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Bertholini, Frederico; Pereira, Carlos

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The price of governing: coalition management costs in Brazil's presidential system

Frederico Bertholini

Fundação Getúlio Vargas / Escola Brasileira de Administração Pública e de Empresas
Rio de Janeiro / RJ — Brazil

Carlos Pereira

Fundação Getúlio Vargas / Escola Brasileira de Administração Pública e de Empresas
Rio de Janeiro / RJ — Brazil

This paper examines the effects of a president's coalition management decisions on the costs of governing. An innovative Governing Costs Index (GCI) was developed, taking into consideration political and financial transfers made by the president to coalition parties. GCI is calculated employing a principal component analysis. The relationship between the variations on the management strategies and the costs were estimated using a first-differences panel. GCI was considered as the dependent variable and the coalition size, ideological heterogeneity, and cabinet proportionality among partners as the explanatory variables. Results indicate that large, ideologically heterogeneous coalitions and disproportional cabinets tend to be more expensive over time. The results also suggest that presidential decisions about how to manage coalitions influence governing costs in important ways, even when controlling exogenous constraints like party fragmentation at the Congress and presidential popularity. In addition, spending more political and financial resources with coalition allies does not necessarily lead to greater political support for the president in the Congress.

Keywords: governing costs; coalition management; multiparty presidential system; president; Executive-Legislative relations.

Pagando o preço de governar: custos de gerência de coalizão no presidencialismo brasileiro

Este artigo analisa os efeitos das estratégias do presidente de como gerir sua coalizão sobre os custos de governar ao longo do seu mandato. Foi desenvolvido um Índice inédito de Custo de Governo (ICG) considerando as transferências políticas e monetárias feitas pelo presidente aos partidos da sua coalizão. O ICG foi calculado a partir de análise de componentes principais. As relações entre as variações de estratégias de gerência e seus custos foram estimadas por meio de um painel não balanceado em primeiras diferenças, tendo como variável dependente o ICG e como variáveis explicativas o tamanho da coalizão, a heterogeneidade ideológica e a alocação proporcional de poder entre parceiros. Os resultados indicam que coalizões grandes, ideologicamente heterogêneas e desproporcionais tendem a ser mais caras ao longo do tempo. As decisões presidenciais de como gerenciar suas coalizões influenciam os custos de governo, mesmo controlando por aspectos exógenos, como fragmentação partidária na Câmara dos Deputados e popularidade presidencial. Além disso, gastar mais recursos políticos e financeiros com os aliados da coalizão não significa necessariamente maior apoio político no Legislativo.

Palavras-chave: custos de governo; gerência de coalizão; presidencialismo multipartidário; presidente; relações Executivo-Legislativo.

Pagando el precio de gobernar: costos del manejo de coalición en el presidencialismo brasileño

Este artículo analiza los efectos de las decisiones presidenciales del manejo de la coalición en los costos para gobernar. Se utiliza el análisis de componentes principales para crear el Índice de Costo de Gobierno (ICG) y se utiliza

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un panel de primeras diferencias para estimar la relación entre el índice y las variables de gestión de la coalición: el tamaño de la coalición, la heterogeneidad ideológica y proporcionalidad de poder con aliados. Los resultados indican que coaliciones demasiado grandes, desproporcionadas y ideológicamente heterogéneas tienden a ser más costosas a lo largo del tiempo. Los resultados también sugieren que las decisiones presidenciales sobre cómo manejar las coaliciones influyen en los costos, aún controlando por las limitaciones exógenas como fragmentación partidaria y popularidad presidencial. Además, gastar más recursos políticos y financieros con los aliados de la coalición no implica necesariamente un mayor apoyo político para el Presidente en el Congreso.

Palabras clave: costos de gobernar; manejo de coaliciones; presidencialismo de coalición; presidente; relaciones Ejecutivo-Legislativo.

1. INTRODUCTION

This article investigates the effects of presidential coalition management strategies on the costs of governing in a multi-party institutional environment. Beginning from the classical literature on coalition management in parliamentary systems, the article develops hypotheses about the role of the president when it comes to a multi-party presidential system. The empirical analysis involves econometric methods and addresses the Brazilian case. The period analysed comprises the two presidential mandates of Presidents Fernando Henrique Cardoso (FHC) and Luiz Inácio Lula da Silva, as well as the first term of President Dilma Rousseff.

Presidents are the central players in a coalition presidential system. They are responsible for deciding the parties with whom they will govern and how they will allocate the resources in terms of power and finances to the ally parties. The president holds a vast “toolbox” (Raile, Pereira and Power, 2010) to manage coalitions. Therefore, understanding the game between partners in multi-party coalitions is central, considering that, despite the possible costs, this game generates several possibilities of exchange gains and cooperation over time between political actors (Pereira and Melo, 2012).

Considering the assumption that the rules of the game influence both the behavior of political actors and the outcome of their interactions — as institutions matter (Acemoglu and Robinson, 2012; North, 1991; Przeworski, 2004) — the aim here is to use alternative (and complementary), explanations that emphasize the role of presidents in the management of these coalitions. If there are measurable costs in the bargaining game between the Executive and the Legislative branches, and if presidents act to minimize these costs (Zucco and Melo-Filho, 2009), it is possible to infer that good management by the president will maximize support at the legislative branch and minimize the costs of maintaining this political support.

It is true that the multi-party presidential system in Brazil challenge some predictions made by much of the literature on this type of system. The Brazilian case is emblematic because of the presence of institutional characteristics that, combined, could be disastrous for the functioning and maintenance of democracy, such as presidentialism with a constitutionally strong president, multi-party system, open list proportional representation for the elections of the legislative branch, party fragmentation, federalism and ideological polarization (Linz, 1990; Mainwaring, 1993; Shugart and Carey, 1992; Stepan and Skach, 1993).

Even perspectives that do not consider these institutional characteristics as responsible for the probable failure of democracy in the country end up, in some way, blaming them for all the imbalances of the national political system, referring to the design of Brazilian democracy as expensive and inefficient (Ames, 2001; Mainwaring, 1999), eventually stating that it would be more likely to be subject to corruption (Persson and Tabellini, 2003). Despite this pessimistic panorama (Power, 2010), the Brazilian presidential system has presented relevant results, such as economic growth, stability, social inclusion — even though it has *dissipative* characteristics (Alston et al., 2013) — and, above all, continuity and stability in the democratic game.

Of course, the simultaneous presence of strong presidents and equally strong control institutions, such as the Public Prosecutor's Office and the Court of Accounts, is a relevant factor for the maintenance of balance, since these institutions establish parameters for players' performance, both presidents and legislators. The quality and independence of control is a key variable to understand the institutional balance reached in the Brazilian presidential system (Pereira and Melo, 2012).

The fact that the multi-party presidential system has spread in Latin America (Figueiredo, Salles and Vieira, 2009), and the growing success of this system in countries in Asia, Africa and in new European democracies (Chaisty, Cheeseman and Power, 2014) reinforces the need to develop theories that produce reflection beyond the models of the European multi-party parliamentary system and the American bipartisan presidential system. Detailed analysis of the mechanisms engendered by the Brazilian coalition presidential system can provide theoretical answers to problems that the world's youngest democracies are beginning to experience.

In the next section, this article presents the parameters of the theoretical framework and the dynamics of the 'game' of coalition management in multi-party presidential systems. This section brings a critical dialogue with the literature on coalition management in parliamentary systems and develops the main hypotheses to be tested. Following this is a section that explores the different strategies of coalition management adopted by Brazilian presidents in the period analyzed. Then, a calculation method for the Governing Costs Index (GCI) is presented, which will be the dependent variable on econometric estimates in this study. The next section will present the estimates for the impact of different management strategies on the governing costs and on the performance of presidents in relation with the legislative branch. The last section is the conclusion, which highlights the main contributions of the article.

