

ARTICLE

Political Support for Sale: Cabinet Appointments and Public Expenditures in Brazil

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In multiparty presidential regimes, the head of the Executive manages a heterogeneous political base through a series of instruments. Among these tools, the use of patronage in appointments for governmental positions and the deployment of pork barrel to please congressional representatives have been highlighted by the literature as the glue that holds together multiparty coalitions. However, current studies neglect the role of politicians as active actors in multiparty presidential regimes in channeling resources to their constituencies and parties when holding a cabinet position. This paper contributes to the literature by merging these two tools of coalition maintenance. We analyze a complimentary strategy that benefits party leaders in the coalition by studying the relation of top-level cabinet appointments and grant transfers to subnational governments. Using data from Brazil, a paradigmatic case of multiparty presidential regime, we intend to answer the following question: Are ministries in Brazil being used to please ministers' constituency and party allies? Using social networking analysis and econometrics for the period between 2011 and 2014, we provide evidence that ministers use their position to transfer funding to districts governed by fellow party members and not to their own political strongholds following a partisan pattern instead of a personal one.

Keywords: Executive cabinet; Brazil; unrestricted expenses; patterns of expenditure; State-level analysis.

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Distribution of governmental jobs and monetary resources to fund pet projects for a politician's electoral district are the main components of the glue that holds together heterogeneous coalitions that characterize many multiparty presidential regimes. In this system, the Executive can build coalitions with parties of diverse ideological preferences through the selective deployment of governmental resources to please politicians who otherwise would be on the fence or in the opposition during key votes in Congress.

At the extremes, there are two ways to manage such coalitions: case-by-case negotiations with individual politicians, or commitment mechanisms that guarantee the political support of a wholesale group, such as the unified vote of a party. In the former, coalition management relies on an 'ad hoc' negotiation with individual politicians every time that the government needs a favorable vote by funding very specific projects or appointing political supporters on a temporary basis. While this atomized 'quid pro quo' is conceivable, this strategy has obvious problems. Frequent negotiations increase transaction costs and uncertainty while high bureaucratic turnover decreases state capacity to conduct priority programs (GEDDES, 1994). The appointment of a party representative to the cabinet can solve this issue by signaling a more permanent arrangement of the distribution of state largesse to party members in exchange for their political support. It is thus a type of commitment mechanism to accommodate the political elite (ARRIOLA, 2009).

This solution comes with potential trade-offs. While cabinet appointments solve the issue of frequent specific negotiations, it introduces a principal-agent problem: ministers who represent a new party in a coalition are partly autonomous to follow their own priority agenda or their party agenda and allocate governmental resources that depend almost uniquely on their will. If this is so, then the appointment of new parties to the cabinet and even the replacement of the party representative in a ministry already headed by the same party in the ruling coalition should alter the pattern of resource allocation in the country. In other words, one would expect appointments to lead to observable changes in the geographical allocation of governmental programs and subject public expenditures to intra-party preferences. Alternatively, in an institutionalized bureaucratic apparatus, little would be noticed with the replacement of a minister. In this case, the pattern of expenditures would follow clearly defined laws (such as basic eligibility criteria) and the

implementation of policies would be conducted by tenured civil servants with few incentives to react to short-term political changes. A politician appointed to a cabinet position would still benefit from name recognition, prestige – ego rents or the spoils of office – remuneration (MESSNER and POLBORN, 2004), and influence in determining long-term policymaking. However, we would not observe short-term fluctuation in resource allocation by the ministry.

Brazil features both the use of cabinet appointments as a tool to attract new parties to the ruling coalition as well as variation in the party identity occupying the different ministries over time. This was the case with President Dilma Rousseff. Her 2014 cabinet was composed of thirty-nine ministries, the majority of each a legacy of her political patron, Lula da Silva, who greatly used cabinet appointments to expand his political support in the Congress. Despite inheriting an already large cabinet, in her first tenure (2011-2014), President Rousseff created new positions such as the Secretariat of Small and Medium Enterprises, used to accommodate the Social Democratic Party (PSD), a party then recently created that joined the governing coalition. Similarly, she shuffled other positions to reflect the changing distribution of power in Congress. Therefore, Rousseff's first tenure shows the deployment of this strategy to manage a coalition, while it may also provide evidence of the limits of it, justifying our empirical focus on this period.

According to the multiparty presidential regime literature, cabinet appointment is one of the most important coalition management tools available to minority presidents. Despite this, it is not clear why parties belonging to the ruling coalition consider it as a valuable asset. Based on this the main research question we intend to answer in this paper is: are ministries in Brazil being used for the enhancement of political support of ministers and their party allies? We show that ministers sign more contracts with government entities located in states governed by members of their party, and that there is no evidence that ministers prioritize their geographical constituencies. This indicates that cabinet positions serve for partisan purposes instead of personal ones.

Our main contribution to the literature is the innovative view of cabinet appointment and pork barrel. Based on the principal-agent framework, we integrate two concepts largely studied individually into a single strategy performed by political actors. Also, another contribution is the extensive visual analysis of cash transfers in

Brazilian ministries. Furthermore, we contribute to the literature on subnational politics in Brazil focused on a state-level analysis since the lion's share of studies nowadays focuses on municipalities. Finally, this research contributes to the scarce literature published about Dilma Rousseff's presidency¹.

This paper is organized as follows. In addition to this introduction, the next section reviews the literature on pork spending and cabinet appointments in Brazil and other countries. Following this, we introduce our theoretical assumptions based on agency theory and the concepts of incomplete contracts and strict rules. Next, we describe the data used and provide more background information on parties and cabinet appointments in Brazil. This is followed by social network and econometric analyses, and the testing of hypotheses. Finally, the last section discusses the results and concludes.

The role played by pork barrel politics and cabinet appointments

The practice of pork barrel has been broadly studied in the political science literature using the behavior of members of Congress as a focal point. It is usually considered that representatives make use of discretionary money to promote their image and power in some political areas under their domain – normally their political district. Districts in Brazil are large; their magnitude varies between eight and seventy. Informally, electoral districts can have size limits and usually have a strong politician who is associated with them. In Brazil, many studies have dealt with this phenomenon, but all of them focus on the legislative arena as a tool available for presidents to coordinate their legislative coalitions as synthesized in Mauerberg et al. (2015).

Ames (1995) explained the spatial patterns of the 1990 Brazilian House elections and noted that pork was largely used in order to help candidates in their safe areas of political activity. During the 1990s, pork barrel was a more powerful tool to get votes than obtaining good performance in standard legislative activities, such as proposition of bills, oversight of the Executive body, and other indicators. Even when members of Congress engaged in national-level activities, they were driven by the ambition to receive more resources for pork (PEREIRA and MUELLER, 2003; PEREIRA

¹In relation to this literature, we can mention Darrieux (2019), Batista and Lopez (2020), and Tokumoto et al. (2021). None of these dealt exclusively with Rousseff's presidential terms.

and RENNÓ, 2003, 2001). Another clear pattern observed in Brazil is that members of Congress receiving larger amounts of resources from the Executive usually return the favor by supporting the Executive's bills on the House. This is worth noting because the money spent in the funds allocated by members of Congress – called 'emenda parlamentar' or parliamentary amendments – represented less than one percent of the total federal budget. In other words, they were a low-cost instrument for obtaining Congressional support (PEREIRA and MUELLER, 2004, 2002). In a similar manner, Brollo and Nannicini (2012) study the opportunistic transfers of funds to mayors aligned to the governing coalition who faced close elections. They document that the federal government reduces transfers of infrastructural projects for municipalities governed by mayors from opposition parties, thus helping candidates from the ruling coalition. Using a regression discontinuity design, they focus on close elections and the dichotomy of being a mayor from a party in the opposition or in the governing coalition, without considering further the role of ministers and their political strongholds in resource allocation.

