

# THE LEGISLATIVE MEDIAN AND POLICYMAKING IN MULTIPARTY GOVERNMENTS

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## 1. INTRODUCTION

The median legislator occupies a special place in the study of legislative politics. One reason is that the party of the median legislator is likely to come closest among all parliamentary parties to the position of the median citizen. Indeed, empirical work has demonstrated high degrees of congruence between median parties and the median voter, especially in proportional representation electoral systems (Powell and Vanberg 2000; McDonald, Mendes and Budge 2004). Such congruence imbues the legislative median with some normative appeal. If citizens conceive of political issues in a way that can be represented by a single dimension, the policy favored by the median voter “balances” the number of citizens who would like to move policy in opposite directions or, put differently, it is the only policy that is majority-preferred to all others.<sup>1</sup> Given congruence, the legislative median “inherits” this normative appeal (Powell 2006).

A second reason for the prominence of the legislative median is positive and descriptive: Given common assumptions about the nature of the legislative process, the median legislator is expected to play a critical role in determining legislative outcomes. Because her position is majority-preferred to any other outcome, the median should be able to bargain successfully to draw policy (close) to her ideal point. Thus, literature on the US Congress has pointed

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<sup>1</sup>Naturally, by focusing exclusively on the number of citizens, this criterion ignores information that may well be normatively relevant, e.g., the intensity of preferences. See Golder and Stramski (2010) for a general discussion of congruence measures and representation.

to the importance of the median member of the floor as a decisive actor (see, e.g., Krehbiel 1998). Similarly, scholars have stressed the potential influence of the party containing the median legislator in parliamentary systems (Laver and Schofield 1990, 111). To the extent that it represents an accurate account of policymaking, influence by the legislative median, coupled with congruence between the median legislator and the median voter, provides a powerful argument that representation in democratic systems works well because it ensures that policy outcomes reflect citizen preferences. As McDonald, Mendes and Budge (2004, 2) put it, “the policies a popular majority would endorse if it were asked about them directly are the ones favoured by the median party and hence close to those eventually approved by parliament” (McDonald, Mendes and Budge 2004, 2).

Of course, there is always a “but.” Pointing to additional features that structure legislative bargaining—most importantly, the impact of party organization and majority status (in the US Congress) or government participation (in parliamentary systems)—other scholars have identified forces that can mitigate the influence of the median legislator. If bargaining proceeds (primarily) among members of the majority party, or among parties in cabinet, the decisive impact of the median diminishes, and policy outcomes may be pulled away from the median towards the interior of the majority party or coalition government (Rohde 1991; Aldrich and Rohde 2000; Cox and McCubbins 1993; Martin and Vanberg 2011).<sup>2</sup> That is, additional features of the legislative environment can diminish the influence of the median and enhance that of other actors—most importantly, members of the governing coalition.

As a result of these competing arguments, the degree to which (and under what conditions) the median legislator (or median legislative party) influences policymaking remains somewhat of a puzzle. This is especially true for parliamentary systems, which have been studied much less extensively than the US Congress. Our purpose in the current paper is to advance this debate by bringing original data to bear that allow us to disentangle the influence of various parliamentary actors at a micro-level that has, to our knowledge, not been possible previously.

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<sup>2</sup>For a similar argument in the context of judicial decision-making, see Carrubba et al. (2012), who argue that the division into majority and minority on the merits serves to undermine the influence of the median justice on judicial opinions.

We proceed in two steps. First, drawing on existing literature, we lay out why the median legislative party is expected to be influential in the policymaking process, and then discuss alternative accounts of policymaking in parliamentary democracies that imply that actors *other* than the party controlling the legislative median will be critical in policymaking. In the second step, we turn to an analysis of an original set of data that tracks the detailed legislative history of more than one thousand government bills in three European democracies. By analyzing the patterns of (successful) amendment activity, we are able to discriminate among the competing theories. Our results provide novel insight into the relative influence of legislative medians and other policymakers. We discuss the broader normative implications of the findings for questions of representation and democratic accountability in the conclusion.

## 2. LEGISLATIVE MEDIANS, GOVERNMENT PARTIES, AND POLICYMAKING INFLUENCE

Before we turn to a theoretical exploration of the influence of the median legislative party, it is useful to lay out how we connect our theoretical expectations to our empirical approach. The central logic of our empirical strategy is to study the extent to which government bills that are introduced by ministers are *amended* before they are passed (or defeated, although this happens only rarely), and to draw inferences about the relative influence of various actors on policy by exploring whose preferences appear to explain the amendment patterns. To draw these inferences, we make an assumption about the ideological content of the introduced bill. Doing so allows us to estimate how much the introduced bill diverges from the policy that is predicted to be adopted by parliament under the competing theories we consider, and therefore how much each theory predicts a bill is going to be amended before it is passed. Estimating how well each theory explains the extent of changes made to a bill thus allows us to estimate the influence of the various actors identified as particularly influential for outcomes under each theory. Given this empirical strategy, our theoretical discussion derives the implications of each model of policymaking for observed patterns of amendment.

