allows the Right to become competitive in very poor regions, despite its less popular programmatic brand. In less poor areas where more voters are aligned with the preferences of the Right, this strategic nomination pattern becomes unnecessary.

These findings have significant implications for the future study of party strategies in developing democracies, where most existing research attributes the success of elite-driven parties to the erosion of programmatic brands, and the prevalence of non-policy linkages between politicians and voters. While these findings in no way imply that clientelism and other non-policy strategies are not vital, our results suggest that their success may also depend on how they interact with programmatic differentiation.

Given the relative paucity of descriptive representation of the poor in the literature ([Carnes and Lupu, 2015](#)), our results suggest that, at least in Brazil, it is surprisingly Right-wing parties who more often capitalize on this shortage. It is all the more surprising given that the most salient example of this strategy actually comes from President Lula of the Left. More broadly, the results also imply that there is more to descriptive representation than its effects on substantive representation, which has been the focus of the bulk of this literature. Our article suggests that parties use strategic descriptive representation not as an end in itself, but as a tool to convey their commitment to deviate from traditional programmatic positions.

Finally, both our theory and empirical results suggest that the selection of less educated candidates is costly for political parties. However, are these candidates also of lower quality from the perspective of voters, despite being descriptively similar to them? The precise answer to this question is beyond the scope of this article, but it has been central to a recent literature on candidate selection ([Buisseret and Prato, 2016](#); [Dal Bó et al., 2017](#); [Dal Bó and Finan, 2018](#)). If voters also perceive lower educated candidates as being less competent on some dimension, it becomes imperative to understand the trade-off between the policy effects of descriptive representation vs. the potential loss in administrative competence.

REFERENCES

- Ames, Barry and Amy Erica Smith. 2010. “Knowing Left from Right: Ideological Identification in Brazil, 2002-2006.” *Journal of Politics in Latin America* 2 (3):3–38. 9
- Besley, Timothy, Olle Folke, Torsten Persson, and Johanna Rickne. 2017. “Gender Quotas and the Crisis of the Mediocre Man: Theory and Evidence from Sweden.” *American Economic Review* 107 (8):2204–42. 4
- Boas, Taylor C. and F. Daniel Hidalgo. 2011. “Controlling the Airwaves: Incumbency Advantage and Community Radio in Brazil.” *American Journal of Political Science* 55 (4):869–885. 1
- Brollo, Fernanda and Tommaso Nannicini. 2012. “Tying Your Enemy’s Hands in Close Races: The Politics of Federal Transfers in Brazil.” *American Political Science Review* 106:742–761. 3, 12
- Bueno, Natália S. and Thad Dunning. 2017. “Race, Resources, and Representation: Evidence from Brazilian Politicians.” *World Politics* 69 (2):327–365. 13
- Buisseret, Peter and Carlo Prato. 2016. “Electoral control and the human capital of politicians.” *Games and Economic Behavior* 98:34 – 55. 23
- Buisseret, Peter E., Olle Folke, Carlo Prato, and Johanna Karin Rickne. 2019. “Party Nomination Strategies in List Proportional Representation Systems.” *SSRN Working Paper* URL <https://ssrn.com/abstract=3425692>. 4
- Calonico, Sebastian, Matias D. Cattaneo, and Rocio Titiunik. 2014. “Robust Nonparametric Confidence Intervals for Regression-Discontinuity Designs.” *Econometrica* 82 (6):2295–2326. 15
- Carnes, Nicholas and Noam Lupu. 2015. “Rethinking the comparative perspective on class and representation: Evidence from Latin America.” *American Journal of Political Science* 59 (1):1–18. 1, 4, 23
- . 2016. “Do voters dislike working-class candidates? Voter biases and the descriptive underrepresentation of the working class.” *American Political Science Review* 110 (4):832–844. 1
- Cruz, Cesi, Julien Labonne, and Pablo Querubín. 2017. “Politician Family Networks and Electoral Outcomes: Evidence from the Philippines.” *American Economic Review* 107 (10):3006–37. 1
- Cruz, Cesi and Christina J. Schneider. 2017. “Foreign Aid and Undeserved Credit Claiming.” *American Journal of Political Science* 61 (2):396–408. 1
- Dal Bó, Ernesto and Frederico Finan. 2018. “Progress and Perspectives in the Study of Political Selection.” *Annual Review of Economics* 10 (1):541–575. 4, 6, 23

