The Price of Governing: Legislative Cooptation and Cabinet Reshuffling

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Introduction:

Bureaucracies in the developing world are unstable: this is by political design. Elected officials can and often do dismantle bureaucracies to accomplish personal goals.[1] Bureaucrats are replaced with each new administration, weakening the organizational coherence of these institutions. This pattern is particularly salient in developing countries, where civil service laws protecting bureaucracies from political actors are weak or absent. As a result of this instability, state capacity is weakened, leading to scholars classifying states with unstable bureaucracies as neopatrimonial.[2]

This is troubling. Studies link bureaucratic turnover and resulting low state capacity to reduction in social welfare, slow economic growth and, recently in Brazil, massive public discontent.[3] Mistrust in governments' ability to effectively deliver public services is a chronic challenge for governments across the developing world. Unsurprisingly, a rich literature analyzing the developing world has sought to explain variation in state capacity. These theoretical accounts have primarily focused on the role of historical institutional legacies and more contemporary clientelistic practices.[4] I conceptualize the same problem from a different lens. What are the incentives and tradeoffs politicians face when investing in state capacity?

Shifting the analysis from bureaucratic institutions to executive decisions does not imply a remission of political and institutional constraints. It means bringing them to light as fundamental to understanding how and why politicians change bureaucracies the way they do. It also helps us refine and conceptually separate

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[1]Suleiman (2013).

[2]Kohli (2004), Van de Walle (2001).

[3]Evans and Rauch (1999), Akhtari, Moreira, and Trucco (2015).

[4]For examples of the role of historical institutional legacies, Kurtz (2013) or Acemoglu, Johnson, and Robinson (2001). For clientelism, Kitschelt and Wilkinson (2007).

state capacity as an object to be explained.[5] To be clear, I focus on a particular dimension of state capacity: its bureaucratic coherence, or the degree to which bureaucracies are institutionalized, and stable, across time.[6] I emphasize degrees because of a tendency in the literature to understand states as binary.[7]

I break away from this dichotomous conceptualization of states. Traditional understandings of a weak or strong state, a Weberian or patrimonial bureaucracy has limited theorization to either/or questions. I break the manichean distinction between a Weberian or patrimonial bureaucracy and demonstrate that even in the absence of civil service laws, bureaucracies can vary in their instability. The degree to which they are so depends on the choices made by executive politicians. I propose an agency-based theory to explain the variations in bureaucratic coherence, where politician's electoral strategies shape how unstable these institutions are.[8]

To frame my theory, I build on on extant literature on state capacity, political economy models of electoral accountability, as well as national-level theories of coalitional presidentialism.[9] At the heart of my theory are mayors who interact strategically with coalition member legislators and voters. I argue that executive leaders benefit from a competent and stable bureaucracy due to their dependence on state capacity to produce public goods. To govern and implement their agenda, however, they must also coopt members of a legislative opposition. This trade-off between governance and state capacity defines the executive's dilemma.

I test this theoretical model empirically in Brazil, leveraging a unique dataset of all cabinet members working in its public administration. After exploring this rich dataset, I test my theoretical claim and find that the executive-legislative profoundly shape bureucratic coherence in municipal Brazil. When confronted by a fragmented legislative chamber, mayors resort to patronage to garner support from opposition. This leads to an increase in hiring, firing and a decrease in the proportion of career servants appointed to cabinet positions. These preliminary results confirm the need for deeper theorization on the strategic incentives faced by the primary hiring principals across the developing world: elected executive officials.

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[5]See Centeno, Kohli, and Yashar (2017) for an excellent unpacking of the concept of state capacity vs. state performance.

[6]Evans (1995). For Huntington (2006), one of the differentiating characteristics of governments was their degree of institutionalization.

[7]Migdal (1988).

[8]In doing so I build on Grindle (2012), who argues that manichean distinctions of bureaucracies not only are theoretically poor, but are also empirically false as her historical-institutional analysis of patrimonial bureaucracies.

[9]See Moe (1989), Loureiro and Abrucio (1999), Power (2010).

Framing the debate:

In this document, I propose an agency-based model to analyze decisions to invest in state capacity, placing at the forefront politicians and their strategic behavior to alter bureaucracies. This framing departs from extant literature which focus on the historical-institutional determinants of state capacity, emphasizing structural factors such as geography, class structure and colonial legacies as the main explanatory variables to contemporary institutional outcomes.[10] I critique this body of work, outlining how my agent-based theory complements structure-based accounts of state capacity.

I reassess these theories in the context of recent, dramatic state transformations in the region. One of the foundations of the literature on state capacity is the concept of a Weberian, nation-state: a national organization with a monopoly over legitimate violence in its territory.[11] However, the nation-state has become increasingly decentralized in the past two decades throughout Latin America.[12] Since the 1990s, developing countries across the world have transferred both policy implementation and resources to subnational administrative units.[13] A new institutional context brought forth new, local actors, and understanding their strategic motivations is key to understanding contemporary changes in (localized) state capacity.

The shadow of the past:

What explains variation in state capacity in Latin America? The answer to this question is often sought in the region's history. Analyzing colonial legacies, scholars have pointed out the profound legacy of colonial institutions on contemporary weaknesses in state capacity. I argue that these accounts leaves us with important theoretical gaps, failing to incorporate the profounds changes effected by contemporary decentralizing reforms, with a decisive subnational turn in public administration. Its macrohistorical focus limits our conceptual tools for understanding the motivation and strategic incentives of government officials to alter bureaucratic institutionos.

States in Latin America are a product of colonization, and a specific type thereof. The abundance of natural resources and dense local population led

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[10]Centeno and Ferraro (2013), Centeno, Kohli, and Yashar (2017), Grzymala-Busse (2008), Kohli (2004).

[11]Skocpol (1985).

[12]Falleti (2010).

[13]O'Neill (2005), Grindle (2007).

to extractive industries that provided limited incentives for colonial rulers to invest in state capacity.[14] These weak foundations shaped the developmental trajectories of state institutions, and contemporary weakness in state capacity can be linked to these colonial legacies. Political elites did not invest in meritocratic and professionalized bureaucratic institutions: colonial rule was often based in the exchange of personal favors and patronage between regional elites and colonial authorities.[15]

Latin American states inherited administrative institutions that were subject to arbitrary rulings of viceroys and unable to penetrate the periphery. In the countryside, informal rule by gamonales guarded zealously against interference by colonial authorities.[16] These weak foundations meant that, after independence, few of these former colonies inherited a strong state, capable of monopolizing legitimate violence and controlling its territories.[17] These colonial legacies persisted over time and provided a weak foundation for modern Latin American states, which continue to struggle to safeguard public safety, deliver public services and promote economic development.[18]

In sum, this historical-institutional literature outlines how Latin American states were shaped by their history.[19] Whether colonial settlers find a propicious geography to invest in institutions, or if landowners at the turn of the 19th century successfully sabotaged state-building efforts by creole elites, the roots of contemporary state weakness are to be found decisively in the past.[20] Changes, when they occur, are the result of "big bangs", nationalist movements, revolutions, independence, or war precisely because state institutions are so difficult to change.[21]

Much has changed since then. Latin American states in the beginning of the 21st century have experienced dramatic changes in their governing and administrative structures. In particular since the end of the 1990s, states across the region have embarked in decentralizing reforms that have placed subnational governments at the forefront of public policy and service provision.[22] These new subnational institutions challenge the predominantly nationalist understanding

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[14]Acemoglu, Johnson, and Robinson (2001), Engerman and Sokoloff (1997).

[15]Graham (1994), Nunes (1997).

[16]Méndez (2005). This is intimately related with the concept of infrastructural power articulated by Mann (1984) and Soifer and Vom Hau (2008).

[17]Centeno and Ferraro (2013).

[18]Kurtz (2013), Acemoglu, Johnson, and Robinson (2001).

[19]Acemoglu, Johnson, and Robinson (2001).

[20]Kurtz (2013), Coatsworth (2005).

[21]Centeno, Kohli, and Yashar (2017), Skocpol (1985).

[22]O'Neill (2005), Falleti (2010).

of state capacity. In the 19th and 20th century, the goal was to centralize power in the national government, creating accompanying technocratic national bureaucracies.[23] Today, the challenge is to fortify subnational institutions to effectively deliver on the promise of decentralization of accountability and public service delivery.[24]

Furthermore, less dramatic changes took place throughout the twentieth century in bureaucratic institutions, implying that institutional transmission did not occur deterministically. Brazil, along with Argentina and Chile embarked on s et of civil service reforms that sought to establish a technocratic bureaucracy.(Grindle 2012, @odonnell_modernization_1973.) These states looked to their developed counterparts, emulating their trajectory by implementing civil service reforms to curb politically-motivated burea ucratic reshuffling: educational requirements for bureaucratic jobs, autonomy from politicians, a stable career service.[25] The question is why these usually executive-led reforms occurred and what motivated these political actors to do so.

