COALITIONAL DYNAMICS IN PRESIDENTIAL SYSTEMS

A Dissertation

by

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Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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May 2019

Major Subject: Political Science

ABSTRACT

In contrast to initial expectations, a recent literature has identified coalition formation as being almost as common in presidential systems as in parliamentary systems. However, few studies have analyzed the dynamics of coalition governments in presidential democracies. In this dissertation, I address these dynamics, which include government formation, government breakdown, and policy monitoring between coalition partners. Three questions are answered in this dissertation: What explains the variation in the advantage of the president's party with regards to the allocation of ministerial posts? Why and when do presidential coalition members monitor policies being implemented by their partners? Under what conditions are cabinet coalition terminations more likely to occur in presidential systems? My answers to these questions provide important insights into the fundamental differences between presidential and parliamentary forms of government.

DEDICATION

To Lindsey.

ACKNOWLEDGMENTS

I am aware of academia's general practice of offering discreet and moderate acknowledgments, but here I will choose to follow my emotions, and list spontaneous and open-hearted thanks to the people who generously shared their knowledge, their time, and their lives during my dissertation journey.

To my parents, Alcimar Nascimento da Silva and Maria de Fátima Nascimento da Silva, the source of all I conquered; for the unconditional support and love, and for giving me the opportunity, which they did not have, to choose my own career. We got here together.

To my sister, Catarina Nascimento da Silva Hermano, for caring, for the support, and for the example of strength in life. Also, for giving me and my wife such a lovely niece, Clarice.

To my parents-in-law, Skip and Becky Preble. With all your love, affection, and support, you have made my life in a new country much easier. For opening your house and for receiving and welcoming, always with great affection, all of my friends. For all the help you gave, and continue to give, me and Lindsey. You share in our achievements because of who you are and what you generously offer to us.

To my siblings-in-law, Lance and Noelle Higdon. For the support, for the affection, and for expanding our family's love by giving us two adorable nieces, Lydia and Iris.

To my professor and adviser, Guy D. Whitten, who changed the course of my personal and academic life. For his firm and keen guidance, always pushing me to give my best, and the countless hours he spent reviewing, discussing, and improving my work. For the freedom he gave me to pursue my studies, for trusting in my work, for the encouragement and advice, for the friendship, and for never giving up on me.

To professor and co-chair José Antonio Cheibub, whose addition and contribution to my committee was one of those pleasant surprises in life. For the countless hours he dedicated to me, helping me to think more clearly about my ideas and for unlocking my mind, for always motivating me through frank and joyful conversations, for all the encouragement and

confidence in me, and for the friendship he and Janet offered to me and my wife.

To professor William Roberts Clark, for the affection, expressed equally well in both professional criticism or a beautiful melody. For sharing his knowledge in political science, in music, and in life. For all the conversations we had, presenting me with new research perspectives, and discussing and polishing my rough ideas. For making my reasoning and writing clearer and logically consistent. For opening his house to me and my wife, and for the friendship with he and Laurie.

To professor Maria Escobar-Lemmon, for the great encouragement in my first years as a grad student at Texas A&M University. For her generosity in inviting me to join in research projects as soon as I started the program, for expanding my network, always being ready to offer kind words when I needed them most.

To Fernando Limongi and Lorena Barberia, for the first lessons and guidance on being a scholar. For all the encouragement and motivation, and for making me believe that I could take greater strides in my academic career.

To all professors, at Texas A&M University and abroad, for sharing their knowledge with me, for the co-authored projects, and for the countless tips they gave me to be a better scholar: Ahmer Tarar, Alexander Pacek, Amy Pond, Carlisle Rainey, Casey Crisman-Cox, Christine Lipsmeyer, Christopher Wlezien, Daniel Hidalgo, Diana O'Brien, Dan Wood, David Fortunato, Erica Owen, Ernesto Calvo, Florian Hollenbach, Ian Turner, Iñaki Sagarzazu, Jennifer Lueck, John Robertson, Kirby Goidel, Laron Williams, Matthew Furhmann, Michelle Taylor-Robinson, Nehemia Geva, Paul Kellstedt, Robert Franzese, Royce Carroll, Scott Cook, Scott Desposato, Timm Betz, and Vera Troeger.

To all my Brazilian friends, for making me feel so loved: Andrea Junqueira, Francesca Cricelli, Gabriel Madeira, Guilherme Duarte, Graziele Silotto, Marcelo Mayer, Marcelo Vieira, Natalia Bueno, Natália Moreira, Osmany Porto, Pietro Rodrigues, Samuel Moura, Vicente Colodeti, and Victor Araújo.

Special thanks to my friend, Nadim Mitri Gannoum, for nudging me during the IPSA-

USP Methods Summer School, encouraging me to arrange important meetings that were crucial to my coming to the United States. For the care, the support, and for generously receiving me every time I miss Brazil. My time with him and his family (Elbia, Mitrinho, and Agnus) makes me feel loved and fills me with the courage to keep moving forward.

To my new friendships built during my almost six years in College Station: Andrew Philips, Angel Molina, Agustina Haime, Alejandro Medina, Ali Kagalwala, Austin Mitchell, Cameron Wimpy, Flávio Souza, Janica Magat, John Niehaus, Josh Alley, Katsunori Seki, Kendall Funk, Kostanca Dhima, Nathalie Mendez, Niels Appeldorn, Rotem Dvir, Samantha Zuhlke, Spencer Goidel, Thiago Moreira, Thiago Talzzia, and Yoo Sun Jung.

A special thanks to my coffee partners, Alejandro Medina, Ali Kagalwala, and Thiago Talzzia. For the friendship, for caring, for the support, and for all our brainstorming sessions in the grad lounge.

To my wife, Lindsey Jane Nascimento da Silva, I dedicate this dissertation. I thought I was coming to College Station "just" to get my Ph.D. degree. But I discovered there were bigger plans for me, which ultimately was meeting Lindsey. I feel blessed to have such a supportive, smart, and kind wife. I would also like to thank her for patiently being always my first reader.

CONTRIBUTORS AND FUNDING SOURCES

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1. INTRODUCTION

Coalition formation, monitoring, and termination have been central subjects of interest to parliamentary studies for decades.[1] Recently, scholars have identified coalition formation as being almost as common in presidential systems as in parliamentary systems (Deheza, 1998; Lanzaro, 2001; Cheibub, 2007; Figueiredo, Salles, and Vieira, 2009; Camerlo and Martínez-Gallardo, 2018; Chaisty, Cheeseman, and Power, 2018). In fact, studies comparing parliamentary and presidential systems have suggested that the incentives for coalition formation are similar in both systems of government (Cheibub and Limongi, 2002; Cheibub, Przeworski, and Saiegh, 2004; Cheibub and Limongi, 2011; Cheibub, Elkins, and Ginsburg, 2014). However, we still do not understand when and why we should expect similarities and differences in coalition management (i.e., coalition formation, monitoring, and termination) across presidential and parliamentary democracies. To understand these differences and for a more comprehensive understanding of the dynamics of coalition formation, monitoring, and termination in presidential democracies, we must carefully consider the unique institutional characteristics between presidential and parliamentary systems of government.

Although incentives for coalition formation are shared by both parliamentary and presidential systems, and empirically, coalitions are common in presidential democracies, these are insufficient facts to understand the dynamics and how coalitions work in both parliamentary and presidential governments. Oddly enough, In spite of a vast literature examining the *consequences* of coalition governments in presidential systems, very few studies have explored the *functioning* (or *management*) of coalition governments in these systems in comparison

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[1]The parliamentary literature on these topics is extensive and includes, among others, De Swaan (1973); Browne and Frendreis (1980); Robertson (1983a,b, 1984); Strøm et al. (1988); Strøm, Budge, and Laver (1994); Laver and Schofield (1990); Laver and Shepsle (1990); King et al. (1990); Warwick (1992, 1994); Martin and Stevenson (2001); Warwick and Druckman (2001, 2006); Thies (2001); Lupia and Strøm (1995a); Müller and Strøm (2003); Strøm, Müller, and Bergman (2008); Indridason and Kam (2008); Bäck, Debus, and Dumont (2011); Martin and Vanberg (2004); Strøm, Müller, and Smith (2010); Lipsmeyer and Pierce (2011); Martin and Vanberg (2011); Carroll and Cox (2012); Falcó-Gimeno and Indridason (2013); Bergman, Ersson, and Hellström (2015); Cutler et al. (2015); Blondel and Müller-Rommel (2016); Bucur (2016); Döring and Manow (2017).

to parliamentary democracies. This is the main contribution of my research: To understand coalition management in multiparty presidential systems in comparison to parliamentary systems. According to the theories suggested in my dissertation, I expect the context and institutional specificities of presidential democracies to have important effects on cabinet formation, monitoring and termination.

Three questions are answered in this dissertation: What can explain the variation in the advantage of the president's party with regards to the allocation of ministerial posts during the government formation? Why and when do presidential cabinet members monitor the policies being implemented by coalition partners? Under what conditions are cabinet coalition terminations more likely to occur in presidential systems?

To answer these questions, I propose theories in which I adapt elements from the extensive literature on coalition governments in parliamentary democracies to the context and specificities of presidential democracies. Presidential systems have institutional features that are absent in parliamentary systems, and as these features may affect coalition management, they should not be overlooked: 1. Presidents have constitutional powers to form and reshuffle the government's cabinet; 2. Presidents are always the *formateur* in the government formation process and; 3. Due to the absence of no-confidence procedures, presidents have constitutionally fixed-terms, and, other than in exceptional cases, presidents remain in power even under adverse legislative conditions and coalition breakdown.

1.1 Chapters Outline

The chapters of this dissertation are organized to address the before-mentioned research questions on coalition management in multiparty presidential systems. There is evidence in parliamentary systems that ministerial posts (portfolios) are allocated roughly in proportion to the number of seats that each government party brings to the coalition. Studies of portfolio allocation in presidential multiparty democracies, however, have found that presidential parties consistently receive more portfolios than other coalition members. The expectation

that the president's party will receive a higher allocation of portfolios is supported by empirical evidence, and defined as the "*formateur*'s advantage." However, as I explain in the first chapter of my dissertation, despite the president's party typically receiving more portfolios than predicted by their seat share contribution, a significant variation in the size of the *formateur*'s advantage is observed. In this chapter, I develop a theory to explain when a greater *formateur*'s advantage can be expected within presidential democracies. I argue that there is a trade-off between the presidents' desire to control as many portfolios as possible, and their desire to legislate and influence policy. In fact, my results reveal that when presidents have greater institutionally-granted powers to influence the policy agenda in the legislature, a greater *formateur*'s advantage is observed.

A recent literature on parliamentary systems also shows that coalition members keep tabs on their partners to prevent ministerial policy drift. Building on this literature, in the second chapter of my dissertation I explore intra-coalition politics in presidential democracies. By analyzing more than 20,000 information requests made between 1995 and 2014 by members of the Brazilian Congress to individual ministers, I studied the flow of policy monitoring between coalition partners. I found that coalition partners participate in more policy monitoring when the ideological distance between them is greater. Thus, similar to parliamentary systems, coalition partners in presidential democracies have an incentive and do keep tabs on one another. I also theorize that certain institutional features of presidential systems—particularly the capacity of the president to fire a minister without fear of a government breakdown—lead to greater policy monitoring initiatives from junior partners as compared to the president's party.

In the third chapter, I research what circumstances lead to presidential coalition termination. One of the early beliefs about coalitions in presidential systems was that they would form only rarely, and that when they formed, they would be erratic and short-lived. Based on the exclusive powers of the president to form and reshuffle cabinets and the president's central position within coalition governments, I argue that economic indicators and the pub-

lic's evaluation of the president's performance to be crucial factors in predicting coalition termination. By examining 82 cabinets from 1978 to 2007 in 10 Latin American democracies, I show that presidential coalitions are more than ephemeral phenomena. They terminate for political and economic reasons, similar to those that can lead to parliamentary coalition termination. The difference between the two systems of government with regards to coalition termination is one of degree.

In the last chapter, I briefly summarize and discuss the implications of the findings of this dissertation. These findings further our understanding of coalition governments in presidential democracies, enhance our understanding of the relationship between the executive and legislature in parliamentary and presidential systems, and provide important insights into the fundamental differences between these forms of government. In this chapter, I also discuss the several avenues opened by this dissertation for future research in the topic of coalition governments in presidential systems.

2. EXECUTIVE-LEGISLATIVE INTERDEPENDENCE: THE ALLOCATION OF PORTFOLIOS TO PRESIDENTIAL PARTIES

2.1 Introduction

The standard view in comparative politics sees the executive as dependent upon the legislature in parliamentary systems, but independent from the legislature in presidential systems. In this study, I argue for a more nuanced comparison between these systems of government. While it is true that confidence procedures make prime ministers more dependent upon the legislature than presidents, the need for all executives to make policies means that all presidents are dependent upon the legislature to some degree. I theorize that the degree of presidential dependence on the legislature depends on institutional provisions that allow some presidents greater leeway in making policies. I then show that the variation in the dependence of the president on the legislature to make and enact policies has implications on how governments are formed and how they perform in presidential democracies.

In all systems of government, the chief executive wants to: 1. survive, and; 2. legislate. In parliamentary systems, in order to survive, the chief executive depends on a legislative majority in the parliament. To legislate, the chief executive depends on the support of a majority in the legislature, and a common approach to achieve this support is by building a majority coalition government. Therefore, in parliamentary systems dependence is introduced in two ways.

In presidential systems, the chief executive does not depend on a legislative majority to survive. Other than in exceptional cases, presidents will remain in power even under adverse legislative conditions. Thus, in presidential systems dependence enters in one way only, i.e., the president depends on the legislature to legislate (e.g., needing legislative majorities to approve her policy agenda). In this study, I show that, because this dependence on the legislature varies within presidential democracies, this helps explain the variation in the

allocation of portfolios to presidential parties.

Using data from 30 countries, I show that the distribution of portfolios occurs in a more proportional fashion to the share of legislative seats the members of the coalition contribute to the government in parliamentary democracies than in presidential democracies. I also show that a *formateur's* advantage—i.e., a bonus in the share of ministerial posts controlled by the *formateur's* party—is less prevalent in parliamentary democracies. Within a sample of presidential systems, I then demonstrate that if the president is more dependent upon the legislature to make and enact policies, the balance of power in presidential cabinets is more likely to reflect the balance of power in the legislature, similar to what we see in parliamentary democracies. Otherwise, if the president is less dependent upon the legislature to make and enact policies, the balance of power in presidential cabinets is more likely to reflect a *formateur's* advantage.

In the sections that follow, I begin by reviewing the literature on portfolio allocation in parliamentary and presidential systems of government. I then illustrate the differences we may see in the *formateur's* advantage between these two systems. I then develop my theoretical argument to explain the variance in the allocation of portfolios to presidential parties within presidential democracies. After introducing the dataset, I estimate a series of models to test the empirical implications of my theory, and offer an interpretation of the results. In the last section, I discuss my findings and suggest ideas for future research.

2.2 Portfolio Allocation in Parliamentary and Presidential Systems

It is frequently the case in multiparty systems—i.e., systems with more than two effective political parties—that no single party holds an absolute majority of seats in the national legislature. This circumstance usually compels heads of government to form a coalition in order to govern effectively. This inevitably involves horse trading between elites to determine how the government will be formed and which ministerial posts (portfolios) will be allocated

to those parties that comprise the coalition.[1]

Heads of government distribute ministerial portfolios across parties in exchange for legislative support. Legislative parties value portfolios, either because of their intrinsic benefits (e.g., access to office perks and patronage) or because portfolios provide the opportunity to shape the policy agenda of the government.

In the literature on parliamentary governments, much of the debate on portfolio allocation has focused on Gamson's idea (1961, p. 376) that, "any participant will expect others to demand from a coalition a share of the payoff that is proportional to the amount of resources which they contribute to a coalition." The operationalization of these resources as seat share contribution to the coalition was later developed by Browne and Franklin (1973, p. 457), who stated that "the percentage share of ministries received by a party participating in a governing coalition and the percentage share of that party's coalition seats will be proportional on a one-to-one basis."

Several tests on parliamentary democracies have found a high correlation between party seat share and portfolio share. These studies conclude that governing parties tend to receive portfolio payoffs in proportion to the share of legislative seats they contribute to the coalition (Browne and Franklin, 1973; Browne and Frendreis, 1980; Schofield and Laver, 1985; Laver and Schofield, 1990; Laver and Shepsle, 1996; Warwick and Druckman, 2001, 2006; Laver, de Marchi, and Mutlu, 2011; Bassi, 2013; Falcó-Gimeno and Indridason, 2013; Bergman, Ersson, and Hellström, 2015).[2] The empirical regularity of a proportional allocation of portfolios in parliamentary systems has been labeled as "Gamson's Law of Proportionality" (Warwick and Druckman, 2001).

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[1]The use of the term *coalition* in this study refers to government coalition and not legislative coalition. A government coalition is composed of the *formateur's* political party—i.e., the party that forms the government—and all parties that accept the ministerial posts offered by the *formateur*, whether these parties support the government in the legislature or not.

[2]The positive relationship between the share of legislative seats a governing party contributes to the coalition and its share of portfolios is not perfect. Browne and Franklin (1973, p. 460) reveal a deviation from the one-to-one proportionality in which small parties seem to receive more portfolios than we would expect based on their seat share contribution. More recent studies on parliamentary systems also present evidence that contradicts Gamson's Law (Ansolabehere et al., 2005; Golder and Thomas, 2014; Indridason, 2015).

Mechanisms have been suggested for the empirical support of Gamson's Law. Verzichelli (2008) suggests that while parties in favorable bargaining positions may accept a "fair" division of portfolios, those in a disadvantaged position may prefer to remain out of the government than accept an "unfair" offer. Carroll and Cox (2007) argue that coalitions based on pre-election alliances are more prone to exhibit proportionality in portfolio allocation. Bäck, Meier, and Persson (2009) argue that proportional allocation serves as a *focal point* (Schelling, 1981), helping parties to reduce bargaining costs and selecting equilibria in uncertain contexts where multiple equilibria (e.g., numerous coalitions) exist. Bassi (2013) suggests that the proportionality depends on parties' legislative sizes and preferences with regard to cabinet portfolios. Falcó-Gimeno and Indridason (2013) argue that more uncertain and complex bargaining situations often lead to a more proportional executive cabinet, as a result of parties encountering greater obstacles that prevent or hinder them from taking advantage of their bargaining position.

Recent studies highlight defining institutional features of parliamentary systems as the central explanation for the proportionality of portfolio allocation. Scholars have argued that chief executives face strong incentives to appoint proportional cabinets only when they depend on legislative confidence (Amorim Neto and Samuels, 2010; Golder and Thomas, 2014; Indridason, 2015).

In parliamentary systems, the *formateur* most often comes from the largest party in the legislature and generally becomes the new head of government (i.e., prime minister) if the formation succeeds. Because the prime minister depends on legislative parties for her government's survival, the prime minister cannot afford to ignore the preferences of the parties that will comprise the government (Amorim Neto and Samuels, 2010). Ignoring these preferences could result in a legislative majority removing the government from office by passing a vote of no confidence. If this happens, neither the *formateur's* party nor the parties that comprise the new legislative majority can be confident of a greater seat share in the next government formation attempt. Therefore, the presence of the vote of no confidence

in parliamentary systems deters the *formateur* from forming a cabinet too disproportional in her party's favor (Golder and Thomas, 2014; Indridason, 2015).

Compared to the vast literature on parliamentary systems, our understanding of whether portfolio allocation follows any degree of proportionality among the parties that compose the government in presidential systems is still underdeveloped. The scarcity of such studies on presidential systems reflects the fact that scholars have only recently identified coalition formation as being almost as common in presidential systems as in parliamentary systems (Deheza, 1998; Lanzaro, 2001; Cheibub, Przeworski, and Saiegh, 2004; Cheibub, 2007; Figueiredo, Salles, and Vieira, 2009; Cheibub and Limongi, 2011).

In fact, studies comparing parliamentary and presidential systems have suggested that the incentives for coalition formation are similar in both systems of government—i.e., for increasing the legislative strength of the president's party and for increasing the policy influence of coalition members (Cheibub and Limongi, 2002; Cheibub, Przeworski, and Saiegh, 2004; Cheibub and Limongi, 2011; Cheibub, Elkins, and Ginsburg, 2014). However, we still do not understand when and why we should expect similarities and differences in coalition formation across presidential and parliamentary democracies.

Parliamentary and presidential systems have different institutional features that must be carefully considered for a more comprehensive understanding of the dynamics of coalition formation. First, in presidential systems presidents are always the *formateur* in the government formation process (Cheibub, Przeworski, and Saiegh, 2004; Alemán and Tsebelis, 2011; Silva, 2016). As a consequence, under presidential systems, every government coalition must include the party of the president (Cheibub, 2007).

Second, because the government does not rely on the vote of confidence in presidential systems, presidents can change the composition of their cabinets at their discretion during their term in office, without fear of early elections. Having constitutionally-fixed terms ensures that, other than in exceptional cases, presidents will remain in power even under adverse legislative conditions (Shugart and Carey, 1992; Mainwaring, 1993; Altman, 2000b;

Cheibub, Przeworski, and Saiegh, 2004; Cheibub, 2007).

From the absence of the vote of no confidence in presidential systems, *formateur* parties are not reliant on their coalition partners for their continued survival in office. As a result, scholars suggest that *formateurs* in presidential systems will value the contribution of the legislatives seats of their coalition partners to the government less than would be the case in parliamentary systems (Ariotti and Golder, 2018). This means that non-*formateur* parties cannot expect the offers they receive to be as generous from presidential *formateurs* as from prime ministerial *formateurs*. It follows that *formateur* parties should receive a higher share of portfolios, relative to their legislative size, in presidential systems than in parliamentary systems (Amorim Neto and Samuels, 2010; Indridason, 2015).

In sum, institutional features of the presidential system should allow presidents to take advantage of their privileged bargaining position in the process of government formation. As a consequence, while we should expect a proportional distribution of portfolios in parliamentary systems, in presidential systems we should observe a disproportional distribution to the benefit of the *formateur's* party.

To understand the allocation of portfolios in parliamentary systems, it might be sufficient to estimate Gamson's Law as:

$$portfolio\ share = f(seat\ share\ contribution)$$

In comparison to parliamentary systems, however, it is expected that the *formateur's* party in presidential systems receives more portfolios than predicted by its seat share contribution. In this case, we would need to add the *formateur's* status of presidential parties as a factor to explain the distribution of portfolios in presidential systems. The current literature already reveals a bonus in the portfolio share for the president's party on average (Altman, 2000b; Amorim Neto and Samuels, 2010; Indridason, 2015; Ariotti and Golder, 2018). Yet, in the next section I show that there is more variation in the share of portfolios controlled

by presidential parties than the literature acknowledges.

2.3 The Variation in the Allocation of Porfolios to Presidential Parties

The proportional distribution of ministerial portfolios, known as Gamson's Law (1961), suggests that coalition parties should receive shares of portfolios proportional to the share of legislative seats they contribute to the coalition. The equation to test Gamson's Law can be expressed as:

$$p_i = \alpha + \beta s_i + u_i$$

Where p_i is the share of portfolios party i receives from the total of available portfolios (i.e., the number of cabinet portfolios controlled by party i divided by the total number of available portfolios in the cabinet); s_i is the share of legislative seats governing party i contributes to the coalition when the cabinet is appointed (i.e., the number of legislative seats party i brings to the coalition divided by the total number of legislative seats controlled by the coalition); u_i is the error term, and; α and β are parameters to be estimated. A perfect proportionality in portfolio allocation—Gamson's Law—implies that, from the above equation, β should equal one, while α should be zero.

The standard method of testing Gamson's Law is to conduct an ordinary least squares regression (OLS) of the share of portfolios they control (their *portfolio share*) on the legislative seat share that governing parties contribute to the coalition (their *seat share contribution*). Table 2.1 presents the relationship between these variables in parliamentary and presidential systems of government. The expectations are 1. the translation of seat share contribution into portfolio share should occur in a more proportional fashion in parliamentary systems than in presidential systems, and; 2. on average, the *formateur's* advantage should be greater in presidential systems than in parliamentary systems.

In Model 1 of Table 2.1, Gamson's Law is tested across parliamentary democracies using Warwick and Druckman's (2006) data, comprising 807 observations at the governing party

Table 2.1: Testing Gamson's Law and the *Formateur*'s Advantage in Parliamentary and Presidential Systems

	Gamson's Law		Formateur Advantage	
	Model 1 (Parliamentary)	Model 2 (Presidential)	Model 3 (Parliamentary)	Model 4 (Presidential)
Seat Share Contribution (%)	0.843***	0.503***	0.814***	0.278***
	(0.009)	(0.028)	(0.013)	(0.027)
Formateur			0.022***	0.223***
			(0.007)	(0.014)
Intercept	0.052***	0.079***	0.055***	0.080***
	(0.004)	(0.011)	(0.004)	(0.009)
N	807	596	807	596
R^2	0.91	0.36	0.91	0.55
RootMSE	0.06	0.16	0.06	0.14

Dependent variable: Portfolio Share (%).

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The hypotheses tests for the *Intercept* and *Formateur* are:

Null hypothesis: $\alpha = 0$; *Alternative hypothesis:* $\alpha \neq 0$.

The hypotheses tests for *Seat Share Contribution* are:

Null hypothesis: $\beta = 1$; *Alternative hypothesis:* $\beta \neq 1$.

level (i.e., the unit of analysis) from cabinets formed across 14 European countries from 1945 to 2000. In Model 2, Gamson's Law is tested in presidential democracies using new data at the governing party level as well from 13 presidential cabinets formed over more than 50 years (1959-2017), comprising 596 observations. Model 3 and Model 4 present the results for testing the *formateur's* advantage in parliamentary systems and presidential systems, respectively.

As expected, the results from the Gamson's Law models indicate that seat share contribution is translated in portfolio share in a more proportional fashion in parliamentary systems. A $\beta = 0.84$ in Model 1 and a $\beta = 0.50$ in Model 2, both statistically significant at level 0.001, suggest that the link between an increase in *seat share contribution* and an increase in *portfolio share* is weaker in presidential democracies. The models to test the *formateur's* advantage (Model 3 and Model 4) include a binary variable *formateur*, identifying

the party that forms the government. While in parliamentary democracies the *formateur* party seems to receive a small bonus in the allocation of portfolios (with a significant coefficient equal to 0.02), the *formateur* in presidential systems tends to receive a much greater bonus in the portfolio allocation process. On average, the *formateur* status seems to give the *formateur's* party a bonus in *portfolio share* ten times larger in presidential systems than in parliamentary systems (compare Models 3 and 4).

It is noteworthy that *seat share contribution* accounts for much more of the variation of *portfolio share* in parliamentary systems than in presidential systems. Based on the results presented in Table 2.1, Figures 2.1a and 2.1b depict this variation identifying the *formateur's party*.

Figure 2.1: Proportionality in Portfolio Allocation in Parliamentary and Presidential Systems

(a) Parliamentary Systems (b) Presidential Systems
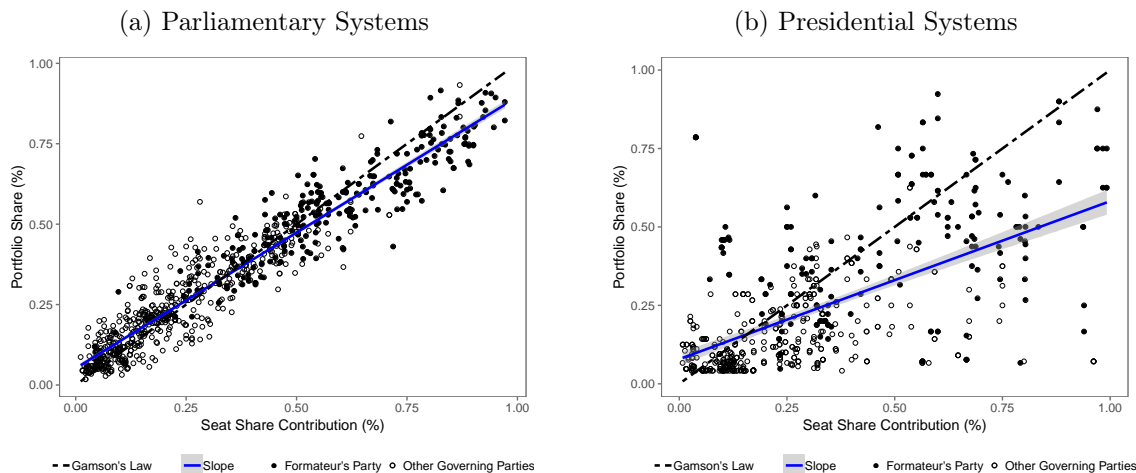
Each dot in Figures 2.1a and 2.1b represents a party that ended up in government, with solid black dots identifying the *formateur's* party. Observations above the 45-degree black dashed line (representing Gamson's Law) are parties that received more portfolios than expected based on the number of legislative seats they contribute to the coalition, while parties below the dashed line are parties that received less portfolios than expected based

on their number of legislative seats. Observations located on the dashed line are parties that received a proportional share of portfolios based on their seat share contribution to the coalition.