A critical aspect of this empirical strategy is the need to “anchor” the initial bill introduced by a minister in ideological space. The assumption we make is that cabinet ministers introduce bills that closely reflect the policy preferences of their party. That is, we assume that

the position of a draft bill coincides with the ideological position of the minister introducing the bill. Obviously, this assumption is crucial to the analysis, and we offer two defenses. Substantively, the introduction of legislation provides an important opportunity for parties to “take a position” vis-à-vis their target audiences. Ministers thus have strong incentives to use the introduction of a bill to send a signal about their preferred policy, even if they suspect that this policy will ultimately be amended (see Martin and Vanberg 2011). This is especially true under coalition government (the object of our study) because distinguishing one’s own position from that of one’s coalition partners is critical. Second, the assumption biases the analysis in favor of finding evidence for the influence of cabinet ministers and *against* finding evidence for the influence of actors other than the minister’s party. This is the case because to the extent that ministers *anticipate* the influence of other actors, and introduce bills that already incorporate this influence, bills will be amended less; looking only at the extent to which such bills are changed, such bills would thus *not* appear to reflect the interests of other parties. If our analysis allows us to conclude that actors other than the introducing minister (including the median legislator) affect the degree of change of a bill, it is *prima facia* evidence that ministers do not (completely) anticipate the influence of other actors.

Turning now to the question of which legislators or parties (in systems with high party discipline) are particularly influential in shaping outcomes, we identify three prominent models of legislative decision-making that have been proposed in the literature. Each of these models identifies a different set of actors as particularly influential and, as a consequence, leads to different expectations about where in ideological space—relative to the positions of the various actors – successful legislative proposals come to rest. These three accounts focus attention on a) the legislative median, b) legislators (or parties) within the governing coalition, and c) a specific *subset* of actors within the governing coalition. In this section, we provide an overview of these accounts, and derive the implications that each has for the extent to which introduced bills will be changed in the legislative process.

**2.1. Dominance by the legislative median.** The first account of legislative policymaking—and the one at the heart of our opening puzzle—places primary emphasis on the power of

the party containing the median legislator. The potentially powerful influence of the median legislator has featured prominently in the literature on the US Congress (see, e.g., Krehbiel 1998; Wiseman and Wright 2008) as well as in the literature on parliamentary systems (e.g., Laver and Schofield 1990), and represents a straightforward application of Black's median voter theorem (Black 1948). If legislators bargain over a one-dimensional policy space, the position of the median legislator is a Condorcet winner that can beat all other alternatives in a pairwise vote. As a result, in a process of free-wheeling bargaining in which the legislative median can "play both sides of the field," we would expect the median legislator to be in a strong position to pull outcome towards her ideal. Importantly, in a parliamentary system, this will be true *whether or not the legislative median party is in government*. As Laver and Schofield (1990, 111) put it:

It makes no difference if [the legislative median party] goes off on holiday to Bermuda and sits on the beach getting a suntan...its policies should be enacted whatever it does.

The implications of this argument for policymaking are clear: To the extent that the party containing the legislative median is in a pivotal position in the policymaking process, legislation that is passed should reflect its preferences. That is, no matter where a legislative proposal is initially located, by the time it is adopted, it will have been amended to correspond to the position preferred by the median legislator.

What does this imply for parliamentary amendment activity? Consider a one-dimensional policy space and a legislature  $L$  composed of  $n$  parties. Let the ideal point of party  $i \in L$  be represented by  $p_i \geq 0$ , indexed in such a way that  $p_1 \leq p_2 \leq \dots \leq p_n$ . Denote the ideal point of the median legislative party by  $p_{LM}$  and the ideal point of the party of the minister introducing a draft bill by  $p_M$ . As we argued above, we assume that the minister introduces a bill,  $b_M$ , that corresponds to the position preferred by the minister's party, i.e.,  $b_M = p_M$ . As a result, the expected distance ( $D$ ) between the the minister's draft bill and the policy that will ultimately be adopted is given by:

$$D = \|p_{LM} - b_M\|$$

As this distance increases, i.e., as the ideological position of the draft bill deviates further from the ideological position of the median legislative party, the draft bill must be changed more extensively in order to draw it towards the policy that will ultimately pass. Since we use the position of the minister's party as a proxy for the ideological position of the draft bill, this implies the following hypothesis:

**Hypothesis 1.** *If the legislative median dominates legislative policymaking, the number of changes made to a ministerial draft bill should increase as the ideological distance between the introducing minister and the legislative median party increases.*

**2.2. Coalition Compromise.** The driving force behind Hypothesis 1 is the assumption that bargaining proceeds in an unconstrained manner among all parties represented in the legislature. It is this feature that allows the median to pull policy to its ideal point. But as scholars have pointed out in the context of the US Congress (Rohde 1991; Aldrich and Rohde 2000; Cox and McCubbins 1993), and in the literature on parliamentary systems (Powell 2006; Martin and Vanberg 2011), legislative bargaining is conditioned by parties, and their majority (or government) status, and such structure may reduce the influence of the legislative median. These insights lead to a second account of policymaking in parliamentary systems.