Civil service reforms and the Weberian bureaucracy:

Analysis of bureaucracies in the developing world have relied extensively on Max Weber's description of bureaucracies, inspired primarily by the Prussian civil service model at the turn of the 19th century.[26] As summarized by Fukuyama (2013), a Weberian bureaucracy is characterized by a set of institutional features: meritocratic recruitment, stable career service, autonomy from political interference in its internal management. This ideal-type sets the standard by which bureaucracies in the developing and developed world are evaluated, forming the basis of Johnson's analysis of the MITI or Evan's comparative analysis of state-led development in Taiwan and Brazil.[27]

As it stands, these events are theorized based on the developed world, emphasizing the role of reformists in the Peddleton Act in the United States or Prussian reforms at the turn of the twentieth century.[28] Theoretical accounts which focus exclusively on institutionals persistence are ill-suited to explain these changes. Moreover, explicit theorization of strategic motivations of politicians and reformers to do so. When they do incorporate political actors, these accounts either

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[23] O'Donnell (1973).

[24] Grindle (2007).

[25] Geddes (1994), kohli_state-directed_2004.

[26] See (**???**).

[27] Johnson (1982), Evans (1995).

[28] For an excellent account of this civil service history, see Grindle (2012).

emphasize the role of ideologically committed leadership, as in Park Chung Hee in South Korea, or motivated reformists, as in the civil service reform movement in the United States spearheaded by Woodrow Wilson.[29]

These accounts fail, however, to take into account the new strategic environment which bind political actors in their decisions to reshape bureaucratic institutions in the developing world. Decisions about bureaucratic restructuring made under a military dictatorship, as Park Chung Hee in 1970s South Korea or Vargas in 1940s Brazil, are quite different from the ones made by democratically elected municipal mayors in Brazil, 2018 who are running for reelection. There are lessons to be drawn from history, but these must be repurposed for the current decentralized, democratic institutional setting.[30] That is the key theoretical claim I put forth. Before I articulate this theoretical model, however, I will justify further my choice of unit of analysis and how local politics and bureaucracies are structured in Brazil.

Going local:

Mayors do not govern alone. Each and every municipality in Brazil institutionalizes a strict separation of powers. Yet recent studies on local governments in Brazil often overlook this institutional feature, disregarding the fact that all municipalities are composed of both an executive and legislative branch.[31] While mayors have exclusive prerogative over the appointment of local employees and establishing a policy agenda, this does not mean that they do so in a vacuum.

The municipal chamber plays a central role in municipalities. It is responsible for oversight and vetoing the executive budget, as well as approving and ammending municipal laws. This grants the chamber and its city councillors significant power over the mayor's ability to implement their policy agenda. In order to garner legislative support, it is common for mayors to concede key cabinet positions to city councillors.[32] A set of scholars have started to analyze this tradeoff between legislative support and cabinet allocation, but to the best of my knowledge no one has analyzed this at the municipal level.[33]

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[29]For the role of Park Chung Hee, Kohli (2004). Carpenter (2001) draws on the activist networks who pushed the reformist agenda in the United States at the end of the 19th century.

[30]See Thelen (1999) for a critique of static understanding of political institutions.

[31]Most studies analyzing Brazilian governments focus exclusively at mayors. See Brollo, Forquesato, and Gozzi (2017), Brollo and Nannicini (2012), Colonnelli, Prem, and Teso (2017), Klašnja and Titiunik (2017).

[32]Interview with C.F. and F. in SP.

[33]Bautista et al. 2018

While conducting fieldwork research in Brazil, I was struck by the recurrent accounts of the important role played by local deputies (vereadores) in shaping the bureaucracy. Secretaries of education argue that deputees often demanded to nominate their own loyalists to prominent cabinet positions, with the tacit but careful approval of the mayor.[34] The degree to which mayors acquiesced to these demands was a function of how well they controlled the chamber: how many seats their coalition was able to secure in the local chamber. I find that there is wide variation in this explanatory variable.

Mayor coalition seat share
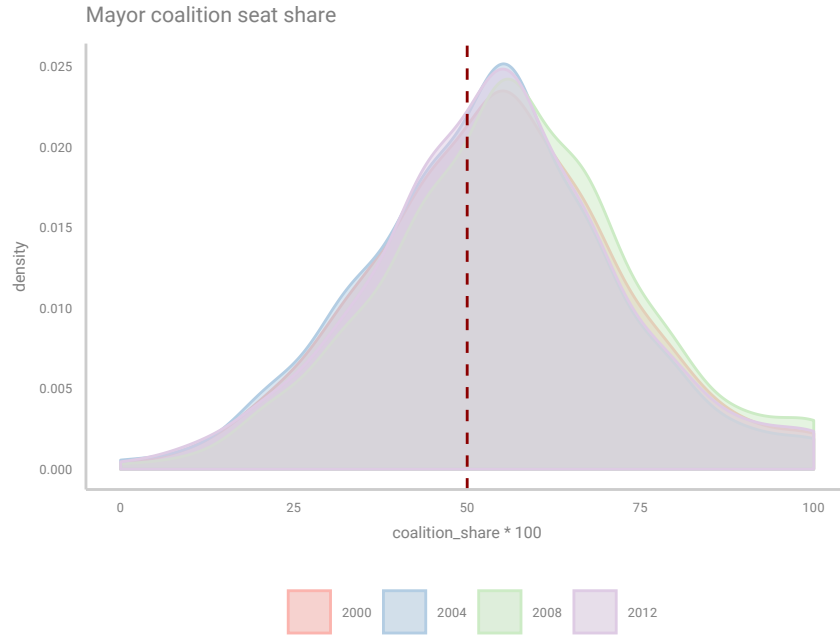
While most mayors tend to hold a majority of seats over the chamber, this is far from being the rule. Note that I am adopting an expansive view of chamber control: if the deputee's party is in the executive coalition that got elected, I count that seat as being part of the mayoral coalition share. This is based on existing literature in Brazilian political science on the politics of presidential control over the congress known as presidential coalitionism and interviews with municipal secretaries.[35] Scholars argue that part of the executive tool for building working coalitions in congress is precisely through ministerial (cabinet) allocations. I find that the same holds for local level municipalities.

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[34]Interview with F, chief of staff of a local government in SP.

[35]Pereira et al. 2016, Figueiredo and Limongi 2012, Raile et al. 2011.

The Executive's Dilemma:

I build a theoretical framework to explain variation in bureaucratic turnover.[36] A new mayor takes office and has the power to reshape the local bureaucracy. To be reelected, she has to convince the electorate that she will provide high quality public goods in her second term, and to do so requires bureaucratic coherence. However, she must also coopt the legislative opposition by giving up a share of the bureaucratic pie for patronage.[37] The model highlights the tradeoff executive politicians face between investing in state capacity and coopting the legislative opposition.

The theoretical model builds on an extensive literature in the electoral accountability literature, modeling public goods provision as an electoral game played between the voter and the politician. Starting with Barro (1973) and Ferejohn (1986), political economists have explored models incorporating electoral accountability as an incentive for shaping the behavior of elected politicians.[38] The possibility of reelection motivates them to put effort into convincing voters to reelect them. Coate and Morris (1995) and Besley (2006) incorporate voters updating Bayesian beliefs about politician types, a feature applied in my model.

I extend these analyses by adding two key elements. Instead of assuming that politicians can set the quality of public goods provision, I model it as the probabilistic outcome of an investment in bureaucratic quality. Producing better public goods (e.g. educational services) require an experienced and professional bureaucracy. Reshuffling the bureaucracy is costly due to the loss of professional expertise accumulated by the inherited staff. The other element is the presence of a legislative opposition that can, simply put, oppose the executive agenda. The executive does not always control the legislative chamber once in office, and have to coopt them into supporting their agenda.[39]

The mayor's strategy centers around a key part of her political resources: the local bureaucracy. A set of public sector jobs is available to the executive for redistribution. Jobs can be exchanged for legislative support at the federal level, and given an analogous structure at the municipal level, I model it as a

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[36]Bureaucratic turnover often stems from decisions by the executive to distribute jobs for political purposes. This is patronage, the allocation of public sector jobs due to political motivations (cooptation).

[37]This aligns closely to previous studies on the use of ministerial positions to gain support from opposition members at the federal level. See Loureiro and Abrucio (1999), Loureiro, Abrucio, and Rosa (2014), Lopez and Praça (2018).

[38]See, for instance, Ferraz and Finan (2011).

