Restrictive Rules and Conditional Party Government: A Computational Model

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Abstract: Conditional Party Government (CPG) is among the most widely applied theories of party influence in the U.S. Congress. Most applications of the theory assume a unidimensional policy space, contrary to the intentions of the developers of CPG. We develop a simple theoretical scenario where members decide to opt whether to empower their leaders to bring legislation to the floor under a restrictive rule. We find that in a strictly spatial application of CPG to this scenario, increased homogeneity and increased polarization do not lead to increased adoption of restrictive rules that would shift outcomes from the chamber median toward the party median. Using a computational model, we add a measure of complexity to the spatial model by introducing collective uncertainty about the location of the speaker's preferences and the location of the chamber median. As uncertainty regarding the location of the chamber median relative to the level of uncertainty regarding the location of the speaker increases, we find that the predictions of conditional party government regarding the incidence of restrictive rules are better realized.

1 Introduction

Conditional Party Government has been among the most widely applied theories explaining shifts in political party strength. The theory, developed in a series of works by John Aldrich and David Rohde (Rohde 1991; Aldrich & Rohde 1997-98, 2000a, 2000b), holds that political party members will be most likely to support centralizing authority in the hands of party leaders when parties in Congress are more internally homogenous and less ideologically proximate to each other. The popularity of Conditional Party Government (hereafter CPG) is substantial: A JSTOR search for the specific string "Conditional Party Government" revealed 259 journal articles using the term, a search using the popular *Publish or Perish* software finds over 1,500 citations (including journal articles, books, and on-line papers) to Rohde's 1991 book that coins the term, and subsequent articles developing the theory (Aldrich and Rohde 1997-98; Aldrich and Rohde 2000a, Aldrich and Rohde 2000b) also have hundreds of citations. Conditional Party Government has, simply put, become one of the most widely applied theories of legislative politics.

The bulk of these applications apply CPG assuming that the agenda maps onto a unidimensional policy space. In such a theoretical context, measuring the two core concepts of inter-party polarization and intra-party homogeneity is relatively straightforward. Scholars will frequently take some measure of legislator ideal points (such as Poole & Rosenthal's [1997] NOMINATE scores) and use them determine quantities such as the ideological distance between the two party medians (as an indicator of inter-party polarization) and/or the standard deviation of the majority party (as a measure of intra-party homogeneity). Examples of this approach abound in the literature (among many possible examples, consider Roberts 2010; Finocchiaro & Rohde 2008; Lebo, McGlynn, & Koger 2007; Ladewig 2005; Forgette 2004; Schickler 2000).

While the application of CPG to a single dimension is common, there is evidence that the theory's original proponents conceive of CPG a multi-dimensional policy space (consider Aldrich, Rohde, and Tofias 2007). We develop a simple application of CPG theory in a basic computational model where legislators make a decision regarding whether to empower the speaker to bring legislation to the floor under a restrictive rule. When applied in a unidimensional policy space in strict spatial terms, we find that fluctuations in inter-party polarization and intra-party homogeneity do not affect the prevalence of restrictive rules. We propose a CPG-consistent scenario where members collectively have varying levels of uncertainty about the exact location of the chamber median and the preferences of the speaker. When such collective uncertainty is introduced to the computational model, our simulations produce results much more consistent with the predictions of CPG theory.

Conditional Party Government and Restrictive Rules

Many scholars agree that a core goal of legislative parties is to shift policy outcomes from the median of the legislative chamber (the default outcome as per Black 1948) toward the median of the majority party (Cox & McCubbins 1993, 2005; Aldrich & Rohde 1997-98, 2000a). Achieving non-median outcomes is no simple task. Among the tools at the disposal of party leaders in House of Representatives to achieve non-median outcomes is the option to pass a restrictive rules that limit or even prohibit amendments to a piece of legislation once it has left a committee. Such rules prevent amendments on the House floor that would alter the legislation in a manner that makes it more satisfactory to the chamber median (Monroe & Robinson 2008).

Naturally, different explanations are posited for the purposes of a closed rule. For some scholars, closed rules are viewed as necessary for the simple preservation of order in a large chamber (consider Doran 2010 and Sinclair 1995). Indeed, with 435 members who could each offer multiple amendments, legislators could paralyze the chamber by simply offering amendment after amendment. From this perspective, the burden of accomplishing anything in the chamber would be so great that without some option to invoke a closed rule (or otherwise curtail debate) that the business of the Congress could not be completed.