An R^2 of 0.36 in Model 2 of Table 2.1 (almost a third of the value of the R^2 in Model 1) and the higher variation of the solid black dots identifying the *formateur's* party above and below the slope line in Figure 2.1b suggest that something else, besides *seat share contribution*, could explain the variance in *portfolio share*. Adding the *formateur* status into Model 2 of Table 2.1 increases the R^2 to 0.55 (Model 4). Although a higher R^2 is achieved, there remains significant variance in the *formateur advantage* models to be explained.

In this study, I theorize that the extent to which the president controls the legislative process is a crucial factor to understanding the variation in the allocation of portfolios to presidential parties. While in parliamentary systems, the government usually exerts control over legislation, in presidential systems, the policy-making powers of the president can vary significantly (Cheibub, 2007). There is a range, from institutionally-weak presidents who do not hold any active policy-making powers, to institutionally-strong presidents who essentially dominate the agenda and the time of the legislative process.

2.4 Executive-Legislative Interdependence

In multiparty presidential systems, presidents without legislative majorities have incentives to form a coalition, distributing portfolios in exchange for legislative support (Cheibub and Limongi, 2002; Cheibub, Przeworski, and Saiegh, 2004; Cheibub, 2007; Cheibub, Elkins, and Ginsburg, 2014). Given that presidents value both office and policy, this circumstance signals a clear trade-off for the president's party. Either the president's party has maximum control of resources and benefits of office (e.g., controlling all portfolios), or the president's party influences the policy agenda, exchanging some portfolios to other legislative parties for legislative support. In an extreme situation, the maximum disproportionality in the allocation of portfolios in presidential systems would occur if the president could control all

Figure 2.2: Constraints in Coalition Formation in Parliamentary and Presidential Systems

a. Parliamentary Systems

b. Presidential Systems
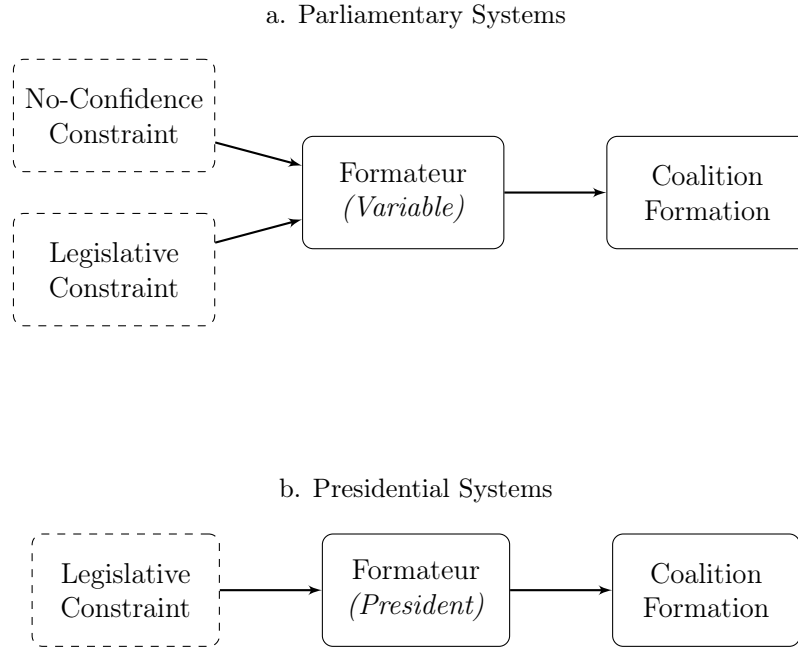
portfolios available in the executive cabinet.[3] However, as a recent literature has shown (Alemán and Tsebelis, 2011; Cheibub and Limongi, 2011; Magar and Moraes, 2012; Zucco, 2013; Freitas, 2016b; Toro-Maureira and Hurtado, 2016; Freitas, 2016a; Araújo, Freitas, and Vieira, 2018), presidents also care about policy and regret being penalized for controlling all portfolios and being unable to pass their policy agenda.[4]

In both parliamentary and presidential forms of government, chief executives seek to endure in office (and to reap the political benefits that come from controlling ministries), and to legislate (i.e., to influence the policy agenda). As depicted in Figure 2.2, in parliamentary systems coalition formation by the *formateur* has a direct effect on survival, through the

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[3]This situation is not fully accurate, because if the president keeps all portfolios to herself it would mean that a coalition was not formed. But the example helps as a thought experiment to understand the implications of a maximum disproportionality.

[4]It is also assumed that the greater the number of portfolios held by a party i, the greater the influence of party i on the executive's policy agenda. In addition, a policy adopted within a portfolio controlled by party i is likely to be closer to party i's ideal point than it would be, had party i not been part of the cabinet coalition.

no-confidence procedure (*no-confidence constraint*), and a direct effect on policy through governing parties' commitment to vote for the agenda of the government (*legislative constraint*). In presidential systems, however, coalition formation can affect policy but not the survival of the government (at least not directly).

In a parliamentary system, the failure of a *formateur* to form a coalition and obtain a legislative majority in parliamentary democracies results either in an early election, a new round of bargaining, or a caretaker government.[5] Therefore, there is uncertainty regarding whether the parties that do not accept the *formateur's* offer can benefit in the next attempt to form a coalition government.

There is also uncertainty in presidential systems when parties do not accept the president's offer. The difference is in the degree of uncertainty for the *formateur's* party. If a coalition offer made by the president is rejected, then either another coalition attempt is initiated, or maybe no coalition will be formed at all, resulting in a single-party cabinet controlled by the president's party. These different scenarios yield different utilities to the president and she does not know in advance what she will get. Therefore, the difference between presidential and parliamentary systems is that there is an additional uncertainty for prime ministers, i.e., they might get removed from power due to the no-confidence constraint (see Figure 2.2). They might lose their legislative seats in the next election, or they might wind up in the opposition.

Amorim Neto and Samuels (2010), Indridason (2015), and Ariotti and Golder (2018) have argued that this institutional difference (i.e., the absence of a *no-confidence* procedure in presidential systems) is crucial for understanding why we do not see the same pattern in the allocation of portfolios between parliamentary and presidential democracies. But, as I discuss below, differences within presidential systems must be used to explain the substantial variation in the allocation of portfolios to presidential parties.

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[5]Strøm (1990) shows that minority governments also emerge in parliamentary systems with many institutional opportunities for the opposition to influence policy. Instead of seeing these governments as a product of bargaining failures, minority governments can be considered a result of rational and informed actors.

Presidents can have a greater or lesser influence on policy, depending on how dependent they are on the legislature to make and enact policies. This dependence relies on presidents' policy-making powers granted by constitutions. These powers affect the bargaining strategy between the president and the legislature, which, consequently, affects the composition of cabinets.

In sum, my theory is that the bargaining process between the president and the legislature around a coalition formation depends on institutional arrangements that define the balance of power between the president and legislative parties and their abilities to influence the policy agenda.

The greater the president's policy-making powers, the less dependent the president is on the legislature to legislate, and the greater the president's ability to shape the legislative agenda. Consequently, this leads to a greater presidential control over resources and benefits of office, allowing presidents to control a higher share of portfolios than the share of legislative seats her party contributes to the coalition.

2.4.1 President's Policy-Making Powers

Presidential systems are usually defined according to the concept developed by Shugart and Carey (1992, p. 19-20):

1. The chief executive is elected by popular vote or by a body that was itself popularly elected;

2. The terms of the chief executive and the assembly are fixed, and are not contingent on mutual confidence;

3. The chief executive selects and removes the members of the cabinet, and;

4. The chief executive has some constitutionally-granted lawmaking authority such as veto power.

The first three items of Shugart and Carey's definition highlight the independence of the origin and the survival of the executive and the legislative powers that are present in all definitions of presidential systems. The fourth item adds another defining feature to this form of government, i.e., that the chief executive is endowed with policy-making powers. These powers lead to the wide variation within presidential governments, as revealed by Shugart and Carey (1992).

According to Shugart and Carey (1992), the president's lawmaking authority alters presidential incentives to seek legislative cooperation for the approval of the government's policy agenda. Presidents with low lawmaking authority would be forced to negotiate with the legislature, because they know that without concessions they will not have their agenda approved. Presidents with greater lawmaking authority, in turn, will seek to govern by circumventing the legislature due to their greater ability to unilaterally impose their agenda. This view shaped the literature on presidents' strategies to govern either by statute or by their executive prerogatives (Jones, 1995; Tsebelis, 1995, 2002; Pereira, Power, and Rennó, 2005; Amorim Neto, 2006a,b; Camerlo and Martínez-Gallardo, 2018).

Subsequent studies revealed the substantial influence that the legislature exerts on the policy-making process in presidential systems, including in countries in which the president holds strong lawmaking authority (such as Brazil and Chile). These studies highlight that presidential policy-making powers should be taken as instruments to achieve inter-branch cooperation (Figueiredo and Limongi, 1999, 2000; Shugart and Haggard, 2001; Eaton, 2002; Colomer and Negretto, 2003; Freitas, 2016a,b). Even the president's prerogative to issue decrees, considered one of the most-important powers in the hands of the president, has been characterized by the impact it has on the preference of parliamentary majorities (Limongi and Figueiredo, 1998; Figueiredo and Limongi, 1999, 2000; Carey and Shugart, 1998; Cox, McCubbins, and Amorim Neto, 2003; Pereira, Power, and Rennó, 2005).

Presidential policy-making powers—such as decree powers, the president's exclusive power to introduce legislation in certain areas, veto powers, and urgency requests—shape the

agenda-setting of the legislative branch. These powers increase the president's ability to determine which proposals will be the subject of the legislature's consideration and when they will be considered, shaping the options available to legislators. The ability to influence legislative activities helps the president form a majority. In fact, the control exerted by the president on the agenda of the legislative activities induces legislators to cooperate in support of the government's policy objectives (Figueiredo and Limongi, 2000; Cheibub and Limongi, 2011).

According to my theory, a greater share of portfolios controlled by presidential parties should be observed in countries where, *ceteris paribus*, presidents have a greater opportunity to influence the policy agenda in the legislature. The greater the policy-making powers of the presidents, the less dependent they are on the legislature to legislate, and the less they will relinquish control of portfolios. As a result, there will be a correlation between president's policy-making powers and the president's party portfolio share. The empirical implication to be tested in this study, then, is that *the greater the president's policy-making powers, the greater the president's party portfolio share.*

2.5 Empirical Strategy

The unit of analysis in this study is the governing party within the coalition, considered yearly. A government coalition is composed of the *formateur's* political party (which is always the presidential party in presidential systems) and all parties that accept the ministerial posts offered by the *formateur*. Hence, a governing party is defined according to whether a party holds a cabinet membership—that is, if the party controls at least one portfolio.[6]

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[6]Only coalition governments are included in the sample. Observations meeting either one or both of the following conditions were dropped: 1. a political party holds at least one portfolio but does not hold a legislative seat, and; 2. the president's party does not hold portfolios in the executive cabinet. Only two cases met these conditions in the dataset: the Panamanian governing party PRC under the Guillermo Endara administration from 1993 to 1994, which held portfolios but not legislative seats, and; under Alvaro's Uribe's independent Colombian presidency (i.e., the president was not affiliated with any Colombian political party) between 2002 and 2009, holding neither legislative seats nor portfolios. Even including these cases, the results are still consistent. Dropping these cases is justified by the aforementioned assumption that presidents form a coalition by distributing portfolios in exchange for legislative support, and by the definition of a coalition

The empirical analyses were conducted using the most comprehensive data collected to date from 13 presidential multiparty democracies. The data comprise a total of 52 presidential administrations and 36 presidential parties spanning 58 years (1959–2017), consisting of 187 observations in total.[7]

2.5.1 Dependent Variable

President's Portfolio Balance (PPB). This variable is the measurement for the balance of the portfolio share controlled by the presidential party, as depicted in the following equation:

$$PPB_{fi} = \left(\frac{p_{fi}}{tp_i}\right) - \left(\frac{s_{fi}}{ts_i}\right)$$

Where p_f is the number of portfolios the *formateur's* party f controls, tp is the total number of cabinet portfolios available, s_f is the number of legislative seats the *formateur's* party f contributes to the coalition when the cabinet is appointed, and ts represents the number of legislative seats held by the entire cabinet. The index i designates cabinet coalitions, and goes from the first to the last coalition in the dataset.

PPB could range between -1 to +1. A positive value indicates that the president's party is receiving more portfolios relative to the share of legislative seats it contributes to the coalition. A value of 0 indicates that the president's party receives the same proportion of portfolios as the share of legislative seats it contributes to the coalition. A negative value in PPB means that the president's party is receiving fewer portfolios than expected if perfect proportionality between *portfolio share* and *seat share contribution* holds.[8]

The highest *formateur's* advantage in the sample is the Panamanian presidential party

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used in this study: all parties that hold at least one ministerial post within the presidential cabinet.

[7]The dataset was constructed by the author from several sources: Camerlo and Martínez-Gallardo (2018); Economist Intelligence Unit (2018); Keesing's World News Archive (2018); Political Handbook of the World Series (2018); Doyle and Elgie (2014); Cheibub, Gandhi, and Vreeland (2010); Cheibub (2007); Montero (2009); Nohlen (2005); Sáez, Montero, and López (2005); and several national government websites.

[8]The distribution of the observed values of the *PPB*, including the minimum and maximum values in the sample, can be seen in Appendix A.2.

Panameñista (PP) under Juan Varelas's administration from 2014 to 2017. The PP controlled 79 percent of the portfolios available while only contributing 4 percent of the legislative seats of the coalition. The Venezuelan cabinet formed by the president Raul Leoni in 1966 is an example of a perfect proportional allocation of portfolios, in which the presidential party Acción Democrática (AC) controlled 66 percent of the portfolios available while contributing 66 percent of the legislative seats of the coalition. In the cabinet formed by the El Salvadorian president Mauricio Funes in 2013, the presidential party "Farabundo Martí National Liberation Front" (FMNL) controlled only 17 percent of the portfolios available while contributing an impressive 94 percent of the legislative seats of the coalition, representing a case of a deficit in the portfolio share of the presidential party.[9]

2.5.2 Independent Variables

President's Policy-Making Powers. Developed by Montero (2009), the legislative institutional power index (IPIL) measures the institutional potential of the presidency to influence the legislative activity *vis-à-vis* the legislature. This index is comprised of five additive dimensions of the legislative process: 1. the initiative stage; 2. the constitutive stage; 3. the symmetry of the bicameral system; 4. the efficiency stage, and; 5. the decree power of the president and her extraordinary legislative prerogatives.

The *initiative stage* includes three features: 1. the president's exclusive power to introduce legislation in certain areas; 2. the actors responsible for setting the legislative agenda of the day, and; 3. the type of legislative majority needed to change the agenda of the day. The greater the number of areas in which the president has exclusive initiative, and the smaller the capacity of legislators to amend bill proposals, the greater the power of the president to legislate.

The *constitutive stage* includes four features: 1. the election procedure for being a member of legislative committees; 2. the presidential prerogatives to avoid bill passage by legisla-

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[9]Descriptive statistics are presented in Appendix A.3.

tive committees; 3. the power of legislative committees to considering bill proposals (e.g., non-binding opinion or delegation, and the inadmissibility or incompatibility of the bills), and; 4. the capacity of the president to request urgency for her projects.

The *symmetry of the bicameral system* measures the powers of legislative chambers, and how symmetrical are their powers. Building on Tsebelis (1995) and Tsebelis and Money (1997), a president that needs to negotiate with two chambers to approve her policy agenda has to deal with more veto players compared to a president that needs to negotiate with only one chamber.

The *efficiency stage* measures presidential veto powers. Veto powers give the president an opportunity to object to a bill (and hence the option to refuse to sign it), but they can be counterbalanced by the legislature's capacity to override presidential vetoes. With total veto powers, presidents are presented with an all-or-nothing choice. With partial veto powers (or line-item veto), in turn, presidents can choose to nullify only specific provisions of a bill, changing or keeping the bill proposals closer to the president's policy preferences.

These five dimensions are aggregated and standardized, giving the measure a range from 0 to 1. Values close to 1 indicate a greater influence of the president on the legislative activities. Values close to 0 indicate a smaller influence of the president on the legislative activities. This variable ranges in the sample from a minimum value of 0.26 (El Salvador) to 0.71 (Chile), with an average of 0.53 and a standard deviation of 0.11.[10]

Three control variables are included in the regression model to account for possible confounders and to isolate the effect of *president's policy-making powers*. First, I add a dummy for *electoral year* based on the empirical expectation that as the next election approaches, parties have fewer incentives to join or remain in the government, and therefore cabinet termination should be more likely (Chasquetti, 1999; Altman, 2000b; Alemán and Tsebelis, 2011). According to Altman (2000b, p. 19), "whether a party remains in the executive coalition is subject to the tyranny of the electoral calendar." Although there are reasons to

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[10]The distribution of the observed values of the *President's Policy-Making Powers*, including the minimum and maximum values in the sample, can be seen in Appendix A.3.

believe that defection from the government will be less likely when the executive's popularity might benefit governing parties at the approaching elections (Martínez-Gallardo, 2012), impending elections might also increase the incentives for incumbent presidents to renegotiate the distribution of portfolios in order to form pre-electoral coalitions.

The *effective number of parties* (ENP) in the legislative branch, as developed by Laakso and Taagepera (1979), is also included in the model. The greater the number of effective parties (i.e., a more fragmented legislature), the greater the odds that the presidential party will not control a majority of seats in the legislature, exerting a strong pressure on the president to form a coalition government (Cheibub, 2007). In a scenario of high legislative fragmentation, given the greater number of political parties with legislative representation, the president has more options on how to compose her cabinet. Depending on the distribution of legislative parties in the policy space, for example, the legislative fragmentation can make it attractive for the president to offer portfolios to a pivotal party in the legislature (Cheibub, 2007), or distribute portfolios to several political parties comprising a highly fragmented cabinet. Therefore, the effective number of parties works as a measure of complexity of the bargaining environment.

The inclusion of the *number of portfolios* controls for the possible incentive of the president to increase the portfolios only to artificially make the cabinet seem more proportional in regards to the distribution of ministerial posts among the members of the coalition. As my dependent variable (*president's portfolio balance*) is measured by the difference between governing parties' portfolio share and governing parties' legislative seat share contribution to the coalition, it is important to isolate the variation of this measurement that is explained by my main independent variable (*president's policy-making powers*), and the variation explained by an increase in the total number of cabinet portfolios available.

2.6 Empirical Analysis: Results and Interpretation

Table 2.2 presents the results for the main empirical implication tested in this study, i.e., the greater the president's policy-making powers, the greater the president's portfolio balance. Controlling for *electoral year*, *effective number of parties*, and *number of portfolios*, the results support the empirical expectation. The estimate for *president's policy-making powers* is positive and statistically significant at level 0.05, indicating that the greater the president's policy-making provisions, the greater the president's portfolio share.

Table 2.2: President's Portfolio Balance Within Presidential Democracies

President's Policy-Making Powers	0.355*
	(0.206)
Electoral Year	−0.053
	(0.044)
Effective Number of Parties (ENP)	0.012
	(0.010)
Number of Portfolios	0.017*
	(0.007)
Constant	−0.535*
	(0.106)
N	187
R^2	0.14
RMSE	0.250

Notes: Dependent variable: *President's Portfolio Balance (PPB)*.
Standard errors in parentheses. Two-tailed test. * $p < 0.05$.

Considering the highest score for *president's policy-making powers* (equal to 1) (i.e., presidents with the highest level of policy-making powers), and holding the control variables constant, the presidents's party receives, on average, a surplus of almost 4 percent of the share of portfolios, as would be expected considering the share of legislative seats the *formateur's* party is contributing to the coalition. At its lowest score, with *president's policy-making*

powers equal to 0 (i.e., presidents holding the lowest level of policy-making powers), and holding the control variables constant, the president's party loses, on average, 5 percent of the share of portfolios compared to the share of legislative seats it contributes to the coalition (constant estimate equal to -0.53 and significant at level 0.05).

In more substantive terms, El Salvadorian president Mauricio Funes (2009-2013) held the lowest score for *president's policy-making powers* in the dataset at 0.26, and his party FMN contributed 75 percent of the legislative seats to the coalition, while controlled only 54 (2009), 41 (2010), and 33 (2011) percent of the portfolios available in the cabinet. In 2012 and 2013, the FMNL contributed with 94 percent of the legislative seats to the coalition, but held only 25 and 17 percent, respectively, of the portfolios available. Chilean president Eduardo Frei (1998 and 1999) held the highest score for *president's policy-making powers* in the dataset at 0.71, and his party *Partido Demócrata Cristiano* (PDC) contributed 58 percent of the legislative seats to the coalition, and controlled 66 percent of the portfolios available in the cabinet. Brazil in 2016, under the administration of Michel Temer, is a clear case of a proportional distribution of portfolios. The score for Brazilian president's policy-making powers in 2016 is the median value for my main independent variable in the dataset, equal to 0.52. In that year, following the impeachment of the former president Dilma Roussef, Temer formed a new cabinet in which the president's party *Movimento Democrático Brasileiro* (MDB) controlled 19 percent of the cabinet portfolios available while contributing 20 percent of the legislative seats of the coalition, resulting in a president's portfolio balance equal to -0.01.

In sum, the findings provide evidence for my theory. On average, and controlling for possible confounders, a greater bonus of portfolio share to the president's party is found in those countries in which the president is less dependent on the legislature and has a greater opportunity to create, influence, and enact her policy agenda, i.e., presidents that are constitutionally empowered with greater policy-making powers.

2.6.1 Robustness Checks

The analysis of particular institutional features that comprise the president's policy-making powers index can provide more leverage on the role that specific presidential powers have on the variation of the president's portfolio balance. Table 2.3 presents the results when using the indicators that comprise the president's policy-making powers index as independent variables. The *efficiency stage*, measuring presidential veto powers, was further disaggregated to have *total* and *partial veto powers* as independent variables.

Table 2.3: Disaggregating Presidents' Policy-Making Powers Index

	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)	(Model 7)
	Dependent variable: Formateur's Advantage					
Decree Power	0.169*					
	(0.054)					
Initiative Stage		0.364*				
		(0.070)				
Constitutive Stage			0.473*			
			(0.136)			
Total Veto				−0.426*		
				(0.075)		
Partial Veto					−0.093	
					(0.059)	
Bicameral Symmetry						−0.102
						(0.063)
Constant	−0.157*	−0.255*	−0.237*	0.130*	−0.002	0.033
	(0.037)	(0.048)	(0.057)	(0.038)	(0.040)	(0.030)
N	187	165	178	187	187	132
R^2	0.051	0.141	0.065	0.149	0.013	0.020
$RMSE$	0.260	0.233	0.258	0.246	0.265	0.192

Notes: Dependent variable: President's Portfolio Balance.
Standard errors in parentheses. Two-tailed test. * $p < 0.05$.

The estimate for *decree power* in Model 2 of Table 2.3 is positive and significant at level 0.05, indicating that as the president's decree powers increases, holding the other variables constant, the president's portfolio balance also increases. On average, in countries where

the president is empowered with greater decree powers, the president's party receives a surplus of around 2 percent of the share of portfolios. In the dataset, countries in which the president does not have the power to issue decrees (e.g. Venezuela until 1999, and Bolivia and El Salvador) tend to have a more proportional distribution of portfolios. However, as the decree powers of the president increases, especially in those cases with a value of decree power higher than 0.66 (e.g., Chile, Panama, Argentina, Colombia, Brazil, and Peru), the president's portfolio balance also increases.

Both estimates for the *initiative stage* and *constitutive stage* are positive and significant at level 0.05. As these results indicate, controlling for other presidential powers, the greater the number of areas in which the president has exclusive initiative to legislate and the greater the capacity of the president to request urgency for her projects, the share of portfolios controlled by the president's party increases. Simultaneously, as the capacity of legislators to amend bill proposals decreases, the president's portfolio share also increases. The estimate for *bicameral symmetry* does not achieve statistical significance, suggesting that either the symmetry of the bicameral system does not seem to affect the president's portfolio balance or its effect is nullified by the effect of the other indicators of presidential powers.

The estimates for veto powers are at odds with the expectations. As veto powers give the president an opportunity to object to a bill in its entirety or nullify specific provisions of a bill, it was expected that the greater the veto powers of the president, the greater the president's portfolio balance. However, the estimate for *total veto power* is significant at level 0.01 and in the opposite direction, and the estimate for *partial veto power* is also in the opposite direction, although not significant. According to Alemán and Schwartz (2006, p. 98) who analyze presidential vetoes in Latin American constitutions, presidential veto powers are "richer, more varied, and more regionally distinctive than hitherto appreciated." Indridason (2011) also found that, at odds with the expectation of partial veto as the strongest type of presidential veto power, the partial veto has an ambiguous effect on the balance of power between the executive and the legislature. Palanza and Sin (2014), in turn, found that the

level of significance of a bill is a better predictor of vetoes and that whether the president holds a majority in the legislature does not seem to explain variations in the likelihood of vetoes. It is also important to add that the negative estimate for total veto power is not strong to the point that it nullifies the positive effect of the other indicators. How veto powers can affect the distribution of portfolios in presidential democracies is a topic worthy of future exploration.

These results of each of the indicators that comprise the index for president's policy-making powers calls attention to the importance of testing particular institutional features that can affect the distribution of portfolios to presidential parties. A president's decree power, exclusive ability to initiate legislation in certain areas, and the capacity to request urgency seem to have a higher impact on the variation of the president's portfolio share within presidential democracies than presidential veto powers. Nevertheless, this result does not obviate the strong positive relationship between president's policy-making powers embedded in the index.

In order to further evaluate the consistency of the findings, I conducted other robustness checks in the Appendix. A benchmark model with the main independent variable and no control variables was conducted (see Table A.4 in the Appendix). In Table A.5 of the Appendix, I conducted a model using an alternative measurement for the powers of the president developed by Doyle and Elgie (2014), who claim a a greater reliability of cross-national measures of presidential power for their index. My main model was estimated using Montero's index (2009) instead of Doyle and Elgie's measurement (2014) due to Doyle and Elgie's focus on the broad powers of the president, such as the relationship between the president and the judiciary, and Montero's index being more focused on the policy-making powers of the president, making this measurement more valid for my analysis. In Table A.6 of the Appendix, I ran the main model using a alternative measurements for the policy-making powers of the president as developed by the United Nations Development Programme (2004). The results above presented and discussed are consistent with all robustness checks conducted.

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2.7 Conclusion

While parliamentarism is usually defined as a system of mutual dependence between the executive and the legislative powers, pure presidentialism is usually defined in terms of executive-legislative relations as a system of mutual independence. In this study, I argue for a more nuanced comparison between these systems of government. Because they depend on a legislative majority to survive and to legislate, prime ministers are more dependent upon the legislature than presidents. However, the absence of a no-confidence constraint in presidential systems does not make presidents less dependent on the legislature in order to make and enact policies. The need for all executives to make policies means that all presidents are dependent upon the legislature to some degree.