[39]Analogous to the concept of minority presidents in the literature on coalitional presidentialism. See Figueiredo and Limongi (2000).

valuable political resource.[40] When deciding how to allocate these jobs, politicians face a dilemma. The mayor can retain expertise and benefit from the electoral payoff of better public goods provision. Alternatively, she can decide to allocate bureaucratic positions to the opposition to obtain support from the opposition.[41]

This is the executive's dilemma.[42] Investing in state capacity increases the probability of being re-elected through high quality public goods provision, but this reduces the share of public sector jobs available to coopt the legislative opposition.[43]. Executives tread a fine line between meeting voter expectations on public goods provision and coopting the legislative opposition.[44] Where the mayor draws the line between cooptation and stability is ultimately defined by this trade-off.

Structure of the game:

In this section, I outline the action space, payoff structure and timing of the game. There are three actors: a mayor m, a legislative opposition o and representative median voter v.[45] The goal of the executive is to stay in office.[46] For the opposition, their payoff depends on the share of public sector jobs received. The median voter derives utility from public goods, which is produced by the municipal bureaucracy.

To make analysis tractable and concise, I introduce a set of simplifying assumptions. First, I assume that the voter is sincere, meaning that he only considers his personal utility when deciding whether to reelect the incumbent. This excludes pivotality concerns and strategic voting. Mayors are one of two types: a technocrat who cares only about improvements in state capacity, or a pragmatist willing to make political compromises. The opposition members are modeled as a unitary actor, although I assume that both their level of ideological

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[40]Similar to the federal level, municipal governments are divided into an executive and legislative branch. Mayors enjoy full discretion into how to appoint workers into the public sector and often resort to distributing these jobs to appease members of the legislature. See Power (2010) for a summary of existing literature on coalitional presidentialism.

[41]Grindle (2012).

[42]Geddes (1994).

[43]Mayors require the support of the legislative to pass bills and approve the local budget. Failing to muster a majority can hurt the executive's ability to govern.

[44]Previous studies have confirmed that voters cast their votes retrospectively, based on politician's past performance in managing the economy. See literature on retrospective voting.

[45]For clarity, I denote the mayor with a female pronoun, the opposition in plural and the voter with a male pronoun.

[46]This is a standard assumption in electoral accountability models, see Besley (2006). For a comparative politics perspective, see Geddes (1994).

fragmentation and share of seats in the legislative chamber vary, affecting their bargaining power.

The game is played in two periods. Voter v does not observe bureaucratic reshuffling executed by mayor m, nor her type λ, but observes and derives utility from the realization of public good quality ω_t. A central feature in this model is uncertainty in translating bureaucratic quality θ at time t to public goods provision ω, with high quality public services ω_h produced with probability θ. This parameter therefore captures the inverse relation between patronage and state capacity.[47]

The optimal strategy for the voter is to fire politicians when he believes that the incumbent is a bad type, after observing the quality of first period public good ω_1. For the mayor, her strategy is pinned down by the share of patronage which maximizes expected utility from holding onto office, conditional on her type and expected benefits from reelection. Mayor m has to offer public sector jobs to coopt the opposition while ensuring that the voter is satisfied enough to reelect her. The executive's dilemma is how to reconcile the incentive for reelection and the pressure imposed by the opposition.[48]

The timing of the game is:

1) Nature draws politician type λ: technocrat or not.
2) Politician observes her type and invests in bureaucratic quality θ_1.
3) Opposition sets level of support $\eta(\theta_1)$.
4) Nature realizes public good $\omega_1(\theta_1)$.
5) Voter observes ω_1 and casts vote to retain or fire the incumbent.
6) If incumbent is retained, she sets θ_2 and nature draws $\omega_2(\theta_2)$. If incumbent is deposed, a challenger takes office, sets θ_2 and the game ends.

Public goods provision and bureaucratic quality:

I model public goods quality as a random variable ω with two possible states $\omega \in \{\omega_l, \omega_h\}$, where $\omega_h > \omega_l$. The probability of a high quality public good ω_h is $\theta(\alpha, \beta)$, a functional parameter denoting the bureaucratic quality. Following Centeno, Kohli, and Yashar (2017), to avoid conceptual stretching I separate state capacity from its output. In this theoretical framework, state capacity is measured by analyzing personnel composition.[49] It depends on two variables: the level of expertise in the bureaucracy α and their degree of loyalty to the mayor β.

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[47]See Kohli (2004).
[48]Similar to what Bautista said!
[49]See Fukuyama (2013), Bersch, Praça, and Taylor (2017).

The greater the share of jobs offered to the opposition, the lower will be the quality of the local bureaucracy. This occurs through two channels: the newly appointed bureaucrats have limited work experience (lower α) and are not loyal to the mayor (lower β). Staff reshuffling, when done to placate the opposition, hurts local state capacity. This is the cost for the mayor of engaging in cooptation. The latter weakens the local government's ability to produce high quality public goods, ultimately hurting her mayor's electoral prospects. Unless she is a technocrat, a mayor cannot govern without coopting the opposition.

The mayor:

The key feature of the model is the relationship between bureaucratic quality and the political game played between mayor, legislative opposition and the voter. I build on an extensive literature in electoral accountability models outlining how democratic electoral institutions shape politician's behavior, extending the baseline set-up beyond public goods provision to investments in bureaucratic quality.[50] In the developing world, politicians decide whether or not to invest in state capacity to produce public goods.

This decision-making process is the focus of my theoretical model. The mayor's strategy space is the bureaucratic quality parameter $\theta\,(\alpha, \beta)$. As θ increases - the mayor allocates a smaller proportion of jobs for patronage - the legislative opposition decreases their support for the executive. Investing in bureaucratic quality is thus politically costly. Let's denote that cost as $\eta(\theta, s)$, an increasing function of θ and $s \in (0, 1]$, the share of legislative seats controlled by the opposition.[51]

I assume heterogeneity within potential mayors. Adapting Gailmard and Patty (2007), there are two types of mayors: technocrats and pragmatists. Technocrats are committed to improving local state capacity, refusing to compromise with the opposition.[52] Pragmatists, on the other hand, care about public goods but are willing to concede posts to the opposition. This is captured by the parameter $\lambda \in \{0, 1\}$ which moderates the political cost $\eta(\theta, s)$.

A technocrat is immune to the political cost of investing in state capacity, i.e. $\lambda = 0$, while a pragmatist has λ set to 1. The probability of a politician

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[50]Sieg and Yoon (2017), Ashworth and Bueno de Mesquita (2008)

[51]I assume that it is continuous, strictly convex, differentiable, and monotonically increasing in its two arguments.

[52]We can think of these technocrats as ideologically committed to improving local governments to promote social welfare.

being a technocrat is common knowledge: $\xi \in [0, 1]$. Conversely, the probability of her being a pragmatist is simply $1 - \xi$. Both the technocrat and pragmatist derive utility from public goods provision ω, where for simplicity $u(\omega_l) = 0$ and $u(\omega_h) = 1$. The expected utility of the mayor conditional on her type is:

$$Eu_m (\theta_t, s_1|\lambda) = Eu_m(\omega_1) - \lambda\eta (\theta_1, s_1) + \delta\Pr(\text{reelection}) [\psi + Eu_m(\omega_2) - (1 - \lambda)\eta (\theta_2)]$$
$$= \theta_1 - \lambda\eta (\theta_1, s_1) + \delta\Pr(\text{reelection}) [\psi + \theta_2 - \lambda\eta (\theta_2, s)]$$

The expression above formalizes the mayor's dilemma. The probability of reelection decreases with the share of jobs allocated to the opposition, however, if the mayor fails to placate them, it is increasingly costly to "govern" **(what does this mean in this context?)**. While technocrats are immune to these political pressures, pragmatists ultimately cave in. The price of compromise in a democratic setting is a reduction in state capacity, as executives are forced to allocate positions within the bureaucracy to garner support in the legislative.[53]

Solving the dilemma (compromise):

Mayors solve the the game through backward induction. Recall that technocrats are indifferent to the opposition ($\lambda = 0$), and pragmatists are not ($\lambda = 1$). If the mayor is a technocrat, she simply preserves bureaucratic integrity ($\theta_2 = 1$), the opposition gets no jobs, and the voter consumes ω_h.[54] When the politician is a pragmatist, she compromises with the legislative opposition. For simplicity, $s \in [0, 1]$, the share of legislative seats controlled by the opposition, is a scalar of θ_2 in $\eta(\theta, s_2)$. Solving for θ_2^* is simple:

$$\frac{\partial Eu_m(\theta_1, \theta_2|\lambda = 1, s_2)}{\partial \theta_2} = 0$$
$$\eta_{\theta_2}(\theta_2) = \frac{1}{s_2}$$
$$\theta_2^* = \max \left\{ \eta_{\theta_2}^{-1} \left(\frac{1}{s_2} \right), 1 \right\}$$

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[53]For a discussion of patronage in Brazilian politics, see Nunes (1997). For a historical perspective, Graham (1994).