An alternative (though not entirely contradictory) perspective holds that closed rules are tools to be used tactically by the majority party to tilt policy outcomes more toward the median member of the majority party. Cox and McCubbins (2005) note two distinct ways in which the House Rules Committee may use the power to grant rules to further partisan goals. First, the Rules Committee may function in a "gatekeeping" capacity, agreeing to grant a rule allowing debate and a vote on final passage to some bills while preventing others from being forwarded to the floor for consideration. Through the 1950s and 1960s, this is the manner in which the Rules Committee exerted influence.

However, Cox and McCubbins note an alternative method of influence that has grown in use from the 1970s until the present: the power to make "take-it-or-leave-it" offers using a closed rule (or another restrictive rule that might limit, but not altogether prohibit, the amendments that can be offered).[1] When forced to make an up-or-down choice on a piece of legislation, members who would have preferred a different piece of legislation to the status quo may find it in their interest to support the legislation as proposed rather than wait and hope that some amended or adjusted version of the proposal might make its way through the legislative process some number of years down the road. Simply put, if party leaders structure the choices legislators have available rather than allowing infinite amendments and the full range of policy choices to all legislators, party leaders may creatively structure choices in a way that ultimately benefits the policy goals of the party.

It is crucial to remember the context for closed rules. The ability to offer a closed rule at all, however, requires members of Congress to give up their individual rights to offer amendments by instituting chamber rules such that the Speaker (or perhaps more realistically the majority party membership of the Rules Committee acting as agents of the Speaker) can propose legislation under restrictive rules. It is natural to wonder why a legislator would cede their individual power to party leadership at all. Gilligan and Krehbiel (1987, 1989) argue that closed rules are not motivated by parties at all, but rather are used to maximize informational efficiencies in a legislature. Such rules provide incentives for legislators to specialize and develop the expertise necessary to produce good public policy. Arnold (1990) offers an alternative party-centric explanation, arguing that members' votes on rules are less "traceable" than the votes on final passage. Implicit in Arnold's argument is the idea that members have private preferences aside from constituency-induced preferences and that members genuinely prefer the outcomes proposed by party leaders but are limited to supporting such outcomes to situations where their constituents will be largely unaware of them.

Sinclair (1995) portrays the use of closed rules as a compromise between competing interests of party leaders. Through the 1970s, Sinclair notes that many majority party members became more supportive of an aggressive policy agenda while others insisted that they needed to maintain a degree of independence. The closed rule may thread the needle between these competing concerns by enabling party leaders to pursue non-median outcomes on behalf of their members while still not requiring every member of the majority to vote for a measure on final passage in order to secure the necessary 218 votes.

The CPG approach offers an alternative perspective. CPG theorists hold that members of Congress are most likely to delegate more powers to party leaders when they are confident that the leadership will effectively represent the wishes of the membership. This occurs when the distribution of preferences within the majority party is more homogenous and when the parties are more ideologically polarized. Duff & Rohde (2012) and Roberts (2010) specifically posit that the use of restrictive rules increases as the conditions of CPG are better met. Both offer the rationale that legislators are more willing to afford leaders the power to structure the legislative choice set when more members of the majority are more ideologically proximate to the leadership (and more distant from the preferences of the opposing party).

While there are a number of hypotheses that could be tested regarding closed rules, given the success of CPG as a general theory of party influence, we seek here to develop a computational model that allows us to test some of the observable implications of CPG in a carefully constructed computational setting. From CPG, we derive two simply hypotheses about the frequency with which closed rules should be observed:

H_1*: The Inter-Party Polarization Hypothesis:* As the distance between the median member of the two parties increases, the incidence of closed rules should also increase.

H_2*: The Intra-Party Homogeneity Hypothesis:* As the standard deviation of the majority party increases, the incidence of closed rules should decrease.

Both of these hypotheses seem like relatively straightforward implications of CPG theory. However, we will go slightly beyond that to offer an additional hypothesis that may drive the adoption of closed rules. Specifically, the larger a party's majority in the House, the more members the party can afford to "lose" and still have the votes necessary to support the delegation of closed rule powers to the party leadership. This yields an additional hypothesis:

H_3*: The Majority Size Hypothesis:* All else being equal, larger majorities should be more likely to allow for a closed rule, and larger majorities should be even more likely to allow closed rules as the conditions of conditional party government are better met.

Rule Selection and CPG in a Unidimensional Policy Space

While there is some compelling evidence supporting conditional party government in multiple dimensions (consider Aldrich, Rohde, & Tofias 2007 and Bianco & Sened 2005), most empirical applications apply the theory as it might be conceived in a unidimensional policy space. When applying CPG as a strictly spatial theory in a unidimensional policy space, though, there is reason to doubt the that theory's predictions about restrictive rules would be borne out. Figures 1 illustrates the reasoning behind this proposition for inter-party polarization while Figure 2 evaluates the implications of intra-party homogeneity.

