The Impact of Electoral Rules on Legislative Parties: Lessons from the Brazilian Senate and Chamber of Deputies

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Abstract

In this paper, I reexamine the impact of electoral institutions on legislative party organization. A long-running theme in comparative politics is that Brazil’s political party system is weakened by the structure of its electoral institutions. I revisit this research by comparing legislative parties in the Brazilian Chamber of Deputies with those in the Brazilian Senate. This comparison allows me to control for political history, constituents, and even the legislative agenda, while providing variance on the key explanatory variable - the electoral system. The Senate is very similar to the Chamber of Deputies - but does not use the much-maligned OLPR rules. The result is a powerful opportunity for testing and inference. The comparisons reveal no consistent or significant differences between institutions.

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Introduction

Students of comparative legislative parties draw on diverse theoretical perspectives to explain cross-system variance. Scholars explain party institutionalization, strength, cohesion, effective number of parties, cleavages, and even party-switching with both social-historical and institutional variables, including frozen social cleavages, patterns of labor incorporation, district magnitude, nomination procedures, federalism, congressional procedures, and electoral rules. These two approaches - social/historical and institutional - are sometimes complementary but often in conflict.

Among institutional explanations for party systems, electoral rules have taken an increasingly prominent role in scholars’ theories and empirical tests. A well-established literature ties electoral rules to the number of parties in a political system, focusing on district magnitude and thresholds for entry. More recent is the argument examined in this paper. A growing literature argues that electoral rules can be linked to legislative party strength. In fact, the link between electoral rules and party strength is so respected that scholars will even use rankings of electoral rules as a proxy for party cohesion.

Some electoral rules, the argument goes, create incentives for individualistic career strategies and encourage legislators to eschew party ties and loyalty. Other sets of rules make collective party efforts the optimal choice for political advancement. These theories have broad implications for many facets of legislative behavior, including roll-call votes and coalition-building, party switching, and electoral strategies.

There are, however, significant challenges for testing the relationship between electoral rules and legislative parties. Much research on this question
relies on examination of a single institution - with no variance on the explanatory variable. That is, most previous work looks at a single institution with a single set of electoral rules to argue that the electoral system is an important determinant of the party system. But without any comparative work, we do not know if the electoral system or some other variable explains party systems. For that matter, we aren’t even sure if the parties are weak at all without at least some cross-system comparison.\textsuperscript{6}

Cross-country studies provide more leverage than single case studies in theory, but in practice risk a plethora of confounding variables. Differences observed across countries may be attributable to differences in the electoral system, but they may also be a function of other variables - institutions, historical legacies, cultural, developmental, or some other factor. Similarly, countries sharing the same electoral rules may have different systems as a function of other variables. Finland and Brazil share the same electoral system - OLPR - but Finland has an institutionalized party system, while Brazil has been labeled the “anti-party system”.

Do electoral rules shape party strength? Or do noninstitutional features of political systems explain the nature of legislative parties? Answering these questions is an important challenge to students comparative institutions and parties; it is also of substantial importance, as many countries have ongoing debates on the potential of electoral system reform to solve political and policy problems. But empirically demonstrating that electoral rules “matter” is methodologically challenging when working with cross-country comparisons.

In this paper, I take advantage of within-country variance to more rigorously isolate the impact of electoral rules on political parties. Specifically, I compare parties in the Brazilian Senate and Chamber of Deputies. These leg-
islatures share similar internal rules, elect members from the same districts, and even vote on the same legislation. They also face the same broader political and economic environment: they have to negotiate with the same executive, confront the same issues, and deal with the same major political events. But while the two legislatures share many formal and informal institutions, they use different electoral rules. The Chamber of Deputies elects members using open-list proportional representation (OLPR); Senators are selected via single and multi-member plurality elections. Previous work suggests that these institutional differences should lead to very different kinds of legislative parties.

Comparing multiple measures of party cohesion and discipline, across multiple time periods, I consistently find no significant difference between the two institutions. These results are surprising, given the existing literature on Brazilian politics. Many scholars argue that Brazil’s Open-List PR rules contribute to that country’s weak legislative parties. Electoral system change has been a center piece of most major political reform proposals in Brazil during the last fifteen years, with a general consensus that Brazil’s current system is the worst of all worlds.⁷

The next section examines the electoral rules of the Chamber and Senate and discusses the literature’s predictions about their incentives for legislative party strength. Following that, I examine several measures of party cohesion and discipline, using roll-call votes and party-switching data. Finally, I conclude by re-examining the relationship between electoral rules and legislative parties.
Electoral Rules and Parties

The Chamber of Deputies

The Brazilian Chamber of Deputies, the lower house, currently has 513 members, up from 503 in 1994. Seats are distributed among states according to population, with two important exceptions: no state can have more than seventy seats and all states are guaranteed a minimum of eight. All deputies are elected from statewide, multimember districts, all using open-list proportional representation (OLPR) electoral rules.

Under OLPR, citizens cast a single vote, either for an individual candidate or for a party list (in Brazil, most vote for an individual). After election results are tallied, seats are distributed in two steps. First, seats are distributed to parties in proportion to the share of the votes received by all their candidates. Second, seats are distributed within the parties to the top vote-getters.