[54]In this model, a technocrat is "above politics", a politician that strictly refuses demands for bureaucratic appointments from the legislative.

To illustrate, if we let $\eta(\theta_2) = \theta_2^2$:

$$\theta_2^* = \max\left\{\frac{1}{2s_2}, 1\right\}$$

Intuitively, the quality of the bureaucracy θ_2 is strictly decreasing in s_2, the share of seats controlled by the opposition. As the power of the opposition increases, its ability to punish the mayor (electorally?) also increases. Since s_2 is bound between 0 and 1, the pragmatic politician only chooses not to engage in patronage, maximizing bureaucratic quality, when the opposition controls no seats in the legislative. We rule this out in the model, although a exceptionally a few municipalities are controlled fully by the mayor's executive coalition.

Voter's problem:

Let v denote the median voter in the municipal electorate. Voters derive utility from the quality of public goods at time t, with a discount factor δ.

$$u_v(\omega_t) = \omega_1 + \delta\omega_2$$

Because voters cannot observe directly the type of the politician nor her hiring decisions, voters update prior beliefs about the politician's type from first period public goods output. If a voter observes a low public goods quality, he knows for sure that the incumbent is a slacker (since zealots always invest fully in meritocratic hiring), and therefore $Pr(z|\omega_L) = 0$. The interesting case is when there is a high quality output.

Let $\mu(\omega_1)$ denote voter's belief that the politician is a zealot of type z after observing the first period realization of public goods.

$$\mu(\omega_H) = Pr(z|\omega_H) = \frac{\xi}{\xi + Pr(\omega_1|s)(1-\xi)} > \xi$$

Note that for any ω_H, the probability that the incumbent is a zealot is higher than the same probability for a random challenger. As a result, whenever we observe a high quality output, the incumbent gets reelected. This simplifies our analysis. After observing the realization of public good quality ω_1, he retains the incumbent if $\omega_1 = \omega_H$, and fires her otherwise.

As a result, zealots are always retained. For slackers, the probability of re-election is simply the probability that public goods provided are of high quality.

This is just θ_1, the amount of investment in state capacity in the first period. Note that the quality of the second period bureaucracy is independent of that in the first period. This is a strong restriction that I will relax in future iterations of this project.

Investments in state capacity:

We turn to the slacker politician's problem. For the zealot mayor, the strategy is simple. Let $\sigma_i^*(\theta_1, \theta_2)$ denote type i politician's optimal strategy. σ_z^* is simply $\sigma_z^*(1, 1)$. For the slacker mayor, she maximizes her expected utility with respect to first term hiring decisions:

$$\arg\max_{\theta_1} \psi + \lambda\theta_1 + (1 - \lambda)\eta(\theta_1) + \delta\theta_1[\lambda\theta_2^* - \eta(\theta_2^*) + \psi]$$

The optimal amount of investment in state capacity in the first term is then:

$$\theta_1^* = \frac{1}{1 - \lambda}\eta'^{-1}\left[\lambda + \psi + \delta[\lambda\theta_2^* - \eta(\theta_2^*) + \psi]\right]$$

The intuition behind this result is straightforward. As politicians value the future term more, they will invest more in state capacity. This is captured by the parameter δ and ψ, the former being the discount factor and the latter, office benefits. As the level of civic-mindedness λ increases, so does θ_1^*. It is an intuitive if not puzzling result.

Discussion:

This baseline model provides some of the elements necessary for building a theory of executive investment in state capacity. It models the uncertainty faced by politicians in translating investment to electoral success. It also emphasizes the retrospective behavior by voters, who seek to learn about the type of the politician from what they observe during the first mandate and vote prospectively.

Because there is uncertainty, slacker politicians can get away with engaging in patronage. However, this is not costless. For every increase in patronage jobs, the probability of being reelected goes down. Politicians are aware of that: they invest in bureaucratic quality just enough to maximize their expected payoff, balancing out these two incentives. Since voters cannot observe the type of the politician, the best they can do is punish based on first period outcomes.

We can think of public sector jobs as a way of garnering support from coalition parties in the local legislature, a common practice in local elections in Brazil. This would directly link local state capacity to coalitional presidentialism, an interesting feature of electoral politics that could be employed at the local level. Here I would have to model explicitly the local legislature and how public sector jobs can be deployed to win support for legislation. I test this model empirically in the section below. First, I provide some stylized facts about the structure of cabinet positions at the municipal level.

Cabinet share:

Cabinet members are responsible for administering the local executive branches. This includes key functions such as education, health, transportation, among others. The structure of cabinets vary according to the complexity of municipal administrations, often correlated with the population size of the municipality. These are positions of trust, and the mayor has full discretion in appointing and firing these cabinet members. Nevertheless, I find that reshuffling in cabinet positions is often done with restraint, with a significant share of cabinet members being transferred from previous administrations.

Extant literature on nomination of local cabinets is limited. Apart from anecdotal evidence on nomination practices, scholars in Brazil have not looked attentively at how municipal cabinet positions are filled.[55] We know little to nothing of what proportion of these bureaucrats are being hired strictly through political nomination, and how the political calculus behind their nomination takes place.

Scholars often assume that with each new administration, there is a complete overhaul of the upper bureaucracy.[56] Especially in local governments with no obligation to respect civil service laws, it would not be surprising to observe politicians appoint loyalists and eradicate those left over from the previous administration.[57] There are, however, costs to cabinet reshuffling: an inexperienced cabinet member will have a difficult time governing.

Leveraging a unique dataset of local bureaucrats in Brazil, I find that cabinet reshuffling is circumscribed to a fraction of the available positions. Only a small subset of the cabinet is renewed with each mandate. I shed light on temporal dynamics, looking at the proportion of newly hired cabinet positions annually.

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[55]Interview with Glauco Peres da Silva, professor at Universidade de São Paulo.
[56]Pires et al. 2018, Grindle 2007.
[57]Brollo et al. 2018, Lewis 2008, Lopez et al. 2015.

Contrary to what I expected and scholars have argued, the proportion of cabinet members who are appointed for their first time is quite small. Unsurprisingly, there are spikes in cabinet hiring in the first year of mandate, yet this is limited to around a third of available seats.

Proportion of newly-hired cabinet members
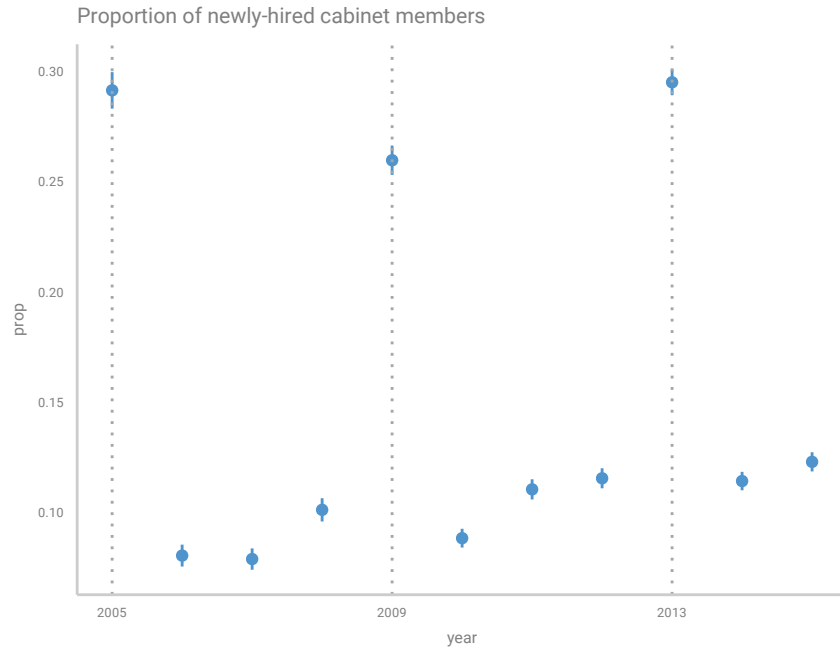
The proportion of cabinet members who are appointed for their first job is small. It ranges from 25-30 percent of global averages per annum. Breaking down our data into first-term and reelected mayors, there are clear differences between the two. Mayors elected for the first time tend to hire far more new cabinet members than those who are reelected. Even then, on average only ~35 percent of cabinet positions are occupied for the first time.

I now break down hiring of cabinet members by whether or not there is a party or coalition turnover. Intuitively, if it is the same party that remains in power or if members of the coalition accede to executive power. Let's check if that is the case, first analyzing party switches. I exclude from sample mayors who are reelected, where party continuity is trivial. Individual candidates may not run for office again as a lameduck, but their party can field another candidate.