In the literature on the US Congress, the argument that the floor median will dominate policymaking has been criticized by scholars who have pointed to the potentially important role of parties in constraining floor bargaining in ways that curtail the influence of the legislative median (Rohde 1991; Aldrich and Rohde 2000; Cox and McCubbins 1993). The central logic of these arguments is that if party leaders have control over resources that allow them to reward or discipline party members, the median legislator is constrained from “playing both sides” of the aisle. As a result, policy outcomes shift away from the position of the floor median towards the median member of the majority.

A similar logic applies in parliamentary systems, and concerns the “government status” of parties. Because parties in parliamentary systems tend to be more disciplined than in the US Congress, and because ideal point data for individual legislators is generally not available, scholars tend to treat parties in parliamentary systems as unitary actors. However, in the

case of coalition government—which is the norm in most parliamentary systems—a situation analogous to that of “conditional party government” or “legislative cartel” theory in the US Congress emerges. Bargaining may proceed primarily among the parties that participate in government, a tendency likely to be reinforced by the important role of the cabinet as an institution in the policy process (Powell 2006, 292). To the extent that this is true, policy will typically be pulled away from the legislative median party towards the inside of the governing coalition, and, the *legislative median model* may significantly overstate the influence that median parties can exercise over policy.

Specifically, suppose that once a stable coalition government emerges, policymaking proceeds primarily by bargaining among *government* parties, and not (at least in cases of majority government) by bargaining across (some) government and opposition parties. That is, bills that can pass represent a compromise among the positions favored by the parties included *in government*. Such a compromise could, of course, take many forms. In keeping with prevailing approaches in the literature (Powell 2006, 2000; McDonald, Mendes and Budge 2004), we assume that the coalition compromise represents the relative bargaining strength of the coalition partners. That is, consider a government  $G$  composed of  $g \leq n$  parties. Let the ideal point of party  $j \in G$  be represented by  $p_j \geq 0$ , indexed in such a way that  $p_1 \leq p_2 \leq \dots \leq p_g$ . Party  $j$ ’s intra-coalition bargaining weight is given by  $w_j \in (0, 1)$ , where  $\sum_{j \in G} w_j = 1$ . The coalition compromise,  $CP$ , that corresponds to the relative bargaining weights of the parties is then given by:

$$CP = \sum_{j \in G} w_j p_j$$

Now consider the situation confronting coalition partners when a minister introduces a bill  $b_M$  that corresponds to the position preferred by the minister’s party, i.e.,  $b_M = p_M$ . The expected distance between the coalition compromise and the minister’s draft bill is given by:

$$D = \left\| \sum_{j \in G} w_j p_j - p_M \right\|$$

In words, the distance between the final bill that is expected to be passed and the bill that is introduced increases as the minister’s party is located further from the coalition

compromise.<sup>3</sup> As a result, as the minister becomes more extreme relative to the coalition compromise, more change is required to bring the introduced bill in line with the compromise policy that is expected to pass. Expressed as a hypothesis:

**Hypothesis 2.** *If the coalition compromise model characterizes coalition policymaking, the number of changes made to a ministerial draft bill should increase as the ideological distance between the introducing minister and the coalition compromise increases.*

2.2.1. *A Note on Minority Government.* The literature we have just reviewed points to party organization and majority status as forces that undermine the influence of the median legislator. In the context of the US Congress, this expectation is relatively easy to sustain because one party controls a majority of legislative seats and—along with that—has the median legislator in its midst. As long as there are mechanisms that allow party leaders to exercise (some) control over their members, policy can shift towards the interior of the majority party and still secure a majority of votes, i.e., no votes beyond those controlled by the party are required for passage. As we have discussed, a similar process can occur within majority coalition governments as bargains are struck between coalition partners and then enforced through party discipline. In both cases, influence by members of the majority (coalition) replaces (or diminishes) the influence of the median legislator. But in the context of

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<sup>3</sup>Anticipating the need to measure this distance in the empirical section, it is useful to note that we can rewrite the distance expression as:

$$D = \left\| \sum_{j < M} w_j p_j + \sum_{j > M} w_j p_j + w_M p_M - p_M + \sum_{j < M} w_j p_M - \sum_{j < M} w_j p_M + \sum_{j > M} w_j p_M - \sum_{j > M} w_j p_M \right\|$$

which reduces to:

$$D = \left\| \sum_{j < M} w_j (p_j - p_M) + \sum_{j > M} w_j (p_j - p_M) - p_M (1 - \sum_{j \in G} w_j) \right\|$$

Since the bargaining weights sum to unity, this leaves:

$$D = \left\| \sum_{j < M} w_j (p_j - p_M) + \sum_{j > M} w_j (p_j - p_M) \right\|$$

The first term in this expression must be negative, and is equal to the “bargaining strength”-weighted average distance between the minister’s party and the coalition partners with an ideal point to the left of the minister. The second term must be positive, and is equal to the “bargaining strength”-weighted average distance between the minister’s party and the coalition partners with an ideal point to the right of the minister. We can therefore re-write this expression as:

$$D = \left\| \sum_{j > M} w_j (p_j - p_M) - \sum_{j < M} w_j (p_M - p_j) \right\|$$

In words, the expected distance between the minister’s proposed policy and the coalition compromise agreement is equal to the difference between the (weighted) average distance between the minister and parties to the right and the minister and parties to the left.

parliamentary systems, there is one important twist to this argument that we must consider: situations of minority government.