Table 1 illustrates. In this hypothetical district, there are 4 seats, 3 parties, 5 candidates per party, and 100 voters. Seats are distributed among the parties according to their total vote share, and within the parties to the top vote-getters: Miriam (party X), in Ruy (party Y), and Cesar and Marta (party Z).

According to the literature, three primary features of OLPR should weaken parties. First, the vote aggregation rules encourage intra-party competition. Candidates’ best strategy is usually to take votes from members of their own party rather than from competing parties. For example, Candidate Miriam (Party X) was elected over João by just 1 vote. For João to earn a seat, either party X needs to take at least 11 votes from Party Y and Z - or João needs to take just 1 vote from Miriam. Clearly, João’s best strategy is to
compete with Miriam, not to attempt to increase his overall party vote share by 50%. Many political observers and scholars have noted these incentives. (Graeff, 2000; Mainwaring, 1999; ?; Pinheiro Filho, 1998)

Second, the system limits party leaders’ ability to step in and impose discipline. The usual mechanisms of party control over ballot access and rank are absent. Party leaders cannot pre-order ballots as under closed-list PR; order of election is determined directly by the votes each candidate receives. Until recently Brazilian party leaders were further limited by the candidato nato rule. 9 Candidato nato literally means “birthright candidate”, referring to incumbents’ guaranteed right of renomination: incumbent deputies were guaranteed inclusion in their parties’ electoral lists in the next election. Even if deputies switched party, their new party was required to nominated them for re-election. Mainwaring (1991, 1997)

Third, high district magnitude should exacerbate problems associated with the first two features, above. Carey and Shugart (1995) argue that the anti-party incentives of personalistic systems only increase with district magnitude. As mentioned, Brazilian states all have district magnitudes of eight or more, with a maximum of seventy. Further, high district magnitude reduces leaders’ incentives to discipline legislators. To maximize seats, parties must nominate as many candidates as possible, most of whom know they will lose. This reduces leaders’ incentives to restrict ballot access to the party faithful and rewards party leaders who overlook vote-getting but rebellious candidates.

Scholars and politicians agree that OLPR has weakened parties in Brazil. Graeff (2000) writes that “The system ... makes the competition between candidates of the same party fiercer than competition between parties. ... It would be difficult under any hypothesis to impose strict party discipline on
a deputy elected under these conditions”. 65 analyzes the incentives of Brazilian OLPR and concludes, “By this point it should be clear that open-list PR personalizes politics and hinders party building.” Mainwaring (1999, page 23) writes, “The Brazilian electoral system offers a number of incentives to antiparty behavior on the part of individual representatives. Foremost among these incentives is a peculiar system of proportional representation, which gives the electorate exceptional choice in choosing individual candidates and weakens party control over candidates.” And a former deputy concludes: “The inevitable result is that each [candidate] fights during the election to put themselves in a better position than their list colleagues and avoid falling in with the substitutes ... The candidate is practically compelled to seek votes just for herself, and the tendency to seek votes from your cor-relligionarios is irresistible, a condition for political survival. Thus disappear any incentives for party solidarity in the state campaign.” (Pinheiro Filho, 1998, pages 15-16).

This literature has been met with a volley of criticism and empirical evidence suggesting that the “anti-party” thesis has been overstated, and that a number of other mechanisms more than make up for the anti-party incentives of Brazil’s electoral rules. The most important of these is the work of Figueiredo and Limongi (1995, 2000, 1999) (henceforth F&L) who challenge the notion that Brazil’s combination of presidentialism and multiparty democracy is ungovernable and that Brazilian parties are weak and inchoate. Their empirical work reports unexpectedly high party cohesion scores, evidence of consistent ideological positioning, and indicators of presidential success in advancing their agendas. Other scholars have found similar results: relatively high cohesion, a lack of stalemate, and the existence of party agenda cartels that control legislative policy-making. (Santos, 2003; Pereira
and Mueller, 2004; Amorim Neto et al., 2003)

However, while there is substantial debate over the nature of the Brazilian party system - anti-party system, or model-party system - there much less debate over the incentives of the electoral rules. Even scholars arguing that Brazil’s party system is consolidated tend to agree that OLPR provides anti-party incentives - they just identify other factors that make up for the electoral rules. For example Pereira and Mueller (2004) acknowledges the anti-party incentives of the electoral system, but find that Presidential power allows the executive to impose order on the legislative party system, overcoming the electoral rules’ incentives. F&L acknowledge that the electoral rules encourage personal vote-seeking and restrict party leaders’ capacity to discipline deputies, but they find that intra-legislative procedures more than make up for the electoral rules, leading to a system of strong and stable legislative parties.10

The Senate

If the mechanisms discussed above do shape legislators’ strategic behavior, the Brazilian Senate should be a very different political arena. While the Senate and Chamber are identical in many respects, the Senate’s electoral rules lack all the mechanisms just described - intra-party conflict, low-value and easy nominations, and guaranteed re-nomination. In the following paragraphs, I first introduce the Senate, then examine its electoral rules and their incentives.