Proportion of new hires: party turnover

Proportion of career bureaucrats: party turnover
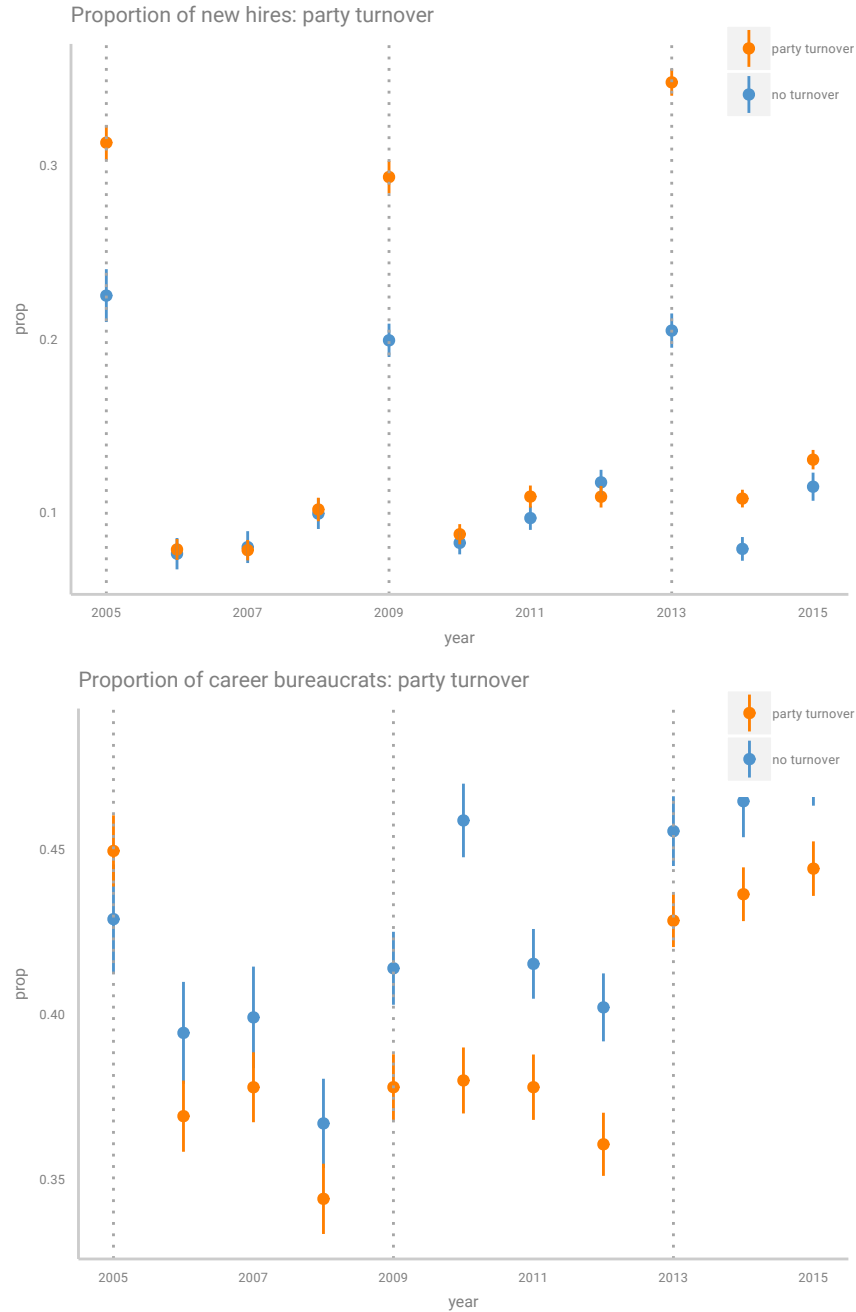
Remarkably, we find that even when the mayor is **not** reelected, if the same party remains in power, there is significantly less rotation at the top level. This is an interesting finding, that sheds doubt on standard accounts of the weakness of Brazilian parties in constraining executive behavior by individual members.[58]

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[58]Klašnja and Titiunik (2017).

Also, note that the proportion of career bureaucrats in the case of party continuity increases dramatically when the same party remains in power.

Career bureaucrats:

Let's look at the proportion of cabinet members who are permanent employees. These are career servants in the municipal bureaucracy, who have risen up the ranks and are appointed to cabinet positions. Contrary to what I expected, there is a large proportion of such cabinet members. The graph below illustrates the turnover (proportion of new hires) across each subgroup: temporary and career servants. Far more cabinet members are replaced when offered a temporary contract, as would be expected.

Share of career bureaucrats in cabinet
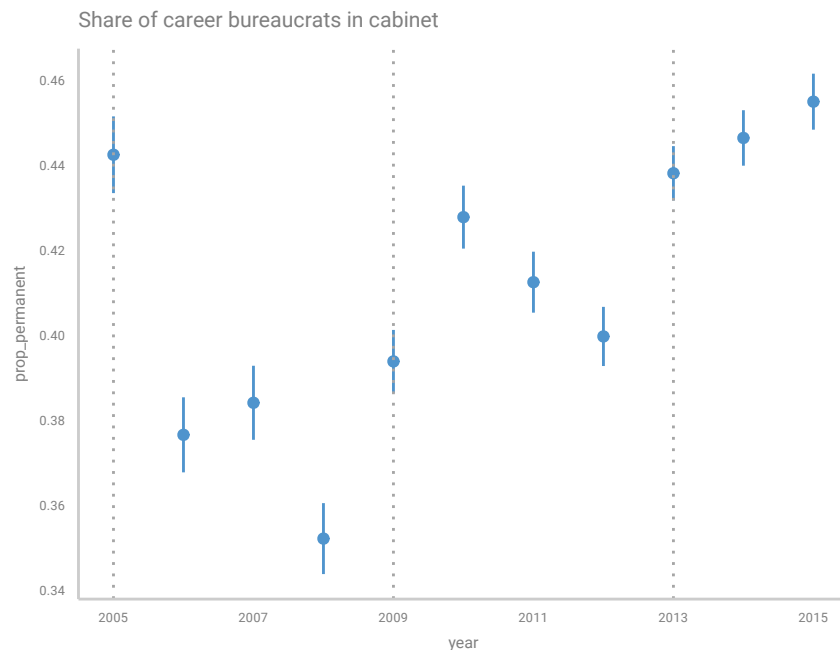
Growing use of career offers in contracts. Ranging from 44% in 2005 to roughly 46% in 2015. Now, I wonder why is it the case that some of these secretaries actually remain with permanent linkages to the local bureaucracy. Is it the case that mayors with stronger control of the legislative hire more career servants? This may very well be the case of the vertical up and down that the coordinators of the PAIC in Quixelô had mentioned to me. This would be fascinating, because in this case we would actually see an internal appointment of secretaries.

Empirical testing:

Scholars often assume that with each new administration, there should be a complete overhaul of the upper bureaucracy.[59] Especially in local governments with no obligation to respect civil service laws, one would expect that newly elected politicians appoint loyalists and eradicate those left over from the previous administration.[60] As the graphs above seem to demonstrate, this is far from a universal rule.