2. COSTS OF COALITION MANAGEMENT: CONCEPTUAL ANALYTICAL MODEL

Building and maintaining coalition governments is a phenomenon traditionally studied by observing parliamentary systems, where governing through coalitions — with very few exceptions — is the basic assumption for the survival of governments. According to Gallagher, Laver and Mair (2011), in Europe alone, 70% of the cabinets formed between 1945 and 2010 were composed of more than one political party.

In a very similar way, presidents elected in multi-party systems and with great party fragmentation in the legislative branch (as occurs in Brazil), often face the condition of not having a majority — either formed by their party, or by their electoral coalition — of the seats in the legislative branch. Therefore, in order to form a government of majority post-election, presidents need to make at least

three choices in forming and maintaining coalitions: (1) how many parties will form the coalition; 2) which parties and whether they have similar political and ideological preferences to the president; 3) and the amount of power and resources that will be shared between partners.

It is important to take into account, however, that these presidential choices are not free from restrictions. Legislative branch elections actually set the initial parameters for these choices, since they define the size (number of chairs) of the president's party, as well as the size of potential allies and parties that will oppose government. However, even in the face of such restrictions, it is the president who ultimately defines how many, which, and how much power and resources will be shared with allied parties.

Regarding the number of parties that will be part of the coalition government, Riker (1962), in his seminal study of coalitions, established the "size principle". The principle states that the parties that form coalitions (*formateur*), will build their coalitions large enough (not larger than necessary) to ensure victories in the elections for the legislative branch. This principle was widely known as the minimal winning coalition (MWC). Subsequent models took into account the payoffs that would be shared between coalition partners (Diermeier, Eraslan and Merlo, 2003). This hypothesis was key for Strom and Mueller (1999) to explain the existence of minority governments by asserting that members of the coalition government may indeed be burdensome to the president. Interest in joining a coalition is directly associated with the ministries' budget, with possible opportunities for policy making, and with expected electoral gains.

However, Laver and Shepsle (1996) develop another theoretical framework by applying the structured-induced equilibrium methodology — originally intended for analysis of the US committee system (Shepsle, 1979) — to the study of ministries and political parties. Laver and Shepsle (1996) interpret the idea of structure-induced equilibrium by the incentives through the distribution of ministries in the same way that the balance would be provided by the attributions and allocations of the committees between parties and legislators. Similarly to committee members, who have exclusive competencies in a specific area of public policy, parties and politicians holding ministerial positions could unilaterally determine the choice of public policy to be implemented according to their preferences in a one-dimensional political space. This institutional configuration would be able to generate balance and stability in the parliamentary systems, where the cabinets, not the legislative branch, make decisions on policies.

In addition to taking into account the resources of the coalition and the preferences of the parties, other authors have argued that in the real world the parties forming the government do not have complete information on the true preferences of their rivals. It is expected that, as the asymmetry of information among players increases, they are more likely to increase the size of their coalitions (Dodd, 1976). When parties' ability to make credible commitments is unlikely, there will be incentives for opportunistic behavior and blackmail, with each aiming to achieve greater concessions. Carrubba and Volden (2000) predict that, in order to create a more stable exchange environment and less subject to high defection costs, parties create a minimal necessary coalition (MNC) greater than the minimal winning coalition. They also envisage a surplus coalition when the number and diversity of actors is large, when the budget is difficult to approve, and when legislation tends to be costly or inconvenient to its members.

The major change in coalition literature was the rejection of the hypothesis that parties can make credible, mainly intertemporal, agreements. Austen-Smith and Banks (1990), for example, show that the equilibrium of induced structure in the allocation of ministries would only occur in the very special case of two dimensions of policies with circular preferences (in which there is no particular preference for specific policies). According to Diermeier and Krehbiel (2003) and Diermeier (2006), the cause of these problems lies in the assumption that parties that form the core of the coalition can find cooperative solutions by making credible agreements (core solutions). Ansolabehere and partners (2005) also agree that *formateurs* enjoy considerable advantages. Rather than relying on the proportion of seats as a criterion for allocating power and resources to coalition members, these authors use a weight-voting measure to predict the ex post payoff distribution to coalition members. They show that although strongly correlated, both proportion of seats and voting differ in important aspects. The real resource that each party brings to the negotiating table does not translate only into seats in parliament, but the ability to form a majority coalition with society. In other words, it is important to control a party's leverage capacity in the coalition from its actual voting behavior.

As can be seen, a significant group of authors point out that larger coalitions will lead to higher costs. However, unlike the forecast for forming MWC in virtually all previous formal models, Groseclose and Snyder (1996) modelled the construction of supermajority coalitions and demonstrated that they may be cheaper than forming an MWC. The authors argue that supermajorities occur more frequently because they prevent small parties from acting as the 'casting vote'. In some presidential regimes, for example, a lack of partisan loyalty and discipline means that an MWC may not be enough to win consistently over time. As a consequence, a *formateur* may think that it is cheaper to assemble supermajorities, in which no party belonging to the coalition can be imagined as the pivotal point. Larger coalitions can also occur when two supportive "buyers" with opposing preferences (interest groups, political parties, etc.) have significant resources and bargaining power.

The president's second decision in the management of their coalition concerns the ideological distance between coalition partners. Axelrod (1970) states that ideology is an important aspect, as the prioritization of the parties in the implementation of public policies would lead the *formateur* to compose an executive branch willing to implement policies closer to the *formateur's* preferences. The analytical results of the author refer to a minimum connected winning coalition. A formation in which the parties that make up the government would be adjacent to each other, on a one-dimensional ideological scale. Swaan (1973) adds to this argument and, less strictly, points out that political agents prefer to join winning coalitions with the least possible dispersion in policy preference (closed minimal range theory), not always ideologically adjacent, but always with least amplitude and possible ideological heterogeneities. The behavioral assumption is that ideologically close coalitions will have less conflict of interest and therefore will distribute larger payoffs to their members, and as a consequence, should be easier to create and sustain.

Baron (1991) argues that the analytical equilibrium achieved in forming coalitions depends on the configuration of parties' preferences and on the structure of the process of government formation. In another study, Baron (1993) concludes that parties elaborate their platforms considering not only the present time and in order to be elected, but also eventual bargains during the process of forming the coalition government.

The president's third decision in coalition management concerns the level of power sharing among coalition partners. These strategic choices are not independent of one another but are macro-managerial decisions that interconnect and have direct consequences for the quality, level of conflict, sustainability, cost, and governance of a president. Baron and Ferejohn (1987), in dealing with this issue, have suggested a model based on sequential negotiation between three players. In this model, a party or legislator is selected to make a policy proposal. This party suggests an allocation of benefits to a particular constituency. If the proposal is accepted, the game ends and the players are rewarded according to the proposal. If the proposal is rejected, the negotiation continues with the third player until a proposal is accepted or the game ends. The Baron-Ferejohn model predicts that the *formateur* party will receive a share of cabinet posts disproportionate to the total weight it would have in the legislative branch, and other coalition partners in government will receive returns commensurate with their voting weight in parliament. This is because the *formateur* party will propose forming a minimum winning coalition composed of itself and another party that would receive only what is needed to guarantee acceptance of the proposal, especially if this coalition partner is less likely to be rewarded with the continuation of the negotiation. The third party, the group that is not part of the coalition, on the other hand, would have no reward. The distribution of returns in this framework is highly unequal, especially if time is a key variable for parties.