I then advance a theory in which the institutional arrangements that define the respective powers of the president and the legislature to shape the policy agenda can explain the variation of the president's dependence on the legislature to legislate. The degree on the ability of the president to shape the legislative agenda has clear implications on the process of government formation, and on our understanding of the executive-legislative relations between and within systems of government.

My theory is consistent with some existing predictions on government formation in parliamentary and presidential systems, but also makes novel predictions. The absence of a no-confidence constraint in presidential systems leads to an empirical expectation of a *formateur's* advantage. Data from a set of 30 parliamentary and presidential democracies demonstrate that, controlling for the share of legislative seats each party brings to the coalition, the *formateur's* advantage is more prevalent in presidential systems. On average, the proportionality between portfolio share and seat share contribution by coalition parties is more prevalent in parliamentary democracies (e.g., more proportional cabinets). Nevertheless, in this study I show that there is a substantial variation in the allocation of portfolios to presidential parties; from cases in which the president's party has a deficit in the share of

portfolios to cases of a bonus in the portfolio share of the president's party. I also reveal that, similar to what we see in parliamentary democracies, a proportional distribution of portfolios also occurs in presidential systems. This variation in the share of portfolios controlled by the president's party is a clear empirical implication of the theory advanced in this study.

As revealed by the results, the likelihood of a more proportional distribution of portfolios and a deficit in the share of portfolios controlled by the president's party increases as the president's ability to shape the legislative agenda decreases. If the president is more dependent upon the legislature to make and enact policies, then the balance of power in presidential cabinets is more likely to reflect the balance of power in the legislature. In this case, the presidential cabinet can be very similar to the proportional cabinets usually formed in parliamentary systems. However, when institutional provisions allow some presidents greater leeway in making and enacting policies, then a more disproportional distribution of portfolios to the benefit of the president's party is expected.

This finding is particularly clear when considering presidential policy-making powers as a weighted sum index. The effects of particular institutional features on the president's portfolio share, however, are mixed. While strong decree powers, exclusivity to legislate, and capacity to request urgency seem to be powerful tools in the hands of presidents to receive a bonus share of portfolios, veto powers fail to explain variations in the president's portofolio balance. This result compels us to better understand the mechanisms of specific institutional features and constitutional powers the presidents possess as the *formateur* in the government formation process. Besides the policy-making powers covered in this study, other presidential prerogatives such as discretion over the budget process are interesting constitutional powers worthy of further exploration.

Although the findings on the variation in the distribution of portfolios to presidents' parties is a contribution to the literature on the process of government formation in presidential systems—especially when compared to the vast literature in parliamentary systems—these findings reveal a more substantive theoretical contribution of this study. By conceiving leg-

islative constraint as a continuous variable that varies with the president's ability to make and enact policy in the legislature, this study enhances our understanding of the relationship between the executive and legislature in different systems of government. The literature comparing parliamentary and presidential systems of government goes from studies assuming a rigid distinction between these forms of government to studies suggesting similarities between these systems, including similar incentives for coalition formation in both systems of government. This study clarifies when and why we should expect similarities across presidential and parliamentary democracies.

The findings of this study also open several promising new paths for future research. When confronted with a legislative minority, presidents can either attempt to govern through cabinet coalitions or through legislative coalitions. In this study, I focus on the first of these strategies. The trade-off between resources and policy priorities in the president's attempt to form a coalition, as described in this study, might help to explain the decision presidents make to govern through a legislative coalition. Understanding the consequences for policy outcomes across governments with more or less proportional distribution of portfolios is another interesting topic to consider in the future. The incorporation and measurement of other tools available to legislators to influence policy, such as the power of legislative committees and the effectiveness of the opposition in the legislature, might clarify the bargaining process in the distribution of ministerial posts between the president and legislative parties.

3. WHY AND WHEN DO PRESIDENTIAL CABINET MEMBERS MONITOR EACH OTHER?

3.1 Introduction

Coalition governance inevitably boils down to an ongoing contest between partners to maximize their political power, with coalition partners adopting monitoring and control mechanisms to reduce their agency loss and solving conflicts arising from delegation. Studies on coalition governments in parliamentary systems have shown that coalition partners inquire about the ideological profiles of ministers and parties that will hold portfolios (Müller and Strøm, 2003), appoint junior ministers to monitor and maximize the oversight of cabinet members (Thies, 2001; Lipsmeyer and Pierce, 2011), appoint officials to the top ranks of the ministerial bureaucracy who are aligned with the executive agenda (Lewis, 2009), issue regulatory decrees to limit the action of coalition partners (Bawn, 1995; Huber and Shipan, 2002), and use legislative commissions to scrutinize proposals originating from ministries controlled by other cabinet parties (Martin and Vanberg, 2004, 2011; Carroll and Cox, 2012).

There is no reason to believe that principal-agent dilemmas—where agents are motivated to act in their own interests, which can be contrary to those of their principals—are present only in coalition governments in parliamentary systems. A recent literature on presidential democracies under coalition governments demonstrates that the use of strategies to mitigate the consequences of delegation by the president is expected (Inácio and Rezende, 2015; Martínez-Gallardo and Schleiter, 2015; Freitas, 2016b; Pereira et al., 2017). There is evidence that presidents appoint nonpartisan ministers when party-affiliated ministers are not reliable (Martínez-Gallardo and Schleiter, 2015), and appoint junior ministers (Pereira et al., 2017) to ministerial portfolios to preclude or solve intra-coalition conflicts in presidential governments.

Different from the literature on parliamentary systems that identifies monitoring activities between coalition partners within the executive and legislative branches, the literature on

presidential systems has thus far been restricted to both the arena in which the monitoring takes place—i.e., the executive arena—and to the actor that initiates the monitoring, i.e., the president. In this study, I demonstrate that coalition partners in presidential democracies also monitor policy implementation, and explain the conditions under which they are more or less likely to do so.

I argue that, similar to parliamentary systems, coalition partners in presidential systems monitor the policies implemented by one another to reduce the information deficit coming from heterogeneous cabinets—i.e., cabinets formed by ideologically-distant parties. The empirical implication is that as the ideological distance between cabinet parties increases, greater policy monitoring between coalition partners is expected. I also theorize that certain institutional features of presidential systems—particularly the capacity of the president to fire ministers without fear of a government breakdown—lead to increased policy monitoring initiatives from junior partners as compared to the president's party.

I test my argument using evidence from Brazil, by means of a mechanism called "Request for Access to Information" (RIC) which allows Brazilian legislators to request information on matters pertaining to the implementation of policies from any minister of the executive cabinet. I analyze all RICs initiated by Brazilian legislators between 1995 and 2014 (comprising over 20,000 requests). This analysis covers 15 multiparty cabinets formed in Brazil, including governments from a range of ideological positions. The results support my expectations of greater policy monitoring between coalition partners and greater monitoring efforts initiated by junior partners under more ideologically-heterogeneous cabinets.

In the next section, I provide a brief overview of the literature on conflicts and tensions in coalition governance. In section 3, I present my argument and my contribution to this literature. In section 4, I show how the composition of multiparty cabinets in the Brazilian presidential system creates incentives for parties to monitor the public policy implementation actions of their cabinet partners, justifying the use of this case for my empirical analysis. The main results are interpreted and discussed in section 5. Final comments are presented

in section 6.

3.2 Delegation and Information Asymmetry in Coalition Governments

According to Martin and Vanberg (2011, p. 3-4), the delegation of ministerial authority to different parties leads to a *dilemma of coalition governance*: "To govern successfully, coalition partners must be able to overcome the inherent tension between their collective interest in mutual accommodation and their individual incentives to pursue their particular policy objectives." This dilemma highlights the fact that cabinet ministers in coalition governments act as agents of two potentially competing principals: their respective party leaders in the legislature and the executive government (based on the cabinet collective compromise and cabinet responsibility when the government is formed). With the exception of non-partisan ministers, ministers must belong to parties with legislative representation (accountable to their constituencies), while agreeing (and compromising) on the collective goals of the executive cabinet, i.e., making joint policies with other coalition partners.

The conflict between these two features—i.e., a joint governance and policy-making with a separate electoral accountability—leads to a potential problem in coalition governments. Under a context of preference divergence and uncertainty between the members of the coalition, ministers may be tempted to take advantage of their position's inherent access to privileged information while controlling a portfolio, and act opportunistically to bring policies towards their ideal policy position (Thies, 2001; Strøm, Müller, and Bergman, 2008; Strøm, Müller, and Smith, 2010; Martin and Vanberg, 2011). While this behavior might violate the compromise the ministers' parties agreed upon when they entered the coalition, this ministerial drift from the compromise might favor their own (and their party's) electoral ideals. Hence, delegating the control of ministries to different political parties might mean losing privileged information access to important policy areas.

In order to prevent ministerial drift, coalition parties must develop mechanisms that constrain the ability of individual ministers to undermine the coalition compromise. A well-

known mechanism in parliamentary systems used to "shadow" the work of ministers from other coalition parties is the assignment of junior ministers. The actions taken by junior ministers involve the acquisition of information, on the assumption that if the coalition partner knows that information is being acquired, the potential drifter will refrain from drifting. Junior ministers therefore serve as watchdogs and help coalition partners keep tabs on one another (Thies, 2001).

Besides the nomination of junior ministers, other common investigative tools utilized by coalition partners to prevent ministerial policy drift in parliamentary systems are extensive screening of prospective ministers (Kiewiet and McCubbins, 1991; Strøm, 1995, 2000; Saalfeld, 2000), written coalition agreements (Müller and Strøm, 2008; Moury, 2010; Indridason and Kristinsson, 2013), and cabinet reshuffles by the prime minister (Indridason and Kam, 2008).

The parliament itself is another venue through which coalition parties can monitor one another and solve intra-coalition conflicts (Martin and Vanberg, 2004, 2005, 2011; Kim and Loewenberg, 2005; Carroll and Cox, 2012). Common parliamentary means to extract information from coalition partners are parliamentary questions and interpellations (Wiberg, 1995; Martin, 2011), and permanent or ad hoc parliamentary committees (Mattson and Strøm, 1995; Kim and Loewenberg, 2005; Carroll and Cox, 2012).

Moreover, the policy monitoring between the opposition and the government and between the prime minister and his coalition partners are not the only directions in which monitoring occurs. With evidence from the Netherlands and Germany, Martin and Vanberg (2004, 2005) demonstrate that parliamentary committees under coalition governments scrutinize executive bills initiated not only by the opposition, but also by coalition partners. Martin and Vanberg (2004) found that the greater the ideological divergence between coalition partners, the greater the parliamentary scrutiny of a relevant bill (i.e., the bill is held under deliberation by a committee for a longer period of time, and the number of changes introduced to the bill by the committee is greater).

Similar to parliamentary systems, ministers are central actors in the policy-making process in presidential systems (Martínez-Gallardo, 2010). Given the incentives for a president to form a coalition when their party does not control a majority of the seats in the legislature (Cheibub, 2007; Cheibub, Elkins, and Ginsburg, 2014), there is no reason to believe that principal-agent dilemmas are present only in coalition governments in parliamentary systems. In fact, due to the separate electoral origin of the executive and legislative powers, scholars suggest that presidential democracies are more prone to principal-agent issues than parliamentary democracies (Carey, 2007; Samuels and Shugart, 2010; Martínez-Gallardo and Schleiter, 2015).

A recent literature on presidential systems has also demonstrated the use of mechanisms by which presidents can contain or reduce the risks of delegation under coalition governments. Martínez-Gallardo and Schleiter (2015) argue that the appointment of nonpartisan ministers is a mechanism exercised by the president to limit her agency loss, particularly when party-affiliated ministers are not reliable options for the president. The greater the goal divergence between the president and her party, and the fewer the president's resources to control her party, the greater the likelihood that the president will select a non-partisan minister (Martínez-Gallardo and Schleiter, 2015).

With Brazil as a case study, Pereira et al. (2017) reveal that junior ministers (*secretários executivos*) are also used by presidents to solve intra-coalition conflicts in presidential governments. The primary purpose of *secretários executivos* is to assist the minister in supervising and coordinating the activities within the ministry. Pereira et al. (2017) found that the greater the distance between the preferences of the coalition partners and the president (increasing the risks of policy drift), the greater the likelihood of a president appointing a non-partisan *secretário executivo* or a *secretário executivo* affiliated with a political party different from that of the minister.

This literature on mechanisms to solve intra-coalition conflicts in presidential systems is restricted to the arena in which the monitoring takes place, and to the actor that initiates

the monitoring. Studies that explore policy monitoring in presidential systems restrict their analyses to monitoring within the executive arena and focus either on the relationship between presidents and their own party in single-party governments (Martínez-Gallardo and Schleiter, 2015), or between the president and the junior partners in coalition governments (Pereira et al., 2017). In this study, I capture the complexities of policy monitoring under presidential coalition governments, analyzing the flow of policy monitoring between all coalition members (junior and senior partners) within the legislative arena.

3.3 Why and When Do Presidential Cabinet Members Monitor One Another?

Coalition governments require a joint governance between parties with distinct preferences on specific issues and with a potential separate electoral accountability. As stated by Strøm and Müller (1999, p. 257),

> Coalition governments manifest some sort of bargain struck between their participating parties. Political parties, or more specifically their leaders, are likely to have different preferences over a broad range of issues, driven at least in part by their motivation to secure for themselves policy benefits, office benefits, and electoral advantage. All of these goods are likely to be scarce, so that not all demands can be satisfied simultaneously. [...] Electoral advantage is even more strictly constant-sum. Ultimately, one party's gain has to be someone else's loss. In some cases, all incumbent parties may be able to gain at the expense of the opposition, but, much more commonly, coalition parties are in some sort of mutual competition for votes.

The distribution of portfolios by the president in coalition governments, analyzed in the first chapter of this dissertation, can be seen as a delegation of authority over policies to parties with divergent policy preferences. The minister with jurisdiction in a specific ministerial post enjoys a considerable informational advantage over his cabinet partners,

and takes the lead in implementing policy proposals in that area. In this sense, the features that create principal-agent issues in coalition governance under parliamentary systems—i.e., preference divergences between coalition partners and mutual competition for votes—are also present in presidential systems.

Ministers, as agents of their parties (and constituencies), may use their discretion to further their party's goals and move policies closer to their ideal positions. Once the minister is assigned to a particular portfolio, coalition partners are limited by time and resources to detect policy departures from the coalition compromise. Therefore, ministers should be shadowed if governing parties seek to minimize the information and discretion loss they suffer due to ministers pursuing their own parties' interests rather than the coalition's interests. In a world with complete information or no preference divergence, these policy monitoring mechanisms would not be necessary. But the principal-agent issues arising from coalition parties with divergent preferences among policies is a game of incomplete information, making monitoring between coalition members necessary.

The informational asymmetry and the risk of ministerial drift should be more problematic in coalition governments if the ideological distance between coalition partners is greater. If the coalition were ideologically homogeneous, there would be no conflict between the ministers' policy goals and the goals pursued by the coalition government. As coalition partners become more ideologically distant from each other, ministers then face strong incentives to deviate from coalition compromises and pursue their own (and their party's) interests, thus creating incentives for coalition partners to keep tabs on one another.

In this study, I argue that, similar to parliamentary systems, the parties that comprise the government's cabinet will monitor the policies implemented by their government partners to reduce the information deficit coming from heterogeneous cabinets—i.e., cabinets formed by ideologically-distant parties. The empirical implication is that as the ideological distance among cabinet parties increases, greater policy monitoring between coalition partners is expected.

While this empirical implication is heavily based on the extensive literature on policy monitoring under coalition governments in parliamentary systems, I also theorize that the capacity of the president to fire ministers without fear of a government breakdown leads to increased policy monitoring initiatives from junior partners as compared to presidential parties. Because the government does not rely on the vote of confidence in presidential systems, presidents can change the composition of their cabinets at their discretion during their term in office, without fear of early elections.

While breaking the coalition in presidential systems does not seem as devastating as a new election might be in parliamentary systems, the capacity of the president to remove ministers without fear of a government breakdown is a credible threat, making the promise by the junior parties to support the president's legislative agenda also credible. This is because the president's tenure (i.e., the fixed-term nature of the president's office) is not threatened (at least not immediately) when she withdraws portfolios from junior parties, and junior partners care about policy and the perks and resources they have access to when they are part of the government (Raile, Pereira, and Power, 2011). Therefore, a second hypothesis to be tested in this study is that the power of the president to freely select and remove ministers without fear of a government breakdown increases the likelihood of policy monitoring initiatives from junior partners as compared to the president's party.

3.4 Policy Monitoring in a Presidential Democracy: Evidence from Brazil

Due to Brazil's high electoral and party fragmentation, it is hardly possible for the president-elected party to form a legislative majority by itself. Consequently, the formation of coalition governments has been a constant in Brazil's democracy (Figueiredo and Limongi, 2007). In addition to a large number of parties, the cabinets formed in Brazil have been marked by a considerable ideological heterogeneity, comprising parties with multiple and divergent policy preferences (Power and Zucco Jr., 2009, 2012; Gaylord and Rennó, 2015), making Brazilian multiparty presidentialism an appropriate case to test my argument.

To conduct the empirical analysis of this study I use evidence from Brazil, in particular the use of a legislative prerogative available to Brazilian legislators, called "Request for Access to Information" (RIC). A key tool in the list of accountability resources for the legislative branch, the RIC is a formal and low-cost mechanism for monitoring policies implemented by the executive branch. By requesting access to information through RIC, Brazilian legislators can oversee any act, action or program related to the implementation of public policies from any portfolio of the cabinet.

The requested ministers are required to share the information on any policy being implemented under a portfolio they control.[1] To illustrate what kind of information is requested by a legislator from a coalition partner, two facsimilia of RICs are presented in Appendix B.1. The first RIC (Figure B.1) was initiated by Roland Lavigne, a legislator affiliated with the Brazilian Democratic Movement Party (PMDB), which was a member of the coalition formed in the second term of FHC in 2001. The legislator requested information from the Ministry of Environment (then controlled by the minister José Sarney Filho, affiliated with the Green Party [PV]) with regards to the deforestation of the Atlantic Forest in the Brazilian State of Bahia.

The second RIC (Figure B.2) was initiated by the legislator Vanessa Grazziotin, affiliated with the Communist Party of Brazil (PCB), which was a member of the coalition formed by Lula in 2006. Grazziotin, who was a federal deputy for the Brazilian State of Amazonas at the time, questioned the Ministry of Education (then controlled by the minister Fernando Haddad from the presidential party PT) with regards to the investment of roughly 5 million *reais* for actions related to indigenous education programs. She asked the ministry to specify the amount, and to detail how the money would be allocated to each of the programs, and to which municipalities. The legislator also asked the ministry to detail the amount to be transfered by state, as well as to describe the amount allocated to each of the activities within

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[1] As prescribed by Article 116 of the Rules of Procedure of the Brazilian Chamber of Deputies, if a minister does not send the information requested within 30 days from the day the RIC was initiated, the minister becomes subject to prosecution by the Federal Supreme Court.

the program. In the State of Amazonas, for which the legislature was a federal deputy, she asked for the specification of the amount destined for each municipality.

In this study, RIC is used as a measure for policy implementation monitoring for at least three reasons: First, the cost of filing the application to request access to information on policies is very low (Lemos and Power, 2013), so differences in the number of RICs initiated by legislators should then reflect a deliberate strategy by the legislator rather than inherent limitations or difficulties to access this resource. To initiate a RIC, a legislator needs only to present the request in the legislative plenary. The RIC is then registered with the Board of Directors of the Chamber of Deputies, and then goes directly to the requested ministry responsible for the policy. Second, parties do not need to negotiate their support in formal instances—e.g., leadership positions, commissions, and blocs—to monitor policies of their interest (Lemos, 2005). Finally, RICs allow us to objectively measure strategies used by cabinet parties to reduce the information deficit resulting from the delegation of power, and to empirically test strategies that usually occur behind the scenes and through internal political bargains.

All legislators can initiate a RIC (question a minister) on a policy being implemented in a specific cabinet portfolio.[2] These legislators can be either from the president's party, from a governing party, or from a party in the opposition. Only ministers can be requested to release information on policies. Within the coalition, the president's party, a governing party, or an independent minister (not affiliated with a political party) can be questioned about the policies being implemented in their portfolios.[3] As non-partisan ministers cannot be classified ideologically, they are not considered in this study.

Figure 3.1 represents the directions and all levels of policy monitoring considering a cabinet coalition formed by three political parties: the president's party, and two junior

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[2]From a procedural point of view, any legislator from the Brazilian Congress (federal deputies and senators) may initiate a Request for Access to Information. Due to data availability, in this study I am focusing only on requests initiated by legislators within the lower house.

[3]To avoid duplicates, RICs initiated by legislators from the president's party are treated separately; that is, they are not included among the RICs initiated by governing parties.

partners *A* and *B*. Policy monitoring at the same level are identified with the same scale of gray in Figure 3.1.

Figure 3.1: All Levels of Policy Monitoring (Within and Between Coalition Partners)

Answering

		President's Party	Junior Party A	Junior Party B
Questioning	**President's Party**	Within President's Party	From Pres. Party to Junior Party A	From Pres. Party to Junior Party B
	Junior Party A	From Junior Party A to Pres. Party	Within Junior Party A	Between Junior Parties
	Junior Party B	From Junior Party B to Pres. Party	Between Junior Parties	Within Junior Party B

As depicted in Figure 3.1, policy monitoring can occur: 1. "within coalition partners" (either presidential or junior parties within the coalition); 2. "from the president's party to a junior party" (either junior party A or B); 3. "from a junior party to the president's party," and; 4. "between junior parties," (A and B).

In this study, I argue that policy monitoring over policy implementation (through the use of RIC) among cabinet partners will be higher the greater the divergence of coalition partners' preferences over policies, i.e., cabinets that are ideologically dispersed (heterogeneous cabinets). By anticipating the information asymmetry produced by the delegation of

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ministry control in coalition governments comprised of ideologically-distant parties, cabinet partners should increase their use of RICs to seek information on policies that are being implemented in portfolios controlled by other members of the coalition.

Regarding the expectation of greater policy monitoring initiatives between coalition partners compared to presidential parties, this means that we should see a higher number of RICs "from a junior party to the president's party" and "between junior parties" as compared to the president party's initiatives.

3.5   Empirical Strategy

With the exception of RICs—gathered by the use of machine learning techniques from the Brazilian Chamber of Deputies—the data used in the analyses were gathered from the Brazilian Center for Analysis and Planning (CEBRAP), the Center for Metropolitan Studies (CEM/Cepid), and the Brazilian Institute of Applied Economic Research (IPEA). The analysis covers all RICs initiated by coalition partners from 1991 to 2014, including governments from a range of ideological positions; the right-leaning government of Fernando Collor de Mello (Collor) (1990-1992), the center-right leaning government of Itamar Franco (Franco) (1992-1994), the center-right leaning government of Fernando Henrique Cardoso (FHC) (1995-2002), and the center-left leaning governments of Luís Inácio Lula da Silva (Lula) (2003-2010) and Dilma Rousseff (Dilma) (2011-2014).

To test the effect of the heterogeneity of the cabinet on the number of RICs initiated and the increased initiatives made by junior partners, the information requirements presented in the Brazilian Chamber of Deputies between 1991 and 2014 were grouped in units of time, i.e., number of RICs initiated per quarter.

The choice of this unit of time is justified by evidence that intra-cabinet conflicts require time to manifest within the legislature (Figueiredo and Limongi, 1999) and due to data availability for ideological heterogeneity. I assume that three months is enough time for parties to mobilize and seek information on programs and policies that interest them. In

addition, grouping RICs by quarter provides a sufficient variation in the variables of interest.

3.5.1 Dependent Variable

The dependent variable is a count variable—i.e., number of RICs initiated per quarter—and it ranges from two to 326 RICs initiated. There are five types of initiated RICs included in the count: 1. "from the president's party to the president's party;" 2. "from the president's party to a junior party;" 3. "from a junior party to the president's party;" 4. "within coalition partners" (either a president's party or a junior party), and; 5. "between junior partners."[4]

3.5.2 Independent Variables

Ideological Dispersion (Heterogeneity). This variable measures the degree of ideological heterogeneity of the parties that comprise the executive cabinet and was calculated based on the scores from Brazilian legislative surveys conducted by Power and Zucco Jr. (2012). Power and Zucco Jr. (2012) estimate the ideological position of the parties represented in the Brazilian Congress from 1990 to 2013 on a left-right spectrum. The level of ideological dispersion within the cabinet can be expressed as $|P_{fl} - P_{fr}|$, where P_{fl} is the ideological position on the left-right continuum of the furthest-left party represented in the cabinet, and P_{fr} is the ideological position on the left-right continuum of the furthest-right party represented in the cabinet. In the sample, the variable ranges from 0.35—the minimum value for ideological heterogeneity (that is, an almost ideologically-homogeneous cabinet)—to 6.13—the most ideologically-heterogeneous cabinet in the sample.

President's approval rate. This is an indicator of the president's popularity among voters. This measurement is built on the proportion of survey respondents that evaluate the president's job approval as "great," "very good," or "good."[5] I included this variable into the model to evaluate whether the empirical expectation of a greater policy monitoring under heterogeneous cabinets is supported while controlling for events exogenous to the cabinet.

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[4]Descriptive statistics can be viewed in Table B.1 of Appendix B.2.

[5]The data for "president's approval rate" are based on surveys systematized by the "Center for Metropolitan Studies" (CEM/Cepid) and can be accessed at: `http://centrodametropole.org.br/avaliacao/presidentes/home`.

It is expected that the government will receive the most oversight when the president's performance and popularity are rated poorly (as measured by the president's approval rate and economic performance, described below). The least-popular president in the sample is Collor de Mello during his impeachment process in the last quarter of 1992, with a nine percent approval rating. The most popular president in the sample is Lula at the end of his second term in the last quarter of 2010, with an 83 percent approval rating.

Inflation. This variable is a measurement of the consumer price index (CPI), reflecting the quarterly percentage change in the cost to the average consumer of acquiring a basket of goods and services. This variable also works as a control for events exogenous to the cabinet. As demonstrated in the third chapter of this dissertation, inflation is one of the main predictors of cabinet breakdown. It is expected that the greater the inflation, the greater the policy monitoring between coalition partners. In the sample, this variable has a mean value of 4.96 percent, with a standard deviation of 10.64 percent. The minimum value of the sample is a deflation of -0.17 in the third quarter of Lula's presidency in 2010. The maximum value is 44.52 percent in the third quarter of Franco's presidency in 1994. The period of hyperinflation in Brazil (from 1990 to 1995) presents disproportionate values for this variable, making the distribution of the variable extremely skewed. For this reason, this was log transformed.[6]

First Quarter. Due to Summer recess in Brazil, legislative sessions do not occur in the month of January. Thus, the number of RICs equal to zero in January does not represent a deliberate decision from legislators to decrease oversight, but rather an absence of activities in the Lower House of Brazilian Congress. In order to control for the absence of activities in January (one-third of the quarter unit of time of the dependent variable), a dummy variable for the first quarter of each year was included in the analysis (in which 1 represents the first quarter, and 0 otherwise). The logical expectation is a decrease in the use of RICs in the

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[6]Due to negative values for inflation, 0.2 was added to all values of inflation before log-transforming the variable. The distributions of the variables—including the distribution for the log transformed inflation—can be viewed in Appendix B.3.

first quarter.

PMDB; PSDB; PT. Dummy variables for the governments of PMDB, PSDB, and PT were included to control for potential specificities of governments. Fernando Collor de Mello was affiliated with the National Reconstruction Party (PRN) (the baseline category in the models), and served as President of Brazil from March 15, 1990 until his impeachment from office on December 29, 1992. Itamar Franco was affiliated with the Brazilian Democratic Movement Party (PMDB), and served as President of Brazil from December 29, 1992 to December 31, 1994. Fernando Henrique Cardoso (FHC) was affiliated with the Brazilian Social Democracy Party (PSDB), and served as President of Brazil from January 1, 1995 to December 31, 2002 for two terms (1995-1998 and 1999-2002). Luiz Inácio Lula da Silva (Lula) was affiliated with the Worker's Party (PT), and served as President of Brazil from January 1, 2003 to December 31, 2010 for two terms (2003-2006 and 2007-2010). Dilma Roussef (Dilma) was affiliated with the Worker's Party (PT), and served as President of Brazil for two terms (2011-2014 and 2015-2016), holding the position from January 1, 2011 until her impeachment and removal from office on August 31, 2016. The data do not include the second term of Dilma Roussef.