The question is what helps predict the incidence of new hiring and firing. Let's take a closer look, at first naively through the use of logistic regressions using micro-level data. Here, I regress the occurrence of cabinet new hire (whether it is an individual $Y_i = 1$ or a municipal proportion $\bar{y}$) on the share of legislative seats held by the mayoral coalition.
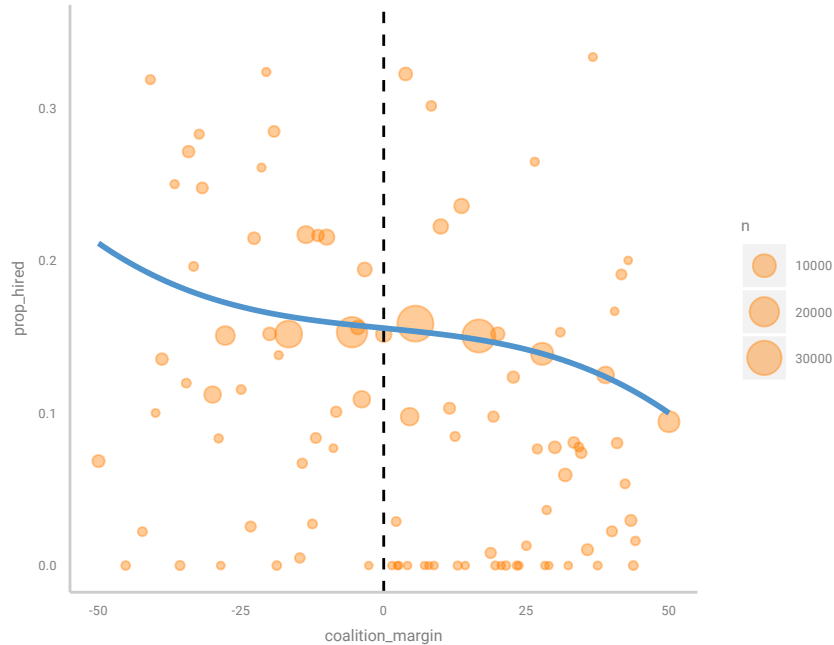
There are two specifications: a naive baseline with only one predictor and a fully specificied model with additional controls. Both are clustered at the year and municipal level. Ths results below are from a logistic regression. This is a simple exercise, but since the level of observation is the individual hirings and there is a clearly hierarchical structure, multi-level modelling seems to be the natural next step to take. I do so below when running the robustness checks.
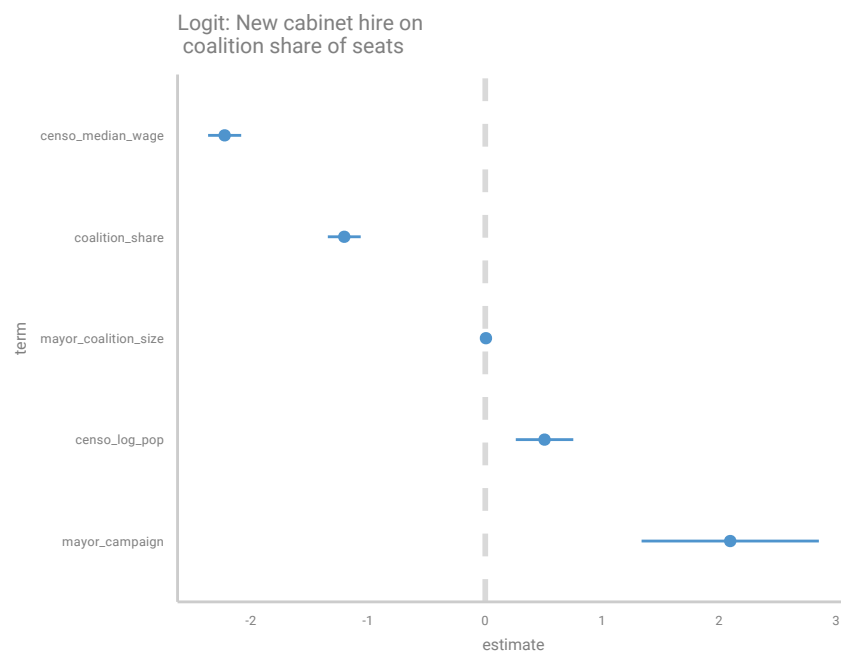
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[59]Pires et al. 2018, Grindle 2007.

[60]Brollo et al. 2018, Lewis 2008, Lopez et al. 2015.

`## $logit_basic`

Logit: New cabinet hire on
coalition share of seats

term

coalition_share

-1.0   -0.5   0.0

estimate

`##`
`## $logit_full`

Logit: New cabinet hire on
coalition share of seats

censo_median_wage

coalition_share

term   mayor_coalition_size

censo_log_pop

mayor_campaign

-2   -1   0   1   2   3

estimate
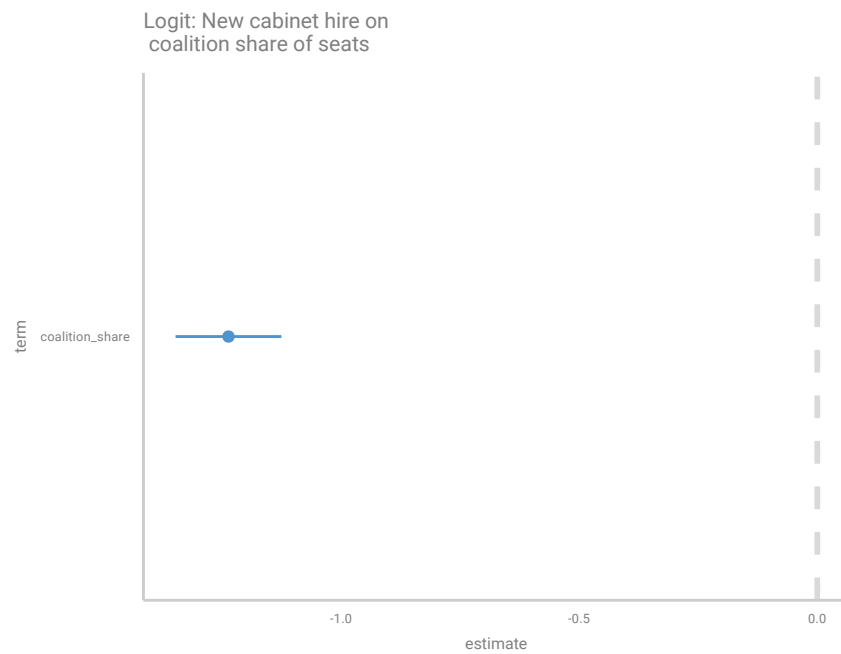
These results point to the importance of executive-legislative relations in the
appointment of executive positions. Complementing longstanding debates on the

20

relevance of poverty to shape politicians' distribution of patronage, these models point out that local executives behave in accordance with control of the chamber.[61] The coefficient for the share of coalition seats in the legislative chamber is negative and significant: the more seats the executive controls, the less new hires we see in the cabinet.