Unlike the Baron-Ferejohn model, the demand-negotiation models of Morelli and Montero (2003) provide "pure proportionality" when it comes to rewards for each party in a given coalition, including the *formateur* party. Rather than making sequential offers — as in the Baron-Ferejohn model — players make sequential demands, trying to be compensated for their participation in a giving coalition. Intuitively, each party has the same bargaining power in the game of demand negotiation and this is reflected in an *equilibrium game*.

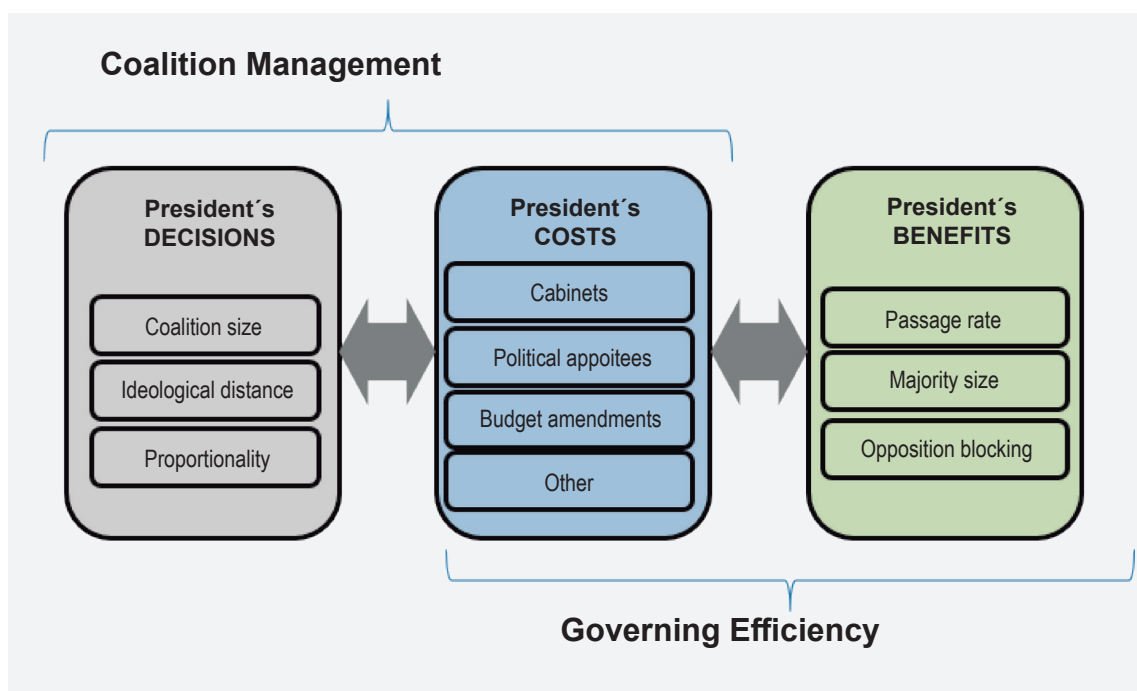
A variation of the demand negotiation model was proposed by Merlo (1997), who considers that the value of the prize changes over time, implying that in some situations, it would be more advantageous for parties to postpone the solution to the game and wait for new interactions in the future. Thus, when waiting costs are not high, delays could generate balance and produce a great deal for the negotiating parties. One of the interesting features that distinguishes the Baron-Ferejohn model from the Morelli and Merlo models is that the latter are motivated by Gamson's law, which implies proportionality in the distribution of ministries among coalition partners to their share of seats in the legislative branch (Gamson, 1961), while the former advocates disproportionate returns to certain members of the coalition (usually the *formateur*), regardless of the distribution of seats.

Based on the rich discussion of this literature, especially oriented to understand choices and decisions of coalition management in parliamentary systems, the general hypothesis of this article is that the process of forming and managing coalitions in multi-party presidential systems implies costs of different orders for the president. This general hypothesis can be divided into three secondary hypotheses: 1) Large coalitions, with more parties, demand more resources (exchange goods) to maintain themselves over time; 2) Coalitions with greater ideological diversity would be more difficult to co-ordinate and manage and, therefore, more costly; 3) Coalitions with a disproportionate profile of reward that privilege one of the partners, demand from the president the mobilization of additional resources to guarantee satisfaction of the other sub-rewarded members of the coalition.

In the negotiations with parties and members of the Congress in order to form their coalition, Brazilian presidents have, with a high degree of discretion, a set of “exchange goods” that are part of the portfolio or “toolbox” of the government management. These assets are bargaining objects to obtain support of the Congress for the president’s initiatives, as well as possible blockades of actions from the opposition in order to constraint the executive branch. It is possible to consider governing costs as the equivalent of all *disutility* derived by the president in the process of coalition management, which includes all transfers from the president to partners, including to the president’s own party. The basic assumption of this theoretical framework is that presidents maximize political support in Congress with the lowest possible management cost.

Although presidency is based on a configuration of power generated by the elections, on which the president may have only indirect influence (hence considered here as ‘exogenous’), this configuration does not completely define the characteristics of the presidential coalition. That is, the president has room to implement specific strategies from the available political arrangement. The effect of these choices will be reflected in the exchange currencies (and in what volume) that will be needed to form and maintain the coalition.

FIGURE 1 CONCEPTUAL MODEL OF PRESIDENTIAL COALITION MANAGEMENT



Source: Figure elaborated from the theoretical-conceptual model developed in this article.

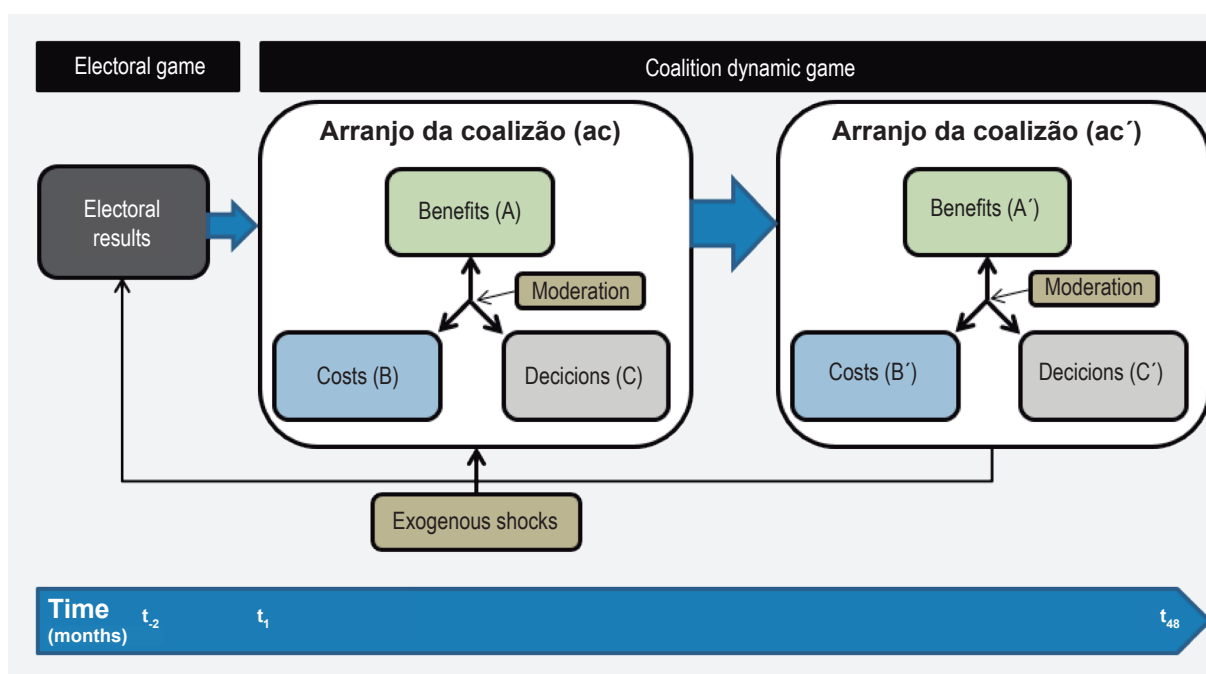
Moreover, the coalition choices are not forever or stagnant. On the contrary, they follow a highly dynamic logic and are full of potential endogeneities, producing results that can change the initial composition of the coalition government. Presidential coalitions, therefore, are not only formed

and maintained, but managed over time, according to their efficiency, that is, their costs in terms of exchange goods and their returns in terms of political support in congress.