While almost all prior research has focused on the Chamber of Deputies, the Senate is actually the more powerful of the two institutions. The Senate has the sole authority to set total debt limits for all levels of the Brazilian government, from national to municipal, and to approve any interna-
tional financing. The Senate has the exclusive power to impeach and try the President, Vice President, Ministers, Supreme Court Justices, and Attorney Generals. The Senate approves many key appointments and chooses many federal judges.11

There are eighty-one Senators, three from each of the twenty-six states and three from the Federal District of Brasilia. Senators serve staggered eight-year terms. Elections are held every four years, concurrent with the other federal and state elections. Consequently, every four years, either one or two seats are open in each state. One-third of the Senators were elected in 1990 and again in 1998; two-thirds were elected in 1994 and 2002.

Senators are elected via simple plurality rules: the top vote-getters take office, without any party vote pooling. In “one-third” years, when there is one open seat per state, this is effectively a single-member plurality electoral system. Each party nominates one candidate, voters cast a single vote, and whichever candidate receives the most votes wins. In “two-third” years, when two seats are open, parties nominate two candidates, voters cast two votes (not for the same candidate), and the top two-vote getters take office.

According to the literature discussed above, this electoral system should produce significantly more cohesive parties than in the Chamber of Deputies, because it lacks the problematic features of Brazilian OLPR: incentives for intra-party competition and weak party control over ballot access combined with high district magnitude. Under the Senate’s rules, there are no incentives for candidates to attack their copartisans, because of plurality rules. During one-third elections, there is simply one candidate per party per district and no possibility of intra-party competition. During two-third elections, there are two candidates per party per district, but there are also two seats, and voters cast two votes with no plumping. Consequently, there are
no extra incentives for competing with copartisans as under OLPR.

In addition, party leadership retains the means to punish legislators through control of ballot access. The Senate does not use candidato nato, so incumbent Senators are not guaranteed re-nomination - rebellious Senators can be denied renomination. Finally, district magnitude is low - never more than two. The effect is to reduce incentives for personalism and increase the value of party nominations.

Consequently, when compared with Deputies, Senators should have weaker incentives for personalistic behavior and substantially stronger incentives for cooperating with party leaders. They have no electoral incentives to distinguish themselves from or compete with other members of their own party. Re-election is not assured, so rebellious behavior can be punished. The result should be stronger legislative parties than in the Chamber of Deputies.

Evidence

The preceding discussion suggests a simple testable hypothesis to examine the role of OLPR in Brazil’s weak party system and the link between electoral systems and party systems more generally. If the conventional wisdom regarding Brazil’s electoral system is correct, we should find evidence that the Brazilian Senate has more disciplined and cohesive parties than those in the Chamber of Deputies. But if the commonly-cited features of Brazilian OLPR - intra-party competition, low nomination value, and candidato nato do not directly affect the behavior of legislators, then we should find no significant differences in legislative behavior across the two institutions.

I carry out the tests with several measures of party cohesion in roll-call votes. First, I examine the most common measure, roll-call vote cohesion
scores. Following that, I estimate ideal points for the legislators and compare parties’ dispersion in a spatial analysis. Third, I use a model of party switching to measure party influence over legislators. All these measures of party strength are based on roll-call votes. While the use of roll-call votes to measure legislative behavior has been criticized (Krehbiel, 2000), such votes remain the single-most-widely used measure of legislative party strength. In addition, several authors have argued that the incentives of electoral rules have direct implications for roll-call voting behavior. Most notably, Carey and Shugart (1995) themselves note that their theory of electoral incentives can be tested with roll-call voting records. Further, roll-call based scores have the additional advantage of capturing representatives’ behavior on their institutions’ primary responsibility - the evaluation and passage or rejection of legislation. Finally, for most legislatures, there are no available better indicators of legislative behavior.

I test for differences between the two legislatures at three levels: overall, party, and district-party. In the first, I compare overall mean party cohesion for the Senate and Chamber without any controls. In the second, I control for party differences, as there is significant variance in cohesion across Brazilian parties.(?) In the last, I examine cohesion at the district-level, again controlling for party membership. The theoretical literature on electoral rules has the strongest implications for behavior within electoral districts, hence its impact on legislative behavior should be most readily apparent at that level.12

Roll-call Vote Cohesion

This section tests the impact of electoral rules by comparing party cohesion on roll-call votes in the Chamber and Senate. The above discussion suggests
that if Brazil’s electoral system affects legislative behavior, we should observe higher levels of party cohesion in the Federal Senate than in the Chamber of Deputies.\footnote{13}

While comparing the Chamber and Senate does control for many possible confounding variables, one problem with such a comparison is that the two legislatures may not have identical agendas. It is easy to imagine how a bill might be killed by a committee in one house and pushed through in another. These agenda differences could bias comparisons of party cohesion. My solution is to use two sets of cohesion scores. One uses all roll-call votes from each house; the other only uses matched votes from the Congresso Nacional. The National Congress is a joint session of the Chamber and Senate. When seated at the National Congress, members of the Chamber and Senate vote sequentially on the same bill. The Chamber members vote first, and if they approve the bill, the senators vote on the same measure.