Going beyond the saturated literature on pork barrel and its impact on the approval of the president's legislative agenda, a recent strand of the pork barrel literature in Brazil has been focusing on its policy effects. Bertholini et al., (2018) find that this kind of cash transfers to municipalities leads to positive impacts on improving local level development only at the time of the cash transfer; but the effects tend to vanish over time. In an analysis trying to discover patterns of monetary resource allocation in a major Brazilian infrastructure policy (Programa de Aceleração do Crescimento – PAC), Burrier (2018) found evidence that beyond municipal bureaucratic capacity, political criteria was also observed in program disbursements following a pork barrel logic of implementation. Another contribution is offered by Boas et al. (2014) who show that candidates from the Workers Party (PT) boost investments at the local level by contracting early campaign donor firms.

Another branch of studies about Brazilian politics is the study of cabinets and their importance for a reasonable level of governability. For Raile et al. (2011), cabinet formation is an instrument of coalition building. This is in line with Figueiredo et al. (2010) who state that Latin American Presidents without electoral majorities must rely on this tool to build their term coalition. Different scenarios create different kinds of cabinets: legislative fragmentation and party indiscipline lead to coalitional cabinets,

and the president's strong legislative powers give rise to ones based on cooptation. A pattern observed is that legislative discipline bears a direct relationship to the amount of jobs offered to political appointees and the proportionality between the number of seats a party holds inside the House and the number of ministries it gets in the cabinet. Frequently, members of Congress are appointed as ministers in order to settle disputes and please party delegations inside the House. A number of studies show that former party leaders in the Congress have a higher chance of becoming ministers, that is, ministerial positions in Brazil are primarily offered to party loyalists who have exercised leadership positions rather than newcomers or long-time supporters who have never had a leading role (AMORIM NETO, 2002, 2000, 1994; AMORIM NETO and SANTOS, 2001; AMORIM NETO and TAFNER, 2002; AMORIM NETO et al., 2003; FIGUEIREDO, 2007; INÁCIO, 2013).

More recent studies have focused on other characteristics of the Brazilian cabinet. Mauerberg and Pereira (2020) carried out a deep study on the specificities of each ministry challenging the early concept of coalescence developed by Amorim Neto (2000). In their study each ministry is considered as different from one another, thus having a different value for allied parties that could control it. Based on a large dataset composed of budget, normative, network, and patronage capacities of Brazilian ministries and based on an elite survey conducted with House stalwarts in Brazil, they developed a refined measure of cabinet coalescence that revealed itself as a better measure to assess cabinet coalescence and legislative discipline of allied parties. Studying the patterns of ministerial endorsements of executive bills in Brazil, Gaylor and Rennó (2015) discovered that ideology is a major predictor of this when ideological proximity between the president and the minister leads them both to share policy-making responsibilities. Finally, in an analysis focusing only on foreign ministers, Amorim Neto and Malamud (2019) found out that the policy-making capacity of these ministers is aligned to the professionalization of the diplomatic corps, the institutional attributions of the ministry, and the degree of presidential delegation powers.

While we believe that our study is the first about Brazilian politics dealing with the practice of pork barrel by ministers, this practice has been studied in other countries and regions, including North America, Europe, and Africa.

The field of American politics has a long tradition of pork barrel studies. One main strand of this literature has focused on how, in the United States, the ideological distance between a senator and a head of an Executive department is negatively associated with the amount of pork barrel received. This finding led to a conclusion that government agencies have freedom of choice to select to whom they will deliver more pork. This finding is also corroborated by the absence of a statistical significance for the relationship between the ideological distance between the president and a senator and the amount received for pork by that senator. Usually, the ideological distance between the president and a department head shrinks when oversight committee members tend to give their support to the former and increases when a secretary's tenure in office also increases. The same branch of research concluded that the discretionary spending pattern increases when the president and the agency have the same policy goals; it is equally higher when there are less policy conflicts among the agency and key members of congress than between the department and the head of the executive (BERTELLI, 2012; BERTELLI and GROSE, 2009, 2007).

Mebane and Wawro (1993) pivot the focus of pork barrel politics from Congress to the American president. They show that in less complex kinds of spending, the president himself implements the policy at a local level with the aim of being recognized by his constituency. In more complex policy programs, he needs the help of local elites working on his behalf, gathering the constituency around his name. In the same way, Kang (2018) found out that in polarized systems, presidents allocate monetary resources to swing voters within competitive states, but only in the years when they seek reelection.

Anagnoson (1982) rejects the hypothesis that government agencies are used for political purposes during elections in the US. His work claims that processing time and announcements of policies were observable with a political bias during electoral races, but they were announced anyway, giving some evidence towards a partial political insulation of executive agencies. Sciara (2012) states that executive agencies have taken little action over earmarked transportation projects coming from Capitol Hill. On the other hand, also analyzing the US and, to some extent, contrary to the previous explanation, Levitt and Snyder (1995) show evidence of a party pattern

in government spending. This pattern is stronger for Democratic presidents and districts when compared to Republican ones².

Using data from Canada, Milligan and Smart (2005) look at the relations between the executive and local constituencies and discover that districts where some cabinet members had their political bases received more money from executive development programs. In addition, the amount of money received by home areas of prominent politicians belonging to the ruling party was as sizable as the money received by strongholds of ordinary members of parliament who also belonged to that party (MILLIGAN and SMART, 2005). Also in Canada, Mehiriz and Marceau (2013) showed that beyond following a partisan pattern, intergovernmental fund transfers are directed by the federal government to municipalities considered as political strongholds of ministers who seek election.

Analyzing Portugal, Veiga and Veiga (2013) found evidence that the central government transfers cash funds mainly in electoral years to municipalities in which the government faces the risk of losing support. Bloom and Petrova (2013) found evidence that even the European Commission followed a partisan pattern while distributing resources through the European Regional Development Fund to eastern countries like Bulgaria and Latvia. Budge and Laver (1986) argue that office-seeker European parties must be differentiated from policy-seeker ones. In the first case, all ministries must be considered as equals, because all of them have the same voting rights and weight at cabinet meetings. However, if a party is interested in policy activities, all ministries must be weighted with different criteria. This statement directly reflects our main hypothesis, but with one difference: like the above cited authors, and also like Mauerberg and Pereira (2020), we share the view that ministries do have differences among them, with some being more desirable than others, but we still consider that even the ministries with the weakest policy implementation capacities are used to increase the future electoral competitiveness of the party which is responsible for appointing their heads.

Studies in developing countries also highlight political patterns of public revenue allocation. Simpser et al. (2016), using data from municipalities in Mexico, show that mayors tend to politicize social spending. Besides the increase in these

²For a complete overview of the American presidency and pork barrel politics, see Hudak (2014).

disbursements during electoral cycles, and the fact that they do not adjust less visible budget items when confronted with some sort of trade-off, these authors show that mayors tend to spend more on social projects when their parties match the governor's party.

Studying forty African countries, Arriola (2009) shows a positive relationship between size of the cabinet and a lower probability of being victim of a coup. He uses cabinet appointment as a proxy for changes in the size of the patronage network managed by the country's ruler. His econometric results show that the appointment of one additional minister to a cabinet decreases the chance of a coup more than a one percentage-point increase in the gross domestic product (GDP). He explains the finding by conceptualizing cabinet appointments as a credible commitment of the ruler to redistribute patronage to more political elites, thus reducing their incentive to organize to overthrow the current government.