Although majority (coalition) government is the norm in parliamentary systems operating under proportional representation, a fair number of governments that form control only a *minority* of legislative seats.<sup>4</sup> Unlike majority governments, such cabinets face an additional hurdle: Because they do not (on their own) control a majority of legislative seats, passage of government legislation requires that they secure additional votes *from the legislative opposition*. That is, even if the parties in coalition can successfully enforce a coalition compromise among their own members, doing so is not sufficient for adopting the policy because the coalition needs additional votes. If the median legislative party is not included in the minority government, it represents the most natural place to look for such outside support: Typically, adding this party will provide a majority to the coalition, and the party will be relatively close ideologically to the coalition. The upshot of this logic is that even if policy is driven by the preferences of all parties included in a cabinet under majority government, in situations of minority government, the legislative median party (if in opposition) is likely to be in a powerful position to affect policy. This logic is closely related, of course, to the seminal argument of Strøm (1990b) that minority government becomes more likely in settings in which strong legislative institutions allow opposition parties to exercise some influence over policy. Stated as a hypothesis, our expectation is:

**Hypothesis 3.** *In situations of minority government when the median legislative party is in opposition, the number of changes made to a ministerial draft bill should increase a) with the ideological distance between the introducing minister and the coalition compromise, and b) with the ideological distance between the introducing minister and the median legislative party.*

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<sup>4</sup>In post WWII European political systems, this has been the case for roughly thirty-five percent of governments.

**2.3. Ministerial Autonomy.** A final account of coalition policy-making that modifies expectations about the influence of the legislative median focuses on the power of cabinet ministers. In a seminal contribution, Laver and Shepsle (1996) proposed a model of “ministerial autonomy” in which cabinet ministers act as policy dictators on policy in those dimensions that fall under their jurisdiction. As a result, the distribution of portfolios in a cabinet has critical implications for the policy that emerges: In any policy area, coalition policy will equal the policy preferred by the party that controls the ministry with jurisdiction over the area.<sup>5</sup> While the model is primarily intended as a working model to endogenize expectations of policymaking into a model of coalition formation, scholars have used it as one approach to study and explain real-world cabinet decision-making. For example, in an edited volume, Laver and Shepsle (1994) present a series of country case studies aimed to document the influence of cabinet ministers on policymaking. Barnes (2013) employs the ministerial-autonomy model to argue that tax and social policy by coalition governments may often be in tension as left-leaning labor ministers pursue generous social policies while right-leaning finance ministers implement regressive tax systems.

To the extent that the ministerial autonomy model accurately characterize the policymaking process under coalition government, expectations for patterns in amendment activity are clear: There should be none. Because ministers are autonomous, they can introduce bills at their ideal point, and these bills are then not systematically pulled away from this position. There may, of course, be some amendments as technical issues are ironed out or typographical mistakes are rectified. But since ministers are autonomous, there should be no *systematic* relationship between the extent to which bills are changed, and the preferences of other legislative actors relative to the minister. Put in terms of the distance between the bill that is introduced and the bill that is passed, the model leads to the (trivial) expectation that the introduced bill coincides perfectly with the bill that will become policy:

$$D = \|p_M - p_M\| = 0$$

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<sup>5</sup>This model also has a close analogue in the literature on the US Congress in arguments that point to the important role of committees (and committee chairs) as influential actors in the legislative process (see e.g., Shepsle 1979).

In short, the implication for changes to draft bills that follows is that

**Hypothesis 4.** *If the ministerial autonomy model characterizes coalition policymaking, the number of changes made to a ministerial draft bill should be unrelated to the preference divergence between the minister and other parties in parliament.*

### 3. DATA AND MEASURES

Because the hypotheses above concern the role of the median party in *amending* ministerial policy proposals, we naturally want to focus our empirical analysis on those legislatures with institutional features that provide parties with meaningful amendment opportunities. Previous research has already shown that in chambers without such features (e.g., the Irish Dáil Eireann or the French Assemblée Nationale), legislative amendments to government bills are not systematically related to divisions within the coalition or between the minister and parties in the opposition (Martin and Vanberg 2011). Thus, if we are to find any evidence for the influence of the median party, it will most likely be in those parliaments with institutions that (1) enable parties to gather sufficient technical information about the issues under consideration in a minister’s proposal, and (2) allow parties to use that information to make significant policy changes.