Carroll and Cox (2004) argue that instead of waiting for *nature* to define the outcome of the election in order to establish the limits of the bargaining game between potential partners of the coalition, ambitious politicians can start negotiating before the election. Taking into account the negotiations that began before the election, the authors affirm that the parties must “pay” not only for the contributions in the legislative branch (number of seats occupied, *formateur* status), but also for contributions in the elections. In this way, pre-electoral pacts would provide incentives for a more proportional allocation of ministries.

External shocks (economic crises, unemployment, inflation, etc.) and internal shocks (ministerial reforms, mid-term mayoral elections, corruption scandals, etc.) can also have a decisive impact on the equilibrium and utilities that the president and his partners derive from the coalition. These shocks will promote repositioning of forces on the political spectrum, which tend to change the parameters of the coalition. Observing a specific election outcome and a new power arrangement, the bargain will be redefined and the president will need exchange goods to ensure the maintenance of an efficient coalition, evaluating the importance of this party to the coalition and ensuring support at acceptable costs (See figure 2).

FIGURE 2 DYNAMIC OF THE COALITION GAME



Source: Figure elaborated from the theoretical-conceptual model developed in this article.

Figure 2 shows a scheme representing the dynamic of the game between the president and their coalition over the term. It is assumed that the electoral outcome establishes a certain distribution of power between the parties and their respective ideological preferences. The president, as a *formateur* of the coalition, makes an offer of political and financial assets to the parties in exchange for political support, forming the government's coalition. Based on these choices (number of partners, ideological diversity among them, and degree of power sharing), coalition participants achieve a degree of satisfaction that generates balance/governance capacity. However, the balance achieved is dynamic and can vary in the face of external or internal shocks when coalition members (president and parties) update their respective utilities and decide on new prizes/rewards to continue or withdraw from the coalition and under what conditions. A new equilibrium can thus be achieved by generating governance capacity, which, in turn, engenders a new cost matrix.

Another relevant aspect concerns the degree of political vulnerability of the president in relation to the legislative branch. It is rational to infer that the greater the size of the president's party in the legislative branch and the less partisan fragmentation in Congress, the smaller the president's need to build inter-party coalitions. On the other hand, the more vulnerable the president's party is in the legislative branch and the more fragmented the Congress, the greater the president's need to build post-electoral coalitions. Chaisty, Cheeseman, and Power (2014) built the Index of Coalition Necessity (ICN), multiplying the effective number of parties by the percentage of seats not occupied by the president's party, precisely to capture the president's party vulnerability in a fragmented environment. That is, this index attempts to capture the bargaining political environment at the beginning of the government generated by the election outcome.

The support from voters enjoyed by the president can also be a key variable in analyzing cost curves. It is possible to infer that presidents with high popularity would face fewer difficulties in forming and maintaining political coalitions, thereby lowering their costs by constraining members of parliament using the going public strategy (Kernell, 2006). On the other hand, unpopular presidents would have more difficulty maintaining their base of support in Congress, thus increasing their governing costs in the legislative branch.

3. STYLES OR STRATEGIES? THE SPACE FOR PRESIDENTIAL DECISION

Different from what is shown in some of the literature, this article argues that the president's management decisions and style are essential. The president is the central player in multi-party presidential system, and every one of their choices, regardless of institutions, have consequences. There is no 'institutional autopilot' in Brazilian presidentialism. This inevitably leads to a discussion about styles, strategies and the space of the presidential decision.

When comparing proportionality, size and heterogeneity of coalitions formed around different presidencies, the disparities in the choices made to set up and manage alliances with political partners are evident (see table 1). Proportionality was measured using the coalescence index, well known in literature.¹ As for the coalition size, the measure was the number of parties that control at least one

¹ The formula of the coalescence index can be found in Amorim Neto (2006). If closer to 100, the power distribution is more proportional, i.e. the parties get control over ministries in the proportion of their seats in the legislative branch, according to Gamson law (1961).

ministry. Finally, as a measure of ideological heterogeneity, the study used coefficients of variation (a ratio between standard deviation and average) of the ideologies of all the parties that formed the coalition.²

Like Lula, Dilma Rousseff built a very heterogeneous, large and disproportionate coalition, although the number of parties was slightly less than Lula's. President Lula had a coalition of 08 parties in his first term whereas Dilma had 07. Notwithstanding, Dilma's coalition gave her a large majority in the Chamber of Deputies with 328 seats, more than the 60% (308 seats) needed to approve constitutional amendments. The ideological spectrum of Dilma's coalition was very similar to that of Lula's, ranging from right to left parties. As for power sharing, Dilma's first cabinet was less monopolistic than Lula's, assigning 17 (46%) of the ministries to her own party (PT), whereas Lula allocated 21 ministries (60%) to PT. Although PMDB continues to be under-rewarded in Dilma's presidency — controlling six ministries (37%) — the party occupies a larger space than in Lula's first administration. It should be noted that the standard deviation for these dimensions is small, indicating a high strategic consistency of the presidents.

TABLE 1 COALITION MANAGEMENT STRATEGIES IN BRAZIL, PER MANDATE (1995-2013)

Mandate	Coalition's proportionality		Coalition's size		Coalition's ideological heterogeneity	
	Average	Standard Deviation	Average	Standard Deviation	Average	Desvio padrão
Cardoso 1	59.6	2.8	4.1	0.3	21.5	1.5
Cardoso 2	61.7	1.8	4.3	0.8	19.6	1.4
Lula 1	49.3	0.9	7.7	0.7	48.2	3.4
Lula 2	52.1	4.7	9.1	0.9	42.2	0.9
Rousseff 1	43.7	1.5	7.8	0.7	45.8	0.9

Source: Ipea/FGV (2015).

The ideological heterogeneity of the presidential coalitions in Brazil went to a new level with the arrival of the Workers' Party to power in 2003. From a strongly center-right coalition during the FHC government, Lula's presidency moved to an ideologically diverse coalition with the presence of extreme right-wing parties to the far-left parties, including parties considered at the center of the ideological spectrum. The same level of ideological heterogeneity was reproduced during Dilma Rousseff's mandates.

² The study used data regarding party's ideology as proposed by Power and Zucco (2012).