Table 2 compares overall average party cohesion in the Senate and Chamber during the last three legislatures. For both institutions over all time periods, cohesion is relatively stable and quite high, echoing the findings of Figueiredo and Limongi (1995). Using all votes, the mean Chamber cohesion is between .84 and .89 and mean Senate cohesion between .77 and .80 over the three periods. Matched cohesion is slightly higher: between .80 and .92 for the Chamber, and .80 and .99 for the Senate.

More importantly, there is no consistent evidence that cohesion in the Senate is higher than in the Chamber of Deputies. Using all votes, Chamber cohesion is actually greater than Senate cohesion, and consistently significant at the .01 level. With matched votes, parties in the two legislatures are virtually identical during the 49th and 51st sessions. Of the six comparisons, Senate cohesion is only significantly greater than Chamber cohesion once,
during the 50\textsuperscript{th} legislature.

As discussed above, I repeated the same analysis for three units of analysis - overall party cohesion, matched party cohesion, and matched state party cohesion.\textsuperscript{14} Table 3 reports Senate-Chamber differences in party cohesion with national party controls and with state-party controls. Again, if electoral rules have the expected effects, the difference should be consistently positive, with Senate cohesion significantly greater than Chamber cohesion.

The results do not strengthen the case for the electoral system hypothesis. Using all votes (the first column), Senate parties are significantly less cohesive than those in the Chamber across almost all three time periods and levels of analysis. Using only matched votes, Senate parties are usually more cohesive than those in the Chamber, but the difference is never significant. In other words, contrary to theoretical predictions, and after controlling for constituents, internal rules, the broader political environment, and even the legislative agenda, there is no compelling evidence that intra-party competition has a significant (substantive or statistical) effect on party discipline. Half of the models actually return a negative impact on cohesion from the Senate, and in almost all cases, the substantive differences across institutions are quite small - less than .10.

These findings suggest two central conclusions. First, and most importantly, there is no evidence of a significant difference in roll-call cohesion scores across these two institutions. The differences between the two institutions are quite small and rarely significant in the predicted direction. Apparently, intra-party competition, easy ballot access, and \textit{candidato nato} have no significant impact on the cohesiveness of Brazilian legislative parties. Second, the analysis also shows the problems associated with comparative roll-call analysis. Some results of the analysis fluctuate with measurement and unit
of analysis. The sign of the difference, for example, is usually positive when using matched votes and negative when using all votes. These findings further challenge the validity of cross-country roll-call vote comparisons. Legislative agendas can sometimes be controlled for using within-country studies; this is usually out of the question with cross-country studies.\textsuperscript{15}

\textbf{Spatial Dispersion}

For the second test, I apply a spatial model to the roll-call votes, and explore party cohesion using estimated ideal points. I obtain ideal points and test visually and formally for differences in dispersion in parties. If the electoral system hypothesis is correct, then we should observe significantly more cohesive and less dispersed parties in the Senate than in the Chamber. In other words, parties should be more “spread out” across the policy space in the Chamber than in the Senate. As in the previous section, I will compare both national and state parties. The estimates use the standard WNominate algorithm developed by Poole and Rosenthal (1997).

A challenge is that separately estimating idea points for the two legislatures does not guarantee us that they will be comparable. Like Rice scores, comparisons of estimated ideal points across legislatures can capture real party differences - or differences in legislative agendas, membership, or electoral cycle, as discussed above.

I solve this problem, and map both legislatures into the same space by leveraging National Congress votes. Again, these are votes cast in joint sessions with both the Chamber and Senate present. These votes anchor the Senators and Deputies into the same space, and make comparisons across institutions possible.

Figures 1, 2, and 3 compare party dispersion during the three periods
studied. The first column of graphs shows dispersion for Chamber parties; the second column shows the same for Senate parties. In each graph, the party of interest is highlighted. The lines in the graph go from the party’s centroid to its members (centroids and lines in the left are for the Chamber, in the right column the Senate). All other members’ locations are represented in the background with the grey symbols. These graphs show the extent of party cohesion - or lack thereof. Uncohesive parties should have members distant from their party’s center - and long lines. Cohesive parties should have members close to their party center - and short lines.

These figures show some differences in party centers across legislatures. For example, during the 49th legislature, the centroids for Senate PTB and PFL are slightly above the respective Chamber party centroids. In the 51st, the Senate PFL and PMDB are both slightly below the Chamber centroids. There might be some real differences in ideal points across the Chamber and Senate, reflecting different legislator or constituent pressures, or they might simply reflect the fact that the two institutions do not have enough overlapping roll-call votes to anchor their positions.

However, there are not consistent differences in the key quantity of interest - the extent of party dispersion. In Figure 1, the PDT and PFL appear to be equally dispersed across the two institutions. The PTB, in contrast, does appear to be slightly less dispersed in the Senate in the Chamber. In the 51st legislature, the PMDB is quite dispersed on both dimensions in both legislatures. The PSDB has less variance on dimension one than the PMDB, but again without obvious cross-institutional differences. The PT is quite cohesive in both institutions. In the 50th legislature, the graphs show a similar pattern - the PFL and PMDB appear to be equally dispersed across institutions. As in the 49th legislature, the PTB does appear to be slightly
less dispersed in the Senate than in the Chamber, however.