3.6   Results and Discussion

A Poisson regression is used to model the dependent count variable—i.e., the number of RICs initiated per quarter. This is the best approach considering that the distribution of counts is discrete, limited to non-negative values, and positively skewed, which includes observations in the data set with a value of 0.[7] Therefore, it is assumed that the errors follow a Poisson distribution, and rather than modeling the dependent variable as a linear function of the regression coefficients, the natural log of the dependent variable, $ln(Y)$, is modeled as a linear function of the coefficients.[8]

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[7]The distribution of the observed values of the variables can be seen in Figure B.3 of Appendix B.3.

[8]The Poisson model also assumes that the mean and variance of the errors are equal. But as the variance of the dependent variable is larger than the mean in the sample, an alternative model, the negative binomial

Given the time series structure of the data (by year and quarter), cautions were taken to handle possible periodicity and trends in the dependent variable. The frequency of the dependent variable per quarter, unit root tests, and autocorrelation analysis are presented in Appendix B.4. Although the unit root tests indicate that the data is stationary, a clear periodicity is present. Further serial dependence analysis were then conducted, and the autocorrelation function (ACF) indicates the presence of an autoregressive term in the data. The partial autocorrelation function reveals that the order of the autoregressive term might be of first or fourth order. For this reason, the analyses were conducted using auto-regressive (AR) models. No significant differences were found in the results using AR(1) or AR(4) models. The results from AR(0) and AR(1) models are presented below.[9]

Table 3.1 shows the estimates for the effect of the independent variable "heterogeneity" on the number of RICs initiated. Following my expectation, controlling for all other factors included in the model, as the ideological dispersion (heterogeneity) of the cabinet increases, the number of RICs initiated also increases (Model 1).

The estimates for "heterogeneity" are positive and statistically significant at level 0.01 in both models; the benchmark models without controls (Model 1 and Model 2) and the models including the control variables (Model 2). These results indicate that, holding all other variables constant, we can infer that the greater the ideological dispersion within the cabinet, the greater the policy monitoring between the members of the coalition (i.e., the greater the number of RICs initiated by coalition members without distinction in the direction of the initiative).

Although statistically significant in Model 3 and Model 4, "president's approval" does not seem to affect the number of RICs initiated by coalition partners due to the small magnitude of its estimates, when holding all other variables constant. As the estimates for

model, is also conducted. The negative binomial distribution is a form of the Poisson distribution in which the distribution's parameter is itself considered a random variable. The variation of this parameter can account for a variance in the data that is higher than the mean. The results are presented in Table B.2 of Appendix B.4.

[9]The models using AR(4) can be viewed in Appendix B.6.

Table 3.1: Overall Policy Monitoring and Ideological Dispersion

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
	Benchmark	AR(1) Benchmark	with Controls	AR(1) with Controls
Number of RICs$_{t-1}$		0.002***		0.002***
		(0.0002)		(0.0002)
Ideological Dispersion	0.360***	0.335***	0.502***	0.450***
	(0.012)	(0.013)	(0.027)	(0.027)
President's Approval			−0.004***	−0.005***
			(0.001)	(0.001)
Inflation (log)			−0.069***	−0.091***
			(0.018)	(0.019)
First Quarter			−0.199***	−0.254***
			(0.038)	(0.038)
PMDB			0.016	0.068
			(0.112)	(0.113)
PSDB			0.665***	0.555***
			(0.118)	(0.119)
PT			0.222*	0.178
			(0.125)	(0.129)
Constant	2.369***	2.388***	1.577***	1.804***
	(0.062)	(0.061)	(0.153)	(0.153)
N	93	92	93	92
LogLikelihood	−1,915.023	−1,840.606	−1,777.960	−1,692.658
AkaikeInf.Crit.	3,834.046	3,687.212	3,571.919	3,403.315

Notes: Dependent variable: Number of RICs initiated per quarter.

Standard errors in parentheses. Two-tailed test. *p<0.1; **p<0.05; ***p<0.01.

"heterogeneity" remains positive and significant in the models with controls, this result reveals that the expectation of a greater number of RICs under a heterogeneous cabinet is supported when controlling for an event that is exogenous to the cabinet. The estimate for "president's approval" when conducting negative binomial models to control for over-dispersion is not significant. The results can be seen in Table B.2 of Appendix B.4.

The estimates for "inflation" in Model 3 and Model 4 are in the opposite direction from what was expected. Holding all other variables constant, an increase in "inflation" seems to be correlated with a decrease in the number of RICs initiated by coalition partners. The coefficients are negative and statistically significant at level 0.01. Related to the findings presented in the third chapter of this dissertation, the effect of a poorly-performing president on the country's economy seems to increase the likelihood of a coalition breakdown rather than greater monitoring between coalition partners.

The positive and statistically significant estimate for PSDB in Model 3 and Model 4 suggests that during the PSDB government (1995-2002), holding all other variables constant, the number of RICs initiated was, on average, greater than during the other governments presented in the analysis. The estimates for PMDB and PT are not significant when conducting the AR(1) model with controls (Model 4).

The results presented in Table 3.1 reveals an increase in the number of RICs initiated by coalition partners as the distance between the ideological preferences of the parties that are members of the cabinet increases. Yet, the results depicted in Table 3.1 identify neither the author nor the target of the RIC (i.e., whether it is the president's party or a junior partner initiative). In order to analyze the flow of policy monitoring between all coalition members (junior and senior partners) within the legislative arena, the number of RICs initiated per quarter need to be disaggregated based on the directions depicted in Figure 3.1. The five directions identifying the author of the initiative and the target are:

1. *Presidential Oversight.* This direction identifies the number of RICs initiated by a legislator with affiliation to the president's party. The direction combines RICs initiated

"from the president's party to the president's party" and "from the president's party to junior parties."

2. *Junior Parties' Oversight.* This direction identifies the number of RICs initiated by a legislator with affiliation to a junior partner. The direction combines RICs initiated "from junior parties to the president's party," "within junior parties," and "between junior parties."

3. *Specific Target: From the President's Party to a Junior Partner.* This direction identifies the number of RICs initiated by a legislator with affiliation to the president's party to a ministry controlled by a junior partner.

4. *Specific Target: Junior Partners to the President's Party.* This direction is a subset of Direction 2, and identifies the number of RICs initiated by a legislator with affiliation to a junior partner to a ministry controlled by the president's party.

5. *Between Coalition Partners (President's Party Included).* This direction combines the number of RICs initiated between coalition partners (including the president's party), i.e., it combines initiatives "from the president's party to junior parties," "from junior parties to the president's party," and "between junior partners."

6. *Between Junior Partners (President's Party Not Included).* This direction is a subset of Direction 5, and identifies the RICs initiated between junior partners.

The results present in Table 3.2 indicate that policy monitoring occurs at all levels within the coalition. Different from initial expectations, policy monitoring initiated by governing parties does not seem to be more prevalent as compared to monitoring efforts initiated by the president's party. This is suggested by the positive and significant (at level 0.01) estimates (with similar magnitudes) for *dispersion* in all models depicted in Table 3.2.

At odds with initial expectations, holding all other variables constant, "president's approval" does not seem to affect the number of RICs initiated in any of the directions identified.

Although significant at level 0.01 in all models presented in Table 3.2, the magnitude of the estimate is very close to zero. The results also indicate that "inflation" seems to increase presidential oversight overall (Model 1). When specific targets are considered (e.g., from the president's party to a junior party [Model 3]), holding all other variables constant, an increase in "inflation" leads to a decreased use of RICs. The same result is found when the RIC initiatives between partners is considered (see Model 4 and Model 5). As expected, the results indicate a decrease in the use of RICs in the first quarter. This is likely explained by the recess in the Brazilian legislative session in the month of January (artificially increasing the number of zeros in the first quarter).

Table 3.2: Policy Monitoring: Identifying the Author and the Target

	(Model 1) Presidential Oversight	(Model 2) Junior Partners Oversight	(Model 3) Pres. Party to Junior Party	(Model 4) Junior Party to Pres. Party	(Model 5) Between Partners (Pres. Party Included)	(Model 6) Between Partners (Pres. Party Not Included)
Number of RICs$_{t-1}$	−0.001	0.003***	−0.001	0.003***	0.002***	0.002***
	(0.001)	(0.0003)	(0.001)	(0.0003)	(0.0003)	(0.0004)
Ideological Dispersion	0.444***	0.452***	0.490***	0.499***	0.445***	0.394***
(Heterogeneity)	(0.068)	(0.030)	(0.080)	(0.056)	(0.030)	(0.039)
President's Approval	−0.013***	−0.003***	−0.008*	−0.013***	−0.004***	0.008***
	(0.003)	(0.001)	(0.004)	(0.002)	(0.001)	(0.002)
Inflation (log)	0.093*	−0.121***	0.074	−0.247***	−0.126***	−0.002
	(0.052)	(0.021)	(0.075)	(0.028)	(0.020)	(0.033)
First Quarter	−0.064	−0.309***	−0.443***	−0.144**	−0.328***	−0.558***
	(0.087)	(0.042)	(0.148)	(0.057)	(0.042)	(0.070)
PSDB	1.038***	0.474***	0.551	1.619***	0.477***	0.046
	(0.309)	(0.130)	(0.367)	(0.301)	(0.128)	(0.174)
PMDB	0.036	0.074	−0.176	0.394	−0.105	−0.160
	(0.294)	(0.122)	(0.301)	(0.314)	(0.125)	(0.154)
PT	1.346***	−0.032	0.017	1.016***	−0.014	−0.310
	(0.344)	(0.140)	(0.409)	(0.310)	(0.139)	(0.193)
Constant	−0.347	1.670***	−0.547	0.062	1.757***	0.936***
	(0.390)	(0.173)	(0.475)	(0.375)	(0.170)	(0.225)
N	92	92	92	92	92	92
Log Likelihood	−409.496	−1,711.141	−269.045	−1,183.586	−1,723.526	−969.511
Akaike Inf. Crit.	836.992	3,440.283	556.090	2,385.172	3,465.052	1,957.022

Notes: Dependent variable: Number of RICs initiated per direction and per quarter.
Standard errors in parentheses. Two-tailed test. *p<0.1; **p<0.05; ***p<0.01.

In sum, the results found in this study corroborate my theoretical expectation of greater policy monitoring between coalition partners under more ideologically-heterogenous cabinets. This finding highlights that mechanisms to solve intra-coalition conflicts in presidential sys-

tems is neither restricted to the executive arena nor pursued only by the president to keep tabs of her partners. In this study, I demonstrate that policy monitoring under presidential coalition governments occurs between all coalition members (junior and senior partners) within the legislative arena. Similar to coalition governments in parliamentary systems, this finding reinforces the idea that the expectations of informational losses resulting from the delegation of power in multiparty systems, including presidential systems, are higher in contexts where the policy preferences of political parties are more divergent (Lupia and McCubbins, 1998; Martin and Vanberg, 2004, 2011; Laver, 2008; Carroll and Cox, 2012).

The results when authorship is taken into consideration reveal that junior partners have preeminence in policy monitoring initiatives as compared to the president's party. The results indicate that policy monitoring occurs at all levels within the coalition. Nevertheless, the expectation of greater monitoring efforts initiated by junior partners due to the president's capacity to fire ministers without fear of a government breakdown was not tested directly in this study. The full exploration of this expectation depends on the availability of comparable policy monitoring data between parliamentary and presidential systems.

3.7   Conclusion

Similar to what happens in parliamentary systems, presidential coalition governments require a continuous effort by the cabinet members to mitigate the costs of delegating ministry control to parties with different policy preferences. According to the argument advanced in this study, as the distance increases between the ideological preferences of the parties that are members of the cabinet, there is an expectation of information asymmetry and ministerial drift and, therefore, a greater incentive for cabinet members to oversee and monitor the policies being implemented by their coalition partners. Moreover, the fixed-term nature of the president's office and the capacity of the president to fire ministers without fear of a government breakdown leads to an expectation of greater monitoring efforts initiated by junior partners.

By analyzing more than 20,000 information requests made between 1991 and 2014 by members of the Brazilian Congress to individual ministers, the results partially support my expectations. At first, the higher incidence of RICs initiated by legislative parties without authorship identification are present in context of higher cabinet heterogeneity. The results indicate a greater use of the control mechanism RIC associated with the expectation of information loss, when parties that are more ideologically distant hold portfolios within the cabinet. Along my stated expectations, the results indicate that the the strategy of cabinet members to oversee the implementation of policies under the responsibility of government partners is greater under more ideologically-heterogeneous cabinets.

Looking at the directions of the RIC initiatives by members of the coalition, the expectation of increased policy monitoring initiated junior partners (in particular between coalition partners) as compared to the president's party is not supported. The refined measurement of policy monitoring through the use of RICs allows the comparison of policy monitoring initiatives between all coalition members (junior and senior partners) within the legislative arena. As such, it was revealed that the use of RIC as a mechanism of mutual policy implementation monitoring between coalition partners occurs at all levels within the coalition.

Although the expectation of greater monitoring efforts initiated between and by junior partners is not supported, using only Brazil as a case study does not allow a direct test of this expectation based on the president's prerogative to appoint and remove cabinet members without the fear of a government breakdown. The availability of comparable policy monitoring data between parliamentary and presidential systems can make full exploration of this expectation possible.

Also, as revealed by the literature on parliamentary systems, the ability to police the partners of the coalition consists of monitoring and correcting ministerial drift. In this study, I focus only on the first of these tasks, i.e., the policy monitoring initiatives. The correction of the policies is a topic worthy of further exploration. Coalition partners can potentially use the monitoring process analyzed in this study to scrutinize and amend, for

example, bill proposals they believe represent unacceptable drift.

4. HOW LONG WILL IT LAST?
UNDERSTANDING PRESIDENTIAL COALITION TERMINATION

4.1 Introduction

Despite the large body of research on the legislative performance of coalition governments in presidential systems (particularly in Latin American democracies) (Figueiredo and Limongi, 1999; Lanzaro, 2001; Amorim Neto, 2006a; Figueiredo, Salles, and Vieira, 2009), empirical and comparative analyses on coalition survival in presidential systems remain scant, and important questions remain unanswered: Why don't coalitions last the entire presidential term? How long will coalition cabinets last in presidential systems? Whether and under what conditions are cabinet terminations more likely to happen in presidential systems?

In this study, I am particularly interested in understanding the effects of exogenous random shocks (critical events) on coalition termination in presidential systems. The distinction between causes of coalition termination due to *structural attributes* of the political regime or of the coalition itself, or due to exogenous *critical events*, corresponds to the most-important explanatory variables highlighted by the literature on coalition termination in parliamentary systems (Browne, Frendreis, and Gleiber, 1984, 1986; Strøm et al., 1988; King et al., 1990; Warwick, 1992, 1994; Lupia and Strøm, 1995a; Diermeier and Stevenson, 2000). Besides structural attributes and critical event factors, the timing of the electoral calendar in presidential systems might have an important role in coalition termination in presidential systems and must not be ignored. Different from parliamentary systems, in presidential systems the timing of the next election for the chief executive is fixed.

I propose a theoretical framework in which I adapt elements from the extensive literature on cabinet survival in parliamentary systems to the context and specificities of presidential systems. Based on the exclusive powers of the president to form and reshuffle cabinets and the central position of the president within coalition governments, I argue that economic

indicators—such as inflation, unemployment, economic growth—and the public's approval rating of the president's performance to be crucial factors that predict cabinet termination in presidential democracies.

By conducting an event history analysis in a longitudinal dataset from 1978 to 2007 that includes 10 democracies in Latin America, the results in this study show that inflation, unemployment, and fragmentation within the coalition and the party system are the main predictors of cabinet termination. These findings reveal that presidential coalitions terminate for reasons similar to those that can lead to parliamentary coalition termination.

This paper is structured as follows: In the next section, I present a review of the literature on coalition termination.[1] This review is heavily based on the literature on parliamentary systems. This literature is then contrasted to the specificities of presidential systems. In section 3, I present my theory, and, based on the theoretical model proposed, I suggest four empirical implications. In section 4, I present the data and the variables used in this study and discuss the method to empirically test the hypotheses. In section 5, I discuss the results of this study, and in section 6, I present my final comments.

4.2   Why Would Coalitions Be Unstable in Presidential Democracies?

According to previous studies on presidential systems, coalition governments should either be rare, due to "the perils of presidentialism" (Linz, 1990), or unstable, due to difficult institutional combinations (Mainwaring, 1993). Another suggested factor leading to greater instability of coalition governments in presidential systems concerns the fixed nature of the electoral calendar in these systems, in what became known as the "tyranny of the electoral calendar" (Altman, 2000b,a).

Linz (1990; 1994) suggests that presidential systems have structural problems such as the dual legitimacy of the executive and legislative branches, the increased likelihood of

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[1]In this study, as I am using the term "coalition" and "cabinet coalition" interchangeably, I also use "coalition termination" and "cabinet termination" interchangeably.

inter-branch conflict, and the lack of an institutional mechanism to resolve these conflicts. The "difficult combination" hypothesis (Mainwaring, 1993) implies that inter-branch conflict and the legislature's non-cooperative behavior would be aggravated by the combination of a strong president with a multiparty system. The "tyranny of the electoral calendar" hypothesis (Altman, 2000a), in turn, suggests that as new elections approach, members of the coalition will try to distance themselves from the president in order to avoid paying the costs associated with the government's unpopular policies. Therefore, because the coalition's parties would fare better by competing in elections alone, they would abandon the government before the end of the presidential term (Chasquetti, 1999; Altman, 2000b,a).

Studies comparing parliamentary and presidential systems (Cheibub and Limongi, 2002; Cheibub, Przeworski and Saiegh 2004) suggest that the same incentives for coalition formation are present in both systems of government. Empirical studies on Latin American democracies (Deheza, 1998; Figueiredo and Limongi, 1999; Amorim Neto, 2000, 2006a; Chasquetti, 1999; Lanzaro, 2001; Alemán and Tsebelis, 2011), that focus on the largest number of countries in the world in which presidential systems coexist with multiparty systems, have revealed that coalition governments have been the most frequent and effective way to address and resolve the president's problem of legislative minority support. Therefore, coalition government should not be considered a rare phenomenon in presidential systems (Cheibub and Limongi, 2002; Cheibub, Przeworski and Saiegh 2004; Cheibub, 2007; Figueiredo, Salles, and Vieira 2009).

Nevertheless, the analysis on Latin American presidential democracies are mostly descriptive case studies concerned with either demonstrating that coalition governments are not rare in the region, or evaluating the legislative success of coalition governments within presidential systems. Such examples can be seen in studies on Brazil (Figueiredo and Limongi, 1999), Uruguay (Chasquetti, 1999), Chile (Siavelis, 2000), Argentina (Novaro, 2001), and Bolivia (Mayorga, 2001). In contrast to the extensive literature on parliamentary systems (Strøm, 1984; Strøm et al., 1988; Schofield and Laver, 1985; Laver and Shepsle, 1990, 1994; Lupia

and Strøm, 1995b; Grofman and van Roozendaal, 1997; Strøm, Müller, and Bergman, 2008), theoretical models and empirical comparative analysis on cabinet survival in presidential systems remain underdeveloped.[2]

A study on cabinet termination can take cues from the extensive literature regarding cabinet survival and termination under parliamentary systems. This literature considers bargaining environment complexity (Laver and Shepsle, 1990; Alt and King, 1994), ideological diversity and polarization (Warwick, 1992, 1994), external environments such as economic conditions (Robertson, 1983a,b, 1984; Warwick, 1992; Narud, 1995), strategic timing of elections and calculus of alternative coalitions (Grofman and van Roozendaal, 1994; Lupia and Strøm, 1995b), strategies to reduce the prime minister's agency loss (Indridason and Kam, 2008), and structural attributes of the coalition itself such as the size and number of political parties (Strøm, Müller and Bergman 2008; Bergman, Ersson, and Hellström, 2015).

In any case, some of the theories developed for parliamentary coalition termination are clearly not applicable to presidential contexts. Different from parliamentary democracies, presidential democracies are defined by the mutual independence between the executive and the legislative branches (Lijphart, 1992; Stepan and Skach, 1993), the fixed electoral calendar, and the absence of certain institutional attributes such as investiture and the vote of no confidence procedure.

The hypothesis of "the tyranny of the electoral calendar" is directly related to the specificities of the presidential systems, particularly regarding presidential and legislative fixed terms. The term "tyranny of the electoral calendar" was coined by Altman (2000b), but the expectation is similar in all cited studies: as the next election approaches, parties have fewer

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[2]An important exception is Martínez-Gallardo (2012). Focusing on structural attributes, Martínez-Gallardo (2012) reveals that presidential coalitions are not as short-lived and *ad hoc* as compared to parliamentary coalitions, and demonstrates that the stability of presidential coalitions depends on the balance of institutional and political power between the president and the legislature. Strong presidents (with greater unilateral presidential authority), will have a lower cost of losing the support of coalition partners. Consequently, strong presidents will have weaker incentives to reach agreement with coalition partners, leading to an increase in the likelihood of a coalition breakdown. Yet, a strong legislature counterbalances this effect, increasing the presidents incentives to compromise with parties in exchange of their legislative support, and, consequently, leading to more durable coalitions.

incentives to join or remain in the government, and therefore cabinet termination should be more likely, given the impending elections (Chasquetti, 1999; Altman, 2000b; Alemán and Tsebelis, 2011). Although Altman considers that other covariates—such as economic and ideological factors—can affect cabinet duration, the author sustains that "nonetheless, whether a party remains in the executive coalition is subject to the tyranny of the electoral calendar" (Altman, 2000b, p. 19). Thus, at the end of the president's term, members of the coalition would mainly be concerned with electoral gains and would behave as office- and vote-seeking actors (Altman, 2000a, p. 268).

The rationale behind "the tyranny of the electoral calendar" is that members of the coalition should try to distance themselves from the president in order to avoid paying the costs of being associated with the incumbent government. The proximity of the elections, then, should create strong incentives for members of the coalition to leave the cabinet, unless the country's economy is performing well.

In this paper, I challenge hypotheses such as the "tyranny of the electoral calendar" and argue that the privileged position of the president within the coalition (i.e., the central figure within the cabinet), and her power to freely select and remove ministers without fear of a government breakdown, makes the evaluation of the president's performance and other critical events crucial elements in the parties' calculus regarding whether or not to stay in the government.

4.3   Theory and Hypotheses

Presidents have some exclusive powers on coalition formation and the dynamics of ministerial reshuffling in presidential systems, which are: 1. Constitutional prerogative powers to form and reshuffle the government's cabinet (Amorim Neto, 2000; Figueiredo, 2007; Araújo, Silva, and Vieira, 2016); 2. Exclusivity as the *formateur* in the coalition's formation (Cheibub, Przeworski, and Saiegh, 2004; Silva, 2016), and; 3. Constitutionally-fixed terms, remaining in power even under adverse legislative conditions (Shugart and Carey,

1992; Mainwaring, 1993; Altman, 2000a; Cheibub, Przeworski and Saiegh 2004; Cheibub, 2007).

Hypotheses such as the "tyranny of the electoral calendar" neglect the central position of the president in the government formation process (as the exclusive *formateur*) and her capacity to remove ministers without fear of a government breakdown. Presidents can fire ministers from junior parties that don't deliver legislative votes. The fact that the president's tenure is immediately not threatened when she withdraws portfolios from junior parties, gives credibility to the junior parties' pledge to support the president's legislative agenda. Also, presidents usually control important resources of interest to legislators (e.g., patronage and budget) (Shugart and Carey, 1992; Mainwaring and Shugart, 1997; Figueiredo and Limongi, 1999; Raile, Pereira, and Power, 2011). The president's control over these resources puts the president in a favorable position to bargain for cooperation from legislators.

Moreover, there is a possibility that parties' identification with a highly-evaluated government can bring electoral benefit for the members of the coalition. There is no reason to believe that only under presidential systems would being part of the government yield no electoral benefits for junior parties when the economy is performing well and the president is popular with voters. There is evidence that the decision to join the government involves a cost-benefit evaluation between possible electoral losses and the potential to be part of the coalition (Cheibub and Limongi, 2002; Freitas, 2013; Araújo, Freitas, and Vieira, 2018).

Therefore, in this paper I suggest a theory in which the termination of coalition governments depends on critical events directly related to government's performance, such as economic conditions—inflation, unemployment, and economic growth—and the approval rating of the president. The argument is that the exclusive powers of the president to form and reshuffle cabinets and the central position of the president within the coalition make the evaluation of the president's approval rating and other critical events crucial elements in the junior partners' decision of whether or not to remain in the government. The changes in government tied to these factors are due to political and electoral reasons, similar to the

reasons that lead to parliamentary coalition termination.

Following the theory stated above, four empirical implications are tested in this study. As the country's inflation rate increases, a shorter duration of the coalition is expected. As the country's unemployment rate increases, a shorter duration of the coalition is expected. As the presidential approval rate increases, a longer duration of the coalition is expected. As the country's GDP growth increases, a longer duration of the coalition is expected. These factors will interact with the elapsing of the president's term, to capture the role of the electoral calendar on presidential systems. The proximity of the elections should create incentives for members of the coalition to leave the cabinet, unless the country's economy is performing well and the president is popular.

4.4 Empirical Strategy

The dataset used in this study comprises 82 cabinet coalitions formed from 1978 to 2007, and was built from political data provided by Amorim Neto, updated with data from the Brazilian Center of Analysis and Planning (CEBRAP), and supplemented with economic data from The World Bank and the Executive Approval Project (EAP).[3] The unit of analysis in this study is each coalition per country, comprising a total of 82 observations.

In order to model the likelihood of coalition termination, in this study I will conduct an event-history analysis (Cox and Oakes, 1984; Box-Steffensmeier and Jones, 2004) using a dataset that is comprised of data from 10 Latin American democracies, from 1978 to 2007.[4] The justification for the use of these cases is based on data availability, and on definitions for three main concepts of the analysis: democracy, presidential systems, and coalition government.

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[3]The complete data source can be viewed in Table C.1 of the Appendix C. Summary statistics can be viewed in Table C.2 of the same supplementary material.

[4]The presidential systems and the time range included are: Argentina (1989-2001), Bolivia (1982-2001), Brazil (1985-2007), Chile (1990-2004), Colombia (1978-2000), Ecuador (1979-1999), Panama (1990-2002), Peru (1980-1991), Uruguay (1985-2003), and Venezuela (1992-1999).

4.4.1   Concepts: Democracy, Presidential System, and Coalition Government

For the classification of a democratic regime, I use the definition suggested by Przeworski, Alvarez, Cheibub and Limongi (2000), which was further developed by Cheibub, Gandhi and Vreeland (2010, p. 69):

1. The chief executive must be chosen by popular election or by a body that was itself popularly elected;

2. The legislature must be popularly elected;

3. There must be more than one party competing in the elections; and

4. An alternation in power under electoral rules identical to the ones that brought the incumbent to office must have taken place.

This classification has the advantages of being comprehensive for classifying worldwide political regimes in a minimalist way related to the research question addressed in this study (Collier and Adcock, 1999). This classification is also strongly correlated with other common measures of democracy such as those developed by the Freedom House and the Polity IV Project.

Presidential systems are defined according to the concept developed by Shugart and Carey (1992, p. 19-20):

1. The chief executive is elected by popular vote or by a body that was itself popularly elected;

2. The terms of the chief executive and the assembly are fixed, and are not contingent on mutual confidence;

3. The chief executive selects and removes the members of the cabinet; and

4. The chief executive has some constitutionally-granted lawmaking authority, such as veto power.

For coalition governments, I adopt a minimalist definition: a coalition government is present when at least two parties hold cabinet portfolios. To define the demarcation of the end of a cabinet, I adopt the standard definition in the literature on parliamentary and presidential systems of government: Any changes in the set of parties holding cabinet membership.