- Dal Bó, Ernesto, Frederico Finan, Olle Folke, Torsten Persson, and Johanna Rickne. 2017. "Who Becomes A Politician?" *The Quarterly Journal of Economics* 132 (4):1877–1914. 4, 23
- Dal Bo, Ernesto, Frederico Finan, Olle Folke, Torsten Persson, and Johanna Rickne. 2019. "Economic Losers and Political Winners: Sweden's Radical Right." *Working Paper* URL https://eml.berkeley.edu/~ffinan/Finan_SwedenDemocrats.pdf. 1
- Debs, Alexandre and Gretchen Helmke. 2010. "Inequality under Democracy: Explaining the Left Decade in Latin America." *Quarterly Journal of Political Science* 5 (3):209–241. 1
- Desai, Zuheir. 2019. "A Theory of Electoral Competition in Developing Democracies." Mimeo. 2, 5
- Fenno Jr., Richard F. 1978. *Home Style: House Members In Their Districts*. Longman. 1
- Finan, Frederico and Laura Schechter. 2012. "Vote-Buying and Reciprocity." *Econometrica* 80 (2):863–881. 4
- Folke, Olle, Torsten Persson, and Johanna Rickne. 2016. "The Primary Effect: Preference Votes and Political Promotions." *American Political Science Review* 110 (3):559–578. 4
- Folke, Olle and Johanna Rickne. 2016. "The Glass Ceiling in Politics: Formalization and Empirical Tests." *Comparative Political Studies* 49 (5):567–599. 4
- Frey, Anderson. 2019. "Cash transfers, clientelism, and political enfranchisement: Evidence from Brazil." *Journal of Public Economics* 176:1 – 17. 13, 18
- Fujiwara, Thomas. 2015. "Voting Technology, Political Responsiveness, and Infant Health: Evidence From Brazil." *Econometrica* 83 (2):423–464. 13
- Garay, Candelaria. 2016. *Social policy expansion in Latin America*. Cambridge University Press. 4
- Gay, Claudine. 2002. "Spirals of trust? The effect of descriptive representation on the relationship between citizens and their government." *American Journal of Political Science* :717–732. 1
- Gottlieb, Jessica, Guy Grossman, Horacio Larreguy, and Benjamin Marx. 2019. "A Signaling Theory of Distributive Policy Choice: Evidence from Senegal." *The Journal of Politics* 81 (2):631–647. 4
- Hayes, Matthew and Matthew V Hibbing. 2017. "The symbolic benefits of descriptive and substantive representation." *Political Behavior* 39 (1):31–50. 1
- Hidalgo, F. Daniel and Simeon Nichter. 2015. "Voter Buying: Shaping the Electorate through Clientelism." *American Journal of Political Science* . 1, 3, 18
- Huber, John D. 2017. *Exclusion by Elections: Inequality, Ethnic Identity, and Democracy*. Cambridge Studies in Comparative Politics. Cambridge University Press. 1, 4

- Krueger, Alan B. and Mikael Lindahl. 2001. "Education for Growth: Why and for Whom?" *Journal of Economic Literature* 39 (4):1101–1136. 1, 13
- Larreguy, Horacio, John Marshall, and Pablo Querubín. 2016. "Parties, Brokers, and Voter Mobilization: How Turnout Buying Depends Upon the Party's Capacity to Monitor Brokers." *American Political Science Review* 110 (1):160–179. 1
- Lawless, Jennifer L. 2004. "Politics of Presence? Congresswomen and Symbolic Representation." *Political Research Quarterly* 57 (1):81–99. 1
- Lucas, Kevin and David Samuels. 2010. "The Ideological "Coherence" of the Brazilian Party System, 1990-2009." *Journal of Politics in Latin America* 2 (3):39–69. 10
- Lupu, Noam. 2016. "Building Party Brands in Argentina and Brazil." In *Challenges of Party-Building in Latin America*, edited by Steven Levitsky, James Loxton, Brandon Van Dyck, and Jorge I. Domínguez, chap. 3. Oxford: Cambridge University Press, 76–99. 10
- Mainwaring, Scott, Meneguello, Rachel Meneguello, and Timothy Power. 2000. "Conservative Parties, Democracy, and Economic Reform in Contemporary Brazil." In *Conservative Parties, the Right, and Democracy in Latin America*, edited by Kevin J. Middlebrook, chap. 6. The Johns Hopkins University Press, 164–177. 1
- Murillo, Maria Victoria and Ernesto Calvo. 2019. *Non-policy Politics: Richer Voters, Poorer Voters, and the Diversification of Electoral Strategies*. Cambridge University Press. 1, 4
- Nichter, Simeon. 2018. *Votes for Survival: Relational Clientelism in Latin America*. Cambridge Studies in Comparative Politics. Cambridge University Press. 3, 9
- Novaes, Lucas M. 2018. "Disloyal brokers and weak parties." *American Journal of Political Science* 62 (1):84–98. 3, 12
- Pitkin, Hanna F. 1967. *The Concept of Representation*. Univ. Calif. Press. 1
- Power, Timothy J. and Cesar Zucco Jr. 2009. "Estimating Ideology of Brazilian Legislative Parties, 1990-2005: A Research Communication." *Latin American Research Review* 44 (1):218–246. 2, 10
- Power, Timothy J. and Cesar Zucco Jr. 2012. "Elite Preferences in a Consolidating Democracy: The Brazilian Legislative Surveys, 1990–2009." *Latin American Politics and Society* 54 (4):1–27. 1, 2, 10
- Samuels, David and Cesar Zucco Jr. 2014. "The Power of Partisanship in Brazil: Evidence from Survey Experiments." *American Journal of Political Science* 58 (1):212–225. 11, 19
- Samuels, David J. and Cesar Zucco Jr. 2018. *Partisans, Antipartisans, and Nonpartisans: Voting Behavior in Brazil*. 2, 9