Focusing on these two dimensions of parliamentary “policing power”—the power to *scrutinize* and *amend* government bills—Martin and Vanberg (2011) develop an index of policing strength for 16 European legislatures.<sup>6</sup> In this study, we examine the original data set of legislation collected by Martin and Vanberg (2011) from three of the five parliaments they identify as “strong.” Specifically, we examine amendments made to 1,109 government bills from Denmark (1984-2001), the Netherlands (1982-2002), and Germany (1983-2002).<sup>7</sup>

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<sup>6</sup>This index is constructed from a confirmatory factor analysis of four structural features of legislative committees and decision-making (the number of legislative committees, the correspondence of committees to ministerial jurisdictions, the size of committees, and the existence of a binding plenary debate before committee stage), two specific committee powers (the ability to subpoena witnesses and documents and the authority to rewrite bills before they go to the plenary), and two powers conferred on ministers that allow them to circumvent the amendment process (the ability to declare a piece of legislation “urgent” and a guillotine power that forces an up-or-down vote on a bill and only those amendments the minister deems acceptable).

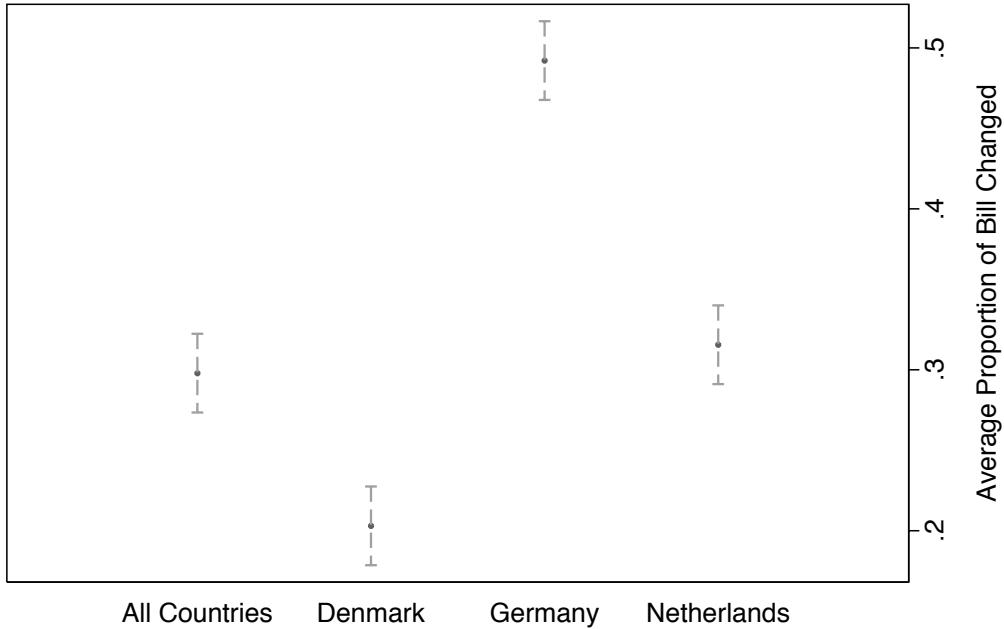
<sup>7</sup>In descending order of policing strength scores, the parliaments (and scores) from their study are: the Netherlands (0.88), Austria (0.81), Luxembourg (0.76), Germany (0.68), Denmark (0.62), Sweden (0.48),

Legislative institutions in these countries facilitate information gathering by committees by encouraging the development of policy expertise along the jurisdictional lines of cabinet ministries, and by providing parties with opportunities to hold investigative hearings, meet with outside policy experts, access the information possessed by civil servants in the ministry, and so on. Moreover, they make it possible for parties to revise ministerial proposals that are found to be unacceptable. The power to offer amendments that a minister cannot strike from consideration, or (as in the German Bundestag) the power to rewrite a minister's draft, gives parties the opportunity to make substantial amendments to government bills. Further, as discussed below, this sample of countries and years provides significant variation in terms of which types of parties are in the median position in the legislature—i.e., the party of the minister, coalition partners, or opposition parties (which we can further distinguish in terms of whether they face a majority or minority government)—as well as the level of policy disagreement between the various key actors in the policymaking process. The sample thus provides useful leverage for our attempt to assess the empirical validity of the three views of coalition policymaking.

To measure our dependent variable—the extent of legislative amendment to government bills—we use the Martin and Vanberg (2011) approach, which compares the final version of each bill (as it emerged from the lower chamber) to the version drafted by the proposing minister. As they point out, government bills typically contain multiple articles, which are themselves divided into multiple sub-articles. In general, these articles and sub-articles deal with substantively different components of existing law, and thus they represent the logical “policy subunits” of a bill. Therefore, a reasonable measure of the extent of change made to a bill, which we will employ here, is the total number of (sub-)articles altered in the bill plus the number of (sub-)articles added to the bill. Minor changes to a bill (e.g., correction of misspellings or other obviously minor technical changes) are ignored in the construction of this measure.