4.4.2 Dependent Variable

Coalition Survival. The dependent variable is the durability of the coalitions, as measured by the number of days that the coalition survived. Each of the coalitions in the sample has the number of days it lasted. As an example, since its recent democratization in 1990 to the last data available in 2004, Chile has had five different coalitions. The first Chilean coalition, during the presidency of Patricio Aylwin (1990-1994), lasted 934 days (that is, the difference between the end date and the start date of the coalition). The same operation was conducted for each coalition in every country included in the analysis. The average duration of the coalitions in the sample is 585.39 days, with a standard deviation of 483.18 days.

The less durable coalition, with only 30 days, started in June 1986 and was the second coalition formed by Ecuadorian President León Febres Cordero. The most enduring coalitions lasted 1826 days: the first coalition formed by Uruguayan President Luis Alberto Lacalle, which started in March 1990, and the first coalition formed in the second term of Venezuelan President Rafael Caldera, which started in February 1994.

4.4.3 Independent Variables

Inflation. This variable is a measurement of the consumer price index (CPI), reflecting the quarterly percentage change in the cost to the average consumer of acquiring a basket of goods and services. In the sample, this variable has a mean value of 22.71 percent, with a standard deviation of 43.45 percent. The minimum value of the sample is a deflation of -0.58 (Bolivia in the first quarter of 2001) and the maximum value is 204.54 (Peru in the last quarter of 1988). The period of hyperinflation in Latin America (from 1985 to 1995) presents

disproportionate values for this variable, making the distribution of the variable extremely skewed. For this reason, the variable inflation was log transformed.[5]

Unemployment. This variable refers to the quarterly share (percentage) of the labor force that is without work but available for and seeking employment. The average unemployment rate among the countries included in this analysis is 9.29 percent, with a standard deviation of 3.56 percent. The lowest unemployment rate in the sample is 3.40 (Brazil in the last quarter of 1989), and the highest value is 19.82 (Panama in the first quarter of 1983).

GDP Growth. Annual percentage growth rate of gross domestic product (GDP) at market prices, based on constant U.S. dollars from 2005. The mean value of this variable in the sample is 2.69 percent, with a standard deviation of 4.31 percent. The variable ranges from a minimum value of -11.70 (Peru in 1990) to a maximum value of 11.94 (Argentina in 1992).

President's Approval Rating. This variable measures the presidential job approval based on country-specific surveys that included the question, "Do you approve or disapprove of the way that [name of the chief executive] is handling his/her job as [title of executive position]?" The mean value of this variable is 43.30 percent, with a standard deviation of 11.91 percent. The least-popular president in the sample is the Peruvian President Fernando Belaúnde Terry in 1984 (14.93 percent), and the most-popular president in the sample is the Colombian President César Gaviria Trujillo in 1992 (69.60 percent). As presidential approval rating can act as a function of the economic variables, new variables that interact with the president's approval rating and each of the economic factors were also created.

Cycle. This variable measures the elapsing of the president's term, expressed as $1 - \frac{T_e - T_{ca}}{T_{co}}$. Where T_e is the year the president's term ends, T_{ca} is the current year of the president's term according to the cabinet i, and T_{co} is the fixed number of years of the president's term as defined by the country's constitution. The measurement of this variable in this fashion controls for different presidential terms across countries. As an example of a presidential term of four years, a value of 0.25 refers to the first year of the president's term, 0.5 is the

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[5]The distributions of the variables—including the distribution for the log transformed inflation—can be viewed in Appendix D of the Appendix Material.

second year, 0.75 is the third year, and 1 refers to the last year of the president's term.

As mentioned before, an important part of the literature on coalition termination suggests that as a new election approaches, the likelihood of a cabinet termination will be greater (Altman, 2000b,a). Chasquetti (1999) states that the fixed terms of the president, vice-president and legislature seem to be decisive for the duration and stability of cabinets, because parties that compose the coalition are fully aware of the electoral calendar, and thus maintaining a coalition should be a function of the temporal distance of the national election (Altman, 2000a, p. 278n1). Therefore, according to the hypothesis of the "tyranny of the electoral calendar," it is expected that the more advanced the presidential term (in a temporal sense), the higher the likelihood of a cabinet termination.

Size of the Coalition. This variable refers to the number of parties represented in the cabinet. In the sample, this variable has a mean of 3.5 parties composing the coalition, with a standard deviation of 1.62 parties. The smallest coalitions in the sample are those formed by only two parties (26 observations), and the three biggest coalitions are composed of eight parties—the first (2003) and second (2004) coalitions formed in the first term of the Brazilian President Lula da Silva, and the first coalition (2007) formed by Lula da Silva in his second term.

Studies on parliamentary systems found that the number of parties in the cabinet has a significant and negative impact on cabinet durability (Taylor and Herman, 1971; Sanders and Herman, 1977). By considering that more parties in the cabinet can lead to more conflict within the coalition among the governing parties, the same outcome is expected in presidential systems: as the number of parties in the cabinet increases, the likelihood of a cabinet's termination will also increase.

Ideological Dispersion. This variable measures the ideological heterogeneity of the cabinets or polarization, i.e. the ideological distance between the furthest-left party represented in the cabinet to the furthest-right party represented in the cabinet. Following Coppedge (1997), Saez and Freidenberg (2001) and Neto (2006a), each governing party was assigned

to a numeric value (from -1 to 1) in a left-right ideological continuum: Left = -1; center-left = -0.5; center = 0; center-right = 0.5, and; right = 1. Thus, the ideological dispersion of the cabinet can be expressed as $|P_{fl} - P_{fr}|$, where P_{fl} is the ideological position on the left-right continuum of the furthest-left party represented in the cabinet, and P_{fr} is the ideological position on the left-right continuum of the furthest-right party represented in the cabinet. The variable thus ranges from 0—absence of ideological heterogeneity (that is, an ideologically homogeneous cabinet)—to 2—maximum ideological heterogeneity.

In the sample, there are 16 homogeneous cabinets, and nine observations with the maximum heterogeneity value. Ideologically homogeneous cabinets are less vulnerable to conflict and disagreements over policy choices. In other words, the conflict of interests within the coalition intensifies as the ideological dispersion of the cabinet increases, which therefore increases the polarization of the cabinet. Thus, I expect that the higher the ideological dispersion, the higher the likelihood of a cabinet termination.

Cabinet Coalescence. One of the factors suggested by the literature in explaining the durability of cabinets in presidential systems is the deviation from the proportionality between the number of ministries held by the governing parties and the number of legislative seats these parties contribute to the coalition (Amorim Neto, 2006a). In the first chapter of this dissertation, I also reveal a substantial variation in the proportionality of presidential cabinets, and that this variation is a consequence of how dependent the president is upon the legislature. In this study, I use the cabinet coalescence rate suggested by Neto (2006a; 2006b) to measure the proportionality of portfolio allocation at the level of coalition, that can be expressed as:

$$Coalescence = 1 - \frac{\sum_{i=1}^{n}(|s_i - p_i|)}{2}$$

Where s_i = the percentage of legislative seats governing party i contributes to the coalition when the cabinet is appointed, and; p_i = the proportion of portfolios governing party i receives from the total of available portfolios. The coalescence rate varies between 0—no correspondence between cabinet shares and legislative seats—and 1—perfect correspondence

between the portfolio share and the contribution of legislative seat share to the coalition by coalition partners.

According to Neto (2000), the more proportional the distribution of portfolios among the coalition's members—based on their legislative strength—the higher is the legislative discipline of these members. Thus, it is expected that the greater the cabinet coalescence, the less likely is a cabinet termination. This expectation is intuitive, since if the government is receiving support from the parties that comprise the coalition, there is no incentive, *ceteris paribus*, for the president to change the cabinet.

Effective Number of Parties (ENP). This variable is Laakso and Taagepera's (1979) measurement of the fragmentation of the party system in the legislative branch. That is, $ENP = \frac{1}{\sum_{i=1}^{n} s_i^2}$, where s_i is the percentage of legislative seats the governing party i holds when the cabinet is appointed. The mean value for this variable in the sample is 5.36 parties, with a standard deviation of 2.27 parties. The least-fragmented party system is Colombia's in 1986 (ENP = 1.98), and the most-fragmented party systems is Brazil's between 1992 and 1993 (ENP = 9.34). According to Chasquetti (2001), an extremely fragmented system (ENP > 4) should be more problematic for government stability in presidential systems due to higher coordination problems among coalition partners and increased intra-coalition conflicts. Thus, I expect that the higher the legislative fractionalization, the higher the likelihood of a cabinet termination.

4.4.4 Method: The Cox Proportional Hazards Model

When the duration of the presidential cabinets—measured by the number of days the cabinet lasts until it terminates—is used as the dependent variable, traditional regression techniques such as OLS-type should be avoided (Box-Steffensmeier and Jones, 2004). First, because the dependent variable is the duration, it cannot assume negative values. The time to failure or the time to the termination of the event is thus always positive. But more importantly, the problem with using OLS to analyze event history data lies with the assumed

distribution of the residuals. In linear regression, the residuals are assumed to be distributed normally, but the assumption of normality of time to an event may be unreasonable. It is unreasonable, for instance, if we are thinking about an event that has a likelihood of terminating instantaneously that is constant over time. In that case, the distribution of time would follow an exponential distribution.

In this sense, a common approach to estimate duration models is to assume a probability distribution function for the duration of the event—for example, a Weibull, an exponential, or a logistic distribution—and estimate the probability for the duration with the method of maximum likelihood. King, Alt, Burns and Laver (1990) and Warwick (1992), for instance, used parametric methods to understand coalition durations in parliamentary systems. Both studies had strong theoretical expectations regarding the distribution of the residuals. The downside of this approach is that the results are sensitive to the chosen distribution function, and if the distribution of failure times is parameterized incorrectly, then the interpretations afforded by parametric models could be misleading and may not make substantive sense (Box-Steffensmeier and Jones, 2004).

The theory developed in this study is focused on the relationship between the cabinet duration and independent variables that vary over time. Thus, in order to estimate the model of cabinet duration, I use the Cox proportional hazards model with time-varying covariates (Cox, 1972; Cox and Oakes, 1984; Fisher and Lin, 1999; Box-Steffensmeier and Jones, 2004; Martinussen and Scheike, 2006; Thomas and Reyes, 2014). The advantage of this approach is that we can leave the particular distribution form for the duration dependency unspecified,[6] which has been shown to be preferable on both substantive and statistical grounds for parametric models (Box-Steffensmeier and Jones, 2004, p. 48).[7]

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[6]The Cox model is considered a "semi-parametric" model. As described by Box-Steffensmeier and Jones (2004, p. 49), "the (ordered) duration times are parameterized in terms of a set of covariates, but the particular distributional form of the duration times is not parameterized."

[7]The Cox model is also preferred for dealing with right-censoring data—subjects that we do not or cannot observe long enough for all of them to fail. In the sample data I am using, however, there is no censoring; the full duration time of cabinets is observed. Nevertheless, left-truncation could be present in the data when history prior to the first observed cabinet in a country is unobserved. The fact that only Latin American presidential systems are included in this study minimizes this problem, because the first observation for each

4.5 Results and Discussion

In interpreting the coefficients of a Cox proportional hazards model, the dependent variable is the hazard rate of the duration of the cabinet. In other words, the hazard rate refers to the likelihood that a cabinet will terminate at a particular point in time, given that it has not yet fallen. Therefore, higher hazard rates—positive estimate coefficients—represent a higher likelihood of failure and, consequently, a shorter duration of the cabinet. Negative estimate coefficients, in turn, represent a reduction in the likelihood of termination, and consequently, a longer duration of the cabinet.

Table 4.1 presents estimate coefficients for four Cox regression models. Due to 10 missing values in the independent variable "presidential approval rate," in the first model I decided to remove this variable to keep all sample observations. The second model is the full model. Latin American presidential systems are politically and socially diversified, and thus generalizing the region's governments can lead to unreliable results. To control for country specificities, I also present the estimates for the first model with country fixed-effects (Model 3) and for the second model with country fixed-effects (Model 4). To echo Schofield and Laver's argument (1985, p. 143) for the parliamentary context, "differences between countries are at least as significant as those between theories."[8]

By exponentiating Cox estimates from Table 4.1, the coefficients turn into the metric of hazard ratios, and with this we can make substantive inferences. Table 4.1 presents the results in terms of the hazard ratio *italics*. As such, hazard ratios greater than 1 imply that the likelihood (or hazard) of coalition termination increases as the value of the independent variable increases, thus resulting in a greater likelihood of failure (shorter coalition duration). Hazard ratios smaller than 1, in turn, imply that the likelihood (or hazard) of coalition

country in the dataset is usually the first cabinet formed in the current democratic era of the country (any coalition formed in country's non-democratic period is not included in the analysis).

[8]To save space, the non-significant results for the fixed-effects terms for countries were omitted from Table 1. The results for these terms can be viewed in Appendix F of the Appendix Material.

Table 4.1: Cox Model Estimates and Hazard Ratios: The Effects of Critical Events on Presidential Coalition Duration

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	*exp(coeff.)*	Coefficient	*exp(coeff.)*	Coefficient	*exp(coeff.)*	Coefficient	*exp(coeff.)*
Critical Events:								
Inflation (log)	**0.208****	*1.231*	**0.263****	*1.301*	**0.204***	*1.227*	**0.222***	*1.249*
	(0.091)		(0.119)		(0.106)		(0.127)	
Unemployment	**0.096***	*1.101*	**0.108***	*1.114*	−0.038	*0.963*	−0.033	*0.967*
	(0.052)		(0.064)		(0.081)		(0.099)	
GDP Growth	0.021	*1.021*	0.015	*1.016*	−0.004	*0.996*	−0.015	*0.985*
	(0.032)		(0.033)		(0.043)		(0.044)	
Presidential Approval			0.006	*1.006*			0.009	*1.009*
			(0.015)				(0.018)	
Control Variables:								
Cycle	−0.306	*0.736*	−0.184	*0.832*	−0.379	*0.685*	−0.125	*0.882*
	(0.410)		(0.456)		(0.425)		(0.475)	
Size of the Coalition	0.111	*1.117*	0.078	*1.081*	**0.393****	*1.482*	**0.373***	*1.452*
	(0.123)		(0.141)		(0.162)		(0.194)	
Coalescence	2.625	*13.804*	2.209	*9.106*	2.710	*15.029*	2.385	*15.029*
	(2.138)		(2.290)		(2.978)		(3.049)	
Ideological Dispersion	−0.109	*0.896*	−0.128	*0.880*	−0.070	*0.933*	−0.250	*0.778*
	(0.281)		(0.318)		(0.417)		(0.468)	
Fragmentation (ENP)	**0.316*****	*1.371*	**0.352*****	*1.422*	**0.450*****	*1.568*	**0.412****	*1.510*
	(0.106)		(0.121)		(0.162)		(0.164)	
Brazil					**−2.344***	*0.096*	−2.298	*0.101*
					(1.376)		(1.413)	
Chile					**−3.373***	*0.034*	**−3.638***	*0.026*
					(2.029)		(2.135)	
N	82		72		82		72	
R²	0.402		0.398		0.543		0.534	
Log Likelihood	−251.667		−210.429		−239.188		−200.121	
Wald Test	34.230***		30.560***		51.600***		44.280***	
LR Test	35.248***		31.522***		60.205***		52.139***	
Score (Logrank) Test	37.429***		34.496***		61.750***		54.677***	

Notes: Dependent variable: Hazard ratios of cabinet duration in days = exp(coefficients). Standard errors of the (non-exponentiate) coefficients in parenthesis: *p<0.1; **p<0.05; ***p<0.01. Two-tailed test. Statistically significant estimates are in **bold**.

termination decreases as the value of the independent variable increases, thus resulting in a smaller likelihood of failure (longer coalition duration). In contrast, hazard ratios close to 1—as in the case of the parameters for "GDP growth" and "presidential approval"—imply that the hazard rate is essentially invariant to changes in the independent variable, i.e. the coefficient has no effect on increasing (or decreasing) the hazard of cabinet duration.

Figure 4.1: Hazard Ratios of Cabinet Duration by Inflation
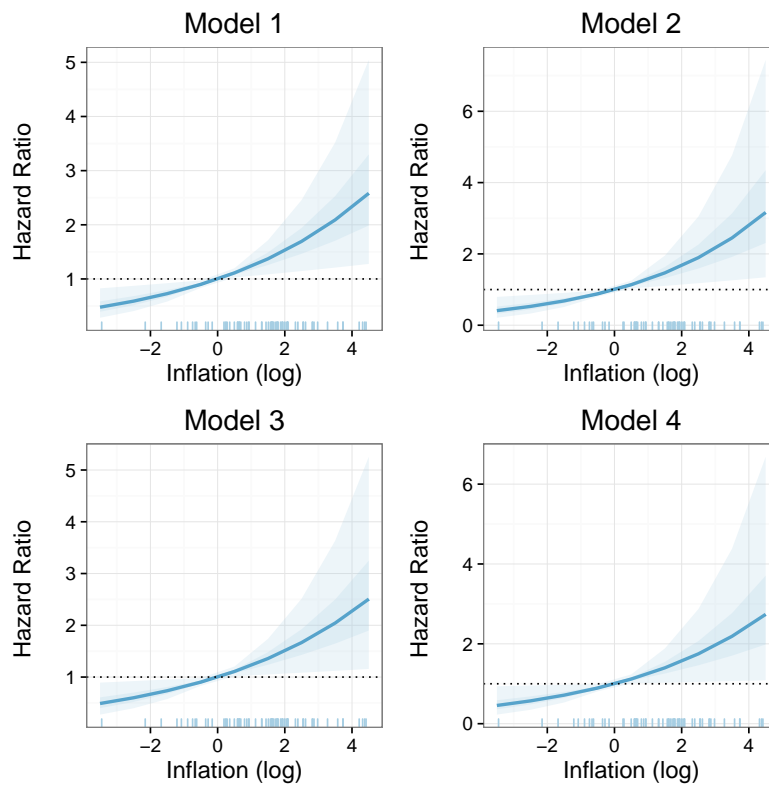
Note: Dashed-line at $y = 1$. Hazard ratios greater than 1 imply that the likelihood is increasing as the value of the independent variable increases, thus resulting in a shorter cabinet duration. Hazard ratios smaller than 1, in turn, imply that the likelihood of cabinet termination decreases as the value of the independent variable increases, thus resulting in a longer cabinet duration. The plot is visually weighted, i.e. the darker areas of the graph have a higher concentration of hazard ratios simulation by the independent variable of interest. Confidence intervals at level 0.1.

As we can see in Table 4.1, and depicted graphically in Figure 4.1, inflation is statistically significant in all models among the main independent variables. With a positive coefficient estimate for inflation, as the value for inflation increases, the hazard rate increases, thus

decreasing the duration of the coalition. Substantively, as inflation increases by one unit, holding the other variables constant, the likelihood of a cabinet termination increases to almost 25 percent in Models 1, 2, and 3, and by 30 percent in the model with random effects including presidential approval (Model 2). This result supports the first hypothesis of this study, according to which as the country's inflation rate increases, a shorter duration of the cabinet is expected.

Figure 4.2: Hazard Ratios of Cabinet Duration by Unemployment
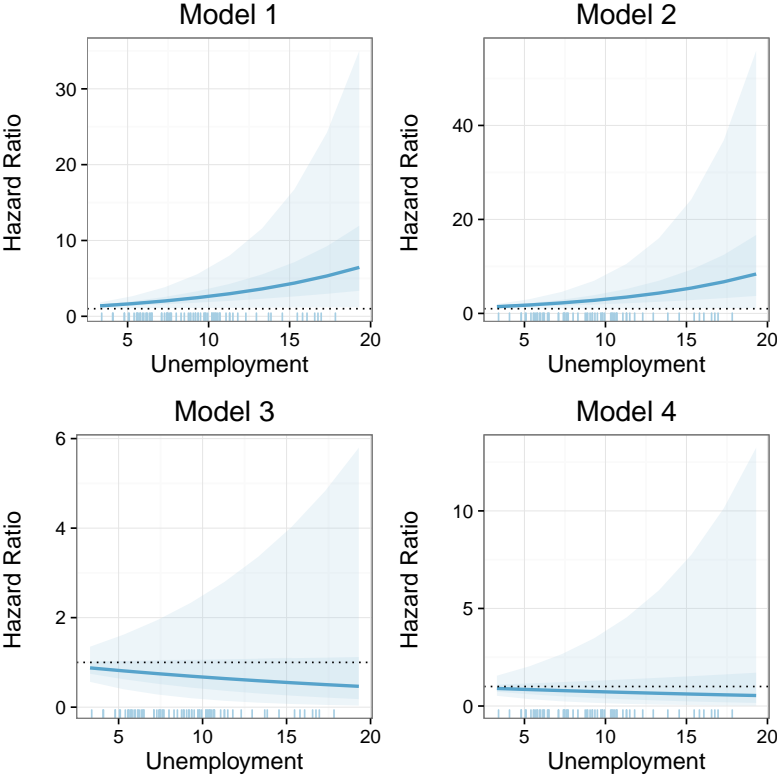
Note: Dashed-line at $y = 1$. Hazard ratios greater than 1 imply that the likelihood is increasing as the value of the independent variable increases, thus resulting in a shorter cabinet duration. Hazard ratios smaller than 1, in turn, imply that the likelihood of cabinet termination decreases as the value of the independent variable increases, thus resulting in a longer cabinet duration. The plot is visually weighted, i.e. the darker areas of the graph have a higher concentration of hazard ratios simulation by the independent variable of interest. Confidence intervals at level 0.1.

The second hypothesis—as the country's unemployment rate increases, a shorter duration of the cabinet is expected—is partially supported by the results. The estimate for

unemployment is positive and statistically significant in the random-effects models (Model 1 and Model 2) (see Figure 4.2 above). Substantively, as the unemployment rate increases by one percent, holding the other variables constant, the likelihood of a cabinet termination increases by close to 10 percent.

Although hypotheses 1 and 2 are supported by the results of this study, hypotheses 3 and 4 are not. "GDP growth" and "presidential approval" are not statistically significant in any model, and their hazard ratios are close to 1, implying no effect on cabinet duration, holding all other variables constant. This is an interesting finding and may indicate that in their calculus of whether or not to stay in the government, the governing parties are more attentive to factors that affect their voters directly, such as inflation and unemployment. The results for the economic indicators reveal that the termination of coalition follows a logic that fits a rational behavior of the coalition's members. When the government is successful in controlling inflation and unemployment, cabinet termination becomes less likely.

It is also noteworthy that the results do not support the "tyranny of the electoral calendar" hypothesis. Holding all other variables constant, an increase in the independent variable "cycle"—meaning that a new election is closer—results in a estimate that is not statistically significant and in the opposite direction expected by the "tyranny of the electoral calendar" hypothesis. According to the theory proposed in this study, these results go in favor of the expected outcomes. That is, when the model specified includes critical events such as economic indicators, no relationship between the elapsing of the president's term and the cabinet termination is found.

The estimates for the "size of the coalition" and the "effective number of parties (ENP)" are the only statistically significant variables among the variables controlling for the structural factors of the coalition itself and the party system. This indicates that both the fragmentation within the coalition and the fragmentation of the party systems are—along with inflation and unemployment—strong predictors of cabinet termination.

The results for the multiplicative interaction models can be seen in Table C.10 of the

Appendix C.9. The estimates for the interactive terms between critical events factors and the elapsing of the president's term ("cycles") are not statistically significant, holding all other variables constant. These results indicate that the exogenous critical events "inflation" and "unemployment" are crucial for presidential coalition termination regardless of how close is the next election.

4.6   Conclusion

In this study, I proposed a theoretical framework in which I adapt elements from the literature on cabinet survival in parliamentary systems to the context and specificities of presidential systems. Considering the exclusive powers of the president to form and reshuffle cabinets and her central position within coalitions, I suggested that the termination of a cabinet in presidential systems depends on exogenous critical events such as economic conditions—inflation, unemployment, and economic growth—and the approval ratings of the president.

The results of this study partially support the hypotheses tested. Among the exogenous critical events factors, inflation and unemployment rates were found to have an effect on cabinet breakdown. As the country's inflation and unemployment rates increase, the duration of the cabinet decreases. Nevertheless, the effect of unemployment was found only for the random-effects models, suggesting that this effect may actually be nested in countries' specificities, particularly for Brazil and Chile.[9] The results also show that, among the structural factors, the fragmentation within the cabinet and the party system are strong predictors of cabinet termination.

These results are similar to some findings regarding parliamentary systems and reveal that the difference between presidential and parliamentary systems of government, therefore, is one of degree.. Warwick (1992), for example, investigated the linkage between the trends of economic indicators and government survival in 16 European parliamentary systems and

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[9]See the results with country fixed-effects in Figure C.6 in Appendix F.

found that both inflation and unemployment are important explanatory factors for cabinet termination. Saalfeld (2008) and Bergman (2015) also found that in parliamentary systems, cabinets facing unfavorable macroeconomic situations have an increased risk of breakdown. Also, the polarization and fractionalization of the party system were seen to be important factors for cabinet stability in parliamentary studies (King, Alt, Burns, and Laver 1990; Laver and Shepsle, 1990; Warwick, 1994; Diermeier and Stevenson, 1999). According to these studies, the more ideologically diversified and fractionalized the party system, the higher the likelihood of early cabinet terminations (Laver and Shepsle, 1990).

The issue examined in this study has broader impacts beyond Latin America, particularly in new presidential democracies outside the Americas, including South Korea, the Philippines, and several countries in Africa. The availability of new data will make it possible to test the theory proposed here in a broader comparative perspective. As new data become available, other exogenous shocks that can affect cabinet termination but could not be considered in this study can also enter into the analysis, such as the effects of corruption and political scandals. These are factors that can enhance our understanding on presidential coalition termination, a topic that has only recently begun to receive more attention.

5. CONCLUSIONS AND FUTURE RESEARCH

Scholars recently identified that coalition formation is more common in presidential systems than previously assumed. However, few studies have analyzed the dynamics of coalitions in presidential democracies. In this dissertation, I addressed these dynamics, which include government formation, government breakdown, and policy monitoring between coalition partners. The main contribution of my dissertation lays in developing theories to understand how coalitions in presidential systems are formed, how they govern, and why they die. My answers to these questions provide important insights into the fundamental differences between presidential and parliamentary forms of government.

In the second chapter of my dissertation, I demonstrate that the institutional arrangements that define the balance of power between the president and the legislature explain the variation in the advantage of the president's party with regards to the allocation of ministerial posts. Empirical analyses using new data on presidential coalitions formed between 1959 and 2017 across presidential democracies around the world reveal that the balance of power in presidential cabinets can reflect the balance of power in the legislature when the head of government is more dependent on the legislature to legislate. The dependence of the president on the legislature should be viewed as a continuous variable that varies with the president's ability to make policy in or out of the legislature.

Building on the literature on the principal-agent problem, in the third chapter of my dissertation I explore intra-coalition conflicts in presidential democracies. Similar to parliamentary systems, I demonstrate that coalition partners in presidential democracies keep tabs on one another when the ideological distance between them is greater. The refined measurement of policy monitoring through the use of RICs revealed that policy implementation monitoring between coalition partners occurs at all levels within the coalition and is not restricted to the executive arena. I also theorize that because presidents have access to other tools to rein in the opportunistic behavior of coalition members, presidential parties should

initiate less policy monitoring actions than junior partners. Although the latter expectation was not supported, a better test of this expectation depends on the availability of data on comparable policy monitoring between parliamentary and presidential systems.

In the third chapter of my dissertation, I provide answers to the question, "Under what conditions are coalition terminations more likely to occur in presidential systems?" Based on the exclusive powers of the president to form and reshuffle cabinets and the central position of the president within coalition governments, I argue that economic indicators and the public's evaluation of the president's job to be crucial factors to predict cabinet termination. By examining 82 cabinets from 1978 to 2007 in 10 Latin American democracies, I found that inflation, unemployment, and the fragmentation within the coalition and the party system are the main predictors of cabinet breakdown. These findings reveal that presidential coalitions terminate for political and economic reasons similar to those that can lead to parliamentary coalition termination. The difference between the two systems of government, therefore, is one of degree.