Shayo, Moses. 2009. "A Model of Social Identity with an Application to Political Economy: Nation, Class, and Redistribution." *American Political Science Review* 103 (2):147–174. [1](#)

Thachil, Tariq. 2014. *Elite parties, poor voters: How Social services win votes in India*. Cambridge University Press. [1](#)

Appendix (for online publication only)

A MATHEMATICAL APPENDIX

Lemma 1. *In equilibrium, party L never chooses a non-elite candidate, and always implements its ideal point upon winning the election.*

Proof. First, we show that no matter the choice of candidate, L 's optimal best response to any policy choice by R is to announce its ideal point. The maximisation problem of L is given as follows

$$\begin{aligned} \max_{x_L} V_L(x_L, c_L, \mathbf{x}_R; q) &= (1 - F(x_L, 1, \mathbf{x}_R; q)) \cdot (x_R - x_L) + x_R - \kappa(1 - c_L) \\ \text{s.t.} \quad 0 &\leq x_L \leq 1 \end{aligned} \quad (10)$$

Any interior maximiser, x_L^* of the problem in (10) solves the following equation

$$\frac{\partial(1 - F(x_L, c_L, \mathbf{x}_R; q))}{\partial x_L} (x_R - x_L) - (1 - F(x_L, 1, \mathbf{x}_R; q)) = 0. \quad (11)$$

First, note that, assuming x_L is credible for voters,

$$F(x_L, c_L, \mathbf{x}_R; q) = \max \left\{ \frac{\psi - (1 - 2q)(x_R - x_L)}{2\psi}, 0 \right\} \quad (12)$$

At any x_L such that $F(x_L, 1, \mathbf{x}_R; q) < 1$ both terms in (11) are negative because $(1 - 2q) > 0$, as $q < \frac{1}{2}$. If $F(x_L, c_L, \mathbf{x}_R; q) = 1$, then L can move to the Left towards a more preferred policy. Thus, there is no interior solution to the maximization problem in (10), and L best-response to any policy choice by R is to announce its ideal point. Since it does not need to recruit a non-elite candidate to credibly commit to its ideal point, L recruits an elite candidate. \square

Let

$$x_R^*(q) = \min \left\{ \frac{\psi}{2(1 - 2q)}, 1 \right\} \quad (13)$$

be the optimal policy chosen by R when it recruits a non-elite candidate. Because of the two-part problem

of party R , it chooses to recruit a non-elite candidate if and only if

$$F(\mathbf{0}, x_R^*(q), 1)(x_R^*(q)) - F(\mathbf{0}, 1, 0) \geq \kappa. \quad (14)$$

We now show that there exists regions of the interval $(0, \frac{1}{2})$ where it is profitable for R to recruit a non-elite candidate, and a complementary region where it is not profitable for R to do so.