A principal-agent theory about cabinet appointments and pork barrel in Brazil

While Arriola's study (2009) shows an extreme case, where cabinet appointments can be crucial for regime survival, the mechanism of sharing political power and resources in order to get political support may also be common to consolidated democracies. However, the magnitude probably varies in some settings, patronage may be determinant for political support while in others policy preference alignment may be more important. Brazil is an interesting case of a democratic country that used to be known for its clientelistic politics but which has been adopting more programmatic policies, such as the conditional cash transfer program 'Bolsa-Família' (HAGOPIAN, GERVASONI, and MORAES, 2009; SUGIYAMA and WUNTER, 2013; TAYLOR-ROBINSON, 2010). This work contributes to this literature by analyzing how ministers implement public policy with discretionary patterns of implementation.

We draw from agency theory to build our hypotheses. According to this framework, widely used in economics and related fields, including law and political science, a principal delegates powers to an agent due to the impossibility of carrying out a given activity. Shepsle (2010) uses the framework to explain delegation and monitoring movements in politics. The idea is that agents (in our case, ministers appointed to the position by a particular political party at the request of the President

of the Republic) can extract political returns from the position they occupy by using the structure of their ministry, such as discretionary transfers. For instance, a minister could extract personal political benefits by allocating monetary resources for a given location where they expect to be rewarded with votes in a future election. In this scenario, the principal (the party that controls a particular ministry) will seek to limit the agent's performance through rules so that the agent will act towards the principal's good, and not their own personal benefit.

Even with the imposition of strict rules, the concept of incomplete contracts (or agreements)³ can arise, causing agents to act in a personalistic way in their positions (HAGEN, 2008; PERSSON et al., 1997; PERSSON and TABELLINI, 2004, 2000; SEABRIGHT, 1996). However, ministers with a political profile acting as more loyal agents are preferred over other agents by parties when there is uncertainty about social preferences and flexibility is highly valued (ALESINA and TABELLINI, 2008). In such a scenario, ministers (agents) have two possibilities of action.

The first is to fulfill the agreement with the principal, acting with loyalty to his/her party, allocating resources to locations controlled by party colleagues. This possibility leads us to the first hypothesis of this research:

Hypothesis One (H1): Ministers are more likely to transfer funds to states governed by their own party.

Alternatively, a minister can take advantage of the incompleteness of agreements with their party by exploiting loopholes and, in practice, ignoring the costs of breaking a promise. This would occur if a minister appointed as a party representative acts in an individualistic way by allocating large sums of resources to the geographical region where their constituency is. Thus, our second hypothesis is:

Hypothesis Two (H2): Ministers are more likely to transfer funds to their own geographical constituency.

Descriptive analysis

This section describes the data collected for this project and presents a descriptive analysis of it. We built our dataset with information about all the ministers

³The term contract defines an agreement between a principal and an agent and not necessarily a formal written agreement.

who served during President Rousseff's first term (2011–2014). We gathered the name of the ministers, their period as head of a cabinet position, the name of the ministry they were in charge of, their political party, and the name of the state where they built their political career. We complemented this information with other sources of data, such as the political party governing Brazilian states, the share of votes Mrs. Rousseff received in the 2010 general elections in each state, a set of socioeconomic controls, and the value of each signed and executed contract with unrestricted expenses⁴.

The unrestricted expenses mentioned are intergovernmental transfers, a type of fund called a 'convênio'. According to the Brazilian President Chief of Staff (2007) and the Brazilian National Auditing Court (2013) (BRASIL, 2013, 2007) 'convênios' are contracts signed by the Brazilian federal government with subnational units and/or non-profit organizations (thus, they are not signed directly with private companies), and must have a value higher than R\$100,000⁵. This type of resource is used by the federal government to implement decentralized policies where the funding comes from the federal government (with or without a local counterpart) and a local partner is responsible for implementation. The interesting fact about these contracts is that they give the minister almost unrestricted power over which actions are implemented. Public administration laws mandate that the minister must make a deal with the lowest bidder, but they can choose which 'convênio' is implemented first. Therefore, they can accept some and deny permission to others. From the Brazilian Freedom of Information Law, we requested data on all 'convênios' signed from 2011 until 2014. The dataset we compiled also contains information about the ministry which disbursed the money, the total amount of money involved in the contract, the total

⁴We believe that in Brazilian federalism, relationships can occur among the federal level and the subnational level represented by states and municipalities. Nonetheless, our theoretical and empirical framework focuses on the relationship between the federal level and the states. Our goal is to contribute to the sparse state-level literature, which is important but has received less attention than studies carried out about municipalities in Brazil.

⁵R\$ stands for Brazilian 'reais'. Approximately US \$43,000 (as of 2014). In fact, many times this rule is not followed and contracts with lower values are signed.

amount actually transferred (called executed contracts), the purpose of the contract, its legal and financial situation, and the state that received the resources⁶.

The first characteristic observed is a considerable difference among the signed contracts regarding the amount actually transferred to the recipient. Table 01 show the total amount of money for the whole cabinet involving signed and executed contracts. The smallest mismatch occurred in 2011, when ministers in fact spent 61 percent off all money signed. This gap had been increasing since then, reaching its peak level in 2014 when only 21 percent of all contracts where effectively implemented.

Table 01. Executed and signed values for ‘convênios’ – whole cabinet (2011-2014)

	2011	2012	2013	2014
Signed*	29.76	23.88	32.00	21.95
Executed*	18.19	13.96	13.33	4.69
Executed/Signed	0.61	0.58	0.42	0.21

Source: Authors’ calculation based on data obtained using the Brazilian Freedom of Information Law.

Note: *In billions of 2014 Brazilian ‘reais’.

For all the years, the president’s own party – the Workers’ Party (PT) – was in charge of 50 percent of the top ten ministries. The most important ministry, if one judges by the total amount of money spent on unrestricted expenses, is the Ministry of Health. It scored the second position in 2011 and the first in subsequent years⁷. In addition to it, the Ministry of the National Integration, the Ministry of Education, the Ministry of Social Development and Hunger Alleviation, the Ministry of Agriculture, Livestock, and Supply, and the Ministry of Science, Technology, and Innovation all figured in the top ten positions between 2011 and 2014. It is possible, though, to

⁶The dataset comprises contracts signed directly with state governments and others signed with municipalities. For the latter, we considered the state in which the municipality is located. This does not jeopardize the analysis if one considers governors’ political importance as head of the Executive at the state level. Furthermore, governors are here considered as the ultimate representative of the state, since it is less credible to believe that ministers would deal directly with the 5,570 mayors of the country when signing and allocating this funding. This type of reasoning is based on studies that stress the political power of governors in the Brazilian federation. See, for example, Desposato (2004), Melo et al. (2010), and Samuels (2002, 2000). This does not mean that all mayors could be represented in the same way. There is an obvious difference between the political importance of a mayor from a city like São Paulo and a mayor of a small country town. We do not deny that sometimes ministries negotiate with mayors of big metro areas but we ground our analysis on the state level and on state-level elections.

⁷In 2004, this ministry was hit by a big scandal when police investigations found out that businessmen, pressure groups, ministry’s employees, and House representatives had stolen about US\$40 million from the public budget by overpaying contracts of medicines and blood derivatives. The scandal was nicknamed the Vampire Mafia (BERSCH, 2016).

observe stability regarding ministries' position in a rank of discretionary money spending.

Social network analysis

A first helpful way to describe the behavior we intend to understand is to conduct a Social Network Analysis (SNA) to visually assess whether ministers use discretionary resources to favor their party fellows or political constituencies. The SNA methodology in multi-method research like ours is used as an auxiliary approach that allows for visually checking all the interactions in a previously bounded environment. It is possible to check all the linkages between the agents, the intensity of these links, the representativeness each agent has inside the network, etc. The technique allows the reader to identify especially outliers' behavior in the sample since the more intense a relation is, the more visible it is shown in the graphs. In doing this, the focus is on finding what are the destinations of the resources available for discretionary spending handled by ministers from 2011 until 2014. We inspect in which states of the Brazilian federation ministers are spending more resources that are discretionary in nature – thus verifying the possibility of political manipulation. Are states governed by politicians of the same party more likely to receive transfers from a co-partisan minister (H1)? Or, is a state receiving more funding a ministry headed by a politician who built their political career in such a state (H2)?