5.1   Future Research

Currently, the majority of countries considered to be democracies have a presidential system. Approximately 46 percent of these countries are presidential democracies, 13 percent are semi-presidential democracies, and 41 percent are parliamentary democracies (Freedom House, 2017). The cases included in the analyses of this dissertation were justified on the conceptual definition of presidential multiparty democracies, the presence of coalition governments, and on data availability. Therefore, the empirical analyses of this dissertation focused primarily on Latin American democracies. Presidential constitutions have been adopted in most of the Latin American countries, and it has endured since the late 1980s. Nevertheless, the theories developed in this dissertation are not restricted to Latin American cases. The availability of new data will eventually make it possible to include more cases—beyond Latin American democracies—to the analyses and to test the theory proposed here in a broader

comparative perspective. In expanding the cross-country data in the future, the findings of this dissertation could reveal broader impacts beyond Latin America, especially in other presidential democracies outside the Americas such as Africa.

This dissertation can also serve as the base for the development of new theories arising from the empirical findings of this study. In Chapter 2, I focused on the distribution of portfolios during the government formation process. Other resources (beyond portfolios) distributed by the president in the government formation process can also be explored. Presidents have other political goods to distribute, such as state-owned enterprises, partisan political appointments, and pork-barrel resources. By considering that presidents have other goods to distribute that are of interest to coalition members, we might find that different parties have different "prices," revealing that presidents don't buy all coalition members so easily. A related potential study to be developed would address the consequences if resources beyond portfolios are intrinsic to presidential constitutions, or if they are also available to prime ministers.

Building on the findings discussed in Chapter 4 on coalition termination, another potential subject for exploration is how recurring ministerial terminations by the president can affect the president's policy goals and policy-making capacities. Some of the potential questions to be answered on this topic are: Does cabinet duration influence the legislative success of presidents? Do different cabinet compositions and duration affect the economic retrospective voting? Do the proportionality or duration of presidential coalitions affect the president's policy capacity? How are governing coalitions and their duration affected by the electoral calendar in presidential and parliamentary systems?

This dissertation furthers our understanding of the relationship between the executive and legislature in parliamentary and presidential systems, and opens many other avenues for future research on the topic of coalition governments in presidential systems.

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APPENDIX A

SUPPLEMENTARY MATERIAL FOR CHAPTER 2

A.1 Cases

Table A.1: Countries, Years, and Number of Observations (n)

Country Name	Year Range	n
Argentina	1989–1996	8
Argentina	2016–2017	2
Bolivia	1985	1
Bolivia	1989–2003	15
Brazil	1988–2017	30
Chile	1990–2017	28
Colombia	1991–2001	11
Colombia	2010–2017	8
Ecuador	1981–1987	7
Ecuador	1992–1997	6
Ecuador	2000–2002	3
El Salvador	2009–2013	5
Honduras	2010-2013	4
Panama	1990–2000	11
Panama	2009–2017	9
Paraguay	2011-2012	2
Peru	2001–2010	10
Uruguay	1972	1
Uruguay	1985–1993	9
Uruguay	1995–2004	10
Venezuela	1959–1967	9
Venezuela	1999	1
	Total:	**187**

Table A.2: Countries, and Formateur Parties

Country Name	Formateur's Party
Argentina	"PJ," "PRO"
Bolivia	"ADN," "MIR," "MNR"
Brazil	"PMDB," "PSD," "PSDB," "PT," "PTB"
Chile	"PDC," "PPD," "PRN," "PS"
Colombia	"CONS," "LIB," "PdelaU"
Ecuador	"DP," "DPUDC," "PRE," "PSC," "PUR"
El Salvador	"FMNL"
Honduras	"PN"
Paraguay	"PLRA"
Panama	"CD," "PA," "PP," "PRD"
Peru	"AP," "APRA," "PP"
Uruguay	"PC," "PN"
Venezuela	"AD," "CD"

A.2 Observed Values of the President's Portfolio Balance

Figure A.1: Distribution of the Observed Values for the President's Portfolio Balance
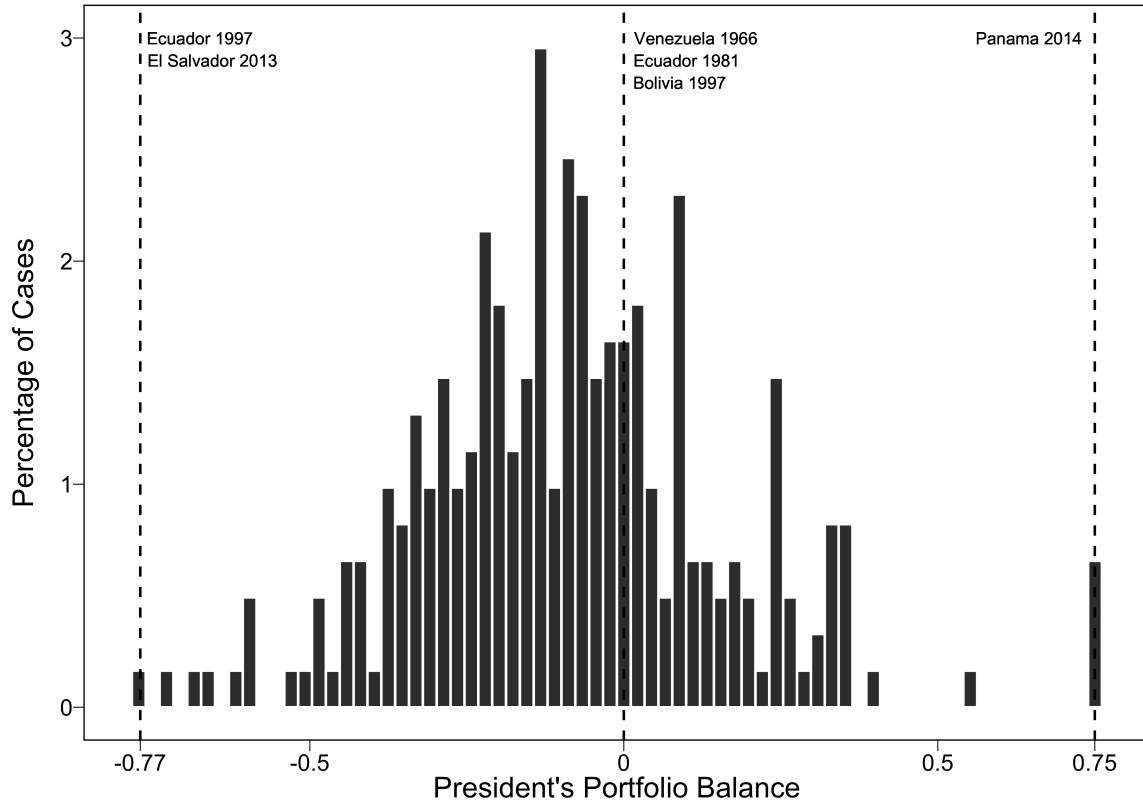
A.3 Observed Values of the President's Policy-Making Powers

Figure A.2: Distribution of the Observed Values for the President's Policy-Making Powers
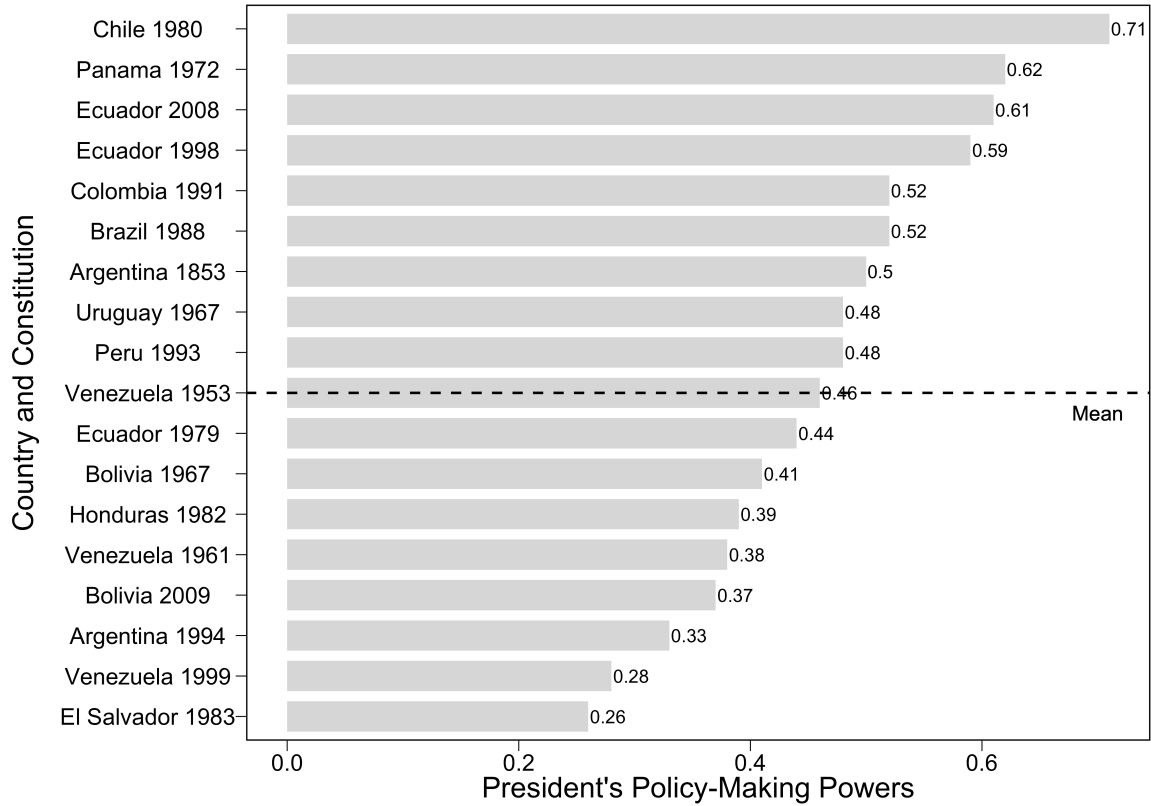
A.4 Descriptive Statistics

Table A.3: Descriptive Statistics and Variables

	Mean	St. Dev.	Min	Max	N
Dependent variable:					
President's Portfolio Balance	−0.06	0.27	−0.77	0.75	187
Main independent variable:					
President's Policy-Making Powers (IPIL)	0.52	0.11	0.26	0.71	187
Independent variable disaggregated (indicators):					
Decree Power	0.59	0.36	0	1	187
Initiative Stage	0.64	0.26	0.10	1	165
Constitutive Stage	0.40	0.14	0.13	0.58	178
Total Veto Power	0.44	0.24	0.12	1	187
Partial Veto Power	0.60	0.33	0	1	187
Bicameral Symmetry	0.39	0.26	0	0.80	132
Control Variables:					
Electoral Year	0.22	0.41	0	1	187
Effective Number of Legislative Parties (ENPP)	4.40	2.43	1.95	13.22	187
Number of Portfolios	15.16	3.72	8	24	187

A.5 Robustness Checks

Table A.4: Benchmark Model: President's Portfolio Balance within Presidential Democracies

	(Model 1)
President's Policy-Making Powers (IPIL)	0.505^{***}
	(0.179)
Constant	-0.321^{***}
	(0.095)
N	187
R^2	0.04
$RMSE$	0.261

Dependent variable: *President's Portfolio Balance.*

Standard errors in parentheses. Two-tailed test.

** $p < 0.05$, *** $p < 0.01$

Table A.5: Alternative Measurement of Presidential Powers:
IPIL (Montero 2009) vs PresPow (Doyle and Elgie 2014)

	Dependent variable: *President's Portfolio Balance*	
	Model 1	Model 2
	(IPIL)	(PresPow)
IPIL	0.505***	
	(0.177)	
PresPow		0.464**
		(0.215)
Constant	-0.321***	-0.253***
	(0.094)	(0.093)
N	187	185
R^2	0.042	0.025
RMSE	0.261	0.265

Notes: Dependent variable: *President's Portfolio Balance*.
Standard errors in parentheses. Two-tailed test.
** $p < 0.05$, *** $p < 0.01$.

Table A.6: Alternative Measurements of Presidential Policy-Making Powers IPIL (Montero 2009) vs UNDP (2004)

	(IPIL)	(UNDP)	(IPIL)	(UNDP)	(IPIL)	(UNDP)	(IPIL)	(UNDP)
Decree Power	0.169*** (0.054)	0.148** (0.061)						
Initiative Stage			0.364*** (0.070)	0.354*** (0.078)				
Total Veto Power					−0.426*** (0.075)	−0.194*** (0.060)		
Partial Veto Power							−0.093 (0.059)	−0.046 (0.060)
Constant	−0.157*** (0.037)	−0.120*** (0.032)	−0.255*** (0.048)	−0.206*** (0.037)	0.130*** (0.038)	0.053 (0.039)	−0.002 (0.040)	−0.038 (0.033)
N	187	187	165	187	187	187	187	187
R^2	0.051	0.031	0.141	0.100	0.149	0.053	0.013	0.003
RMSE	0.260	0.263	0.233	0.253	0.246	0.260	0.265	0.266

Notes: Dependent variable: Formateur's Advantage.
Standard errors in parentheses. Two-tailed test.
** $p < 0.05$, *** $p < 0.01$.

APPENDIX B

SUPPLEMENTARY MATERIAL FOR CHAPTER 3

B.1   Facsimilia of RICs

Figure B.1: Facsimile of a RIC initiated by a Legislator from a Coalition Party (2001)

REQUERIMENTO DE INFORMAÇÕES Nº   , DE 2001
(Do Sr. ROLAND LAVIGNE)

Solicita ao Sr. Ministro do Meio Ambiente Informações sobre o Desmatamento no Estado da Bahia.

Senhor Presidente,

Requeiro a Vossa Excelência, com base no art. 50, §2º, da Constituição Federal, e nos arts. 115 e 116 do Regimento Interno que, ouvida a Mesa, sejam solicitadas informações do Sr. Ministro do Meio Ambiente, sobre o desmatamento no Estado da Bahia.

JUSTIFICAÇÃO

Temos informações sobre os inúmeros desmatamentos que vêem ocorrendo no Estado da Bahia, principalmente no Sul, onde a Mata Atlântica está sendo devastada com suas árvores derrubadas sem o menor critério por fazendeiros inescrupulosos que no afã de grandes lucros com a exploração da madeira, causam enormes prejuízos ao meio ambiente.

Sala da Sessões, em   de   2001

ROLAND LAVIGNE
Dep. Federal PMDB-BA

Figure B.2: Facsimile of a RIC initiated by a Legislator from a Coalition Party (2006)

REQUERIMENTO DE INFORMAÇÃO Nº   DE 2006
(Da Senhora Vanessa Grazziotin)

Solicita ao Senhor Ministro da Educação informações sobre o repasse de verbas para a educação indígena.

Senhor Presidente,

Com fundamento no art. 50 da Constituição Federal e no art. 115, inciso I, do Regimento Interno da Câmara dos Deputados, solicito de V. Exa., que seja encaminhado ao Ministério da Educação o seguinte pedido de informação:

Segundo matérias veiculadas nos jornais locais, o Ministério de Educação anunciou que investirá cerca de R$ 5 milhões em ações voltadas para a educação indígena. Ainda de acordo com a matéria, aproximadamente R$ 2,6 milhões serão gastos com a construção de escolas. O restante da verba será aplicado em cursos de formação inicial e continuada de professores.

Nesse sentido, solicito a seguinte informação:

- Especificar por Estado o repasse de verbas, bem como descrevendo a quantia destinada para cada programa;
- No estado do Amazonas, especificar o valor do repasse por município.

Sala das Sessões, 23 de maio de 2006

Deputada: Vanessa Grazziotin
PCdoB/AM

B.2   Descriptive Statistics

Table B.1: Descriptive Statistics and Variables

	Mean	St. Dev.	Mode	Min	Max	N
Dependent Variable (Aggregated):						
Total Number of RICs Per Quarter	57.66	58.38	3	2	326	93
Dependent Variable (by Direction):						
Presidential Oversight	9.74	9.93	0	0	52	93
Junior Partners Oversight	47.92	53.58	7	2	296	93
From President's Party to Junior Partner	4.01	4.26	0	0	24	93
From Junior Partner to President's Party	26.13	35.04	0	0	239	93
Between Governing Parties						
(President's Party Included)	48.90	55	7	2	320	93
Between Governing Parties						
(President's Party Not Included)	18.76	25	2	0	149	93
Independent Variable:						
Ideological Dispersion (Heterogeneity)	4.38	1.42	5.29	0.35	6.13	93
Control Variables:						
President's Approval	39.26	17.24	38	9	83	93
Inflation	4.96	10.64	0.8	-0.17	44.52	93
First Quarter	0.24	0.43	0	0	1	93

B.3 Variables' Distributions

Figure B.3: Variable's Distributions
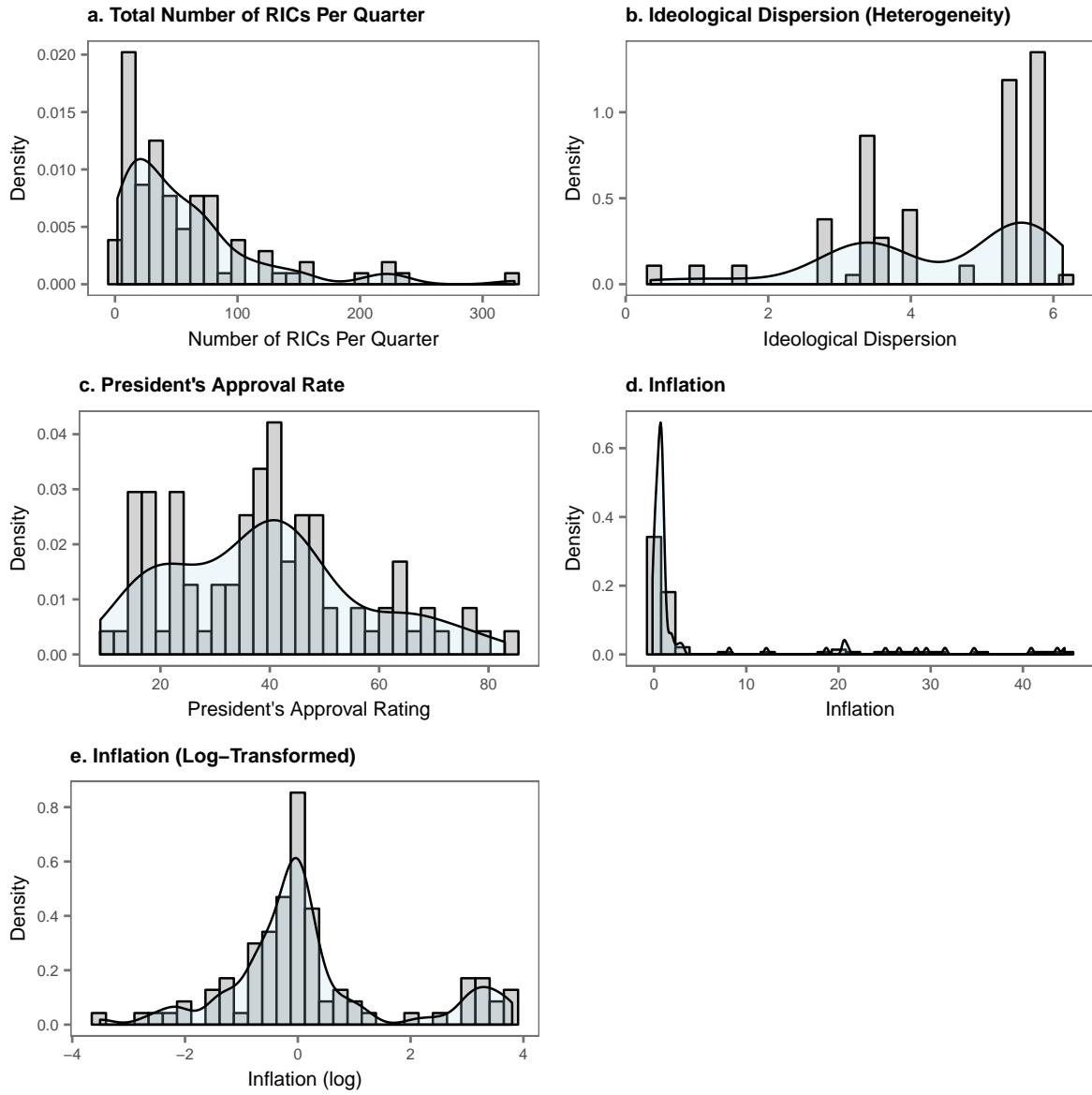
B.4　Negative Binomial Models

The Poisson model assumes that the mean and variance of the errors are equal. As the variance of the dependent variable is larger than the mean in the sample, an alternative model, the negative binomial model, is also conducted. The negative binomial distribution is a form of the Poisson distribution in which the distribution's parameter is itself considered a random variable. The variation of this parameter can account for a variance of the data that is higher than the mean. The results of the negative binomial model are depicted in Table B.2 and are consistent with the results found in the study.

Table B.2: Policy Monitoring: Negative Binomial Models

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Number of RICs$_{t-1}$		0.001		0.142
		(0.002)		(0.110)
Ideological Dispersion	0.390***	0.374***	17.647**	15.080*
(Heterogeneity)	(0.058)	(0.061)	(8.640)	(8.717)
President's Approval			−0.360	−0.403
			(0.476)	(0.478)
Inflation (log)			−5.385	−5.874
			(7.766)	(7.802)
First Quarter			−9.645	−14.667
			(14.329)	(14.464)
PSDB			−14.404	−14.382
			(35.955)	(35.963)
PMDB			−26.616	−20.180
			(37.483)	(37.346)
PT			−11.796	−8.538
			(50.224)	(50.484)
Constant	2.233***	2.242***	11.559	16.062
	(0.267)	(0.262)	(32.720)	(32.577)
N	93	92	93	92
Log Likelihood	−455.282	−450.055	−500.094	−493.252
θ	1.602***	1.659***		
Akaike Inf. Crit.	914.564	906.110	1,016.187	1,004.503

Notes: Dependent variable: Number of RICs initiated per quarter.

Standard errors in parentheses. Two-tailed test. *p<0.1; **p<0.05; ***p<0.01.

Table B.3: Identifying the Author and the Target: Negative Binomial Models

	(Model 1) Presidential Oversight	(Model 2) Junior Partners Oversight	(Model 3) Pres. Party to Junior Party	(Model 4) Junior Party to Pres. Party	(Model 5) Between Partners (Pres. Party Included)	(Model 6) Between Partners (Pres. Party Not Included)
Number of RICs$_{t-1}$	−0.001	0.003	−0.001	0.003*	0.003	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Ideological Dispersion	0.485***	0.432***	0.469***	0.859***	0.432***	0.342**
(Heterogeneity)	(0.142)	(0.131)	(0.154)	(0.193)	(0.130)	(0.154)
President's Approval	−0.013*	−0.007	−0.008	−0.014*	−0.007	0.001
	(0.007)	(0.007)	(0.008)	(0.008)	(0.007)	(0.008)
Inflation (log)	0.080	−0.182	0.082	−0.328**	−0.178	−0.040
	(0.120)	(0.116)	(0.137)	(0.133)	(0.114)	(0.137)
First Quarter	−0.085	−0.370*	−0.472*	−0.148	−0.407*	−0.586**
	(0.223)	(0.217)	(0.263)	(0.257)	(0.215)	(0.258)
PMDB	0.014	0.127	−0.180	0.702	0.012	−0.044
	(0.609)	(0.562)	(0.654)	(0.827)	(0.556)	(0.659)
PSDB	1.175*	0.300	0.688	2.367***	0.390	0.0002
	(0.603)	(0.543)	(0.661)	(0.888)	(0.537)	(0.640)
PT	1.405*	−0.076	0.228	1.004	0.005	−0.142
	(0.781)	(0.750)	(0.860)	(0.958)	(0.741)	(0.884)
Constant	−0.557	1.981***	−0.592	−1.880	1.947***	1.376**
	(0.647)	(0.513)	(0.701)	(1.159)	(0.509)	(0.600)
N	92	92	92	92	92	92
Log Likelihood	−283.103	−428.555	−221.696	−357.136	−429.007	−352.234
θ	1.901***	1.643***	1.647***	1.301***	1.686***	1.207***
Akaike Inf. Crit.	584.206	875.110	461.393	732.272	876.013	722.468

Notes: Dependent variable: Number of RICs initiated per quarter.
Standard errors in parentheses. Two-tailed test. *p<0.1; **p<0.05; ***p<0.01.