Lemma 2. *There is a unique solution $\bar{q} \in (0, \frac{1}{2})$ to*

$$F(\mathbf{0}, x_R^*(q), 1)(x_R^*(q)) - F(\mathbf{0}, 1, 0) = \kappa. \quad (15)$$

Proof. The expression $F(\mathbf{0}, x_R^*(q), 1)(x_R^*(q)) - F(\mathbf{0}, 1, 0) - \kappa$ reduces to

$$\frac{\psi - (8 - 16q) \max\left\{0, \frac{\psi - (1 - 2q)}{2\psi}\right\} - \kappa(8 - 16q)}{8(1 - 2q)}. \quad (16)$$

Given that a part of the above expression is bounded below by 0, we distinguish two regions in the parameter space for q . Before proceeding, note that if $x_R^*(q) = 1$, then, evidently party R would prefer to implement its ideal point without having to recruit a non-elite candidate. Thus, we look for a solution to equation (16) in the region where $\psi < 2(1 - 2q)$.

First, consider q such that $\psi < (1 - 2q)$. Then, the above equation has one solution at $\underline{q} = \frac{8\kappa - \psi}{16\kappa}$. By Assumption 1, we have that $\underline{q} < 0$.

Second, consider q such that $(1 - 2q) < \psi < 2(1 - 2q)$. Then there are two solutions to the equation in (16)

$$q = \frac{1}{4} \left(2 - \psi - 2\kappa\psi \pm 2\sqrt{\kappa(\kappa + 1)\psi} \right).$$

Rewriting one of the solutions, we get that

$$2\sqrt{\kappa(\kappa + 1)\psi} - 2\kappa\psi = \psi - 2(1 - 2q).$$

The left hand side is positive, while the right hand side is negative which is a contradiction. Thus, there

is a unique candidate solution

$$\bar{q} = \frac{1}{4} \left(2 - \psi - 2\kappa\psi - 2\sqrt{\kappa(\kappa+1)}\psi \right). \quad (17)$$

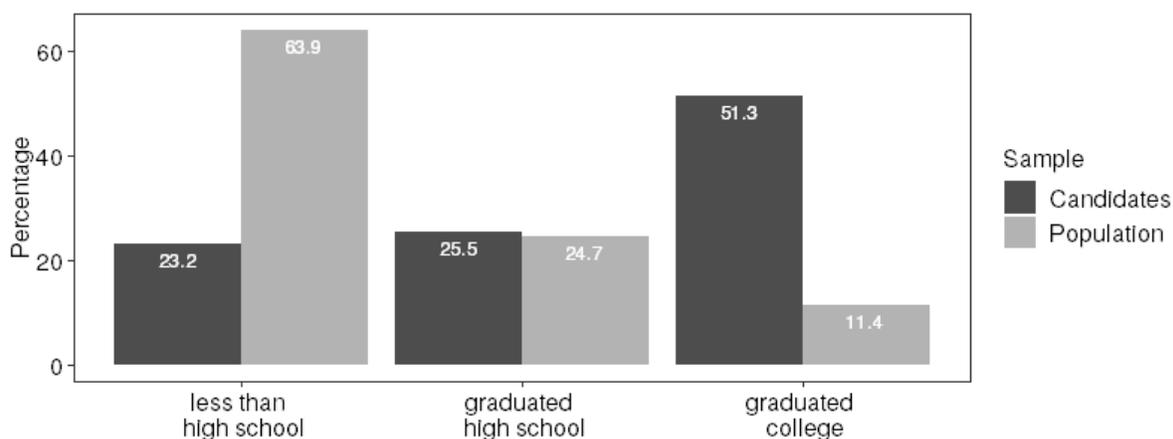
We now show that this solution lies between 0 and $\frac{1}{2}$. From previous assumptions on ψ and on κ , we have that \bar{q} is minimized when $\psi = 1$ and $\kappa = \frac{\psi}{8}$, and in that case $\bar{q} = 0$. Furthermore, \bar{q} is maximized when $\psi = 0$ and $\kappa = 0$, and in that case $\bar{q} = \frac{1}{2}$. Since these values are realised when ψ and κ are fixed at their boundaries, and since $0 < \psi < 1$ and $0 < \kappa < \frac{\psi}{8}$, we have that $\bar{q} \in (0, \frac{1}{2})$. \square

The proofs of Proposition 1 and Proposition 2 now follow immediately from the above Lemmas.