These new hires actually can be interpreted as a form of executive "cooptation", but as it stands it is only a suggestive result. Interviews with current and former secretaries confirm that the forging of alliances at the chamber level is conditional on the concession of cabinet positions or, more often, at the directorate level. I now proceed to test a fixed effects model, with the municipality as the unit of analysis. I also run a hierarchical linear model.
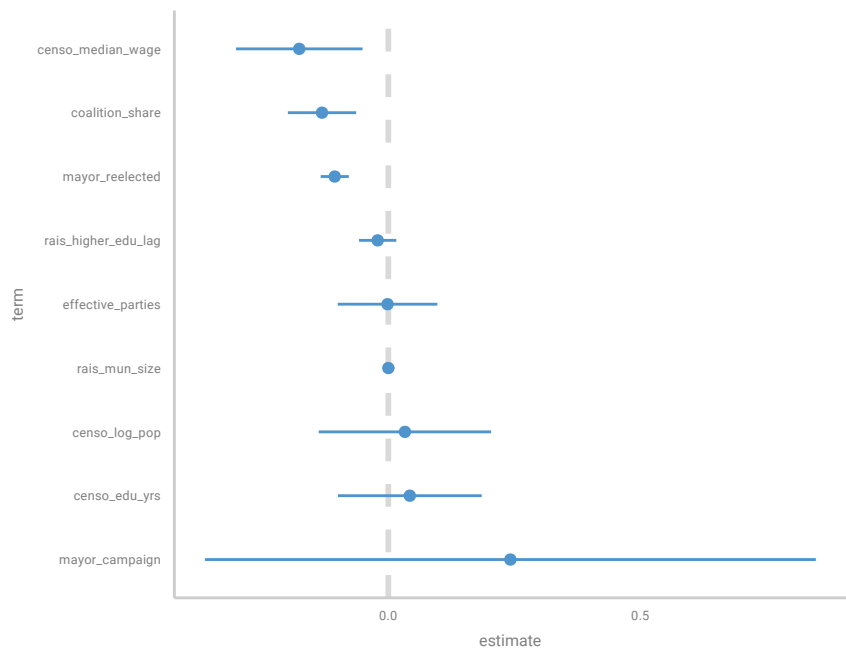
[61]I operationalize poverty as the median municipal wage in my model.
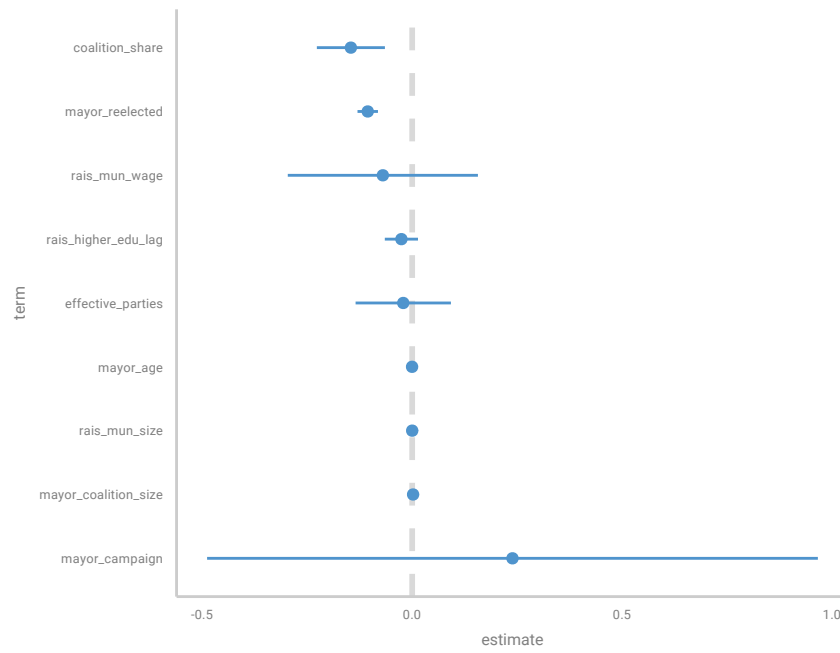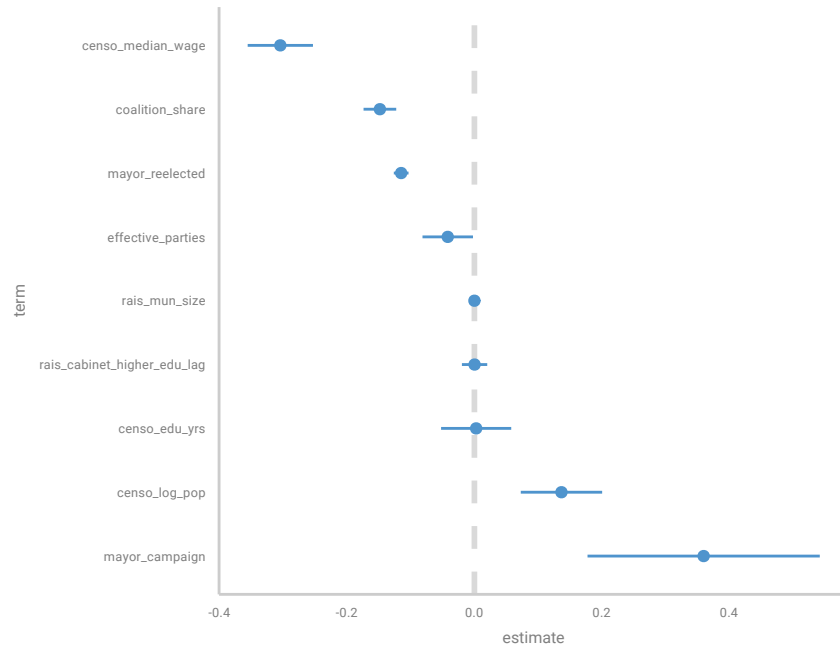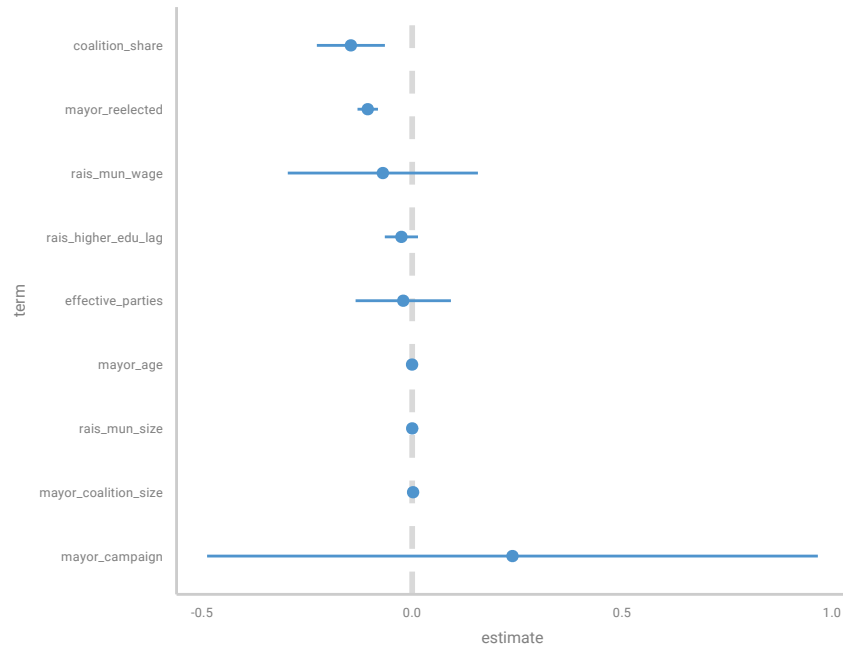
The results are robust to the above specifications. Error terms are clustered by year and municipality, with municipal and year fixed effects. This limits the set of predictors available due to time invariance of municipal level characteristics (using 2000 demographic census data).

Having tentatively established the importance of controlling the chamber in hiring of cabinet members, let's look at firing.
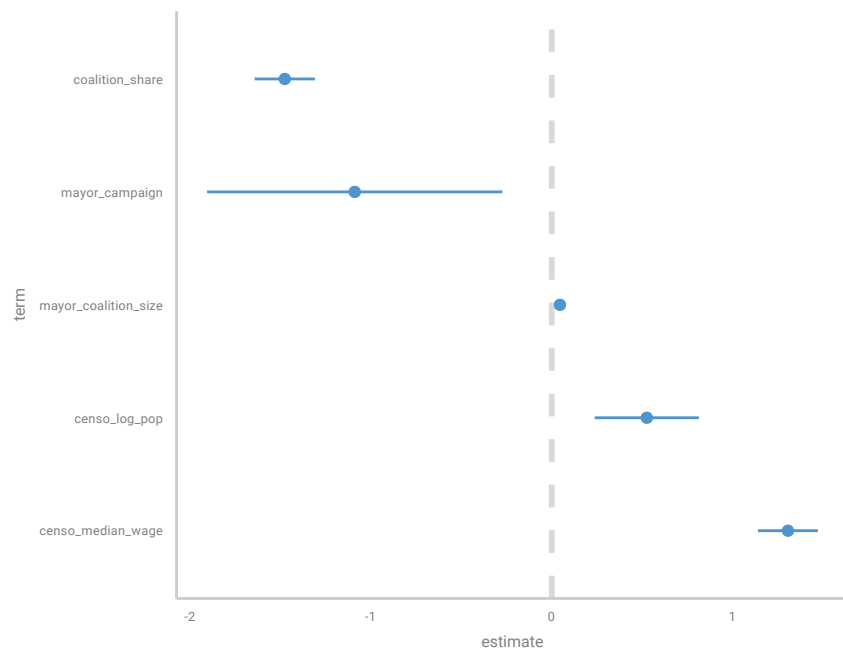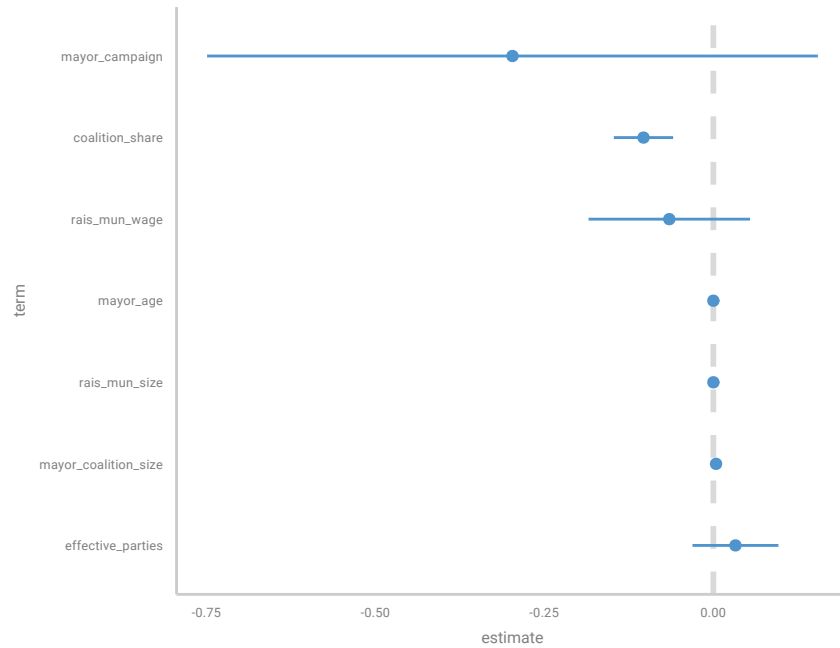
There is supporting evidence that firing rates change as a result of control of the chamber in the base specification. Including the full set of control variables indicate that firing rates do decrease significantly as the executive coalition takes control of the legislative chamber. Finally, let's look at career servant hires. Do executive-legislative bargaining affect this as well?
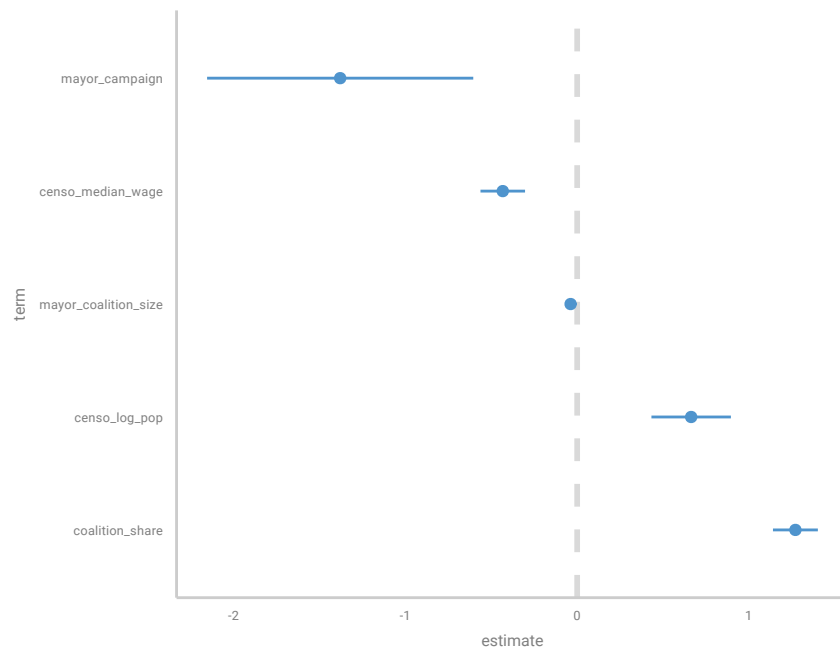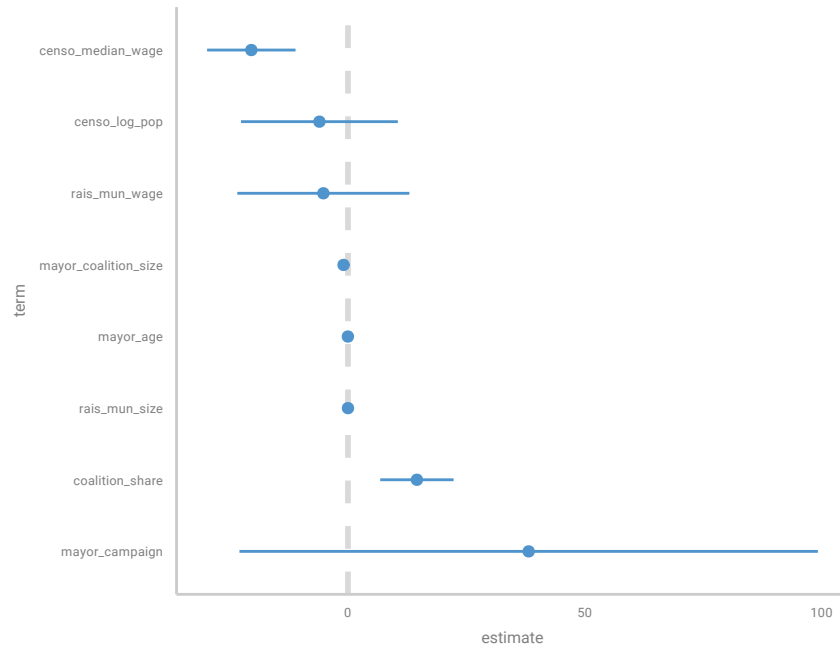
There is evidence that control of the chamber translates to a greater share of career servants being appointed to cabinet positions. When run at the micro-level, there is some evidence that the control of the chamber translates into a larger probability of cabinet members being career servants. When aggregated at the municipal level, these results remain, but I really need some exogenous shock to the coalition share. How can I do this? Or just go purely structural.