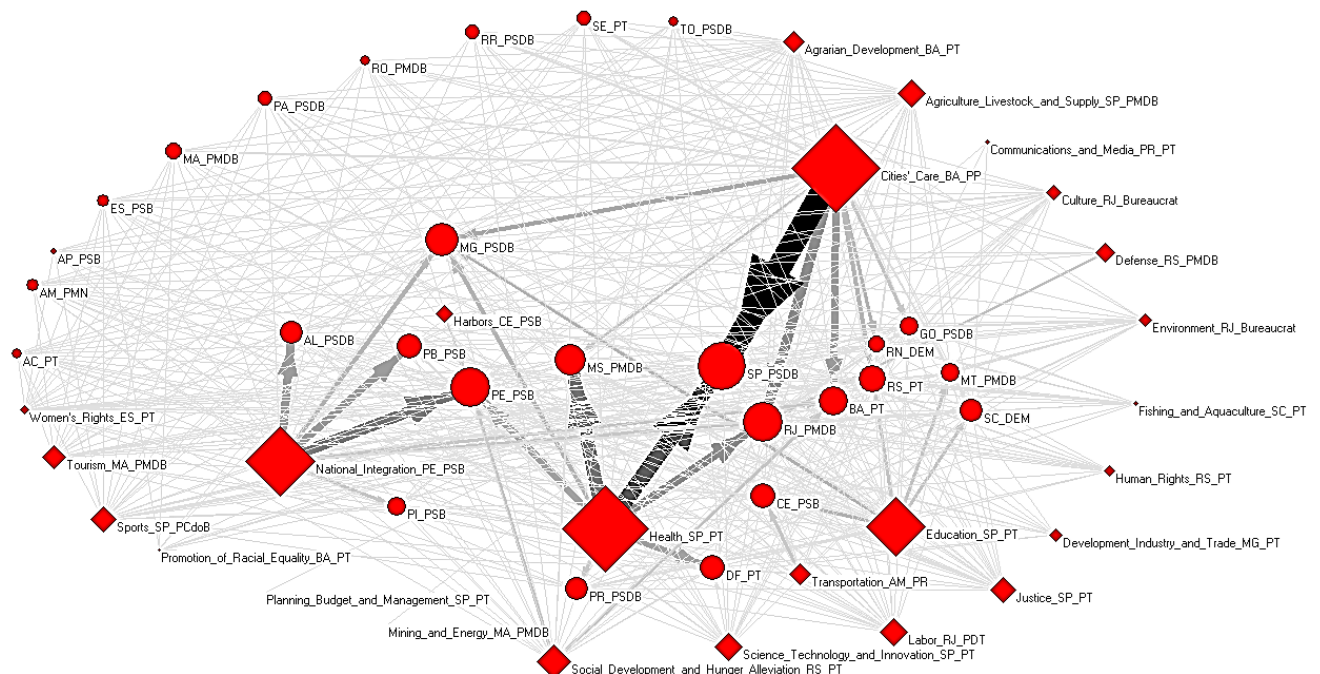
The graphs have two kinds of agents – or vertices. The first are ministries, represented by a diamond shape, and the second are states, represented by an elliptical shape (for a list of all party and state acronyms, please check Annexes). Diamond vertices are composed by the name of the ministry, followed by the state where ministers have built their political careers⁸ (using two capital letters for the state's acronym), and by the political party a minister was affiliated at the time (acronyms with between two and four capital letters)⁹. Ellipse vertices are composed by the state receiving the money followed by its governor's political party affiliation. Another source of information a vertex carries is its size: vertex size is proportional to the total money flow in a year. The bigger the diamond is, the larger the amount of money that

⁸For those ministries whose chair is a bureaucrat without political affiliation, the state where they have been living for most of their life was used.

⁹Considering the party in charge of the ministry for the largest number of days during the year.

ministry disbursed in a year. Similarly, the bigger an ellipse is, the larger is the amount of money that state received in some year. In addition to the vertex information, the graphs give the direction of the money, represented by an arrow with origin in a ministry and a state as destination¹⁰. Since a ministry cannot allocate this kind of funding to another ministry, diamonds are always origins and ellipses are always destinations in the graphs. The color and thickness of the arrow translate the intensity of a relation between two vertices; the darker and thicker an arrow is, the larger the amount of discretionary money effectively sent using ‘convênios’ by that ministry to that state. Figure 01 shows all these interactions observed during 2011.

Figure 01. Discretionary spending network - 2011



Source: Created by the authors using data obtained under the Brazilian Freedom of Information Law.
Note: Images created using Pajek.

Figure 01 shows that the Ministry of the National Integration headed by a then Brazilian Socialist Party (PSB) politician (National_Integration_PE_PSB located at the bottom-left of Figure 01) presented a real strong geographical concentration in its 2011 spending pattern. The lion’s share of funding went to Piauí, Paraíba, Pernambuco and Alagoas (PI_PSB, PB_PSB, and AL_PSDB respectively), all Northeastern states. With

¹⁰Each arrow represents the percentage of money a Ministry is sending to a state in relation to the total amount of ‘convênios’ executed by the whole cabinet each year.

the exception of Minas Gerais and Alagoas (both states governed by the opposition Brazilian Social Democracy Party (PSDB). MG_PSDB and AL_PSDB respectively), the ministry also has a noteworthy party pattern of expenditures. The exceptions to this pattern can be found in Amapá and Ceará, both also governed by the PSB (AP_PSB and CE_PSB respectively), which did not receive much resources. The Ministry of Health (Health_SP_PT at the bottom of Figure 01) concentrated almost all its resources on large and important states irrespective of governors' political parties. A curious pattern is observed though in the considerable amount of money this ministry sent to the Brazilian Federal District (DF_PT). This federal unit has slightly more than one percent of the country's population and the amount spent there was almost equal to what was allocated sent to Pernambuco (PE_PSB) and even larger than the amount sent to Minas Gerais (MG_PSDB), 05 percent and 10 percent of the national population, respectively. At the time, the PT controlled this ministry and the governorship of the Federal District. Another ministry with a noteworthy pattern in 2011 was the Ministry of the Social Development and Hunger Alleviation, administered by the PT (Social_Development_and_Hunger_alleviation_RS_PT located at the bottom of Figure 01). It is observed that this ministry allocated almost all the money from executed or disbursed 'convênios' to states governed by politicians who belonged to parties in the presidential coalition.