B.5 Diagnostics for Time Series Data: Distribution, Unit Root Tests, and Autocorrelation Tests

Figure B.4: Policy Monitoring Distribution Over Time
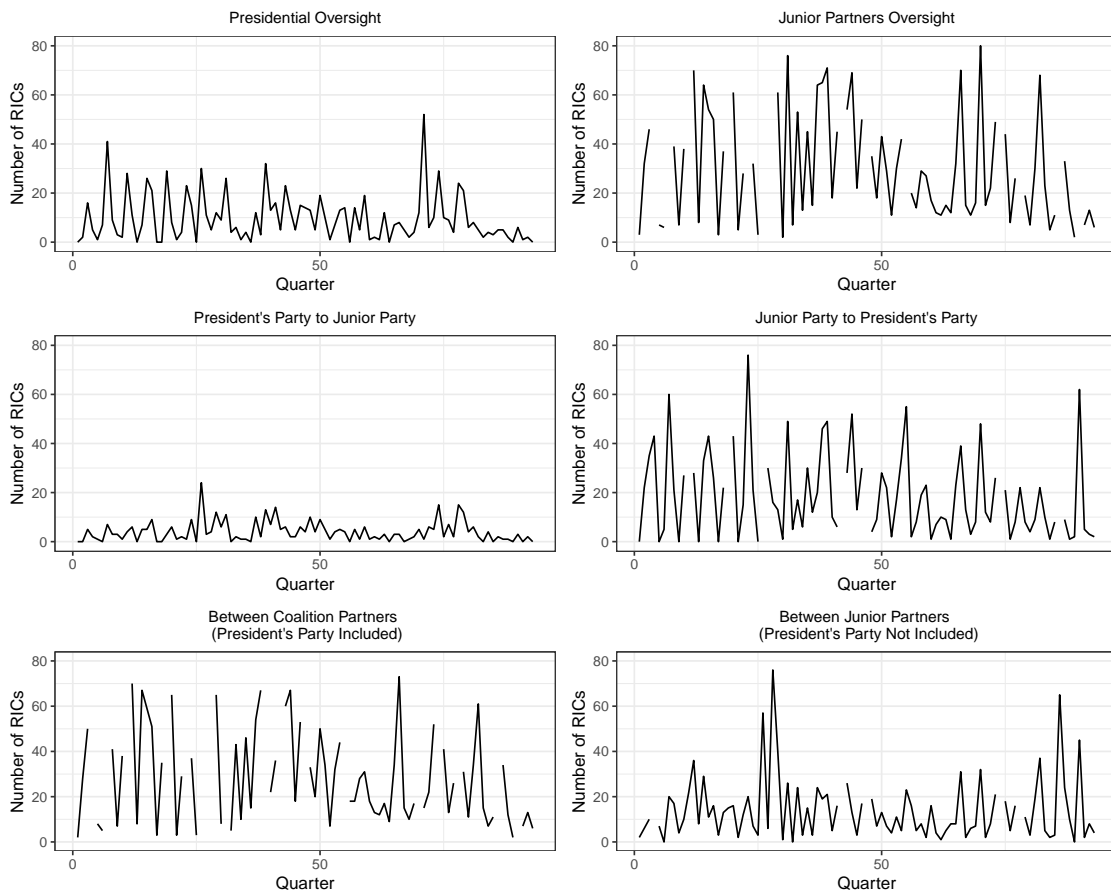
Table B.4: Unit Root Tests for *Overall Oversight*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-4.54	0.01
1	-2.86	0.01
2	-2.14	0.03
3	-1.52	0.1

Type 2: With Drift No Trend

lag	ADF	p-value
0	-7.27	0.01
1	-5.03	0.01
2	-4.03	0.01
3	-3.08	0.03

Type 3: With Drift and Trend

lag	ADF	p-value
0	-7.62	0.01
1	-5.28	0.01
2	-4.21	0.01
3	-3.09	0.1

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-29.4	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-70.6	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-76.2	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	4.06	0.01

Type 2: With Drift No Trend

lag	stat	p-value
2	0.498	0.04

Type 3: With Drift and Trend

lag	stat	p-value
2	0.13	0.08

Table B.5: Unit Root Tests for *Presidential Oversight*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-4.10	0.01
1	-2.57	0.01
2	-2.28	0.02
3	-1.99	0.04

Type 2: With Drift No Trend

lag	ADF	p-value
0	-6.37	0.01
1	-4.28	0.01
2	-4.02	0.01
3	-3.78	0.01

Type 3: With Drift and Trend

lag	ADF	p-value
0	-6.84	0.01
1	-4.57	0.01
2	-4.39	0.01
3	-4.16	0.01

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-25.1	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-59.7	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-67.9	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	3.08	0.01

Type 2: With Drift No Trend

lag	stat	p-value
3	-59.7	0.01

Type 3: With Drift and Trend

lag	stat	p-value
3	-67.9	0.01

Table B.6: Unit Root Tests for *Junior Partners Oversight*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-4.95	0.01
1	-3.04	0.01
2	-2.29	0.02
3	-1.63	0.09

Type 2: With Drift No Trend

lag	ADF	p-value
0	-7.54	0.01
1	-5.05	0.01
2	-4.07	0.01
3	-3.06	0.04

Type 3: With Drift and Trend

lag	ADF	p-value
0	-7.80	0.01
1	-5.22	0.01
2	-4.19	0.01
3	-3.04	0.15

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-36	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-75	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-79.3	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	4.13	0.01

Type 2: With Drift No Trend

lag	stat	p-value
2	0.417	0.07

Type 3: With Drift and Trend

lag	stat	p-value
2	0.123	0.09

Table B.7: Unit Root Tests for *Specific Target: From the President's Party to a Junior Partner*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-4.88	0.01
1	-3.57	0.01
2	-2.80	0.01
3	-2.39	0.02

Type 2: With Drift No Trend

lag	ADF	p-value
0	-7.70	0.01
1	-6.39	0.01
2	-5.55	0.01
3	-5.47	0.01

Type 3: With Drift and Trend

lag	ADF	p-value
0	-7.65	0.01
1	-6.34	0.01
2	-5.51	0.01
3	-5.42	0.01

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-36.3	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-69.6	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-69.8	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	4.58	0.01

Type 2: With Drift No Trend

lag	stat	p-value
2	0.067	0.1

Type 3: With Drift and Trend

lag	stat	p-value
2	0.0524	0.1

Table B.8: Unit Root Tests for *Specific Target: From a Junior Partner to the President's Party*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-5.55	0.01
1	-3.62	0.01
2	-2.52	0.01
3	-1.74	0.08

Type 2: With Drift No Trend

lag	ADF	p-value
0	-7.71	0.01
1	-5.47	0.01
2	-4.05	0.01
3	-2.94	0.05

Type 3: With Drift and Trend

lag	ADF	p-value
0	-7.94	0.01
1	-5.66	0.01
2	-4.15	0.01
3	-2.89	0.2

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-45.4	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-75.9	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-79.4	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	3.97	0.01

Type 2: With Drift No Trend

lag	stat	p-value
2	0.412	0.07

Type 3: With Drift and Trend

lag	stat	p-value
2	0.161	0.04

Table B.9: Unit Root Tests for *Between Junior Partners (President's Party Included)*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-4.98	0.01
1	-3.11	0.01
2	-2.29	0.02
3	-1.60	0.1

Type 2: With Drift No Trend

lag	ADF	p-value
0	-7.57	0.01
1	-5.15	0.01
2	-4.07	0.01
3	-3.01	0.04

Type 3: With Drift and Trend

lag	ADF	p-value
0	-7.85	0.01
1	-5.36	0.01
2	-4.21	0.01
3	-3.00	0.16

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-36.3	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-74.9	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-79.4	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	4.16	0.01

Type 2: With Drift No Trend

lag	stat	p-value
2	0.45	0.06

Type 3: With Drift and Trend

lag	stat	p-value
2	0.136	0.07

Table B.10: Unit Root Tests *for Between Junior Partners (President's Party Not Included)*

Augmented Dickey-Fuller Test

Type 1: No Drift No Trend

lag	ADF	p-value
0	-5.24	0.01
1	-3.09	0.01
2	-2.59	0.01
3	-1.92	0.05

Type 2: With Drift No Trend

lag	ADF	p-value
0	-7.20	0.01
1	-4.50	0.01
2	-3.97	0.01
3	-3.06	0.04

Type 3: With Drift and Trend

lag	ADF	p-value
0	-7.39	0.01
1	-4.62	0.01
2	-4.08	0.01
3	-3.10	0.12

Phillips-Perron (PP) Test

Type 1: No Drift No Trend

lag	Z-rho	p-value
3	-41.3	0.01

Type 2: With Drift No Trend

lag	Z-rho	p-value
3	-72.2	0.01

Type 3: With Drift and Trend

lag	Z-rho	p-value
3	-75.9	0.01

KPSS Test

Type 1: No Drift No Trend

lag	stat	p-value
2	3.35	0.01

Type 2: With Drift No Trend

lag	stat	p-value
2	0.351	0.09

Type 3: With Drift and Trend

lag	stat	p-value
2	0.11	0.1

Figure B.5: Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) for *Overall Oversight* (with 5% significance limits for the autocorrelations)
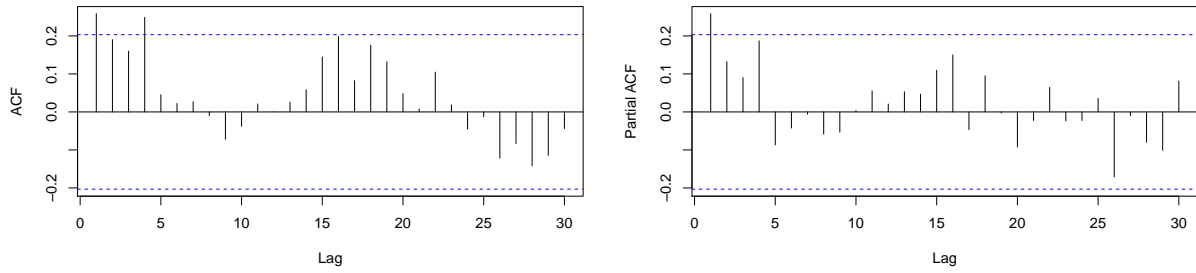

Figure B.6: ACF and PACF for *Presidential Oversight* (with 5% significance limits for the autocorrelations)
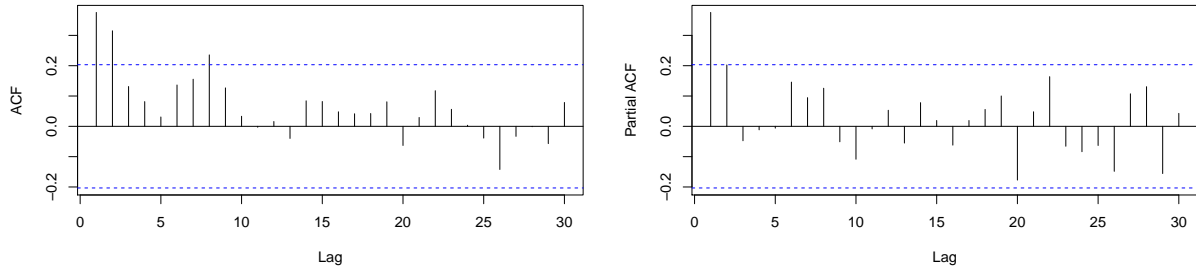
Figure B.7: ACF and PACF for *Junior Partners Oversight*
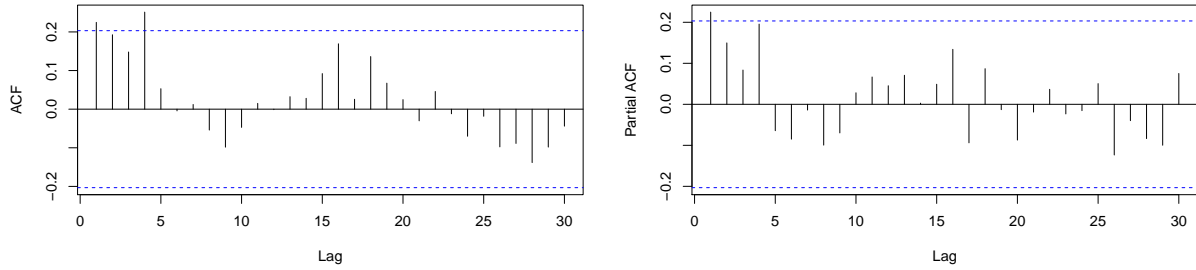(with 5% significance limits for the autocorrelations)

Figure B.8: ACF and PACF for *Specific Target: From the President's Party to a Junior Partner* (with 5% significance limits for the autocorrelations)
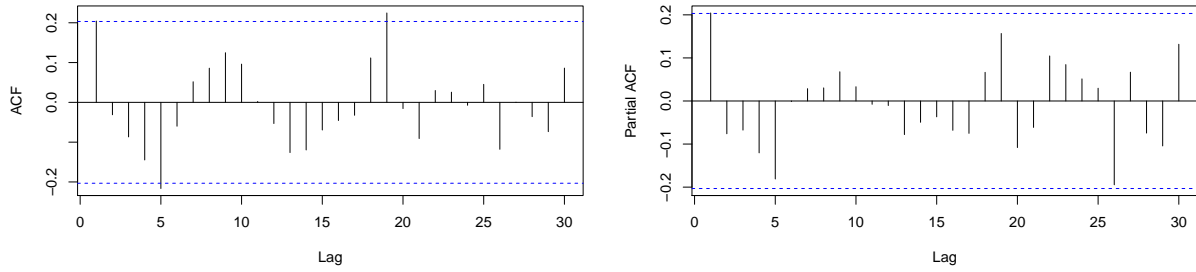

Figure B.9: ACF and PACF for *Specific Target: From the Junior Partners to the President's Party* (with 5% significance limits for the autocorrelations)
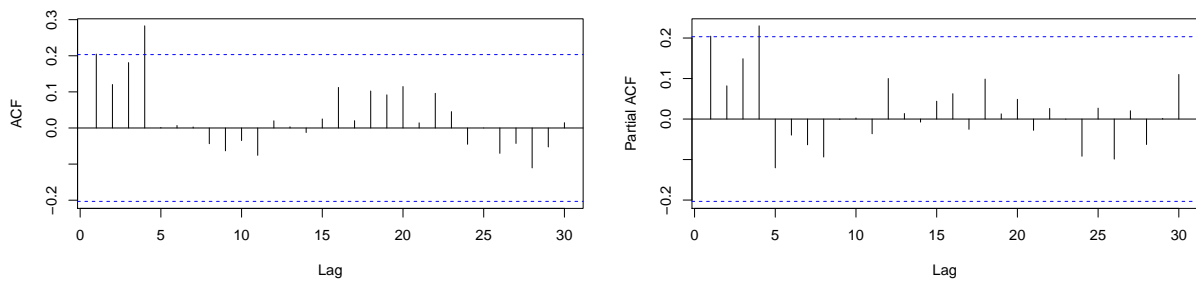
Figure B.10: ACF and PACF for *Between Coalition Partners (President's Party Included)* (with 5% significance limits for the autocorrelations)
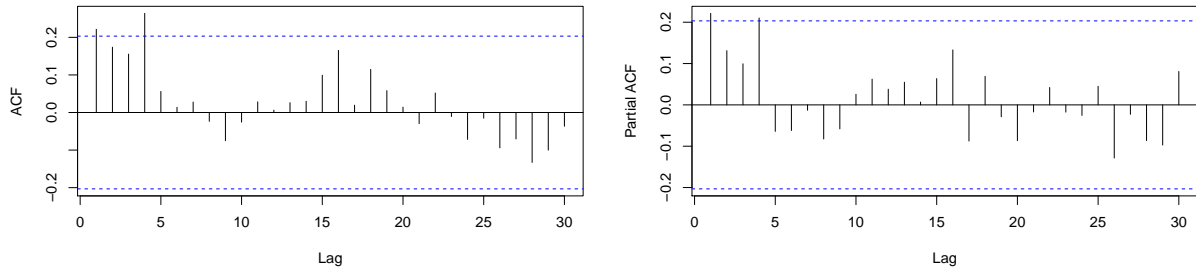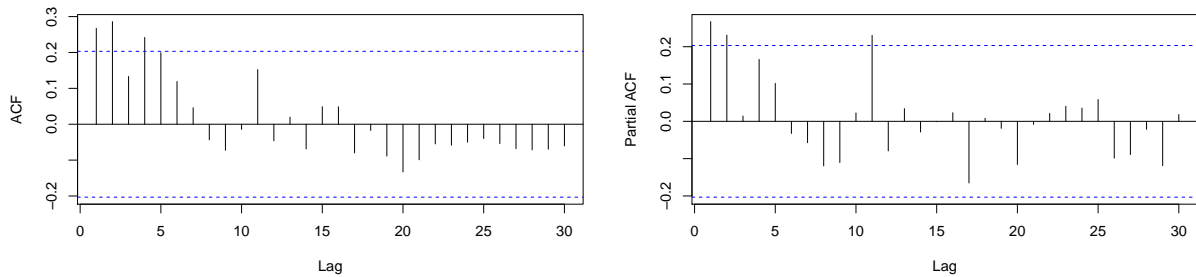

Figure B.11: ACF and PACF for *Between Coalition Partners (President's Party Not Included)* (with 5% significance limits for the autocorrelations)

B.6 Comparing AR Models

Table B.11: Comparing AR Models: Policy Monitoring and Ideological Dispersion

	(Model 1) AR(0) Benchmark	(Model 2) AR(1) Benchmark	(Model 3) AR(4) Benchmark	(Model 4) AR(0) w Controls	(Model 5) AR(1) w Controls	(Model 6) AR(4) w Controls
Number of RICs$_{t-1}$		0.002*** (0.0002)			0.001*** (0.0003)	
Number of RICs$_{t-4}$			0.002*** (0.0002)			0.001*** (0.0002)
Ideological Dispersion (Heterogeneity)	0.360*** (0.012)	0.335*** (0.013)	0.344*** (0.012)	0.482*** (0.027)	0.451*** (0.027)	0.433*** (0.027)
President's Approval				−0.002 (0.001)	−0.003*** (0.001)	−0.005*** (0.001)
Inflation (log)				−0.095*** (0.018)	−0.099*** (0.019)	−0.072*** (0.019)
Honeymoon				0.368*** (0.031)	0.289*** (0.033)	0.279*** (0.031)
First Quarter				−0.180*** (0.038)	−0.223*** (0.038)	−0.195*** (0.038)
PSDB				0.495*** (0.116)	0.484*** (0.117)	0.570*** (0.116)
PMDB				0.106 (0.113)	0.123 (0.114)	0.167 (0.116)
PT				0.041 (0.128)	0.086 (0.131)	0.309** (0.133)
Constant	2.369*** (0.062)	2.388*** (0.061)	2.317*** (0.061)	1.619*** (0.153)	1.756*** (0.153)	1.786*** (0.149)
N	93	92	89	93	92	89
Log Likelihood	−1,915.023	−1,840.606	−1,760.362	−1,707.825	−1,654.142	−1,601.449
Akaike Inf. Crit.	3,834.046	3,687.212	3,526.723	3,433.650	3,328.284	3,222.898

Notes: Dependent variable: Number of RICs initiated per quarter.
Standard errors in parentheses. Two-tailed test. *p<0.1; **p<0.05; ***p<0.01.

APPENDIX C

SUPPLEMENTARY MATERIAL FOR CHAPTER 4

C.1   Data Source

Table C.1: Data Source

Variable	Source
Duration	Amorim Neto, 2006a; CEBRAP, 2015.
Inflation	EAP, 2015.
Presidential Approval	EAP, 2015.
Unemployment	EAP, 2015.
GDP Growth	The World Bank, 2014.
Cycle	Amorim Neto, 2006a; CEBRAP, 2015.
Size of the Coalition	Amorim Neto, 2006a; CEBRAP, 2015.
Ideological Dispersion	Amorim Neto, 2006a.
Majority Status	Amorim Neto, 2006a; CEBRAP, 2015.
Coalescence	Amorim Neto, 2006a
Effective Number of Parties (ENP)	Amorim Neto, 2006a; CEBRAP, 2015.

C.2 Descriptive Statistics

Table C.2: Independent Variables, Summary Statistics and, Expectations

Variable and Summary Statistics	Coding	Expectation
Inflation: $\mu = 22.71$, $\sigma = 43.46$, $N = 82$ $min = -0.58$, $max = 204.54$	Quarterly percentage change in CPI	+
Unemployment: $\mu = 9.29$, $\sigma = 3.56$, $N = 82$ $min = 3.40$, $max - 19.82$	Quarterly percentage of the labor force without work	+
President's Approval Rate: $\mu = 43.30$, $\sigma = 11.91$, $N = 72$ $min = 14.93$, $max = 69.60$	Quarterly percentage of presidential job approval	-
GDP Growth: $\mu = 2.69$, $\sigma = 4.31$, $N = 82$ $min = -11.70$, $max = 11.94$	Annual percentage growth rate of GDP	-
Cycle: $\mu = 0.62$, $\sigma = 0.31$, $N = 82$ $min = 0$, $max = 1.5$	$\frac{T_e - T_{ca}}{T_{co}}$	No relationship
Size of the Coalition: $\mu = 3.50$, $\sigma = 1.62$, $N = 82$ $min = 2$, $max = 8$	Number of parties represented in the cabinet	+
Cabinet Coalescence $\mu = 0.73$, $\sigma = 0.05$, $N = 82$ $min = 0.61$, $max = 0.99$	$1 - \frac{\sum_{i=1}^{n}(|s_i - p_i|)}{2}$	+
Ideological Dispersion: $\mu = 0.85$, $\sigma = 0.66$, $N = 82$ $min = 0$, $max = 2$	$|P_{fl} - P_{fr}|$	+
Effective Number of Parties (ENP): $\mu = 5.36$, $\sigma = 2.27$, $N = 82$ $min = 1.98$, $max = 9.34$	$\frac{1}{\sum_{i=1}^{n} s_i^2}$	+

Notes: μ =arithmetic mean, and σ = standard deviation. The dependent variable is the hazard rate of cabinet duration in days. Thus, a negative sign (-) in the column *Expectation* refers to a smaller likelihood of cabinet termination—meaning a longer cabinet duration—as the value for the independent variable increases (keeping all other independent variables constant). A positive sign (+) refers to a greater likelihood of cabinet termination—a shorter cabinet duration—as the value for the independent variable increases (keeping all other independent variables constant).

C.3 Correlation Matrices

Table C.3: Correlation Matrix of Variables (not including Presidential Approval Rating; $N = 82$)

Variable	Duration	Inflation	Unemployment	GDP	Cycle	Coalition Size
Duration	1	-0.167020554	0.129304483	0.022518059	0.10094269	-0.28183733
Inflation	-0.16702055	1	-0.422224931	-0.326982389	0.0604145	0.01195589
Unemployment	0.12930448	-0.422224931	1	0.002938322	0.23432405	-0.08494898
GDP	0.02251806	-0.326982389	0.002938322	1	0.01585105	0.08092697
Cycle	0.10094269	0.060414501	0.234324051	0.015851048	1	-0.02575777
Coalition Size	-0.28183733	0.01195589	-0.084948981	0.080926972	-0.02575777	1
Ideo. Disper.	-0.08594349	0.1518617	-0.238881967	-0.141759241	0.06367647	0.6246429
ENP	-0.48608352	0.217125889	-0.402768468	-0.103795132	-0.01040435	0.5166875

Variable	Ideo. Disper.	ENP
Duration	-0.085943489	-0.48608352
Inflation	0.1518617	0.21712589
Unemployment	-0.238881967	-0.40276847
GDP	-0.141759241	-0.10379513
Cycle	0.063676466	-0.01040435
Coalition Size	0.624642899	0.5166875
Ideo. Disper.	1	0.35459559
ENP	0.35459559	1

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Table C.4: Correlation Matrix of Variables (including Presidential Approval Rating; $N = 72$)

Variable	Duration	Inflation	Pres. Approval	Unemployment	GDP	Cycle
Duration	1	-0.151399108	-0.05373539	0.19646092	0.02934272	-0.023492808
Inflation	-0.15139911	1	-0.38603803	-0.44626184	-0.31362722	0.02617391
Pres. Approval	-0.05373539	-0.386038034	1	-0.13410337	0.33348182	-0.270785766
Unemployment	0.19646092	-0.446261836	-0.13410337	1	-0.01299817	0.304493238
GDP	0.02934272	-0.313627218	0.33348182	-0.01299817	1	0.056372521
Cycle	-0.02349281	0.02617391	-0.27078577	0.30449324	0.05637252	1
Coalition Size	-0.25115487	-0.006022411	0.38524029	-0.08661672	0.08647316	0.020699096
Ideo. Disper.	-0.12297753	0.132179457	0.07529287	-0.20085236	-0.14478612	0.0408607
ENP	-0.48056211	0.18324502	0.07772415	-0.42864671	-0.09474026	0.024090485

Variable	Coalition Size	Ideo. Disper.	ENP
Duration	-0.251154867	-0.12297753	-0.48056211
Inflation	-0.006022411	0.13217946	0.18324502
Pres. Approval	0.385240292	0.07529287	0.07772415
Unemployment	-0.086616716	-0.20085236	-0.42864671
GDP	0.086473162	-0.14478612	-0.09474026
Cycle	0.020699096	0.0408607	0.02409048
Coalition Size	1	0.66056968	0.51875963
Ideo. Disper.	0.660569681	1	0.42679171
ENP	0.518759635	0.42679171	1

C.4 Variables' Distributions

Figure C.1: Variables' Distributions
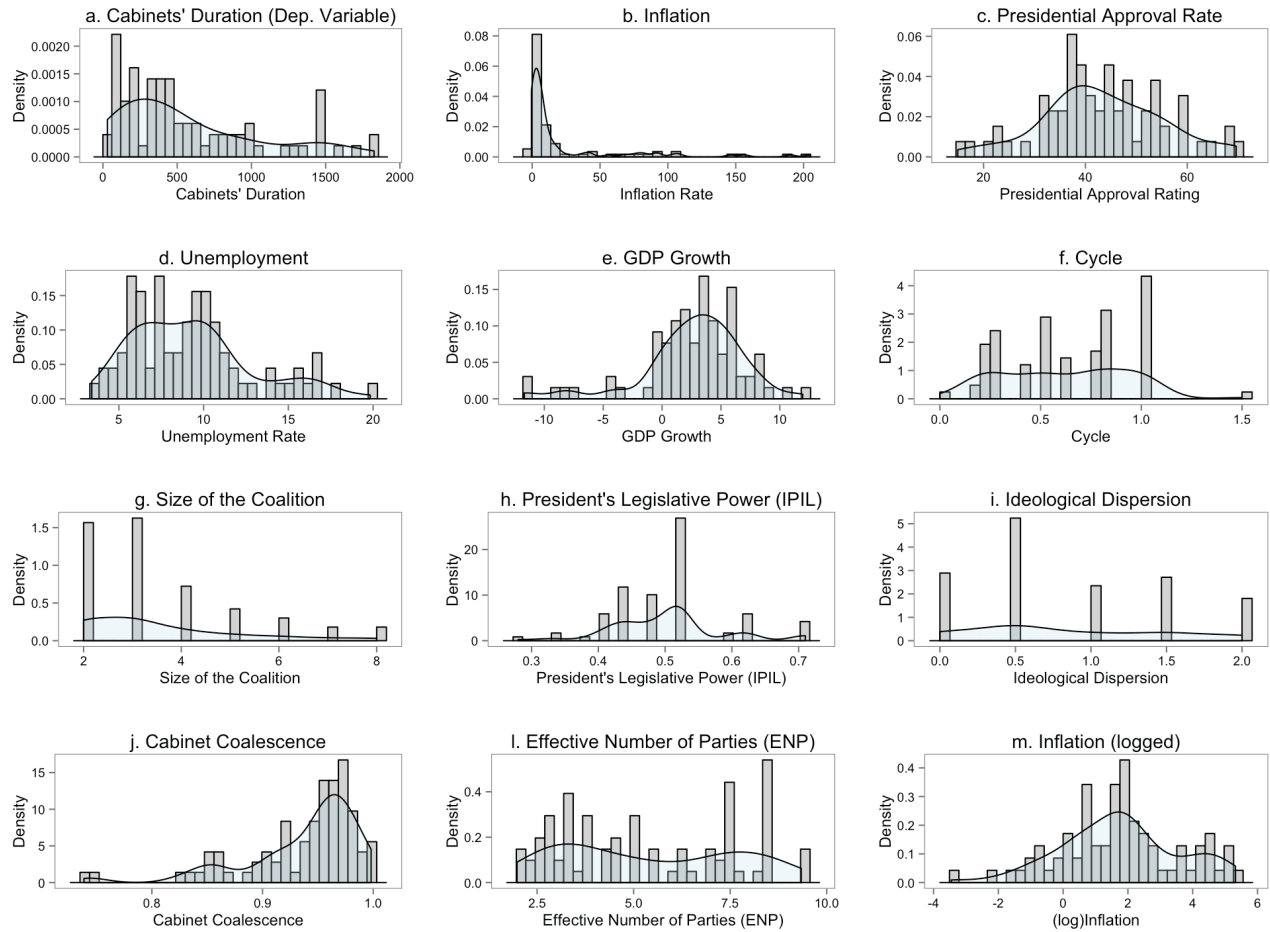
C.5 OLS Estimated Coefficients

Table C.5: OLS Estimated Coefficients of Economic Indicators, Presidential Approval, and Control Variables on Cabinet Duration

	(OLS 1)	(OLS 2)	(OLS 3) OLS 1 with Fixed Effects	(OLS 4) OLS 2 with Fixed Effects
Inflation (log)	−102.205***	−100.179**	−88.273**	−69.523
	(35.537)	(44.094)	(36.002)	(42.611)
Unemployment	−40.727**	−33.706	7.734	19.353
	(20.237)	(24.514)	(25.104)	(28.269)
GDP Growth	−11.828	−5.353	−3.466	2.338
	(11.830)	(12.617)	(13.477)	(14.086)
Presidential Approval		−4.195		−3.309
		(5.437)		(5.277)
Cycle	186.536	−11.191	149.715	−22.371
	(159.463)	(182.654)	(158.374)	(175.409)
Size of the Coalition	−77.537	−64.065	−138.152***	−124.397**
	(48.028)	(55.641)	(47.352)	(54.283)
Ideological Dispersion	67.244	85.336	54.339	93.806
	(102.901)	(114.389)	(113.896)	(126.727)
Fragmentation (ENP)	−83.005**	−81.579**	−94.874**	−78.295*
	(32.920)	(37.136)	(41.930)	(43.412)
Brazil			875.017*	833.324*
			(471.442)	(471.799)
Chile			1,413.171**	1,506.948**
			(632.748)	(640.999)
Uruguay			780.788*	807.098*
			(465.967)	(468.234)
Constant	2,776.235***	2,841.017**	1,703.052	1,898.905
	(983.326)	(1,103.166)	(1,207.276)	(1,307.392)
N	82	72	82	72
R^2	0.410	0.369	0.599	0.587
Adjusted R^2	0.324	0.247	0.470	0.426
Residual Std. Error	402.797 (df = 68)	407.394 (df = 57)	356.655 (df = 59)	355.460 (df = 49)
F Statistic	4.730*** (df = 10; 68)	3.024*** (df = 11; 57)	4.635*** (df = 19; 59)	3.661*** (df = 19; 49)

Notes: Dependent variable: Cabinet duration (in days). Standard errors in parenthesis: *p<0.1; **p<0.05; ***p<0.01. Two-tailed test.