In Figure 1, we see a scenario with two parties, party "D" and party "R." Without loss of generality, we consider Party D as the majority party, with point D representing the median of party D, point R representing the median of party R, and M representing the chamber median. The top panel of the figure shows a situation where inter-party polarization is high while the lower panel shows a situation where inter-party polarization is low. If legislation is brought up under an open rule, the canonical result of a policy outcome at the chamber median (point M) would be realized. If members vote to empower leaders to introduced legislation under a restrictive rule, the majority party would introduce legislation at the party median instead (point D). Thus, when deciding whether to vote to empower a speaker to propose legislation under a restrictive rule, members of the majority party will evaluate whether they prefer outcomes at M or D. Members whose ideal points are to the left of the point $\frac{D-M}{2}$ will prefer to empower leaders while members whose ideal points are to the right of that point will prefer not to empower leaders, realizing an outcome of M. When comparing the two panels in Figure 1, it is apparent that even with higher levels of inter-party polarization one will not realize a majority of members of the chamber who would prefer to support a closed rule.

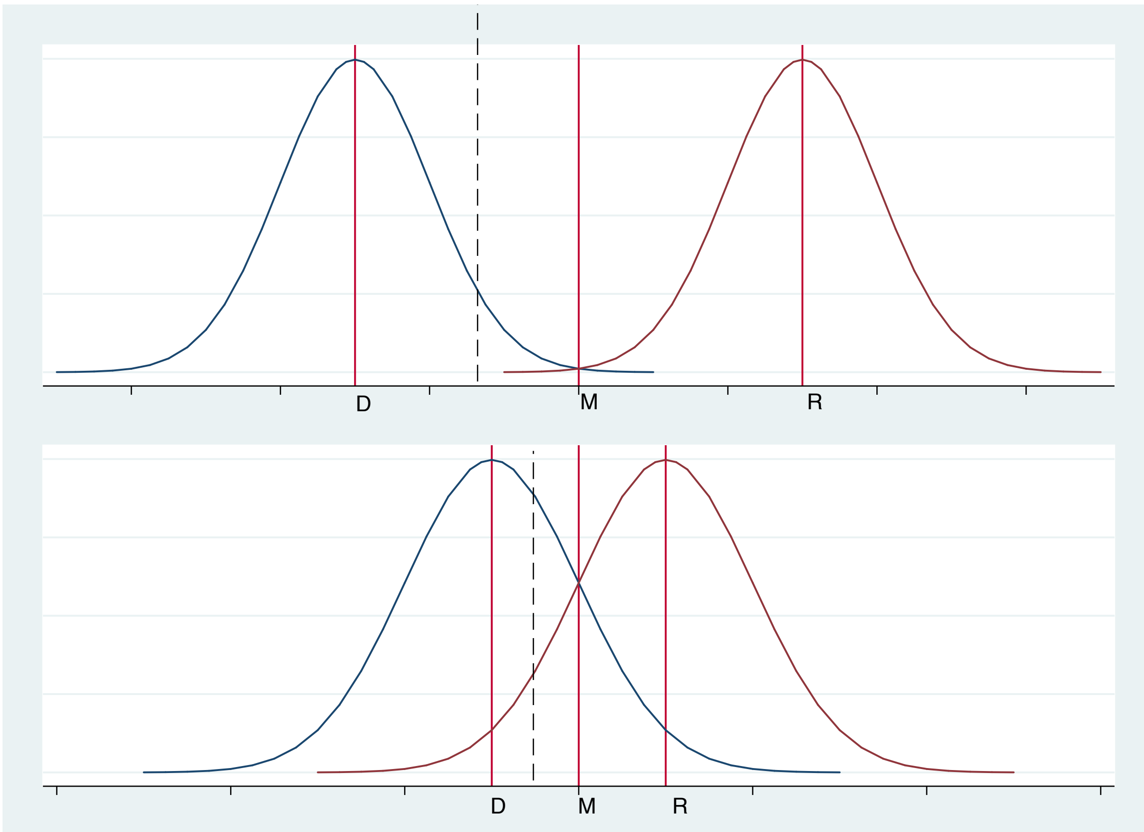

Figure 1: Party and Chamber Medians in a Unidimensional Policy Space, Varying Inter-Party Polarization

Figure 2 again shows party D and party R with their respective medians and the chamber medians. Rather than varying the degree of inter-party polarization between the two panels of Figure 2, though, we vary the degree of intra-party homogeneity, with the upper panel showing more heterogeneous parties and the lower panel showing a scenario with the same degree of polarization but greater intra-party homogeneity. While CPG would predict that under these circumstances restrictive rules should be more likely, it is clear from the figure that even when the parties are more homogenous, a majority of members lie to the right of the point $\frac{D-M}{2}$. Thus, the spatial model would not predict more frequent adoption of restrictive rules at higher levels of intra-party homogeneity.