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Finland (0.39), Spain (0.33), Norway (0.30), Italy (0.28), Belgium (0.26), Portugal (0.24), Greece (-0.51), France (-1.18), Ireland (-1.84), and the UK (-2.51).

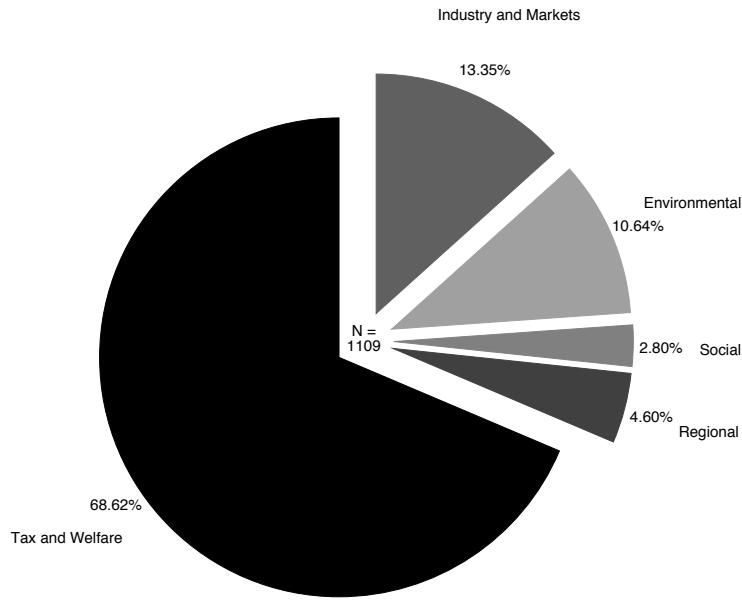


**Figure 1.** *Extent of Legislative Amendment to Government Bills, by Country*

Figure 1 displays the extent to which government bills are amended in the legislature for the three countries in our study. Rather than showing the average number of total changes in this figure (since bills are of different size, which we explicitly control for in the empirical analysis), we show the average *proportion* of (sub-)articles changed in a bill, along with 95% confidence intervals. We note first that, on average, a government bill in these systems is subjected to a fair amount of alteration in the legislative process, having approximately 30% of the articles changed. There also appears to be significant variation across countries, ranging from bills in Denmark, in which the average proposal has about 20% of its articles amended, to Germany, in which nearly half the articles in a typical bill are amended.

Of course, our concern is to evaluate whether the extent of these changes is systematically related to policy divisions between particular actors in the government and legislature. To do so, we first need to identify the types of policy issues dealt with in each bill since party positions on different issues, and the importance parties place on them, vary significantly

(see, for example, Laver and Hunt 1992; Benoit and Laver 2006). The Martin and Vanberg (2011) study classifies each of the government bills in our sample into one of five conceptually distinct policy areas: tax and welfare policy, industry and markets policy, social policy, regional policy, and environmental policy.<sup>8</sup>



**Figure 2.** *Frequency of Proposed Legislation by Issue Area*

In Figure 2, we provide the breakdown of the bills in our sample by policy area. As the figure shows, tax and welfare bills, perhaps not surprisingly, make up approximately two-thirds of the sample. These bills deal with such matters as income tax rates and allowances, the value-added tax, corporation and salary taxes, capital gains, health and child services, and benefits for low-income individuals, the unemployed, pensioners, the elderly, widows and orphans, and the disabled. The bulk of the remaining bills address either industry and

<sup>8</sup>Martin and Vanberg (2011) choose these areas primarily because they are the five that are common across the two expert surveys they use (discussed below) on party policy preferences in the countries in their study. Fortunately, as they point out, these policy areas account for the bulk of legislation in these countries. Notably, their sample also excludes bills that are not subject to the “normal” legislative process—i.e., budget bills, bills ratifying international treaties, and bills changing the constitution, which are all subject to special legislative procedures and, in some cases, to supermajority requirements.

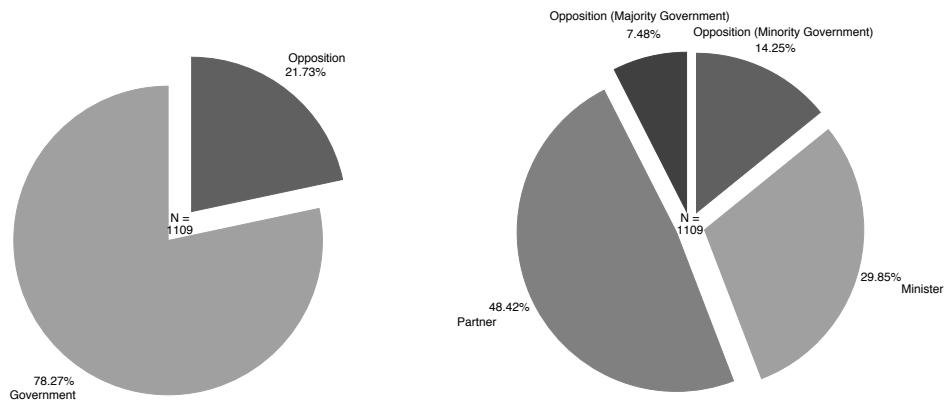
market regulation (dealing with matters such as production or supply levels of goods and services, the minimum wage and wage agreements, employer-union relations, privatization, subsidies, and deregulation) or the environment (dealing with such matters as air, soil, or water pollution, emissions standards, and industrial waste). A smaller portion of bills deal with regional policy (such as the restructuring of regional or municipal institutions and the devolution of administrative power) or with social issues (such as family planning, abortion, medically-assisted suicide, experimentation on human embryos, gay rights, civil unions, and same-sex marriage and adoption).