For a more formal test of differences, I use a simple linear model:

\[ D = \beta_0 + \beta_1 I_{\text{Senate}} + \beta_2 I_{\text{Match}} \]

where \( D \) is the squared distance between each legislator and her party’s centroid, \( I_{\text{Senate}} \) is an indicator variable identifying Senators, and \( I_{\text{Match}} \) is a set of dummy variables controlling for party or state-party differences.\(^{17}\) \( \beta_1 \) is the quantity of interest. If dispersion in the Senate is significantly less than in the Chamber, \( \beta_1 \) should be negative.\(^{18}\)

Table 4 reports estimates of \( \beta_1 \) (labeled “Difference”) for overall dispersion, controlling for party differences, and controlling for state-party differences over the three periods studied. The analysis provides no evidence that electoral rules affect parties’ dispersion. In only two cases is the Senate less dispersed than the Chamber (state-party figures for the 50\(^{th}\) and 51\(^{st}\) legislatures), but neither is significantly different from zero. One might criticize the assumptions used for inference here, but the results appear independent of inference method - because in most cases, the Senate parties are actually more dispersed than the Chamber parties. That is, without the key institutional features of the Chamber’s electoral system - candidato nato, intra-party competition, and long party lists - the Senate does not appear to have any more cohesive parties than the Chamber of Deputies.

As with the roll-call cohesion analysis, an examination of legislator’s ideal points finds no evidence to support differences in party cohesion across the Brazilian Chamber and Senate. Visually, there are no obvious differences across institutions. A formal statistical test of the pattern could not reject the null hypothesis that there was no difference in dispersion across institutions. In many cases, dispersion was actually greater in the Senate than in the
Chamber of Deputies. These results held for an analysis of both national parties and state-party delegations.

**Party Influence**

The preceding two tests produced identical results - parties in the Senate are not significantly more cohesive than those in the Chamber. But roll-call votes do not directly measure party strength or influence. High levels of cohesion or low spatial dispersion *may* reflect party discipline of legislators, or they may reflect simple congruence of opinion within a legislative party. (Krehbiel, 1993)

However, party-switching provides an additional way to separate party discipline from ideological congruence. With significant party discipline, legislators that switch party should also change their roll-call voting behavior to be consistent with their new party’s policy positions. Without party discipline, switchers should not change behavior. More formally, we can measure parties’ influence over legislators by modeling legislators’ estimated ideal points as follows:

$$\theta_{ij} = (1 - \alpha)L_i + \alpha P_j$$

where $\theta_{ij}$ is the observed ideal point for legislator $i$ while in party $j$, $L_i$ is legislator $i$’s preferred ideal point, $P_j$ is Party $j$’s preferred ideal point, and $\alpha$ measures the party influence. When $\alpha$ is “1”, all legislators in party $j$ converge to $P_j$. When $\alpha$ is 0, all legislators in party $j$ occupy their own preferred positions. When $\alpha$ is between 0 and 1, legislators balance the demands of their parties with their own preferences those of their constituents. Without party switching, $\alpha$ cannot be identified. But when legislators switch party, as they do with some frequency in Brazil, we *can* measure $\alpha$. 

17
Table 5 compares estimates of party influence for the Chamber and Senate, and tests for differences between them. On the first dimension, party influence in the Senate is relatively steady across the three periods, falling slightly from .48 to .42. Influence in the Chamber appears to be rising steadily - from .33 to .64. But again, there are no significant differences between the two institutions. On the second dimension, Chamber party influence again is rising over time, but Senate influence is much more erratic - actually falling outside the expected range of $\alpha$ (0 to 1). This may reflect relatively few switchers in the 51st Senate. But most importantly, the results confirm the earlier roll-call analysis: Senate parties are not consistently more disciplined than those of the Chamber.

**Discussion**

My comparison of legislative party strength in the Brazilian Chamber and Senate finds no significant differences between legislative parties facing different electoral incentives. Examining measures of roll-call cohesion, spatial dispersion, and party influence from the last three legislatures, at the national, party, and district party levels revealed no evidence that electoral rules have any impact on legislative party strength.

These results have several implications for Brazilian politics, and the study of electoral rules and legislative parties more generally. First, the analysis showed the risks of cross-country roll-call comparisons. The sign and significance of estimates flipped when I controlled for the legislative agenda by only including identical bills that both chambers voted on. But cross-country studies can rarely find identical legislation across cases. The implication is that multi-country studies of roll-call voting should be undertaken with
extreme caution.

Substantively, however, there are at least three possible explanations for null results: mis-specification, Type II error, or an incorrect alternative hypothesis. In other words, either there is something wrong with my methods, or Senate-Chamber differentials were just overrun by random error, or OLPR does not weaken Brazilian legislative parties. I cannot definitively exclude any of these, but I will consider each possibility, leveraging what additional evidence is available.