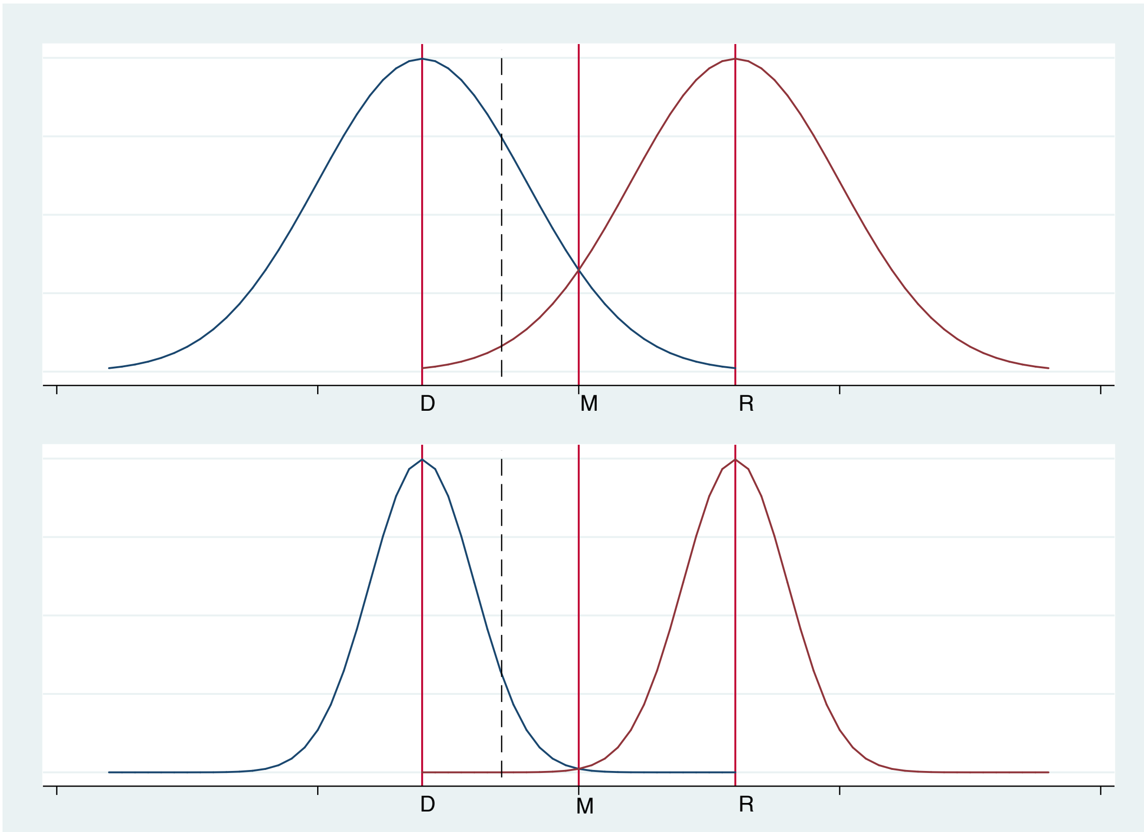

Figure 2: Party and Chamber Medians in a Unidimensional Policy Space, Varying Intra-Party Polarization

A Computational Model of Rule Selection and Voting

To test the propositions above, we propose to use computational modeling. Computational modeling offers a number of advantages for our investigation. Within a computational model, we are able to isolate key components of Congressional action and manipulate them independently of one another. Observing some values of different combinations of variables is practically difficult, but simulation allows us to speculate on the effects of practically reasonable values of the variables in the model and determine their effects on the frequency of closed rule use and, ultimately, policy outcomes. Additionally, rather than being left with a fixed and rather finite set of observed data, we can simulate the actions of Congress in many replications with the only limit being the amount of computer time necessary to run the simulations.

Perhaps most importantly, computational modeling allows us to incorporate a degree of uncertainty among actors in the model in ways that are difficult (or even impossible) in a formal model and in ways that are not observable in a conventional statistical model. We believe that it is by appropriate incorporation of uncertainty into the model that the greatest advances over current understanding are possible.