There was intense variation in the degree of power sharing among partners in the period studied. FHC (PSDB) maintained a high level, between 59 and 62 during his two terms, mainly due to the good distribution of power with the PMDB. The period ruled by the Worker's Party (PT), on the other hand, showed a tendency of low power sharing with allies, especially as they faced internal challenges of disputes between party tendencies. Comparing the PSDB and PT administrations in the presidency, it is possible to say that the first was characterized by smaller coalitions, while the second considerably increased the size of the coalitions, especially in Lula's period. Dilma Rousseff apparently reshaped the size of the coalition at lower levels, though still superior to FHC.

The challenge of dealing with his own party seems to have been one of the most difficult challenges that President Lula had to deal with. As a result, it was necessary to adopt a risky strategy, which proved to be very costly. Meneguello (1989) and Hunter (2010) point out that PT was created in the 1980s as a result of an unusual alliance between workers, intellectuals, the church (Liberation Theology movement) and social movements. The authors consider PT an innovation, both for its leftist political platform — which seeks (generalizing) to achieve social inclusion in democracy — and for its internal organization (with multiple groups and different positions within them).

In order to accommodate the diversity of interests and groups within the Worker's Party in the government, Lula decided to expand the number of ministries from 21 to 35. Most of the ministries (about 60%) were allocated to PT members, especially those linked to the majority forming the government. In December 2003, PMDB entered the presidential coalition as the ninth party, receiving only two ministries. In fact, Lula did not open enough space for PMDB to be rewarded in proportion to its political representation in Congress. The biased distribution of power and resources to PT was also reproduced in the positions filled by appointment in the federal bureaucracy. For example, Prata, Freitas and Hoepers (2011) show that PT held more than 66% of these positions, relegating the other coalition parties such as PMDB, PP and PTB to 12%, 6%, and 5% of the positions, respectively.

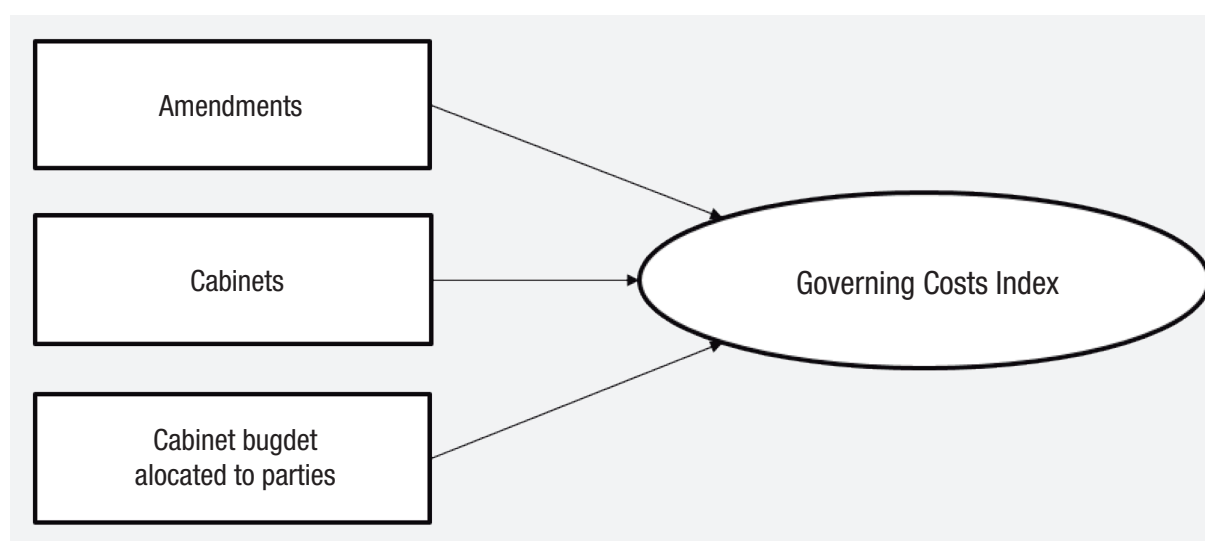
4. GOVERNING COSTS INDEX (GCI)

The studies that modelled the strategic decisions of the presidents involved in the bargaining game to get support of the legislative branch, even though using different means, converge in defining that the president has under their control and discretion a set of political and monetary resources. The president strategically distributes such resources to parties and legislators (Cheibub, Przeworski and Saiegh, 2004; Raile, Pereira and Power, 2010; Zucco, 2009), but it is unclear the size of the resources distributed and how they change over time.

There is, therefore, an empirical challenge of measurement that is the elaboration of an aggregate measure that allows comparing governing costs between different presidents and at different periods of time. This study proposes the elaboration of a synthetic Governing Cost Index (GCI). The criteria used to evaluate the quality of the indicators that form this index were proposed by Guimarães and Jannuzzi (2011): relevance to political agenda; validity of concept representation; measurement reliability; methodological transparency in building the indicator; communicable to

the public; operationally feasible to obtain it; periodic updating; it is possible to disaggregate it and it is available to compare over historical series. GCI is composed by the number of ministries that a president decides to have in their government; the total resources the president decides to allocate between ministries; and the amount the executive branch decides to execute from amendments proposed by the legislative branch to the federal budget (figure 3). GCI is then formed by “Number of Ministries and Secretariats with ministry status”; the “Natural Logarithm of Total Expenditures with Legislative’s Amendments to the Budget”; and the “Natural Logarithm of Total Expenditure to Maintain Ministries”. The decision to transform the values of the variables in (R\$) at 2014 prices in a linear way was made because of the dimensional disparities between the three GCI variables. The final result of the GCI is a smoothing technique, due to the seasonal nature of the distribution, with the time series always showing much higher values in the month of December, in relation to the other months of the year.

FIGURE 3 COMPONENTS OF THE GOVERNING COSTS INDEX



Source: Figure elaborated from the theoretical-conceptual model developed in the article.

GCI was obtained from a factorial analysis model, using principal components. This technique is often used to reduce dimensions in building synthetic indexes, in order to facilitate the analytical understanding of the data. The idea of the synthetic index is to transform a larger set of data in something that can be better understood and visualized, such as a summary number that allows to establish comparisons between units of analysis – in this case, the presidencies of Brazil.

GCI is a formative indicator, i.e. the causality flows from the measurable variables to the latent variable, which results from a linear composition of the measurable variables (Diamantopoulos and Siguaw, 2006; Diamantopoulos and Winklhofer, 2001). There is a long discussion in the literature

about the possibilities of application and calculation of training indicators (Edwards, 2010). The construction of formative indicators implies a decision about the weight that will be assigned to each variable in its composition.