In the first case, my non-results might reflect a flawed test, perhaps due to omitted variable bias or a lack of independence between the two institutions. Although a comparison of the Senate and Chamber of Deputies has many advantages, it is not perfect. A number of differences between the two institutions might counteract the incentives of the electoral rules, and other Brazil-specific features might also explain the non-results herein, including term length, vote sequence, progressive ambition, cross-legislative career paths, and size differentials. However, a brief examination of these likely suspects suggests that they are not confounding results:

Term Length: Senators enjoy eight-year terms, while deputies are elected for only four years. Perhaps Senators behave more independently early in their terms, hoping the party will have forgotten about their indiscretions/rebellious roll-call votes later, when they approach re-election. However, several tests for term length effects produced no support for this hypothesis.\(^{20}\)

Vote Order: Many major policy initiatives are introduced and voted on first in the Chamber, and only reach the Senate after having been approved by
the Chamber. However, this sequencing should increase the probability of a false positive - making my null results even more robust.\textsuperscript{21}

\textit{Progressive ambition:} Many Senators and Deputies leave Congress to run for local, state or national executive office, though most run for re-election. (Samuels, 1998; Pereira and Renno, 2006) Progressive ambition should increase deputies’ responsiveness to party leaders who control nominations for other offices. Re-election seeking is slightly higher for Senators than for Deputies, so this might raise Deputy responsiveness disproportionately and “cancel out” the impact of electoral rules. However, previous work has found no difference between deputies seeking re-election and those seeking careers outside the Chamber. (Desposato, 2001)

\textit{Cross-legislature career paths:} Senators may run for the Chamber, and Deputies may run for Senate. Cross-house candidacies might make the average incentives identical across both the Chamber and Senate. But very few deputies run for Senate, and fewer Senators run for the Chamber.

\textit{Legislative Size:} Size differences may lead to differences in organizational capacity; the larger Chamber has a stronger leadership than the Senate. Centralized agenda control in the Chamber could raise indicators of party cohesion above those of the Senate, where a less active leadership might allow more divisive bills to reach the floor. This argument is consistent with the literature discussed earlier - that in spite of the electoral rules, legislators’ collective incentives have led to high levels of party cohesion. (Figueiredo and Limongi, 1995, 2000; Santos, 2003; Amorim Neto et al., 2003) However, the isolated comparison of National Congress bills (Table 3) restricted the two
institutions to identical agendas, and still found no differences.

There certainly may be some other omitted variable that explains away my results; such is the nature of all non-experimental work. But a cursory examination of the most likely alternatives suggests that their influence is not driving my findings.

Type II error is always a possibility with null results. Given that several different tests, over several time periods, repeatedly found that Senate parties were not significantly more cohesive than Chamber parties, either the substantive effect of electoral rules is very is small or my sample selection was especially unlucky. Coincidentally, research adopting similar methods in Europe has suffered similarly unlucky draws: most within-country tests for electoral rules’ impact on legislative parties tend to find nonresults. For example, recent within-country comparisons of behavior by closed-list and SMD legislators in Italy, the Ukraine, Hungary, and Russia almost always find no difference in discipline for legislators elected under different types of rules. (Ferrara, 2004; Haspel et al., 1998; Thames, 2006) For example, Morgenstern (2004) compares legislative behavior across five countries and finds that electoral rules do have a significant impact on cross-country party cohesion. Carey (2004) compares party cohesion across 17 countries and finds evidence that electoral rules promoting intraparty competition reduce party cohesion. Are within-country studies especially unlucky? Or is something else going on?

This leads me to consider the third possibility: that the alternative hypothesis is incorrect: intra-party competition, candidato nato, and high district magnitude do not in fact weaken legislative parties. I suspect that the problem is that we have over-emphasized the exogenous power of electoral
rules and under-specified the power of informal institutions. There is a tendency in recent scholarship to treat electoral rules in discussion, in methods, and in theory, as exogenous causal determinants of legislative party strength, and to give less attention to social and historical determinants of party systems. However, we know very well that many other factors shape legislative behavior, and that electoral rules are frequently endogenous to these other factors. This implies a different view of electoral rules, one where they are part of a broader equilibrium that includes party organizations, voters’ characteristics, and other factors, all of which combine and define incentives for elite behavior.

A closer look at several features of the Brazilian party system illustrates these points. Consider the role of party leaders’ control over ballot access; Senate parties ought to be more cohesive than Chamber parties, because party leaders can punish Senators by denying them renomination. But the logic breaks down when societal variables don’t match formal institutions. In Brazil, denial of renomination is an idle threat for most Senators, because voter partisanship is weak. An incumbent Senator could just switch party and take most of her support with her. Further, the state parties that nominate senators are often dominated by the senators themselves. So in this case, the importance of the formal institution (control of ballot access) is contingent on the existence of informal institutions (partisanship and extra-legislative party organizations), which are largely missing in Brazil.