We recognize that the use of a computational model involves simplifications relative to the real world. While this imposes some limitations on the generalizability of our findings, such simplifications are inherent to any form of modeling (including statistical or formal). We maintain that the development of any model places simplification of the world as a goal to be achieved (albeit without sacrificing to much explanatory power) rather than as an ill to be avoided. That said, extensions of the model as we present it here are relatively straightforward and future versions of our computational model of Congress will be designed to incorporate more aspects of the complex system that is the U.S. Congress.

Description of the Model

To facilitate understanding of what our model actually does, we will step through a single iteration of the computational model. The essence of the model is drawn from a model developed in Aldrich, Rohde, and Tofias (2004) with modifications to reduce the model to a single dimension (we plan to accommodate a second dimension in future versions of the paper) and to make the model run in the R statistical package. At the outset, we draw a unicameral Congress from two normal distributions (one for each party) with a given mean and standard deviation for each distribution. This approach allows us to vary the size of the majority as well as inter-party polarization and intra-party homogeneity, the key components of conditional party government theory. Once the Congress has been drawn, the majority party selects a speaker who sits at the median of the majority party (the assumption that the speaker has an ideal point at the majority party median is a common one, see for example Cox & McCubbins 2005).

Once the Congress has been drawn and a speaker selected, members develop expectations about the location of the speaker and the floor median. In this model, members have perfect information about the location of both the chamber median and the speaker (though subsequently we will relax this assumption).

At this point, the floor determines whether to allow the speaker to bring legislation to the floor under a closed rule. Legislators who are ideologically closer to the speaker than to the chamber median will vote to empower the speaker to bring up legislation under a closed rule while legislators who are ideologically closer to the chamber median than to the speaker would prefer not to empower the speaker to impose a closed rule because they prefer the chamber median outcome to the speaker's preference.

Once the floor has decided whether to allow the speaker to choose a closed rule, the speaker decides whether to propose legislation. If he is empowered to bring up legislation, he proposes legislation at his ideal point. If the speaker is not empowered to impose a closed rule, he evaluates his utility for legislative outcomes at the chamber median and at the status quo. If the chamber median is closer to the speaker than the status quo, the speaker proposes legislation under an open rule. If the status quo is closer to the speaker than the chamber median, the speaker will elect to not propose legislation.

For our purposes in this paper, we are primarily interested in the decision of the chamber to grant a closed rule, but may also follow the process through to the vote on final passage that follows. If the speaker proposes legislation, the we calculate legislators' votes on final passage on spatial proximity, with legislators nearer the proposed legislation (be it at the speaker's ideal point or at the chamber median) than the status quo voting in favor of the legislation and legislators closer to the status quo than to the speaker voting against passage. By repeating many iterations of the model with different draws of different sets of legislators with varying degrees of inter-party polarization and intra-party homogeneity, we can test whether the adoption of closed rules varies with changes in the conditions of conditional party government.

Results without Uncertainty

The outcome of primary interest for testing our hypotheses is the percentage of the time the chamber votes to empower the speaker to bring legislation to the floor under a closed rule. As a benchmark, we note that approximately half of special rules in the 109th and 110th Congresses were closed rules (Doran 2010).[2] To test our hypotheses, we run sets of 1,000 iterations of the model as described above varying key parameters of the model in each set. Specifically, to test the Inter-Party Polarization Hypothesis, we vary the distance between the medians of the two parties; to test the Intra-Party Homogeneity Hypothesis, we vary the standard deviation of the majority party. To test the Majority Size hypothesis, we hold other factors constant and vary the size of the majority party. Finally, to test the Relative Uncertainty Hypothesis, we vary the standard deviation of the distributions from which each member's "error" in the estimation of the positions of the speaker and chamber median are drawn.

First we approach the two straightforward predictions of CPG: The Inter-Party Polarization and Intra-Party Homogeneity hypotheses in the absence of uncertainty. Table 1 shows the percentage of closed rules at varying levels of inter-party polarization with a favorable majority size (303 Democrats) and a medium level of dispersion in the majority party (The results are generally not supportive of the notion that variation in the degree of inter-party polarization affects the chamber's willingness to grant the speaker the power to bring legislation to the floor under a closed rule. There is no pattern at all (variation is due merely to sampling uncertainty).

	Proportion of the Iterations with a Closed Rule
Parties set to -0.2 and 0.2	0.000
Parties set to -0.5 and 0.5	0.000
Parties set to -1.0 and 1.0	0.000
Parties set to -1.5 and 1.5	0.000

Table 1: Cell entries indicate the proportion of the 10,000 iterations generating a closed rule. Note that the majority size was set to 303 members (see discussion of that below) and the party standard deviations were set to 0.1.