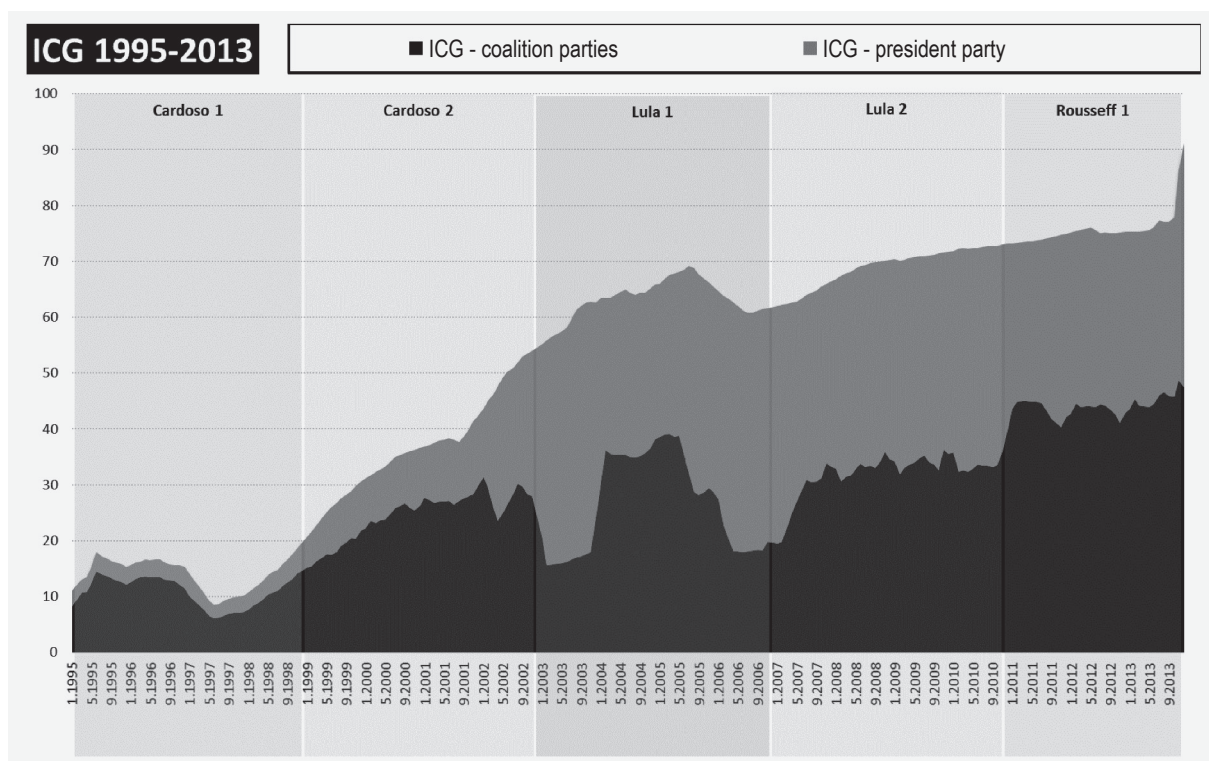
One possible solution is to assign arbitrary weight, based on the established theory or expert judgment. Another option is to let the data variance matrix define the weight. In the absence of a consolidated theory, the option in this study was to assign weight for each variable forming the index based on its contribution to explain the total variance, which is the factorial load of this variable in the composition of the factors. That is, the index used here gives more weight to variables with greater variance, which means that it gives more importance to the aspects that make the presidents more different from each other in relation to the cost profile, and less weight to the aspects that make them similar.

Thus, from an analysis of the correlation matrix of the variables, it is possible to obtain synthetic indicators, which consist of a linear combination of the original variables that synthesize and explain these indicators (Coltman et al., 2008). When applying this model to the data, it was possible to generate a synthetic indicator, which is the linear combination of the three variables described above, explaining 70.8% of the total variability of the data generating only one factor with an eigenvalue greater than 1. In the application of this method, the solution of a factor will be both better and greater for the proportion of the total variance contained in the first factor (Fisk, 1977). The weight assigned automatically to the variables that make up the index were: 0.619 for the “Number of Ministries and Secretariats with ministry status”; 0.497 for the “Natural Logarithm of Total Expenditures with Legislative’s Amendments to the Budget”; 0.608 for the “Natural Logarithm of Total Expenditure to Maintain Ministries”. The decision for the choice of variables that make up the index meets the objective criterion of ‘data availability’.³

Another objective issue is the period of GCI availability, limited by the availability of the variables that form it. GCI has values for the period between January 1995 and December 2013, which represents coverage of 19 years, or 228 months. Nevertheless, this period includes, in part or in full, the actions of FHC, Lula and Dilma Rousseff in the presidency.

As observed in graph 1, the cost of presidential coalition management varied considerably in Brazil, not only regarding the total cost, but regarding the elements that form this cost: whether only with the president’s party or with the coalition partners’ party. For instance, the first term of president FHC was characterized by the relatively low total cost (average of 14.1 point). FHC costs with his own party, PSDB, were lower than the costs — added together — with other parties of his coalition (average of 3.2 and 10.9 respectively). In his second term, however, there was an expressive raise in government total costs (average of 37.2 points) and costs with PSDB (average 12.7 points). The president’s party still generated considerably less costs than the sum of the other partners of the coalition (average 24.5 points).

³ Despite the total number of positions filled by appointment – or the total federal resources used to fund these positions — representing a substantial part of the government’s cost from the theoretical point of view, there is still technical limitations to make this information available in a descriptive way, per party and per month, as needed for this research.

GRAPH 1 GOVERNING COSTS INDEX (GCI), 1995-2013

Source: Ipea/FGV (2015).

When PT took office in Brazil, not only did the total costs of government increase (average 63.3 points), but there was also a reversal in the composition of costs. The president's party became the main recipient in relation to the other parties of the president's coalition (average of 36.7 and 26.6 points, respectively). A similar pattern was reproduced in President Lula's second term. However, there is a small increase in total costs (average of 69.1 points), mainly from half of Lula's second mandate. This growth was mainly due to an increase in costs with the other parties of his coalition in relation to PT (average of 32.2 and 36.8 points, respectively). Finally, the first government of President Dilma Rousseff presented a considerable increase in total governing costs (average of 76 points). However, for the first time in a PT government the costs with the president's party were relatively lower than the costs with the sum of the expenditures related to other coalition parties (average of 31.8 and 44.2, respectively).

Table 2 consolidates the costs of managing the coalition of the president (GCI) by discriminating the average costs by presidential mandate with the president's party and the sum of costs with the other coalition parties. The last column of table 2 shows the distribution of the *Index of Coalition Necessity* during the five mandates studied. There is a great variation in this amount of the president's vulnerability, which takes into account the size of the president's party in relation to the fragmentation of parties in Congress.

TABLE 2 COSTS OF COALITION MANAGEMENT IN BRAZIL (AVERAGE PER MANDATE), 1995-2013

Term	GCI	GCI Coalition	GCI President's Party	GCI Coalition (%)	GCI President's Party (%)	Index of Coalition Necessity
Cardoso 1	14.1	10.9	3.2	76.7	23.3	57.8
Cardoso 2	37.2	24.5	12.7	67.3	32.7	56.5
Lula 1	63.3	26.6	36.7	41.6	58.4	71.3
Lula 2	69.1	32.2	36.8	46.6	53.4	79.8
Rousseff 1	76.0	44.2	31.8	58.2	41.8	85.8
Mean	50.7	26.8	23.8	58.1	41.9	69.4

Source: Ipea/FGV (2015).

While FHC's two governments were less vulnerable (Index of Coalition Necessity around 57.8 and 56.5, respectively), PT governments were definitely more reliant on the need to govern through coalitions (Lula1, 71.3 and Lula2, 79.8, and Rousseff, 85.8). This significant increase in the coalition need in Dilma's first term is explained, fundamentally, by the increase in party fragmentation in the legislative branch. For a comparative idea, while the general average of the period 1995-2013 in Brazil was 69.4 points, Chaisty and partners (2014) show that other multi-party presidential systems present presidencies with much lower rates of coalition need: Ecuador, 20.33 in 2002; Chile, 46.73 in 2002; Armenia, 39.52 in 2003; Russia, 37.88 in 1999; Ukraine, 19.80 in 2010; Kenya, 25.42 in 2002; Benin, 22.56 in 2006; and Malawi, 18.35 in 2004.

5. PAYING THE PRICE OF DIFFERENT MANAGEMENT STRATEGIES

To test the relationship between management strategies and GCI, the study used a non-balanced linear panel with first differences. The main independent variables, operationalized from their monthly variations, correspond to the president's three main choices of how to manage the coalition: proportionality, size, and ideological heterogeneity of government coalition partners. The dependent variable of the model is the monthly variation of the GCI.