When the situation is reversed, with strong informal but weak formal institutions, what happens? If voters are very partisan, parties are well-organized outside the legislature, but incumbents enjoy candidato nato, will the legislative party suffer defections from “tenured” incumbents? This scenario describes the situation facing Workers’ Party in the Chamber of
Deputies. That party simply adopted other measures to enforce discipline, expelling any rebellious member. (Keck, 1995) Because PT supporters are relatively partisan and party activists very militant, expelled PT deputies are likely to lose their votes, their volunteers, and their re-election bids. Where societal incentives for strong parties exist but formal institutions are weak, politicians modify rules or institutions to compensate.

This may solve the puzzle presented above: within-country studies consistently generate null results while cross-country studies support the conventional wisdom. The answer lies in the power of informal institutions, the endogeneity of formal institutions, and the creativity of politicians. In systems where parties are strong and labels meaningful, politicians choose and create electoral rules that preserve party strength. Where parties are weak and voter partisanship low, politicians prefer personalistic rules consistent with individual political entrepreneurs. Consequently, cross-country analyses should find significant correlations between electoral rules and legislative party organization - reflecting the endogeneity of electoral rules to the broader political environment. In contrast, within-system analyses should find no significant differences regardless of electoral rules - because legislators in upper and lower houses respond to the same broader informal institutions, even with variance in electoral rules.

My results and argument do not mean that electoral rules never have effects on legislative parties. Previous work has found powerful institutional effects on effective number of parties, campaign strategies, mandate types, and proportionality.23 Were leading institutionalists given the authority to freely rewrite constitutions, they could probably also have some effects on legislative party cohesion. But politicians’ creativity in preserving strong parties or preventing their formation should not be underestimated, and
political scientists are unlikely to be granted such authority.

These observations are not particularly new. Indeed, the first discussions of electoral institutions in Brazil were highly contingent on rich analysis of informal institutions and endogeneity. (Mainwaring, 1991; ?) And in economics, the field that gave birth to rational choice institutionalism, scholars take institutional endogeneity and informal institutions very seriously. (Woodruff, 2006) But recent work in comparative politics has been seduced by the methodological ease and theoretical simplicity of simple unidirectional relationships.

Answering two related questions are important next steps. First, which formal institutions’ effects are mechanical and exogenous, and which are contingent and endogenous, and on which areas of legislative politics? Second, how does formal institutions’ impact vary with the strength of informal institutions? Answering these question is important for legislative studies as well as for political reformers. Many countries blame their woes on their political institutions. But many electoral system reforms have had very limited effects on party systems, reinforcing the need for research in this area.

I suggest two areas where political science may find answers to these questions. First, better specification of the theoretical roots of institutions will help clarify our predictions, assumptions, logic, and appropriate tests. In particular, the literature is sorely lacking formal theory on the relationship between electoral rules and legislative party cohesion. Clarifying underlying assumptions that drive formal results will help us identify the informal institutions on whose presence formal institutions’ impact are contingent. Second, careful research design may help us parse out which formal institutions matter and which do not. Multi-case studies with instrumental variables for formal institutions are one approach that has been used with success in
economics. We should also seek natural experiments, including cases of institutional change. Finally, work that combines within and across-country comparisons could leverage within-country variance in formal institutions and cross-country variance in informal institutions.

But at least for Brazil, my findings suggest that electoral reforms alone will have limited short-term impact on legislative party strength. Even a current proposal for a closed-list proportional representation system might not have much impact. Given weak partisanship among voters, incumbents with proven vote-drawing ability will still have leverage with party leaders. Proven vote-getters could negotiate with multiple parties for high list spots and switch to the party making the best offer. Or the result could be like Colombia’s Senate, where closed-list PR has been transformed into SNTV, since nearly all viable candidates form their own lists. Without the informal prerequisites, even major changes in formal rules may have no impact on legislative behavior.
Notes

1See Chandler (1987); Scharpf (1995); Ross (2000); Mainwaring (1997); Suberu (2001); Haspel et al. (1998); Mainwaring (1991); ?; Carey and Shugart (1995); Lipset and Rokkan (1967); Cox (1997); Ordeshook and Shvetsova (1994); Wilson (1997); Crook and Hibbing (1985); Collier and Collier (1991)

2See Cox (1997); Ordeshook and Shvetsova (1994); Taagepara and Shugart (1993) are three of many examples.

3Recent examples include ??Mainwaring (1999, 1991); Geddes and Ribeiro Neto (1992); Morgenstern (2000, 2004); Wilson (1997); Haspel et al. (1998); Sartori (1976); Epstein (1980).

4See Johnson and Crisp (2003), for example.

5Following Carey and Shugart (1995), I include ballot control as well as seat distribution formulas in the definition of electoral rules.

6This weakness is reflected in the ongoing debate on the nature of Brazilian political parties. For example, some maintain that parties are uncohesive and “inchoate”, while others arguing that they are reasonably disciplined and consolidated. For example, compare Mainwaring (1999), ?, and Figueiredo and Limongi (1995). One exception is Ames (2001). While still a single-case study examining only the Brazilian Chamber of Deputies, he dissects the logic and implications of the Brazilian political institutions. He traces deputies’ electoral and legislative strategies and compares them with the logic implied by the institutional arguments.