These results square solidly with our analysis of Figure 1. Regardless of the distance between the majority party median and the minority party median, the chamber median mathematically must lie within the range of ideal points of the majority party. The median and some number of individuals toward the majority party median (but closer to the chamber median) will still derive greater utility from an open rule (and accordingly a chamber median outcome) than from a closed rule. As such, if members are making decisions strictly on the basis of ideological proximity (as they do in our model), we conclude that inter-party polarization cannot be a core determinant of the selection of closed rules.

We move next to the intra-party homogeneity hypothesis. Table 2 shows the proportion of the 10,000 iterations that yield a closed rule varying levels of the standard deviation of the majority party. We hold majority size constant at 303 and inter-party polarization at -.5 and

.5. We keep the minority party's standard deviation set to .1 and vary the majority party's standard deviation from .05 to .15. Notwithstanding substantial shifts in the cohesiveness of the majority party, we never see a single instance of a closed rule in 10,000 iterations at any level of majority party cohesiveness. This is true whether the size of the majority is large or small.

	Proportion of the Iterations with a Closed Rule
Majority Party Standard Deviation at .05	0.000
Majority Party Standard Deviation at .10	0.000
Majority Party Standard Deviation at .15	0.000

Table 2: Cell entries indicate the proportion of the iterations generating a closed rule. Note that the majority size was set to 303 members and the party medians at +.5 and -.05, respectively. There is no uncertainty about the position of the chamber median or speaker.

Overall, the predictions of conditional party government do not hold up when applied in our computational model of rule decisions in a unidimensional policy space where actors have perfect information about the speaker's preferences and the location of the median. Even when pushing parameters of the conditional party government hypothesis to the limits of plausible values in terms of majority size, polarization, and majority party cohesiveness, we simply do not see a willingness of members to cede authority to the speaker.

Results with Uncertainty

Finding that the perfect information test above is not friendly to the predictions of the Conditional Party Government hypothesis, we move next to incorporate collective uncertainty about the preferences of the speaker into the model. The sequence of action in the simulation is the same, but instead of members knowing the location of the speaker and chamber median, we incorporate uncertainty into the model by injecting a measure of error into individuals perceptions of the location of the speaker. For each member of the legislature we randomly draw an amount of error at random from a normal distribution with a mean of 0 and a standard deviation that can be varied. The error is added to the actual position of the chamber median. The standard deviation can be thought of as a measure of the accuracy with which members can gauge the location of the chamber median. A similar injection of error can be created for the location of the speaker. For natural reasons, we presume that the there will generally be more uncertainty about the location of the chamber median than the speaker; after all, chamber medians are not formally identified as agents of the chamber, are not elected to the position of the median, and they do not have a forum in which to formally identify themselves as such (even if they knew with some degree of certainty that they themselves were the median). The speaker, in contrast, is elected by their chamber in a process that could be presumed in a "Downsian" world to yield an outcome at the median of the chamber. What's more, the speaker makes various commitments and indications of his/her policy intentions. For sake of example, we select a level of accuracy (the standard deviation of the error added into the location of the chamber median) of .05 and an accuracy level of .001 for the speaker (note that lower standard deviations of the error reflect more accuracy).

Table 3 shows the proportion of iterations with a closed rule when the means of the party medians are set at varying levels and party standard deviations set at .05. Majority size is held high at 303. However, these simulations also include some modest uncertainty about the location of the chamber median but less uncertainty about the location of the speaker. The addition of inaccurate perceptions of the location of the chamber median results in the reasonably frequent adoption of closed rules even at somewhat minimal levels of polarization. Consistent with out intuition in the previous section, though, we find that the frequency of closed rules doesn't increase with polarization.

The support for the intra-party polarization hypothesis, though, is considerably stronger

	Proportion of the Iterations with a Closed Rule
Parties set to -0.2 and 0.2	0.562
Parties set to -0.5 and 0.5	0.554
Parties set to -1.0 and 1.0	0.561
Parties set to -1.5 and 1.5	0.556

Table 3: Cell entries indicate the proportion of the iterations generating a closed rule. Note that the majority size was set to 303 members (see discussion of that below) and the party standard deviations were set to 0.1. Uncertainty about the chamber median is set at .05 and the speaker is set at .001.

when allowing for different levels of accuracy in placing the chamber median. Figure 3 shows the outcomes of a set of simulations. Across different majority sizes and levels of accuracy in placing the chamber median (high accuracy is a standard deviation of .05, medium accuracy .10, and high accuracy of .15) of different majority sizes, the general trend remains the same: closed rules are more common when the majority party is more cohesive; closed rules become less common as the parties becomes less cohesive. With a narrow majority and high accuracy, the effect is negligible, but as accuracy decreases and/or majority size increases, the trend becomes quite clear. In the presence of uncertainty, the predictions of conditional party government in regards to intra-party heterogeneity hold true. The graph also demonstrates the importance of majority size, with closed rules becoming more common as majority size increases.