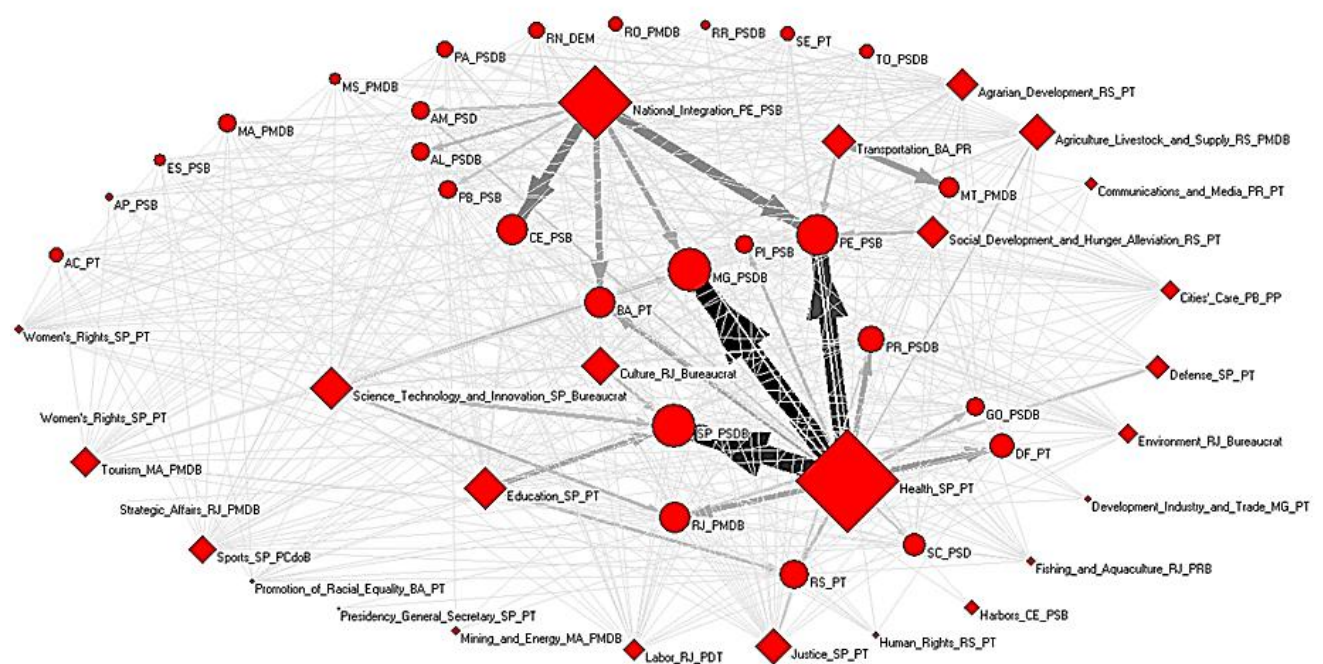
During 2012, a strong regional and partisan pattern is observed again at the National Integration Ministry (National_Integration_PE_PSB at the top of Figure 02). The Ministry of Health, headed by a PT politician from the state of *São Paulo* (Health_SP_PT – bottom-right of Figure 02), once again shows a pattern of spending favorable towards the Federal District governed by PT¹¹. However, as in 2011, the largest amount of resources went to the biggest and richest state of the federation - São Paulo.

Once again, in 2013, the Ministry of the National Integration showed a strong partisan and regional pattern in its unrestricted spending cash flow (National_Integration, PE_PSB at the bottom-left of Figure 03). The 2013 pattern for the Ministry of Health continued to what had been observed in the two preceding years: a PT politician transferring a considerable amount of money to a state governed

¹¹The same amount is also spent in Rio de Janeiro and Paraná, two states economically more important in the national GDP and with a larger population than the Federal District.

by another member of the PT in the Federal District (Health,_SP_PT, top-right of Figure 03). However, the largest share of resources once again went to São Paulo. For the first time appearing as an important vertex, the Ministry of Agrarian Development targeted its money especially to the states of Bahia and Rio Grande do Sul. The minister and the governors of these two states all belonged to PT. Furthermore, the then minister had also built his political career in Rio Grande do Sul (see Agrarian_Development_RS_PT at the bottom-right of Figure 03).

Figure 02. Discretionary spending network – 2012

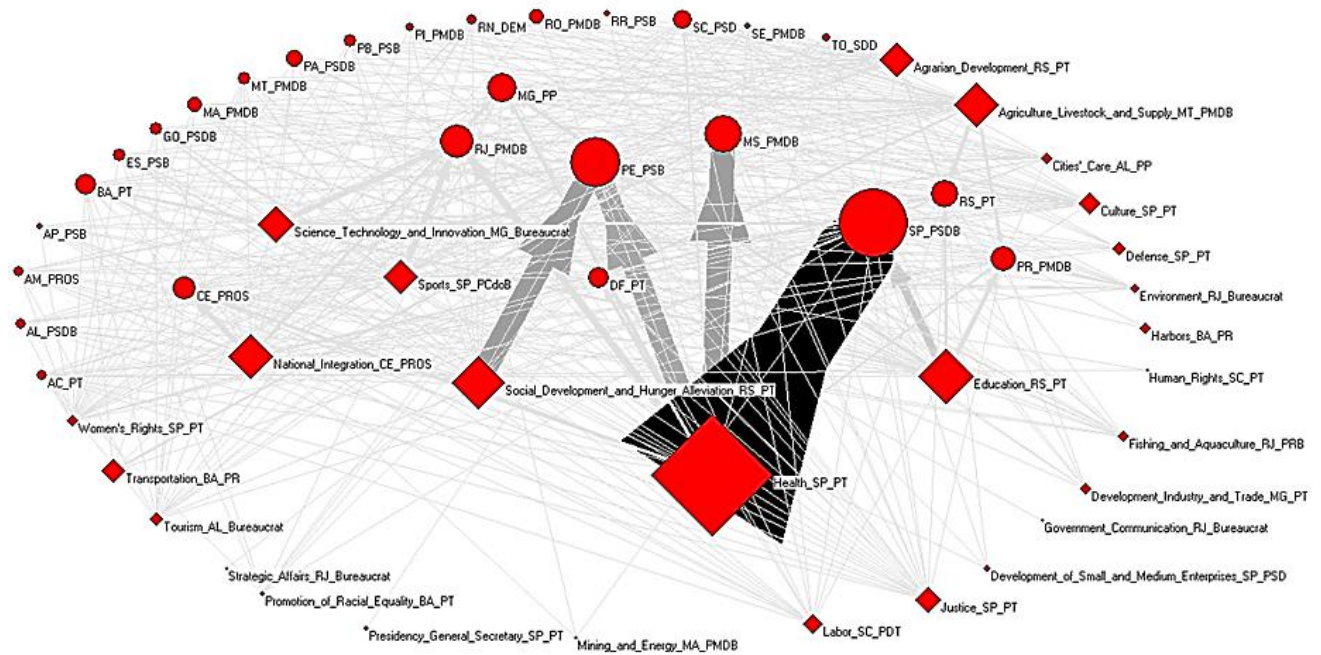


Source: Created by the authors using data obtained under the Brazilian Freedom of Information Law.
Note: Images created using Pajek.

In 2014, in preparation for the presidential race, the PSB left the governing coalition and cabinet positions in order to support its own presidential candidate, the then governor of Pernambuco, Eduardo Campos. The decision was opposed by Cid Gomes, a prominent politician within the PSB and governor of the state of Ceará. He decided to quit the PSB and form a new party (Republican Party of the Social Order - PROS) in order to stay in the governing coalition. President Rousseff rewarded the support of Gomes and his PROS by selecting one of his political appointees as the head of the Ministry of the National Integration (National_Integration,_CE_PROS at the center-left of Figure 04). While the total amount of money this ministry had in 2014

of funds being transferred to states governed by the minister party fellows offers support to H1. As already mentioned, the SNA is an important tool to assess observable patterns. In order to find out if these patterns could be generalized throughout the sample, we perform an econometric analysis in the next section.

Figure 04. Discretionary spending network - 2014



Source: Created by the authors using data obtained under the Brazilian Freedom of Information Law.
Note: Images created using Pajek.

Econometric analysis

The SNA graphs allow the visualizations of clear cases in the way public funds are allocated in a year and how they change over time. In order to systematically uncover potential political patterns of resource allocation, and test hypotheses one and two, we now turn to an econometric analysis. We carried out three different quantitative approaches based on nested models: feasible weighted least squares (FWLS), fixed effects regressions, and quantile regressions. All models consider three kinds of variables besides the dependent ones: variables of interest, variables of political control, and variables of socioeconomic control.