B THE POLITICAL COST OF NOMINATING LESS EDUCATED CANDIDATES

The empirical results in this paper show that the Left does not match the Right in the number of nominations of less educated candidates in poor areas. In our theoretical framework, we interpret this as being the result of this nomination pattern being costly to parties. This assumption first reflects a potential search cost: Brazilian mayoral candidates are much more educated than their voters, on average. Figure B.1 shows that less than one quarter of mayoral candidates possess an education level comparable to the one of the vast majority of the voting population.

Figure B.1: Education of Politicians and Voters in Brazil



Data on politicians comes from the top 2 mayoral candidates in the three elections of interest. Data for the general population considers only adults of 25 years or more, and comes from the 2010 census.

Second, we provide empirical evidence to support this assumption with the help of a cost measure that is tailored to the Brazilian political context where mayors use their control over public spending to influence legislative elections in favor of their parties. In a nutshell, we examine whether the mayor's education level influences her ability to broker votes for her party in congressional elections. We highlight that public funding for parties in the Brazilian electoral system is split according to the number of congressional seats. Thus, this analysis provides a clear and direct measure of the mayor's overall contribution to her party's national strength.

More precisely, we regress the share of votes for the mayor's party in the municipality on her education level. We include fixed effects for both period and municipality, and use the three congressional elections in our sample period (2006, 2010 and 2014). In an alternative specification, we also interact the

education level with a dummy that indicates whether the mayor is from a Right-wing party. The results are shown in columns (1) and (2) of Table B.1. The estimation clearly shows that parties that nominate less educated mayoral candidates lose valuable votes for their house candidates. More interestingly, this is the case for both Left and Right-wing parties, which is in line with the assumption in our theory.

Table B.1: The education of mayors and some measures of performance

Dependent Variable:	Party Votes		Extra funds		School		Health	
	(1)	(2)	(3)	(4)	(3)	(4)	(3)	(4)
Education	0.543** (0.196)	0.729** (0.338)	9.151** (3.994)	7.926 (7.426)	0.083** (0.034)	0.057 (0.066)	0.049 (0.039)	0.028 (0.055)
Right		3.170 (2.642)		-45.937 (49.229)		-0.136 (0.508)		-0.195 (0.473)
Education x Right		-0.247 (0.387)		1.628 (7.338)		0.035 (0.072)		0.029 (0.069)
Observations	12562	12562	12562	12562	12562	12562	12562	12562

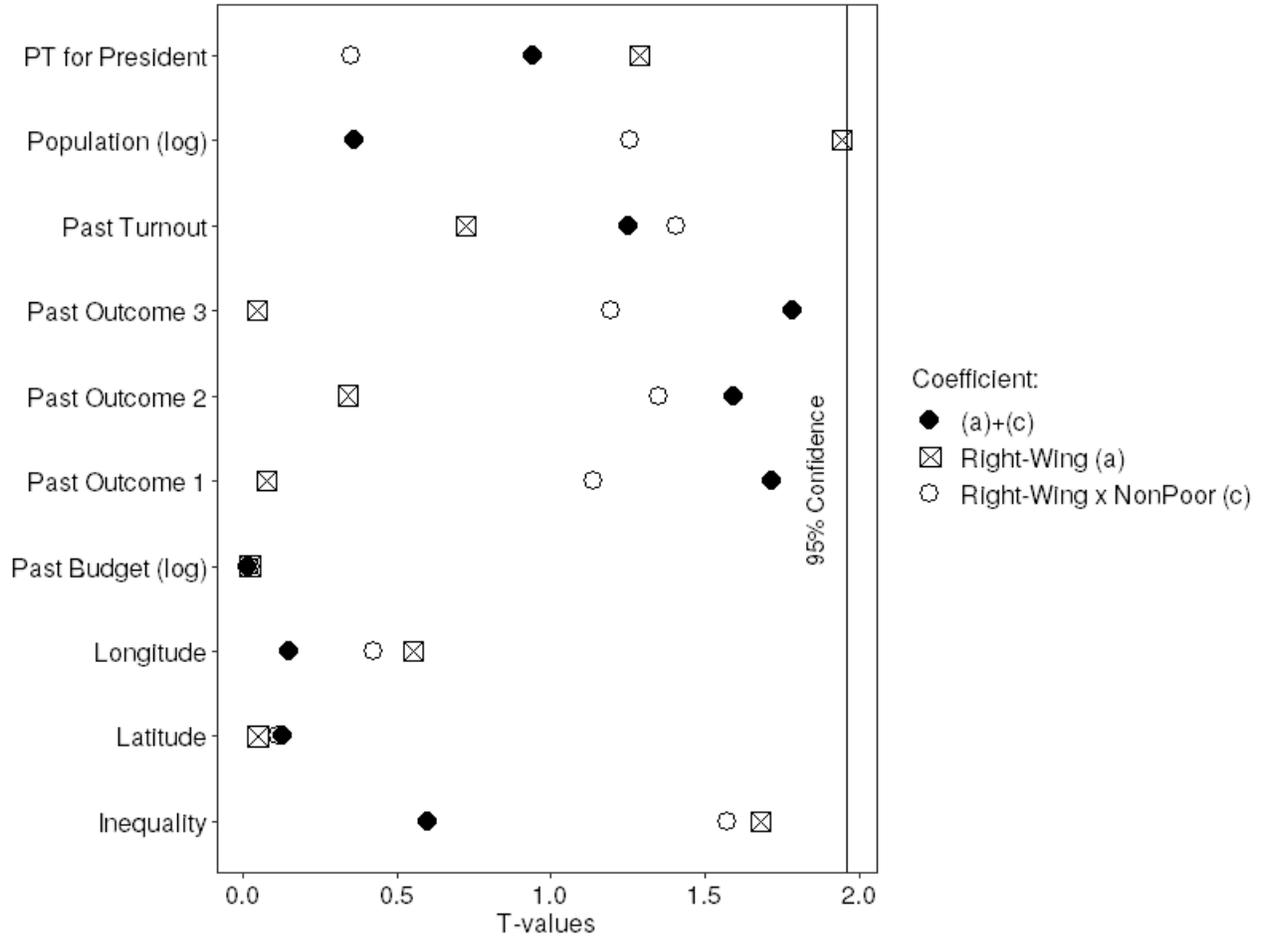
*p<0.1, **p<0.05. Standard errors are clustered by municipality and presented in parenthesis. All regressions include fixed effects for municipality and election. The variables are defined as follows: Party Votes: Votes for the mayor's party in the midterm congressional elections. Extra funds: Discretionary resources for special investment projects negotiated with the federal government. School: School enrollment as a share of the population (measure in the middle of the mayoral tenure). Health: Medical visits by the public health system as a share of local population (annual average in the mayoral tenure).