## C.6 Cox Model Estimates with Country Fixed-Effects

Table C.6: Cox Model Estimates of Cabinet Duration by Economic Indicators, President's Approval Rating, and Control Variables (All Terms Included)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	exp(coeff.)	Coefficient	exp(coeff.)	Coefficient	exp(coeff.)	Coefficient	exp(coeff.)
Inflation (log)	**0.208****	*1.231*	**0.263****	*1.301*	**0.204***	*1.227*	**0.222***	*1.249*
	(0.091)		(0.119)		(0.106)		(0.127)	
Unemployment	**0.096***	*1.101*	**0.108***	*1.114*	−0.038	*0.963*	−0.033	*0.967*
	(0.052)		(0.064)		(0.081)		(0.099)	
GDP Growth	0.021	*1.021*	0.015	*1.016*	−0.004	*0.996*	−0.015	*0.985*
	(0.032)		(0.033)		(0.043)		(0.044)	
Presidential Approval			0.006	*1.006*			0.009	*1.009*
			(0.015)				(0.018)	
Cycle	−0.306	*0.736*	−0.184	*0.832*	−0.379	*0.685*	−0.125	*0.882*
	(0.410)		(0.456)		(0.425)		(0.475)	
Size of the Coalition	0.111	*1.117*	0.078	*1.081*	**0.393****	*1.482*	**0.373***	*1.452*
	(0.123)		(0.141)		(0.162)		(0.194)	
Ideological Dispersion	−0.109	*0.896*	−0.128	*0.880*	−0.070	*0.933*	−0.250	*0.778*
	(0.281)		(0.318)		(0.417)		(0.468)	
Fragmentation (ENP)	**0.316*****	*1.371*	**0.352*****	*1.422*	**0.450*****	*1.568*	**0.412****	*1.510*
	(0.106)		(0.121)		(0.162)		(0.164)	
Argentina					0.515	*1.673*	0.209	*1.233*
					(1.896)		(1.951)	
Bolivia					−1.450	*0.235*		
					(1.353)			
Brazil					**−2.344***	*0.096*	−2.298	*0.101*
					(1.376)		(1.413)	
Chile					**−3.373***	*0.034*	**−3.638***	*0.026*
					(2.029)		(2.135)	
Colombia					0.024	*1.025*	−0.333	*0.717*
					(1.353)		(1.444)	
Ecuador					−0.014	*0.986*	−0.286	*0.751*
					(1.310)		(1.324)	
Peru					−0.423	*0.655*	−0.515	*0.598*
					(1.177)		(1.186)	
Uruguay					−1.179	*0.308*	−1.536	*0.215*
					(1.450)		(1.470)	
Venezuela					−0.923	*0.397*	−1.314	*0.269*
					(1.718)		(1.841)	
N	82		72		82		72	
R^2	0.360		0.367		0.533		0.530	
Log Likelihood	−251.667		−210.429		−239.188		−200.121	
Wald Test	34.230***		30.560***		51.600***		44.280***	
LR Test	35.248***		31.522***		60.205***		52.139***	
Score (Logrank) Test	37.429***		34.496***		61.750***		54.677***	

Notes: Dependent variable: Hazard ratios of cabinet duration = exp(coefficients). Standard errors of the (non-exponentiate) coefficients in parenthesis: *p<0.1; **p<0.05; ***p<0.01. Two-tailed test. Statistically significant estimates are in **bold**.

C.7 Estimated Survival Function

Figure C.2: Estimated Survival Function for the Cox Model of Cabinet Duration
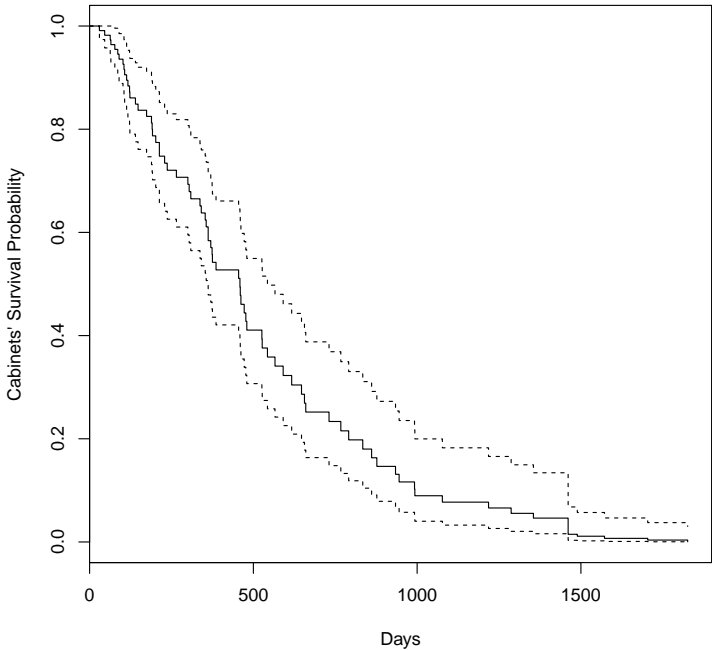
Note: Having fit a Cox model to the data, this figure depicts the estimated distribution of survival times for cabinet duration, at the mean values of the independent variables. The broken lines show a point-wise 95 percent confidence intervals around the survival function.

C.8 Model Diagnostics

Table C.7: Model Diagnostic: Test for the Proportional-Hazards Assumption (Models 1 and Model 2)

	Model 1			*Model 2*		
Variable	ρ	χ^2	p-value	ρ	χ^2	p-value
Inflation (log)	-0.0836	0.624	0.4296	-0.0144	0.0177	0.8941
Unemployment	-0.1051	0.946	0.3307	-0.0299	0.0706	0.7905
GDP Growth	-0.0922	0.805	0.3696	-0.077	0.5002	0.4794
Presidential Approval				0.0342	0.0991	0.7529
Cycle	0.0984	0.839	0.3596	0.0598	0.2805	0.5964
Size of the Coalition	0.1451	2.067	0.1505	0.1014	0.8845	0.347
Ideological Dispersion	0.1071	1.092	0.2959	0.0993	0.8856	0.3467
Cabinet Coalescence	-0.0849	0.462	0.4969	-0.0494	0.1456	0.7027
Fragmentation (ENP)	-0.2266	6.323	0.0119	-0.1718	3.3747	0.0662
GLOBAL	.	14.827	0.1385	.	12.3402	0.3386

Notes: Although there is evidence of non-proportional hazards for "fragmentation (ENP)," the global test is not statistically significant.

Table C.8: Model Diagnostic: Test for the Proportional-Hazards Assumption (Models 3 and Model 4)

|	*Model 3*			*Model 4*		
Variable	ρ	χ^2	*p*-value	ρ	χ^2	*p*-value
Inflation (log)	-0.0902	7.43E-01	0.3886	-0.05167	0.20717	0.649
Unemployment	-0.12514	1.92E+00	0.1654	-0.13116	2.16469	0.1412
GDP Growth	-0.20619	5.39E+00	0.0203	-0.24999	6.34392	0.0118
Presidential Approval				0.04096	0.18642	0.6659
Cycle	0.11111	9.77E-01	0.3228	0.15872	1.78145	0.182
Size of the Coalition	0.16728	3.90E+00	0.0482	0.17778	4.28377	0.0385
Ideological Dispersion	-0.01531	3.49E-02	0.8517	-0.05618	0.40017	0.527
Cabinet Coalescence	-0.00155	3.11E-04	0.9859	0.01611	0.02661	0.8704
Fragmentation (ENP)	-0.06771	7.17E-01	0.397	-0.08027	0.86213	0.3531
Argentina	0.14544	1.74E+00	0.1872	0.15393	1.86095	0.1725
Bolivia	0.04118	1.41E-01	0.7074	.	.	.
Brazil	-0.05259	2.23E-01	0.637	-0.07523	0.43014	0.5119
Chile	-0.07741	6.53E-01	0.4191	-0.11642	1.36587	0.2425
Colombia	-0.00247	5.87E-04	0.9807	0.00709	0.00407	0.9491
Ecuador	0.02507	5.35E-02	0.8171	0.01409	0.01431	0.9048
Peru	-0.06588	3.66E-01	0.545	-0.07395	0.3919	0.5313
Uruguay	0.02861	7.96E-02	0.7779	0.01198	0.01146	0.9147
Venezuela	0.0413	1.83E-01	0.6686	0.04337	0.21774	0.6408
GLOBAL	.	2.07E+01	0.3528	.	20.62666	0.4194

Notes: Although there is evidence of non-proportional hazards for "size of the coalition" and "GDP growth," the global test is not statistically significant.

Table C.9: Cox Model Diagnostics

|	Model 1	Model 2	Model 3	Model 4
N	79	69	79	69
R^2	0.360	0.367	0.533	0.530
Log Likelihood	-251.667	-210.429	-239.188	-200.121
Wald Test	34.230*** (on 10 df)	30.560*** (on 11 df)	51.600*** (on 19 df)	44.280*** (on 19 df)
LR Test	35.248*** (on 10 df)	31.522*** (on 11 df)	60.205*** (on 19 df)	52.139*** (on 19 df)
Score (Logrank) Test	37.429*** (on 10 df)	34.496*** (on 11 df)	61.750*** (on 19 df)	54.677*** (on 19 df)
AIC	523.3346	442.8587	516.3769	438.2422
BIC	547.0291	467.4339	561.3964	480.6902

Note: ***p<0.01.

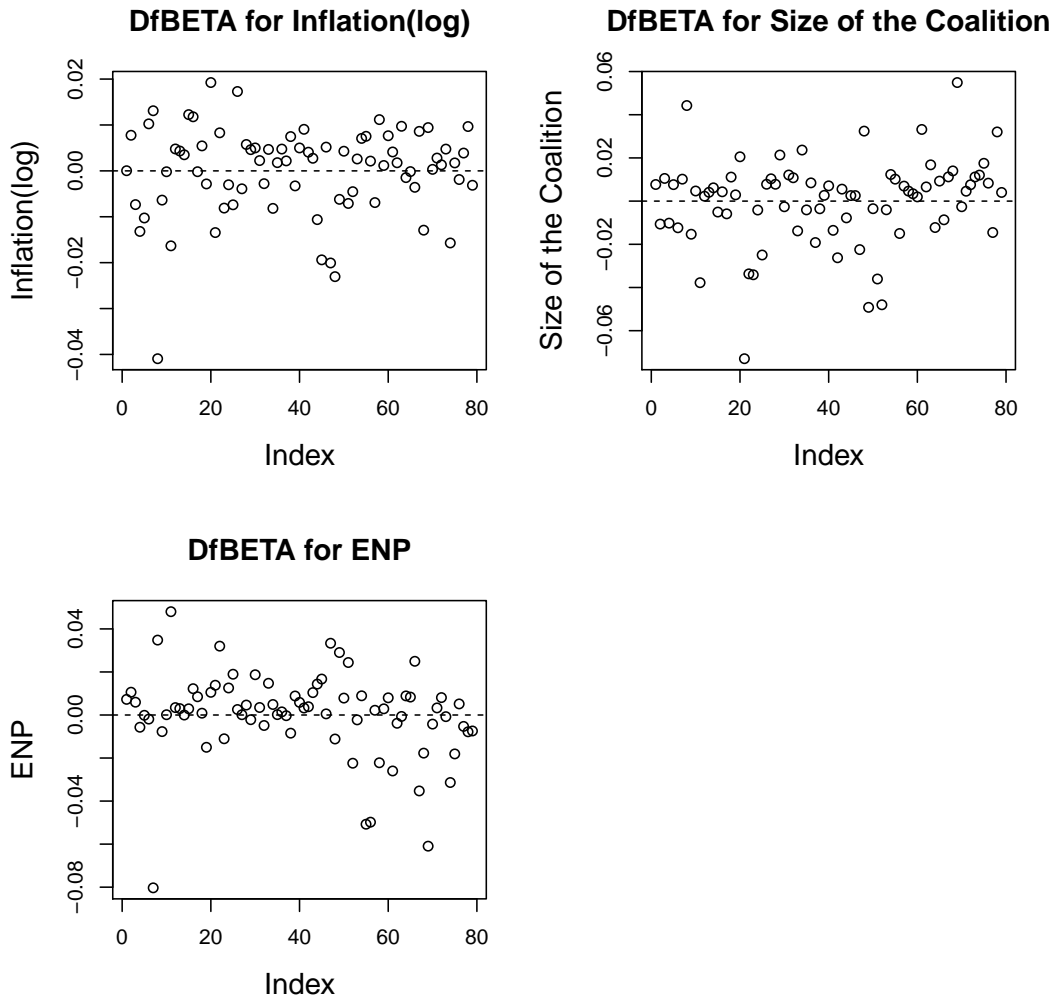Figure C.3: Model Diagnostics: Influential Observations in Model 1
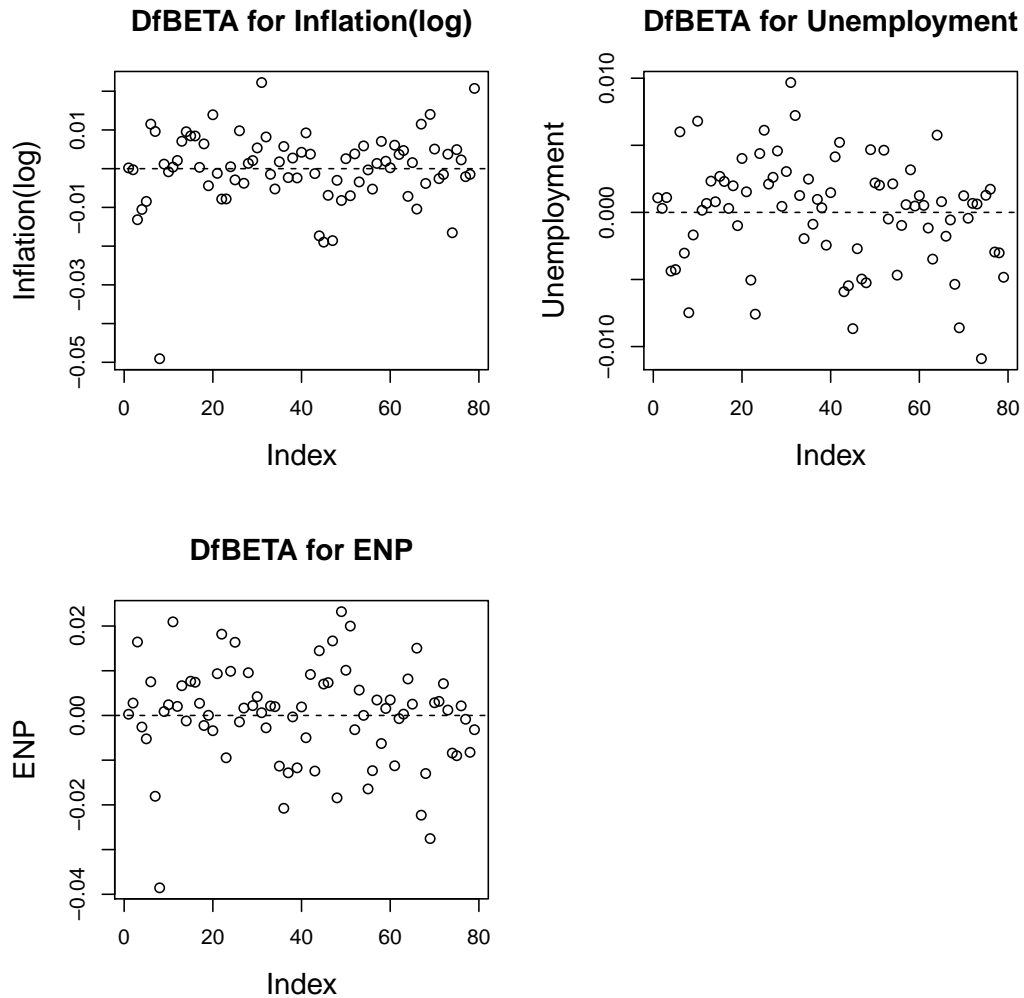
Note: Dashed-line at $y = 0$. This figure depicts the index plots produced by specifying the argument $type = dfbeta$ to residuals in order to produce a matrix of estimated changes in the regression coefficients upon deleting each observation in turn (the plots are only for the independent variables with statistically significant estimates). Comparing the magnitudes of the largest $dfbeta$ values to the regression coefficients suggests that none of the observations is significantly influential individually.

Figure C.4: Model Diagnostics: Influential Observations in Model 2
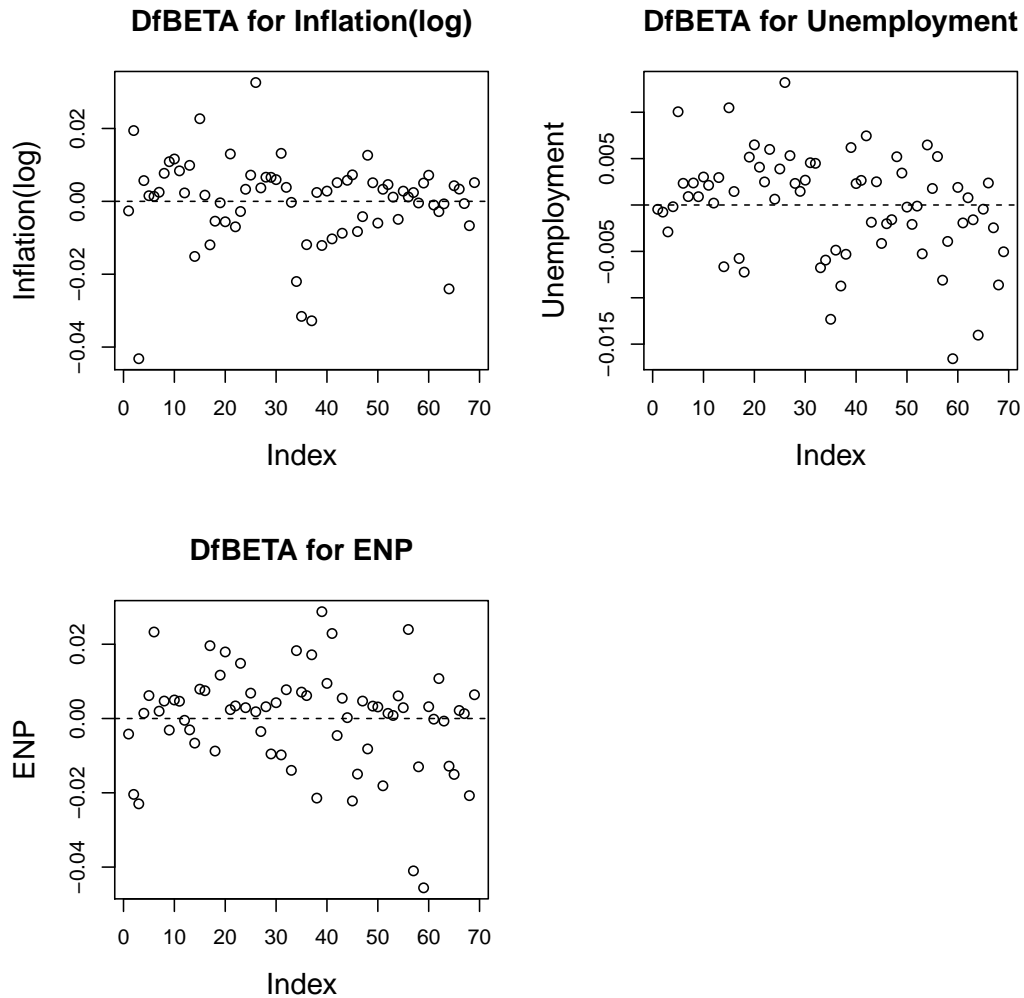
Note: Dashed-line at $y = 0$. This figure depicts the index plots produced by specifying the argument *type = dfbeta* to residuals in order to produce a matrix of estimated changes in the regression coefficients upon deleting each observation in turn (the plots are only for the independent variables with statistically significant estimates). Comparing the magnitudes of the largest *dfbeta* values to the regression coefficients suggests that none of the observations is significantly influential individually.

Figure C.5: Model Diagnostics: Influential Observations in Model 3
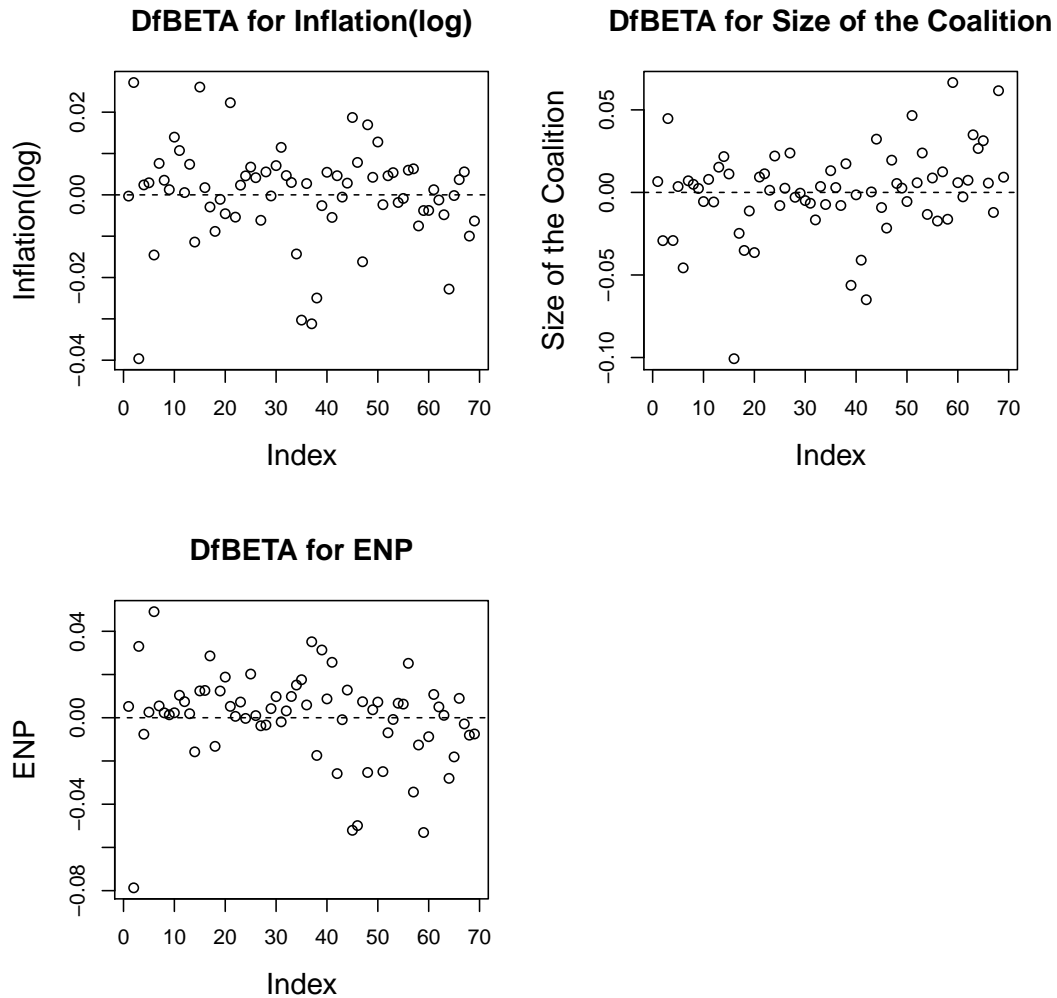

Note: Dashed-line at $y = 0$. This figure depicts the index plots produced by specifying the argument $type = dfbeta$ to residuals in order to produce a matrix of estimated changes in the regression coefficients upon deleting each observation in turn (the plots are only for the independent variables with statistically significant estimates). Comparing the magnitudes of the largest *dfbeta* values to the regression coefficients suggests that none of the observations is significantly influential individually.

Figure C.6: Model Diagnostics: Influential Observations in Model 4

DfBETA for Inflation(log)

DfBETA for Size of the Coalition

DfBETA for ENP

Note: Dashed-line at $y = 0$. This figure depicts the index plots produced by specifying the argument $type = dfbeta$ to residuals in order to produce a matrix of estimated changes in the regression coefficients upon deleting each observation in turn (the plots are only for the independent variables with statistically significant estimates). Comparing the magnitudes of the largest $dfbeta$ values to the regression coefficients suggests that none of the observations is significantly influential individually.

C.9 Multiplicative Interaction Models

Table C.10: Cox Model Estimates and Hazard Ratios with Interactive Terms Between Critical Events and Cycle

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Inflation (log)	0.130	0.250	0.151	0.118
	(0.179)	(0.214)	(0.195)	(0.256)
Unemployment	0.099	0.103	−0.043	−0.069
	(0.100)	(0.112)	(0.130)	(0.152)
GDP Growth	0.006	−0.021	0.045	−0.009
	(0.064)	(0.066)	(0.085)	(0.094)
Presidential Approval		0.043*		0.023
		(0.024)		(0.031)
Cycle	−0.482	2.502	−0.397	−3.760
	(1.789)	(3.362)	(1.944)	(4.217)
Size of the Coalition	0.072	0.027	0.327*	0.258
	(0.132)	(0.146)	(0.173)	(0.220)
Coalescence	2.271	2.002	3.272	2.503
	(2.232)	(2.440)	(3.286)	(3.521)
Ideological Dispersion	−0.214	−0.319	−0.314	−0.309
	(0.280)	(0.340)	(0.414)	(0.510)
Fragmentation (ENP)	0.347***	0.463***	0.542***	0.520***
	(0.109)	(0.131)	(0.174)	(0.180)
Inflation (log) × Cycle	0.125	−0.018	0.018	0.559
	(0.273)	(0.400)	(0.294)	(0.493)
Unemployment × Cycle	−0.014	−0.005	0.020	0.261
	(0.143)	(0.188)	(0.154)	(0.214)
GDP Growth × Cycle	0.043	0.090	−0.068	0.037
	(0.113)	(0.122)	(0.139)	(0.150)
Presidential Approval × Cycle		−0.065		−0.001
		(0.055)		(0.049)
N	82	72	82	72
R^2	0.339	0.376	0.501	0.525
Log Likelihood	−265.527	−221.997	−253.944	−212.174
Wald Test	32.210***	31.920***	49.580***	46.660***
LR Test	33.895***	33.963***	57.061***	53.609***
Score (Logrank) Test	35.654***	36.641***	59.624***	58.077***

Notes: Dependent variable: Cabinet duration in days. Standard errors in parenthesis: *p<0.1; **p<0.05; ***p<0.01. Two-tailed test.

Table C.11: Cox Model Estimates and Hazard Ratios with Interactive Terms Between Economic Indicators and Presidential Approval

	(Model 1)	(Model 2)
Inflation (log)	−0.114	−0.309
	(0.521)	(0.595)
Unemployment	0.224	0.189
	(0.244)	(0.265)
GDP Growth	−0.071	−0.283**
	(0.124)	(0.132)
Presidential Approval	0.007	0.004
	(0.074)	(0.077)
Cycle	−0.293	−0.219
	(0.478)	(0.491)
Size of the Coalition	0.104	0.442**
	(0.146)	(0.195)
Coalescence	4.206	6.188
	(2.585)	(5.355)
Ideological Dispersion	−0.211	−0.549
	(0.309)	(0.487)
MajStatus	−0.073	0.326
	(0.365)	(0.475)
Fragmentation (ENP)	0.385***	0.483***
	(0.121)	(0.169)
Inflation × Presidential Approval	0.009	0.015
	(0.012)	(0.013)
Unemployment × Presidential Approval	−0.004	−0.005
	(0.005)	(0.006)
GDP Growth × Presidential Approval	0.003	0.007
	(0.003)	(0.006)
N	72	72
R^2	0.377	0.582
Log Likelihood	−221.925	−207.552
Wald Test	30.380*** (df = 14)	47.930*** (df = 23)
LR Test	34.107*** (df = 14)	62.852*** (df = 23)
Score (Logrank) Test	34.512*** (df = 14)	61.553*** (df = 23)

Notes: Dependent variable: Cabinet duration in days. Standard errors in parenthesis: *p<0.1; **p<0.05; ***p<0.01. Two-tailed test.