On the variables of interest, the first step is to identify if the governor of the state receiving funds is a co-partisan of the minister; then to find out if the state where the minister built their political career is the same as where the unrestricted

funds are going. The variables of political control account for the share of votes the president obtained in each state in the previous general elections, whether the state is being run by a politician affiliated to one of the president's coalitional parties, and the electoral ambition of the ministers. Finally, population size, poverty, illiteracy, and housing rates are used to control for different socioeconomic scenarios.

Results for ordinary least squares (OLS) models using these variables do not support homoscedasticity assumptions. Because of that, we rely on other techniques in our estimations like FWLS, fixed effects, and quantile regressions. The model is defined as:

Unrestricted expenses

$$= \beta + \gamma \text{Head gov same party} + \rho \text{Same state} + \omega \text{Political controls}' + \varphi \text{Socioeconomic controls}' + \varepsilon \quad (1)$$

The dependent variable *Unr exp* is the deflated value of each executed (and signed) 'convênio' in millions of 2014 Brazilian 'reais'¹².

Regarding the variables of interest, 'Head gov same party' is a dummy variable which equals one if the governor of the receiver state and the minister are co-partisans, and zero otherwise. On the other hand, 'Same state' is a dummy variable which equals one if the receiver state is the same state where the minister has built their political career, and zero otherwise.

The set of covariates 'Political controls' is represented by 'Coal st' which is a dummy variable assuming a value of one if the receiver state was run by a party belonging to the president's coalition, and zero otherwise, 'Presid st share 10' is the percentage of votes received by the elected president in the 2010 general elections in each state, 'Head candidate' is a dummy variable which equals one if the minister was running for office in the 2012 and/or 2014 elections and zero otherwise; finally, 'Elec year' is a dummy assuming a value of one if there was an election during the year, and zero otherwise.

¹²Because of the great difference between signed and executed 'convênios' shown in Table 01, it is important to run the same specification for both cases, checking if ministers possess a different strategy in signing and executing contracts.

Finally, the set ‘Socioeconomic controls’, is composed by state ‘Population’ measured in thousands of residents, ‘Poverty’ is the share of poor people in the state, ‘Illiteracy’ is the number of illiterate people in relation to the state population, and ‘Housing’ is the percentage of households with clean water supply.

To correct any heteroscedasticity problems, we estimated a FWLS model in which all terms were weighted by $\frac{1}{\hat{h}}$, where \hat{h} has to be defined in order to solve the heteroscedasticity. This is obtained, according to Wooldridge (2017), by first estimating the parameters of an OLS regression of ‘Unrestricted expenses’ on the set of all covariates, obtaining the residuals \hat{u} . Then we calculate the log (\hat{u}^2) by regressing it on the set of covariates obtaining the fitted values \hat{g} . Finally, $\hat{h} = \exp(\hat{g})$. Table 02 presents the estimates based on these assumptions.

The main findings from the FWLS estimates reveal that of the two variables of interest, only ‘Head gov same party’ was statistically significant in all specifications, showing that when the receivers are located in a state governed by someone from the same party as the minister, the effective expenditure (or executed value) in each ‘convênio’ was approximately R\$628,000 (Table 02, Model 03)¹³ higher than those executed in states where the minister and the governor were not from the same party. Similarly, signed contracts directed to municipalities or even governorships located in states which had their governors belonging to the same party of the minister had, on average, a value greater than R\$952,000 (Table 02, Model 06)¹⁴ suggesting support for H1.

As a robustness check of our FWLS results, we use fixed effects models to calculate the fitted values isolating the four years of the analysis by considering each one as a sub-sample. In this way, any year-specific characteristic will not affect the estimates. We use a similar specification as Equation One, with the exception of the ‘Intercept’ and ‘Elec year’, which are absent for obvious reasons. The results are shown in Table 03.

¹³Approximately US \$285,000 (exchange rate as of 2014).

¹⁴Approximately US \$425,000 (exchange rate as of 2014).

Table 02. Feasible weighted least squares results

	Executed unrestricted expenses			Signed unrestricted expenses		
	Model 01	Model 02	Model 03	Model 04	Model 05	Model 06
Intercept	0.2905*** (0.0223)	0.6213*** (0.1549)	-0.0000* (0.0000)	0.2441*** (0.0132)	0.4452*** (0.1110)	-0.0003 (0.0002)
Head gov same party	0.7119*** (0.1576)	0.9628*** (0.2678)	0.6285*** (0.1679)	1.1762*** (0.2525)	0.9628*** (0.2678)	0.9526*** (0.2690)
Same state	0.2256 (0.1572)	0.2491 (0.2555)	0.1502 (0.1749)	0.1226 (0.2519)	0.2491 (0.2555)	0.0036 (0.2802)
Coal st		0.2968 (0.1817)	0.1945 (0.1281)		0.2968 (0.1817)	0.5391** (0.2052)
Presid st share 10		0.0078 (0.0083)	-0.0226** (0.0083)		0.0078 (0.0078)	-0.0206 (0.0133)
Head candidate		-0.1620 (0.1809)	0.1236 (0.1130)		-0.1620 (0.1809)	-0.1678 (0.1810)
Elec year		-0.7745*** (0.1641)	-0.3972*** (0.1056)		-0.7745*** (0.1641)	-0.6724*** (0.1692)
Population			0.0000 (0.0000)			0.0000* (0.0000)
Poverty			6.9866*** (1.1636)			6.5591* (2.5853)
Illiteracy			-0.0144 (0.0238)			0.0285 (0.0381)
Housing			5.7885** (1.8428)			6.5074* (2.9526)
N	58,880	58,880	58,880	58,880	58,880	58,880
Adjusted R-squared	0.0003	0.0007	0.0011	0.0003	0.0007	0.0009
F-statistic	11.78 (2, 58,887)	8.354 (6, 58,873)	7.767 (10, 58,869)	11.2 (2, 58,877)	8.354 (6, 58,873)	6.614 (10, 58,869)
p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Elaborated by the authors.

Note: *p<0.1; **p<0.05; ***p<0.01.

The results presented in Table 03 are in line with the ones found in Table 02 and also support H1. The variable 'Head gov same party' was positively significant, indicating that states where the receiver entity belonged to the same party as the minister signed and received more valuable contracts than those where the governor and the ministers are not co-partisans.

Moving forward in the analysis, examining the quantiles of executed and signed contracts of 'Unrestricted expenses', one may see a considerable range

between the minimum and maximum values; and also a great difference between the median and the mean for each variable. This is likely due to the presence of outliers in the sample. The same conclusion can be reached when examining the SNA graphs, especially the fourth one.

Table 03. Fixed effects regression results

	Executed unrestricted expenses			Signed unrestricted expenses		
	Model 01	Model 02	Model 03	Model 04	Model 05	Model 06
Head gov same party	0.6904*** (0.1575)	0.6434*** (0.1671)	0.6363*** (0.1679)	1.1499*** (0.2525)	0.9717*** (0.2678)	0.9642*** (0.2690)
Same state	0.2420 (0.1572)	0.2587 (0.1595)	0.1621 (0.1750)	0.1370 (0.2520)	0.2426 (0.2556)	-0.0144 (0.2804)
Coal st		0.1043 (0.1136)	0.1962 (0.1284)		0.2687 (0.1821)	0.5060* (0.2058)
Presid st share 10		-0.0025 (0.0051)	-0.0184* (0.0083)		0.0086 (0.0083)	-0.0199 (0.0134)
Head candidate		-0.0304 (0.1170)	-0.0098 (0.1173)		-0.2657 (0.1875)	-0.2302 (0.1879)
Population			0.0000 (0.0000)			0.0000* (0.0000)
Poverty			4.5432* (1.7678)			6.9776* (2.8327)
Illiteracy			0.0051 (0.246)			0.0229 (0.0394)
Housing			4.2903* (1.8920)			6.6847* (3.0317)
N	58,880	58,880	58,880	58,880	58,880	58,880
Adjusted R-squared	0.0003	0.0002	0.0003	0.0002	0.0003	0.0005
F-statistic	11.3582 (2, 58,874)	4.7375 (5, 58,871)	3.9036 (9, 58,867)	10.766 (2, 58,874)	5.6092 (5, 58,871)	4.8416 (9, 58,867)
p-value	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000

Source: Elaborated by the authors.