The purpose of this test is to identify how the variations in presidential strategies affect the cost variations resulting from these strategies, i.e. the test captures the dynamics of the relationship between management and costs in a time series. The panel is unbalanced because President Dilma Rousseff's term in office differs from the others.

Initially a parsimonious model of governing costs was estimated including only the three explanatory variables that make up the core of presidential choices in terms of coalition management. Model 1 in table 3 shows that coalition management is directly associated with the costs presidents incur in order to achieving governability.

The results strongly corroborate the main hypotheses, confirming that the more proportional the coalition, the lower the governing costs; the larger the coalition, the higher the governing costs; and the more heterogeneous the coalition, the higher the governing costs.

TABLE 3 COMPARISON BETWEEN ESTIMATION MODELS. BRAZIL, 1995-2013. DEPENDENT VARIABLE: GOVERNING COSTS INDEX (GCI)

	First-differences panel					OLS
	(1)	(2)	(3)	(4)	(5)	(6)
Proportionality	-0.505*** (0.180)	-0.518*** (0.181)	-0.491** (0.234)	-0.500** (0.235)	-0.515** (0.236)	
Size	0.673** (0.295)	0.679** (0.295)	0.569 (0.365)	0.567 (0.365)	0.568 (0.366)	
Heterogeneity	3.147*** (0.549)	3.153*** (0.549)	3.264*** (0.591)	3.288*** (0.596)	3.128*** (0.631)	
Popularity		-0.005 (0.006)	-0.006 (0.006)	-0.005 (0.006)	-0.005 (0.006)	
Index of Coalition Necessity				-0.014 (0.035)	-0.012 (0.035)	
Gap in ideology president/Congress					0.309 (0.400)	
Proportionality × Popularity			-0.001 (0.005)	-0.001 (0.005)	-0.001 (0.005)	
Size × Popularity			0.004 (0.008)	0.005 (0.008)	0.005 (0.008)	
Heterogeneity × Popularity			-0.004 (0.009)	-0.004 (0.009)	-0.004 (0.009)	
Cardoso1						-2.570*** (0.094)
Cardoso2						-1.588*** (0.095)
Lula1						-0.505*** (0.094)
Lula2						-0.262*** (0.094)
Constant	0.057* (0.030)	0.057* (0.030)	0.054* (0.030)	0.056* (0.030)	0.059* (0.031)	
N	222	222	222	222	222	227
R ² Adjusted	0.150	0.153	0.152	0.152	0.154	0.834

*p<0.1; **p<0.05; ***p<0.01

Source: Econometric models applied to data from Ipea/FGV (2015).

However, popularity may not have the moderating role initially assumed. When controlling for popularity and testing a possible moderating effect of this variable on the three management variables, no significant effect was observed (models 2 and 3). While coalition management choices represent decisions that directly impact costs, popularity is an attribute that accompanies presidents that presented higher costs.

Another important result is that when controlling for the Index of Coalition Necessity (model 4), the effects of proportionality and heterogeneity remain statistically significant. That is, although there are restrictions to the president when working to form coalitions based on the electoral outcomes — restrictions that are out of the presidents' control — there is still room for markedly different strategies of coalition management. This means that electoral outcomes influence, but do not define the strategies.

It is interesting that the size of the coalition is precisely the management variable that loses significance after the inclusion of control. It makes sense that this is a management variable more limited by the constraints of the political environment, that is, a management variable over which the president has less influence. Perhaps the great fragmentation makes it impossible to obtain majorities without inviting a large number of parties to be part of the governing coalition, but does not compulsorily establish that these parties will be ideologically far away, much less determines that they will receive rewards unproportioned to their contribution to government.

The same happens when including a variable that measures the distance between the average ideologies represented in the Chamber of Deputies and the ideology of the president (model 5). Even when controlling using another exogenous method that measures the president's vulnerability in Congress, the president's coalition management choices continue to be decisive for their governing costs.

In model 6, a simple ordinary least squares regression was performed, having as independent variables only the presidential mandates (dummies). This model explains 83% of the GCI variation in the analyzed period, which suggests that the cost of government is fundamentally associated with the management strategies of each of the presidents. The results of this model further reinforce the idea that President Dilma Rousseff has (due to the profile of her coalition management strategy) faced higher costs (Dilma's government is the model's reference category). On the other hand, President FHC presented the lowest costs among the three presidents analyzed.

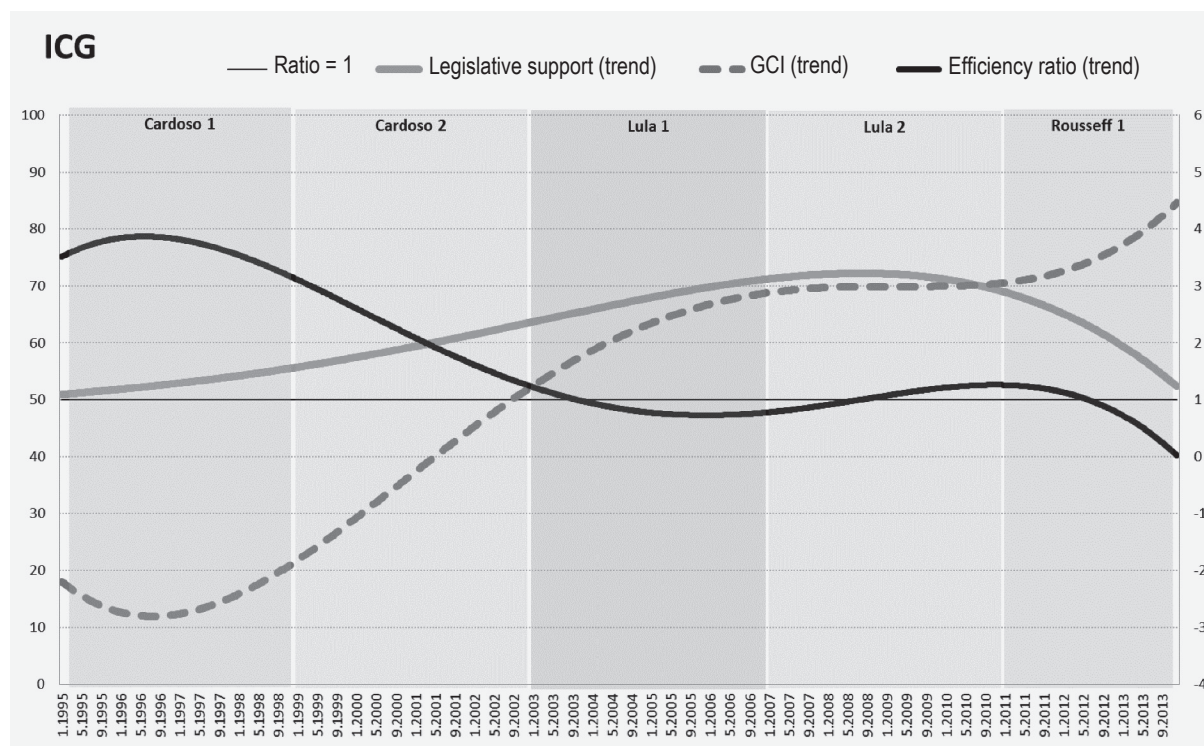
It can be argued that the first-differences model deals well with autocorrelation in the dependent variable, but it is not as efficient in dealing with the potential elements of endogeneity, which raise concerns when it comes to a theoretical model in which strategic interactions undeniably occur. To address this problem, some robustness tests were performed using three-stage seemingly unrelated regression models, one for each GCI component. These tests indicate that there is, indeed, empirical support for the theoretical model developed.