Even though we remain agnostic about the nature of the 'brokerage cost', one potential cause is a positive correlation between education and ability to govern. If less educated incumbents are also worse managers, their performance in office might undermine the electoral performance of their parties in higher elections. The remaining estimates in the Table suggest that this might be the case. First, less educated mayors are significantly less likely to receive discretionary funds for special investment projects (*convênios*) from the federal government (column 3). Event though the ultimate decision on the destination of these resources is made by the central government, mayors have the ability to negotiate and lobby for these transfers. Also, school enrollment is lower under less educated mayors (column 5), and the number of medical home visits is also lower (although this effect is not statistically significant). Again, none of these estimates shows differential effects between Left and Right-wing politicians. This indicates that the cost is present for all parties.

Overall, these results suggest that education and ability might be correlated, which could be behind the cost of this nomination pattern. This seems to be a more probable explanation than, for example, issues of misalignment of ideological preferences. The misalignment narrative implies that less educated candidates, due to their descriptive proximity to the poor, should be better at brokering votes for Left-wing parties. However, this is not what we observe here.

C TABLES AND FIGURES

Figure C.1: Balance of fixed and pre-determined variables



The points show the t-value of the estimate at the discontinuity for the two samples, according to the poverty of municipalities, and the difference between them. In line with equation 9, these points represent the statistical significance of β_1 (high poverty), and $\beta_1 + \beta_3$ (low poverty).

The variables are constructed as follows:

Share of Voters: Share of the population enrolled to vote.

Runoff: Indicates whether the previous municipal election had a runoff (only possible for municipalities with 200,000+ voters or state capitals).

PT for President: Share of local votes for PT in the last presidential election.

PC GDP: Per capita GDP before the municipal election.

Past Budget: Municipal budget in the previous 4-year mayoral tenure.