Note: *p<0.1; **p<0.05; ***p<0.01.

The presence of outliers, as shown in Table 04 and in the SNA graphs, leads towards the use of quantile regression analysis, as recommended by Angrist and Pischke (2009). This kind of model identifies patterns of spending for less, intermediate, and more valuable observations of the dependent variable. Furthermore, the approach is also useful for assessing the specific features concerning each sub-

sample of the dataset, i.e., there might be a different behavior from ministers when dealing with cheap contracts from the one observed when they deal with highly valued contracts. Tables 05 and 06 displays the results built under models specified similarly to the one presented in Equation One.

The quantile regression results are again in line with the pattern previously shown of ministers privileging contracting activity for administrations of co-partisans (H1), with the only exception of Model 11 in Table 05 and Models 08 and 09 in Table 06. Once again, this reinforces the plausibility of the H1 of this study.

Table 04. Unrestricted expenses quantiles value

	Executed value	'convênios'	Signed 'convênios' value
Min.	465		,069
1st Qu.	139,558		207,500
Median	261,609		319,230
3rd Qu.	563,495		690,900
Max.	2,337,235,178		2,843,718,835
Mean	1,410,672		1,807,977

Source: Calculated by the authors.

Note: Values expressed in 2014 Brazilian 'reais'.

Table 05. Quantile regression with bootstrapped standard errors results – Executed contracts

Executed unrestricted expenses												
	0.25			0.50			0.75			0.99		
	Model 01	Model 02	Model 03	Model 04	Model 05	Model 06	Model 07	Model 08	Model 09	Model 10	Model 11	Model 12
Intercept	0.142 *** (0.001)	0.145 *** (0.005)	0.643 *** (0.046)	0.262 *** (0.001)	0.214 *** (0.010)	1.151 *** (0.102)	0.563 *** (0.004)	0.643 *** (0.035)	2.598 *** (0.255)	18.39 *** (1.190)	7.920 ** (4.212)	-70.237 *** (26556)
Head gov Same party	0.026 *** (0.003)	0.024 *** (0.003)	0.014 *** (0.002)	0.056 *** (0.005)	0.037 *** (0.007)	0.032 *** (0.006)	0.151 *** (0.016)	0.093 *** (0.015)	0.085 *** (0.021)	11.02 *** (3.676)	7.444 *** (4.536)	6.419 ** (2.847)
Same state	-0.026 *** (0.001)	-0.020 *** (0.001)	-0.016 *** (0.001)	-0.054 *** (0.003)	-0.044 *** (0.003)	-0.040 *** (0.006)	-0.128 *** (0.014)	-0.117 *** (0.014)	-0.100 *** (0.014)	1.933 *** (2.807)	3.744 *** (3.294)	-3.447 *** (3.121)
Coal st		-0.001 (0.001)	-0.002 (0.002)		0.006 (0.004)	-0.009 ** (0.004)		0.017 (0.013)	0.004 (0.014)		7.100 *** (1.779)	9.383 *** (1.682)
Presid st share 10		0.0005 *** (0.0001)	-0.001 *** (0.001)		0.002 *** (0.0002)	-0.000 *** (0.001)		0.005 *** (0.0005)	-0.003 *** (0.001)		0.200 *** (0.093)	-0.141 *** (0.104)
Head candidate		-0.038 *** (0.002)	-0.031 *** (0.003)		-0.091 *** (0.005)	-0.082 *** (0.004)		-0.360 *** (0.025)	-0.329 *** (0.021)		2.150 *** (1.447)	1.718 *** (1.382)
Elec year		0.002 * (0.001)	0.006 *** (0.001)		0.0009 *** (0.003)	0.003 *** (0.002)		-0.070 *** (0.010)	-0.046 *** (0.012)		-8.515 *** (1.694)	-6.215 *** (1.579)
Population			0.000			0.001 ***			0.000			0.001 ***

			(0.000)			(0.000)			(0.000)			(0.000)
Poverty			0.051			0.315			1.331			63.251
			*			***			***			**
			(0.028)			(0.057)			(0.176)			(27.321)
Illiteracy			-0.002			-0.008			-0.022			0.633
			***			***			***			**
			(0.001)			(0.001)			(0.003)			(0.289)
Housing			-0.451			-0.828			-1.673			78.351
			***			***			***			***
			(0.044)			(0.097)			(0.239)			(27.536)
AIC	108798	108741	108661	134482	134315	134182	178447	178118	177922	363680	362608	362046
LogLik	-54396	-54363	-54319	-67238	-67150	-67080	-89220	-89052	-88950	-181837	-181297	-181012

Source: Elaborated by the authors.

Note: *p<0.1; **p<0.05; ***p<0.01.

Table 06. Quantile regression with bootstrapped standard errors results – Signed contracts

	Signed unrestricted expenses											
	0.25			0.50			0.75			0.99		
	Model 01	Model 02	Model 03	Model 04	Model 05	Model 06	Model 07	Model 08	Model 09	Model 10	Model 11	Model 12
Intercept	0.212 ***	0.093 ***	0.872 ***	0.319 ***	0.098 ***	1.227 ***	0.690 ***	0.563 ***	2.956 ***	22.661 ***	24.111 ***	-106.758 ***
	(0.001)	(0.007)	(0.047)	(0.002)	(0.006)	(0.072)	(0.007)	(0.034)	(0.293)	(1.049)	(3.630)	(27.281)
Head gov same party	0.013 ***	0.007 **	0.006 **	0.072 ***	0.045 ***	0.013 **	0.086 ***	0.007	0.010	10.089 ***	8.139 **	6.983 *
	(0.002)	(0.003)	(0.003)	(0.007)	(0.005)	(0.005)	(0.024)	(0.019)	(0.016)	(3.442)	(3.791)	(4.192)
Same state	-0.075 ***	-0.043 ***	-0.047 ***	-0.059 ***	-0.040 ***	-0.029 ***	-0.141 ***	-0.071 ***	-0.098 ***	1.059	2.897	-2.143
	(0.004)	(0.003)	(0.002)	(0.004)	(0.004)	(0.004)	(0.013)	(0.013)	(0.008)	(2.107)	(3.019)	(2.817)
Coal st		0.001	0.007 ***		0.002	-0.003		0.045 ***	0.008		6.983 ***	8.618 ***
		(0.003)	(0.002)		(0.003)	(0.002)		(0.012)	(0.011)		(1.790)	(1.722)
Presid st share 10		0.002 ***	0.001 ***		0.005 ***	0.001 **		0.008 ***	-0.003 ***		0.009	-0.184 **
		(0.0001)	(0.000)		(0.0001)	(0.000)		(0.0005)	(0.001)		(0.066)	(0.089)
Head candidate		-0.034 ***	-0.027 ***		-0.047 ***	-0.036 ***		-0.283 ***	-0.234 ***		2.433	0.900
		(0.003)	(0.002)		(0.002)	(0.002)		(0.018)	(0.016)		(1.873)	(1.323)
Elec year		0.013 ***	0.013 ***		-0.020 ***	-0.003		-0.138 ***	-0.079 ***		-13.32 ***	-9.814 ***
		(0.002)	(0.001)		(0.003)	(0.002)		(0.009)	(0.009)		(1.892)	(1.841)
Population			0.000 ***			0.000 *			0.000			0.002 ***
			(0.000)			(0.000)			(0.000)			(0.000)
Poverty			-0.437 ***			0.334 ***			1.721 ***			118.75 ***
			(0.032)			(0.048)			(0.174)			(26.128)
Illiteracy			0.005 ***			-0.004 ***			-0.022 ***			-0.050
			(0.001)			(0.000)			(0.002)			(0.208)
Housing			-0.735 ***			-0.952 ***			-2.021 ***			125.601 ***
			(0.044)			(0.070)			(0.279)			(26.960)
AIC	211877	211606	211449	255001	254648	254354	329761	329347	328941	643091	640771	640094
LogLik	-105935	-105796	-105713	-127497	-127317	-127166	-164877	-164666	-164459	-321542	-320378	-320036

Source: Elaborated by the authors.