If governing costs are mobilized, in theory, to secure support for the president in the legislative branch, it would be natural to expect that higher costs would translate into greater legislative support in Congress. By dividing legislative support for coalition management costs, it is possible to perform a simple visualization exercise: building an efficiency curve that allows the comparison of costs vis-à-vis support (graph 2).

To calculate the Efficiency Ratio the percentage of legislative support to the president (from 0 to 100) is divided by the value of the GCI (from 0 to 100). This means that the straight line whose efficiency value equals 1 implies identical expenditure to support. Values greater than 1 indicate that total support was greater than the GCI and values less than 1 indicate that support in the legislative

branch was lower. This is merely an illustrative measure, which aims to compare the results of different presidents and to identify if there is any particular association between the GCI and legislative support for the president.

GRAPH 2 TREND OF GCI AND COALITION EFFICIENCY



Source: Ipea/FGV (2015).

There seems to be no relation between higher management costs and greater legislative support, since the curves follow opposite trends (graph 2). In fact, higher costs did not translate into greater support from members of the Congress. The opposite is also true. At various times, even with large investments, either through the creation of ministries, through the execution of amendments proposed by the legislative to the federal budget, or through the disbursement of greater resources from the ministries, the government had little support for its initiatives. Dilma's government would be a great example of this apparent paradox.

6. CONCLUSION

This article represents an unprecedented theoretical and empirical effort to understand the strategies of coalition management in multi-party presidential systems. The study investigates the determinants of the cost of government as a function of these choices. Part of the theoretical assumption is that to govern in an institutional environment that is inclusive and fragmented in terms of parties'

representation, the president must be constitutional and politically powerful and count on a range of discretionary exchange tools and goods capable of attracting political support from parties after the elections.

It is assumed that the president's goal is to maximize political support at the lowest possible cost. This means that the president needs to define how many and which parties will form the coalition and how much power and resources will be shared with these partners. Based on these choices, coalition participants reach a greater or lesser degree of satisfaction which, in turn, has the potential to generate greater or lesser balance/governability/cost. However, the balance achieved is not static but dynamic, and may vary from external or internal shocks. Shocks have the potential to update the expectations of costs and benefits earned by the president and coalition partners.

To test the hypotheses developed from the theoretical discussion, the study organized a time series of the three key variables of presidents' coalition management: size, ideological heterogeneity and proportionality. An index was built in order to compare governing costs in Brazilian post-re-democratization coalition governments. The index took as the main reference the allocation of first-level positions in the federal government, the transfer of financial resources via ministries, as well as the execution amendments proposed by the legislative to the federal budget.

The three main hypotheses find support in the empirical analysis. The presidential choice over the number of coalition parties substantially affects governing costs. It is important to observe that presidents, in theory, do not need to invite a number of parties to form a legislative majority. Many regimes work relatively well with minority coalitions or minimally winning coalition. Moreover, presidents have extra protection because of the constitutional separation between the branches of the state governance.

The Brazilian case shows an overburdened executive branch, as predicted by Strom and Mueller (1999), due to the presence of many parties in the coalition with total aversion to the risk of being a minority. This aversion is justified, since minority presidents rarely complete their mandates in Brazil. The supermajorities, formed as 'insurance' by these presidents, do not come cheap if they demand the participation of many parties, which goes in an opposite direction to what is recommended by Groseclose and Snyder (1996).

Likewise, the greater the ideological heterogeneity of the coalition, the higher the governing costs. As Martin and Vanberg (2014) argue, to be perceived as an effective and competent administration and at the same time able to pursue common goals and interests, partners in coalition governments must cooperate and accommodate their preferences. To this end, multi-party governments require compromise. However, building compromises with ideologically heterogeneous partners is potentially more costly. On one hand, the policies advocated by the parties would have to be consistent with the ideological preferences of their respective constituencies and interest groups (Mayhew, 1974; Strom and Muller, 1999). On the other hand, policies that are too far from the compromises agreed by each one of the parties forming a coalition of government can be harmful. Therefore, multi-party coalition governments are always characterized by the tension between the need for reaching compromises between partners and the desire of each of the coalition parties in not changing their respective policy agendas too much. What is clear from the empirical results of this article is that this tension (and respective costs) increases as the ideological positions of government coalition partners become more divergent.

Finally, empirical evidence also argues that ignoring the political weight of each partner (measured by the distribution of seats in Congress) when distributing power and resources among coalition members, especially by concentrating the allocation of the main bargaining instruments to the president's party, entails higher governing costs. The further the coalition manager goes from Gamson's (1961) assumptions, the more costly is the government, the greater the potential fissures and the greater the dissatisfaction among government partners.

It is important to note that during the period analyzed, except for the institution of reelection for executive positions and the change of rules regarding the reissuing of provisional measures, Brazil did not experience any relevant institutional changes that changed the configuration of institutional forces between the executive and the legislative branch. That is, even with practically the same institutional framework, markedly different governing costs were identified for different presidents.

Certainly, presidents face different exogenous constraints and distinct external and internal shocks during their mandates. However, the results indicate that these presidents are not simply hostage to the adverse political conditions generated by a fragmented environment, since they have diverse strategic options to manage the coalition. The president's management strategies continue to influence governing costs, even when controlled by such restrictions and shocks.

This means that, if the president does not do their homework by setting up coalitions with fewer, ideologically homogeneous partners, and does not share power proportionately with their allies, no matter how much they spend, they no longer have the support of the legislative branch. If there is a problem in Brazilian the multi-party presidential system, it would not be related to the institutional design, but fundamentally a problem of coalition management. Scars are, in general, self-inflicted.

As a final analytical exercise, it is proposed to attribute a degree of efficiency between different strategies of coalition management, especially with respect to the support conquered by the president in the legislative branch. Do governments that spend more, because of their choices of building large, heterogeneous and disproportionate coalitions, manage to achieve a high success rate in the legislative branch? Or, in addition to facing high governing costs, would "bad" coalition managers also face low support from the legislative branch?

One of the main implications of the empirical findings of this article, especially for comparative literature, is to reconsider the role of constitutional power and agenda control of executive over the legislative branch, which is related to building conditions to overcome issues of governability resulting from the centrifugal forces of the multi-party presidential system. In fact, constitutional and agenda powers are very useful and necessary, but they do not seem to be a sufficient condition for efficient coalition management.

A president must, first and foremost, do their homework. That is, manage coalitions with a small number of ideologically homogeneous parties and share powers and resources proportionately with their government partners. Raising governing costs by transferring more resources to political allies will not necessarily deliver the desired results. Instead, increasing these costs can lead to deterioration of governance over time, with successive defeats for the government in Congress, as a result of increased animosity and lack of cooperation among political partners. In a multi-party and fragmented game, coalition allies need a manager who can lessen coordination problems. Without this external coordinator (the president), legislative branch majorities become unstable, expensive and unpredictable, and the political crisis becomes routine.

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Frederico Bertholini

Holds a PhD in Administration from the Brazilian School of Public and Business Administration at Getulio Vargas Foundation. E-mail: fredbsr@gmail.com.

Carlos Pereira

Holds a PhD in Political Science from the New School for Social Research; Professor of the Brazilian School of Public and Business Administration at Getulio Vargas Foundation and Edward Laroque visiting professor at Stanford University. E-mail: carlos.pereira@fgv.br.