7Proposals for single-member districts, mixed-member systems, and closed-list pr have all been floated.

8The exact amount depends on which parties contribute the votes and whether the Party Y/Party Z ratio changes in any other ways.

9This provision was eliminated in 2002. See Morgenstern (2004).

10At least one the revisionists disagree that OLPR weakens parties: Santos (2003) argues that OLPR eliminates linkages between legislators and constituents.


12Note that the district-party comparisons do come at a price - many observations must be left out. There are only three senators per state, and their cohesion can only be
measured if two or more are from the same party.

I measure party cohesion with the Rice (1928) cohesion score, corrected for small party inflation. Mean party cohesion is weighted by the number voting, and bills are excluded if fewer than five percent voted for the the minority position. Alternative weighting schemes produced identical results.

In each case, I estimated a simple linear model:

\[ C = \beta_0 + \beta_1 I_{\text{Senate}} + \beta_2 I_{\text{Match}} \]

where \( C \) is the relevant cohesion score, \( I_{\text{Senate}} \) is an indicator variable for Senate scores and \( I_{\text{Match}} \) is a set of indicator variables for party, or state-party, depending on the model. The parameter of interest, \( \beta_1 \), is the mean difference between Senate and Chamber party cohesion scores. Positive values indicate more cohesion in the Senate, negative values more cohesion in the Chamber.

One possible solution might be votes on international agreements, like NAFTA, Mercosur, or the European Union. Such votes could provide some important leverage to cross-country analyses.

The one exceptional outlier was Marcio Artur de Matos (PT-PR), who only cast some 20 votes as a member of the PT. He was a suplente who was only in office for several weeks in January of 1999 to close out the 50th session. All his votes were with the PT majority, but were uncontroversial votes, generating very little information about his ideal point.

Effectively, a dummy variable for each party controls for the fact that party dispersion, like party cohesion, varies from party to party.

Note that the case of Deputy Matos, above, suggests an additional control. Some deputies cast many votes, and we have substantial information about their ideal points. Others, however, cast far fewer votes, providing less information about ideal points. Effectively, we are more uncertain about some deputies’ estimated ideal points than others’, so any analysis should control for the differences in estimates’ variances. Research suggests that simply using robust standard errors works very well; I adopt this solution.

Ideal points (\( \theta \)) for each legislator-party are estimated using WNOMINATE (Poole and Rosenthal, 1997), and \( \alpha \) is estimated using fixed-effects regression. \( P_j \) is estimated using the median ideal point of party members.

If there are term effects, then the Senators up for re-election should be more disciplined than those that are not. This implies that the 49th and 51st Senate sessions should
have higher cohesion than the 50th, because more senators are facing re-election in those legislatures. The data do not support this hypothesis: the 49th and 51st Senate sessions have lower cohesion than the 50th.

Sequencing implies that the most controversial bills - those that might divide the governing coalition - are less likely to make it to the Senate floor. Consequently, sequencing should push up overall cohesion for the Senate, increasing the possibility of a false positive. However, in spite of this bias in favor of a false positive, my tests lead to null results. Consequently, sequencing implies that my findings are especially robust. Further, by examining cohesion for both matched votes and all votes, I have already controlled for this. The bias described above ought to be most pronounced when comparing all votes, but minimal when comparing matched votes (Congressional bills that both houses voted on). Ultimately, both approaches led to the same result: Senate cohesion is not higher than Chamber cohesion.

Thames (2006) examines three cases, and does find a list-smd cohesion difference for one of them, Russia. He argues that this difference will appear in less institutionalized party systems, suggesting that institutional rules’ effects will be most observable in such cases. However, Haspel et al. (1998) did not find a difference in Russia, using different methods and studying an earlier time period.

For example, the Brazilian Chamber and Senate do differ in terms of party fragmentation. In 1995, the effective number of parties in the Chamber was 7.9 versus 2.9 in the Senate. However, note that in Chile, the military’s imposition of low district magnitude did not reduce party fragmentation. Instead parties with strong social roots formed coalitions and negotiated informal non-competition agreements.

See also Ames (1999), who argues for taking the endogeneity of institutions seriously.

See Woodruff (2006) for some examples from the literature.
References


33


Samuels, D. J. (1998). Spreading it thin: Careerism, the budget process and pork-barreling in Brazil.


### Table 1: Hypothetical Election Results

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<th>Rank</th>
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<td>Jorge</td>
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*Parameters: 4 seats, 3 parties, 15 candidates, and 100 voters.*
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**Matched Votes**

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* $p < .01$
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*=.01
Table 4: Difference in Senate-Chamber Party Dispersion

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* p < .01
### Table 5: Senate and Chamber Party Influence Scores

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* p < .01
Figure 1: Senate-Chamber Party Dispersion, 49th Congress
Figure 2: Senate-Chamber Party Dispersion, 50th Congress
Figure 3: Senate-Chamber Party Dispersion, 51st Congress

Chamber – PTB

Senate – PTB

Chamber – PMDB

Senate – PMDB

Chamber – PFL

Senate – PFL