Note: *p<0.1; **p<0.05; ***p<0.01.

With regard to H2, in the first three quantiles analyzed the ‘Same state’ variable was negative and significant for models of contracts signed and executed. The variable loses significance only in the quantile that refers to the most valuable contracts. We are, thus, led to reject H2.

Upon inspection of the other variables, contrary to the previous models, we notice that in the case of highly valued contracts (Models 11 and 12 in Tables 05 and 06), ministers tend to favor government entities located in states governed by politicians affiliated with parties of the ruling coalition; signing and also executing more valuable contracts. Furthermore, states where the president-elect fared better in the 2010 general elections (Presid st share 10) were also targets of funding with a slightly higher value in some quantiles. The other variables did not present consistency in the statistical significance in all specifications or substantive values in the estimations.

Summing up, the series of econometric analyses support hypothesis one, where there seems to be a partisan pattern of the distribution of unrestricted expenses during the period analyzed. We do not find support for hypothesis two (the practice of pork barrel from ministers) since there is no evidence of a ministry spending more unrestricted funds in its own state. Moreover, there is no identifiable difference in signing and executing contracts targeted to states governed by fellow party members.

Discussion and conclusions

This paper analyzed patterns of cabinet discretionary spending. As the review of the literature showed, this area represents an important gap in the political science literature about Brazil, despite a strong track record of research about pork and clientelism more generally. Worldwide, studies have shown that cabinet appointment is an extremely valuable asset for parties belonging to the ruling coalition, but there are few empirical works that specifically measure this in the context of Latin America and Brazil. This paper contributes to the current debate by analyzing how parties and politicians use public resources available to them when holding a cabinet position revealing why cabinet appointment is a valuable asset for parties of the ruling coalition and how they make use of it.

Based on the agency theory in a scenario in which principals are the political parties invited by the president to hold a ministry and the agents are ministers

appointed to the job by their principals, we developed our two theoretical hypotheses. H1 was established on the assumption that strict rules make agents abide to their principals' meaning that ministers are more likely to transfer grants to states governed by fellow party members. Meanwhile, H2 was established under the assumption of incomplete contracts, a situation where agents find a loophole to not abide to their principals, meaning in our case that ministers use their ministries for their own good, transferring more grants to states where they can run for office.

To test H1 and H2, we use data from an unrestricted type of funding transfer, 'convênios', to shed light on how ministers spend public money when they have greater discretionary power. With data referring to Pres. Rousseff's first term in office (2011-2014), we first observed that there is a substantive difference in the total amount of contracts signed by the government and the amount effectively disbursed or executed using this modality of public expenditure.

We then proceeded to identify political patterns in relation to how each ministry allocates discretionary resources. In order to verify whether there are party or geographical patterns in funding transfers, we did an extensive data collection effort. We matched funding transfers with the ministers' state of political activity, their political parties, and the governor in charge of the states that received transfers. We used Social Network Analysis to visualize the changes in public expenditure allocation over the years and then performed a series of econometric estimations to test our hypotheses.

The social network visualizations revealed a political pattern of how grants were distributed in the Brazilian federation in the period of analysis. This is particularly clear in the cases of positions headed by the PSB and the PT in ministries like Ports, National Integration, Health, Agrarian Development, and Social Development and Hunger Alleviation. The pattern observed in those ministries revealed that ministers act in a partisan way, transferring more funding to states governed by party allies (support for H1).

A set of econometric tests also provided evidence of a partisan pattern in the allocation of unrestricted expenses, supporting H1. The data revealed that ministers sign more valuable (and effectively disburse more) contracts with government entities located in states ruled by their party members. Interestingly, the models showed that there is no evidence that ministers prioritize their own states

and constituencies when transferring grants – a behavior that stands in opposition to expectations derived from pork barrel politics and also in opposition to the notion of incomplete contracts where agents tend to act not in accordance with their principals' wills. The evidence, thus, supports H1 and not H2 implying that in a principal-agent set, agents (ministers) abide by the strict rules imposed by their principals (parties) where apparently the concept of incomplete contracts cannot be confirmed. We interpret these findings as deriving from a party strength effect, since ministers are generally appointed to the job by party leaders in negotiations with the president. Furthermore, party leaders can easily monitor budget allocation and thus can detect if a minister is putting his interest ahead of the party's. This is compatible with a view where, in coalitional government, representatives are elected by the people, but ministers are 'elected' by their party fellows. Considering this, when confronted with two mutually exclusive options on the allocation of resources under their administration, ministers are more likely to devote loyalty to their party members instead of a possible constituency.

Despite the conclusions reached related to agency theory, our results also have implications for other areas, such as governance. Ministries can be used for many purposes: to implement all kinds of policy such as educational, health, social security, defense, and so on. Ministries can also be used to regulate specific economic issues or fields and boost economic sectors. These are the most common and important uses of ministries in a presidential regime and their capacity to do so could not be harmed by other uses offered by cabinet positions. Our paper revealed that besides the classic usages, ministries can also be used to ensure the president and political parties have adequate levels of political support. For the president, the appropriate use of different cabinet positions must be paramount and positions endowed with high levels of budget discretionary cannot amount to a considerable fraction of the total budget available for the Union. This is so because policy targets would be at risk at a broad level. This seems to be the case here, since the amount of 'convênios' reported from 2011 to 2014 is a small percentage of the total budget available for the entire cabinet, but still enticing for parties that join the ruling coalition.

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Appendix

Party acronyms

DEM (Democrats)
PC do B (Communist Party of Brazil)
PDT (Democratic Labor Party)
PMDB (Brazilian Democratic Movement Party)
PMN (Party of National Mobilization)
PP (Progressive Party)
PR (Party of the Republic)
PRB (Brazilian Republican Party)
PROS (Republican Party of the Social Order)
PSB (Brazilian Socialist Party)
PSD (Social Democratic Party)
PSDB (Party of the Brazilian Social Democracy)
PT (Workers' Party)

State acronyms

AC (Acre)	PE (Pernambuco)
AL (Alagoas)	PB (Paraíba)
AM (Amazonas)	PI (Piauí)
AP (Amapá)	PR (Paraná)
BA (Bahia)	RJ (Rio de Janeiro)
CE (Ceará)	RN (Rio Grande do Norte)
DF (Distrito Federal)	RO (Rondônia)
ES (Espírito Santo)	RR (Roraima)
GO (Goiás)	RS (Rio Grande do Sul)
MA (Maranhão)	SC (Santa Catarina)
MS (Mato Grosso do Sul)	SE (Sergipe)
MT (Mato Grosso)	SP (São Paulo)
MG (Minas Gerais)	TO (Tocantins)
PA (Pará)	