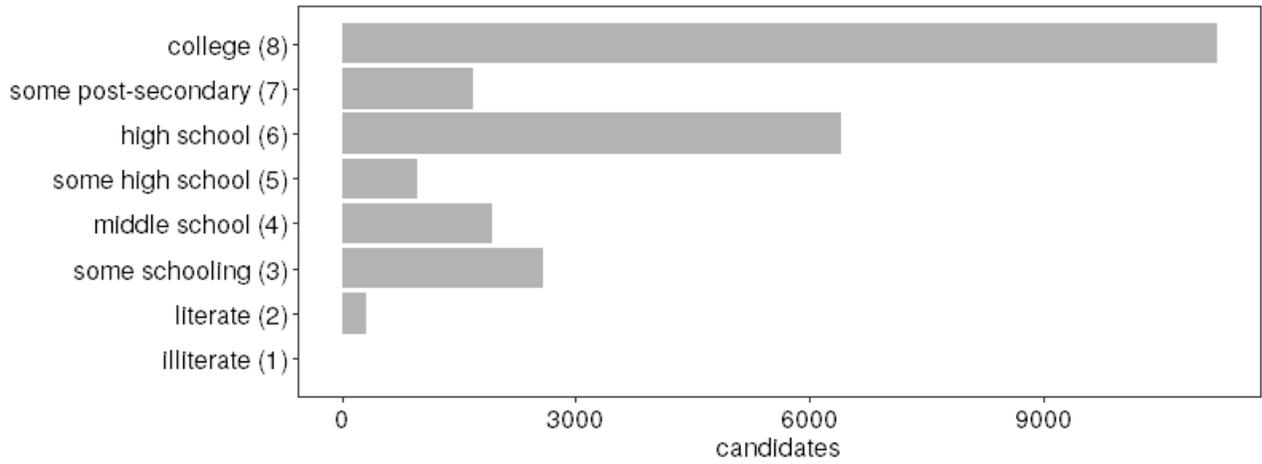
Low pro-poor spending: Indicates whether the spending in pro-poor areas was below the median in the previous tenure.

Latitude and Longitude: in degrees.

Households: Number of households in the municipality, measured before the election.

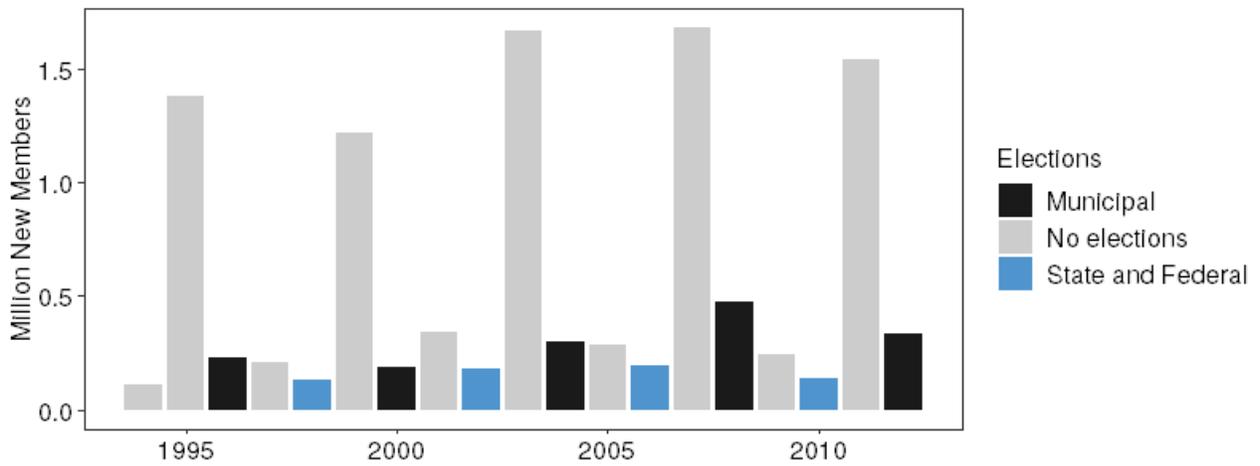
Area: Municipal area in km².

Figure C.2: Scaling the education of mayoral candidates



The bars represent the number of candidates, among the top 2, with that education level in the three elections under analysis.

Figure C.3: Party recruiting in Brazil



The bars represent the number of registered members every year.

Table C.1: Main results with the inclusion of covariates

Dependent Variable:	Pro-poor spending as % of budget			Education Gap (winner minus loser)		
	(1)	(2)	(3)	(4)	(5)	(6)
High Poverty	0.816 (0.910)	0.643 (0.813)	0.158 (0.670)	-0.756* (0.415)	-0.812** (0.367)	-0.774** (0.307)
Pre-Treatment Baseline	39.047	38.801	36.147	1.286	1.485	1.520
Low Poverty	-1.428* (0.839)	-1.418** (0.723)	-1.333** (0.605)	0.314 (0.393)	0.073 (0.349)	-0.145 (0.297)
Pre-Treatment Baseline	39.165	38.726	35.964	0.963	1.417	1.669
Bandwidth	3.74	4.99	7.49	3.46	4.61	6.92
Observations	1116	1480	2112	1041	1356	1974
Bandwidth rules	0.75 x opt.	optimal	1.5 x opt.	0.75 x opt.	optimal	1.5 x opt.