With each bill classified into one of the five policy areas, we next require party policy preferences on each dimension. For this information, we draw upon two well-crafted studies by Laver and Hunt (1992) and Benoit and Laver (2006), which provide the results of expert surveys conducted in 1989 and 2003, respectively. Both expert surveys asked country specialists to place the leadership of political parties on 20-point ideological scales in several distinct policy areas, including the five discussed above. The experts were also asked to indicate the saliency of the policy areas for each party. The resulting scores were averaged across experts, providing a single position and saliency for each party on the policy dimensions. One advantage of these surveys, for our purposes, is that they are proximate to the years included in our sample. Thus, even though parties surely change their issue positions over time (making the use of “snapshot” expert surveys potentially problematic), this is not especially troubling in our case given our time frame. Like Martin and Vanberg (2011), the approach we take is to extend the party policy information in each survey back or forward in time approximately two election cycles. In particular, we use the Laver and Hunt 1989 survey for Denmark (1984-94), Germany (1983-94), and the Netherlands (1982-94); and we use the Benoit and Laver 2003 survey for Denmark (1994-2001), Germany (1994-2002), and the Netherlands (1994-2002).<sup>9</sup>

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<sup>9</sup>More specifically, Our rule for deciding which of the two surveys to apply to a given time period was to use the Laver and Hunt survey for all governments forming and ending before 1996 (the midpoint between the two surveys), the Benoit and Laver survey for all governments forming and ending after 1996, and the Benoit and Laver study for all governments whose time in office spanned the pre-1996 and post-1996 periods (e.g., the 1994-98 Kohl government in Germany).

These measures of party preferences (along with party seat shares) allow us to identify, for each bill, the median legislative party on the policy dimension associated with the bill.<sup>10</sup> They also allow us to construct the issue divisiveness measures required to test the hypotheses from the previous section. Our measure of *Minister to Median Issue Divisiveness* for any bill is simply the absolute (saliency-weighted) distance between the position of the party of the proposing minister on the issue dimension associated with the bill and the position of the legislative median. Our measure of *Government Issue Divisiveness* for a given bill is the absolute difference between the aggregate (seat-weighted, saliency-weighted) distance between the proposing minister's position on the relevant issue dimension and the positions of his coalition partners to his left and the aggregate (seat-weighted, saliency-weighted) distance between the proposing minister's position and the positions of his coalition partners to his right.



**Figure 3.** Frequency of Median Legislative Party in the Government and Opposition

<sup>10</sup>Information on legislative seats shares are from Müller and Strøm (2000).

To isolate the influence of the various actors in policymaking (and distinguish between the competing hypotheses), it is also necessary to create indicator variables that identify whether the median party is the proposing minister, a coalition partner of the minister, or a party in the opposition, and to create the appropriate interactions between these indicators and the minister to median divisiveness measure. In Figure 3, we show the breakdown of the median party according to its status in the government and opposition. As the left pane of the figure shows, the median party is in government for almost 80% of the bills in our sample, and thus in opposition for the remaining 20% of bills. In the right pane, we break the categories down further. First, we see that the minister introducing a bill holds the legislative median position for only 30% of the bills, where, by definition, the distance between the minister and the median party is zero. But this means that the policy position of the minister and that of the median legislator differs on almost 800 bills, which should provide us significant leverage on the question of whether the median party has influence in amending the minister's proposal. Second, we see that coalition partners control the legislative median on approximately 48% of bills, which means that it is the off-median party for approximately 52% of the bills. This almost even split between the median/non-median status of partners should allow us to discern whether policy divisions between the minister and his coalition allies—if indeed these divisions are important to explaining amendments in the policymaking process—have an impact because the coalition partner happens to be the median legislative party (as the median dominance theory would predict) or whether they have an impact for median and off-median coalition partners equally (as the coalition compromise theory would predict). Third, we see that an opposition party controls the legislative median position on more than 20% of the bills in the sample, and approximately two-thirds of those bills are introduced in periods of minority government. This should allow us to evaluate whether the influence of the median party depends on whether it is in government or opposition, and in the latter case, whether a median opposition party under minority government has more influence than such a party under majority government. We can distinguish all the various scenarios of median party influence by including indicator variables for whether the median party on a

bill is a coalition partner or an opposition party and by interacting the *Minister to Median Issue Divisiveness* variable with the indicator for whether the median party is in opposition and an indicator for whether such an opposition party is facing a minority government.