While we see strong ground on which to assume that there should be less uncertainty around the position of the speaker relative to the uncertainty around the location of the chamber median, it is less clear exactly what levels of certainty may actually exist and the extent to which they vary over time. We take no strong position on that here. Nevertheless, the results in Figure 2 show that increased uncertainty about the position of the median relative to the uncertainty about the speaker's preferences have dramatic effects on willingness to grant a closed rule. We conclude that the certainty of the location of the speaker carries an

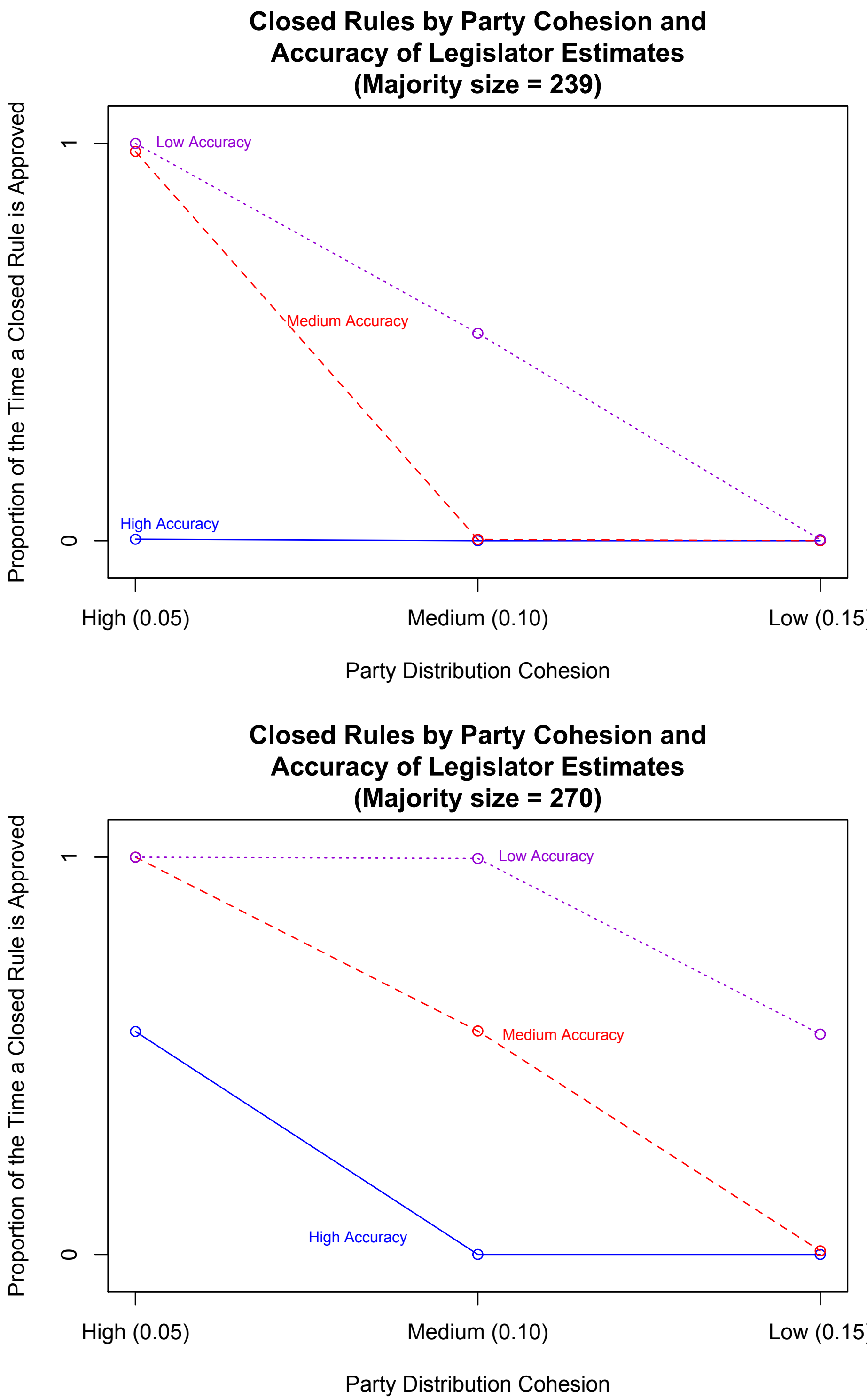

Figure 3: The two panels depict the proportion of the chamber voting for a closed rule in each iteration of the model at different levels of majority sizes, party cohesion, and accuracy.

element of attractiveness for members when they are left with a relatively uncertain portrait of outcomes under an open rule.