*p<0.1, **p<0.05. Standard errors are clustered by municipality (in parenthesis). The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity. Covariates are the ones shown in Figure C.1 of this appendix, plus the the share of pro-poor spending in the previous electoral tenure.

Table C.2: Main results for different polynomials

Dependent Variable:	Pro-poor spending as % of budget		Education Gap (winner vs. loser)	
	(1)	(2)	(3)	(4)
High Poverty	0.994 (1.215)	0.633 (1.213)	-0.944** (0.397)	-0.884** (0.392)
Pre-Treatment Baseline	59.197	59.333	0.201	0.262
Low Poverty	-2.877** (1.148)	-2.821** (1.136)	0.077 (0.363)	0.017 (0.361)
Pre-Treatment Baseline	52.377	52.166	0.028	0.118
Optimal Bandwidth	9.28	17.07	8.65	15.87
Observations	2511	3939	2386	3756
Polynomial	quadratic	cubic	quadratic	cubic

*p<0.1, **p<0.05. Standard errors are clustered by municipality and presented in parenthesis. The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity.

Table C.3: Main results for different specifications of Left-Right groups

Dependent Variable:	Pro-poor spending as % of budget			Education Gap (winner minus loser)		
	(1)	(2)	(3)	(4)	(5)	(6)
High Poverty	1.500 (1.361)	0.538 (1.800)	-0.133 (2.540)	-1.223** (0.414)	-1.711** (0.582)	-1.565** (0.679)
Pre-Treatment Baseline	58.738	58.350	60.021	0.212	0.874	0.178
Low Poverty	-2.469** (1.109)	-3.389** (1.549)	-3.780** (1.646)	-0.036 (0.370)	-0.605 (0.443)	-0.804 (0.669)
Pre-Treatment Baseline	51.457	52.248	53.712	0.251	0.252	0.268
Bandwidth	5	5	5	5	5	5
Observations	1144	590	430	1144	590	430
Right-Wing includes	Largest 5	All	Far Right	Largest 5	All	Far Right
Left-Wing includes	Largest 3	PT	All	Largest 3	PT	All

*p<0.1, **p<0.05. Standard errors are clustered by municipality (in parenthesis). The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity. Far Right parties are PP and PFL. Party size is based on the number of mayors elected in the period.

Table C.4: Main results for different poverty cutoffs

Dependent Variable:	Pro-poor spending as % of budget		Education Gap (winner vs. loser)	
	(1)	(2)	(3)	(4)
High Poverty	1.162 (1.100)	0.293 (1.205)	-0.684* (0.355)	-0.823** (0.410)
Pre-Treatment Baseline	58.381	61.901	0.039	0.058
Low Poverty	-3.029** (1.149)	-1.951** (0.952)	-0.043 (0.352)	-0.111 (0.329)
Pre-Treatment Baseline	52.512	52.924	0.195	0.107
Optimal Bandwidth	4.99	4.99	4.61	4.61
Observations	1480	1480	1356	1356
Cutoff quantile	40th	60th	40th	60th

*p<0.1, **p<0.05. Standard errors are clustered by municipality and presented in parenthesis. The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity.

Table C.5: Main results for pro-poor spending with different specifications

Dependent Variable:	Pro-poor spending as % of budget		
	(1)	(2)	(3)
High Poverty	0.710 (1.133)	0.852 (1.124)	0.728 (1.144)
Pre-Treatment Baseline	59.514	59.796	59.445
Low Poverty	-2.488** (1.058)	-2.386** (1.042)	-2.457** (1.058)
Pre-Treatment Baseline	52.445	52.972	52.152
Optimal Bandwidth	4.99	5.09	4.88
Observations	1480	1502	1445
Definition	base case	(-) social insurance	(-) security

*p<0.1, **p<0.05. Standard errors are clustered by municipality and presented in parenthesis. The estimates represent the difference in outcomes between municipalities with Right and Left-wing mayors for each subsample, at the discontinuity. Base case includes health, sanitation, education and social insurance.