Robustness checks:

It is important to note that the unit of observation here are individual employees. To put it in the causal inference framework, the treatment is whether or not the mayor controls the chamber of vereadores, and the outcome of interest is whether the employee is a new hire.

It is not fully clear to me whether an RDD is applicable to this context, but looking at previous literature (Brollo et al. 2018 and Collanesi et al. 2017), this has been done before. Unless there are major issues with applicability of this estimation method, I see it go through.

I would like to test some additional model specifications. In particular, it is clear that there is a hierarchical structure. Let's run a multi-level model to see if the results still hold in this particular specification.

```
## $coalition_basic
```
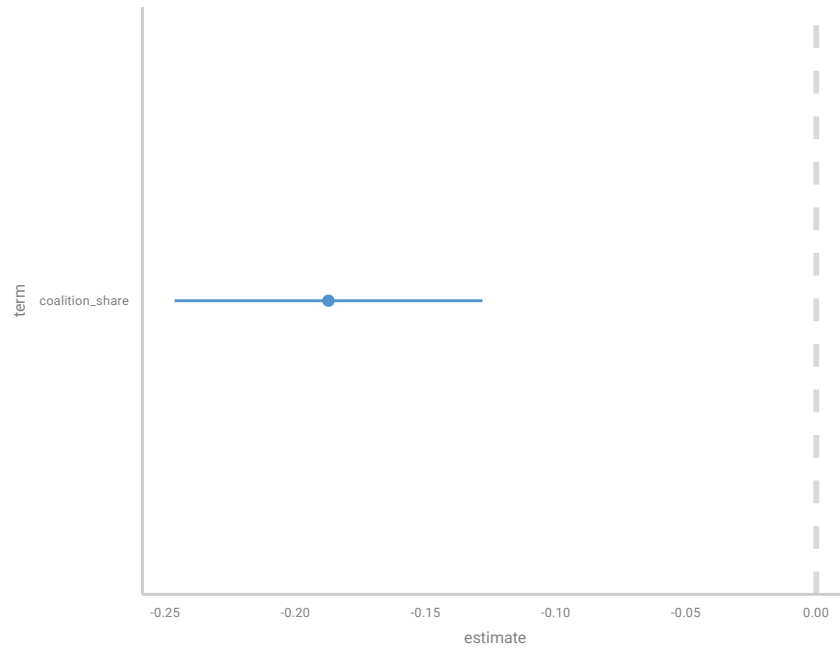
```
##
## $coalition_full
```
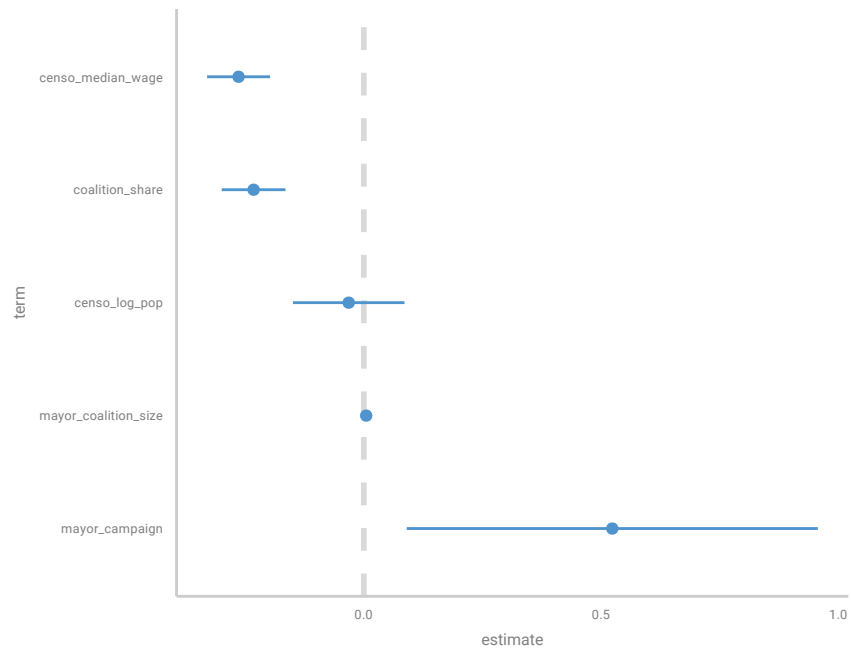

We see a similar effect for the hierarchical model specification. This adds confidence to the robustness of our results.

Conclusion:

This paper outlines my preliminary findings with regards to coalitional dynamics in determining cabinet positions. I have constructed a game theoretical model that outlines the mechanism behind the decision-making process of the executive, which I include as an appendix. The intuition behind the model is that the executive (mayor) and the legislative face different constraints. The mayor gets reelected through good performance (in a probabilistic sense), while for the opposition legislator the primary goal is to get their party loyalists into the executive branch and execute their agenda.

The goal of this document was to both critique and expand existing literature on public sector employment in the developing world. The problem with extant debates on patronage is that they overemphasize the link between politician and voters, while the most important link seems to be that between politicians themselves. The dearth of institutional awareness in previous studies on local governments in Brazil is shocking and to be quite honest, should not be accepted as a reasonable description of what happens in these municipalities.

Part of the contribution in this analysis is arguing that it is not simply because we live in a world where civil service laws are absent that executive leaders will dismantle bureaucracies completely. They will do so within bounds, and the extent to which they do so depends to a large degree on the amount of control they exert over the chamber. If they lack the power to impose their preferences over the legislative, and in particular when faced with a strong opposition, they will be forced to concede more jobs in order to be able to govern in the first place.

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