Discussion

Our foray in applying computational modeling to legislative politics offers a number of interesting insights into rule selection. While the CPG perspective has a number of appealing aspects and may be successful at predicting many aspects of congressional action, we find that the basic premises of CPG are often not enough to generate the incidence rates of closed rules observed in the contemporary Congress. Particularly, we find that inter-party polarization has no effect on members' willingness to grant closed rules, and with narrow majorities, even a rather homogenous party is not enough to generate frequent closed rules. That said, as majority sizes increase, intra-party homogeneity does have a demonstrable effect on adoption rates of closed rules.

A number of alternative explanations for the frequent adoption of closed rules have been posited, including members' private preferences trumping their constituency's preferences on less traceable votes (Arnold 1990), and the use of side-payments to offset members' policy losses (Cox & McCubbins 2005). While we do not explicitly test these propositions, we do offer an alternative proposition: the importance of uncertainty of outcomes in influencing members preferences for a closed rule. The floor battles in the House under an open rule are at least *somewhat* unpredictable, suggesting that where leaders are willing to send stronger signals about their preferences, they may often be able to secure a closed rule simply on the basis of the certainty such a rule offers.

In future versions of our computational model, we hope to take advantage of the latter part of the model, evaluating the success of the speaker on final passage votes. We also intend to incorporate the possibility that a strategic speaker might strategically offer restrictive rules that allow amendments that would move policy toward the party median (but not all the way to the party median) in cases where he/she foresees the inability to win passage on legislation at the chamber median. A litany of other possibilities could be listed for extensions of the basic model proposed here with simple thought, which we take as an indication that computational modeling has significant potential as a tool for studying Congress.

Notes

[1]For simplicity, in the model below we collapse the distinction between different types of closed rules. In future models we may relax that assumption.

[2]This count does not include semi-closed or semi-open rules, which can be rather restrictive as well. If one counts all forms of restrictive rules, 70-80% of rules are restrictive. We leave the consideration of other forms of restrictive rules to another day.

2 Appendix: Simple Model Code (through Closed Rules)

```
## Cann / Pope simulation ## Last updated on Jul 29
    ## Comments are a work in progress
    ## Number of loops in the simulation
    L <- 10000
    ## Storage matrices for the values that we care about.
    dmed <- vector("numeric") gopmed <- vector("numeric") speaker <- vector("numeric")
floor <- vector("numeric") m.clos <- vector("numeric")
    ## The simulation with comments
    for (l in 1:L)
    ## Note that the number of Democrats here is set to 55% of the chamber:  239
legislators ## The standard deviation for the Democrats is set to 0.2, not out
of line with NOMINATE
    dems <- rnorm(239, mean = -0.2, sd = 0.2) dmed[l] <- median(dems)
    ## So the number of Republicans is set to 45% of the chamber:  196 legislators
## The sd is set to 0.1 for Republicans since they are the more cohesive party
    gop <- rnorm(196, mean = 0.2, sd = 0.1) gopmed[l] <- median(gop)
    ## The speaker is always calculated to be the median of the Democratic Party
## Without loss of generality, I believe
    speaker[l] <- median(dems)
    ## Note:  the program puts together a vector of Democrats and Republicans
## Then calculates a floor value
    chamber <- c(dems,gop) floor[l] <- median(chamber)
    ## The expected value of the floor depends on the estimate of the floor median
## and the standard deviation, here set to 0.2, but variable, obviously
    expec <- rnorm(435, mean = floor[l], sd = 0.15)
    ## The expected value of the speaker is similar ## here, set to 0.05
    expec.speak <- rnorm(n = 435, mean = speaker[l], sd = 0.00001)
    ## These are the utility calculations for the distance between the legislators
and the speaker ## And the distance between legislators and the floor
    dis.speak <- abs(chamber - expec.speak) dis.chamb <- abs(chamber - expec)
    ## The vote for a closed rule is based on the value of the distance to the
speaker being less than ## the distance to the floor
    closed <- ifelse(dis.speak < dis.chamb, 1, 0)
    ## this calculate the percentage of votes for a closed rule in each iteration
    m.clos[l] <- mean(closed)
```

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