In addition to these variables, we include several control variables from the Martin and Vanberg (2011) study. First, we include an indicator for whether coalition partners have a junior minister placed in the department of the proposing minister, as well as an interaction between the variable and government issue divisiveness. Scholars have argued that junior ministers can serve as “watchdogs” for coalition partners at the cabinet level to uncover instances of ministerial drift (Thies 2001; Lipsmeyer and Pierce 2011; Martin and Vanberg 2011). If so, we should expect that, on more divisive issues for the government, the information provided by watchdog (or “shadow”) junior ministers translate into more legislative amendments to bills dealing with these issues. We also control for issue divisiveness between the proposing minister and the opposition *as a whole*. As discussed earlier, the legislative median hypothesis highlights the influence of the median party, even if it is in opposition, which we examine in the analysis. But scholars have also argued that opposition parties, in general, in strong legislatures such as the ones in this study should have an influence on policy (Strøm 1990b; Powell 2000), and inclusion of this variable allows us to test this claim. Another control variable we incorporate into the analyses is the number of standing committees to which a bill is referred. In strong legislatures, it is quite common for bills to be referred to more than one legislative committee. The greater the number of committees reviewing a bill, the greater the number of legislators who can scrutinize a minister’s proposal and the greater the chances ministerial drift can be detected and corrected. We also take into account the amount of material and time legislators have to work with when they review a government bill. We use the number of articles in the proposal to account for the possibility that draft bills with many articles will naturally have more articles changed than draft bills with few articles. Further, we include a measure of the time a bill spends in the legislative process (in days) and an indicator for whether a bill expires before the plenary vote. Finally, we include “fixed-effects” indicators for countries to account for the possibility

that cross-national institutional and contextual differences may have an effect on the level of amendment. We also include separate indicators for the issue areas addressed by a bill to control for the possibility that bills dealing with certain types of issues may be changed more or less extensively, regardless of the policy preferences of coalition partners. For example, some types of issues are inherently more complex than others, thereby requiring greater informational resources to make changes.

#### 4. ANALYSIS AND FINDINGS

To examine the extent of changes made to government bills, we use an event count model. Event count models are appropriate in cases where the variable of interest is the number of events that occur over a particular period of time. In most event count formulations, the primary quantity of interest is the rate of event occurrence over an observation period, which has a systematic component that is usually expressed as an exponential function of a set of covariates. The stochastic component is most often assumed to follow the Poisson distribution, which implies that the events accumulating during the observation period are conditionally independent and that the rate of event occurrence is homogenous. These are strong assumptions that are probably violated in our case. In particular, we expect that once party groups have expended the legislative resources to make one substantive change to a draft bill, it is marginally less costly to make several more changes. If this is the case, then the number of changes will exhibit *positive contagion*. This results in overdispersion in the observed number of events and incorrect standard errors. The general solution for problems of heterogeneity and positive contagion is to assume that the stochastic component of the count process follows the negative binomial distribution, which allows the incidence rate to vary across an observation period. This is the model we use in our analysis.

We present our results in Table 1. Before discussing how the findings bear on the various hypotheses, we first note that the coefficient on the *Minister to Median Issue Divisiveness* variable, because of its interactions with other variables in the model and because the variable is always equal to zero when the minister's party is the median party, represents the effect of issue divisiveness between the proposing minister and the *coalition partner* who controls

**Table 1.** *Extent of Legislative Amendment to Government Bills*

Variables	Estimates
Minister to Median Issue Divisiveness	0.013 (0.019)
Median Coalition Partner	-0.141 (0.119)
Median Opposition Party	-0.102 (0.177)
Minister to Median Issue Divisiveness x Median Opposition Party	-0.054 (0.045)
Minister to Median Issue Divisiveness x Median Opposition Party x Minority Government	0.086** (0.036)
Government Issue Divisiveness	0.085** (0.035)
Government Issue Divisiveness x Shadow JM	0.035 (0.051)
Shadow JM	-0.045 (0.178)
Minority Government	-0.292* (0.172)
Opposition Issue Divisiveness	-0.025 (0.020)
Number of Committee Referrals	0.034 (0.026)
Number of Subarticles in Draft Bill (Logged)	0.981*** (0.034)
Expiration of Bill before Plenary Vote	-1.281*** (0.170)
Length of Legislative Review	0.002*** (0.000)
Germany	0.519** (0.210)
Netherlands	-0.078 (0.234)
Industrial Policy	-0.367*** (0.112)
Social Policy	-0.230 (0.227)
Regional Policy	-0.144 (0.207)
Environmental Policy	-0.100 (0.128)
Intercept	-1.347*** (0.235)
Overdispersion Parameter	-0.220*** (0.070)

Negative binomial model. N=1109. Significance levels : \* : 10% \*\* : 5% \*\*\* : 1%.

the legislative median position. Further, the coefficient on the interaction between *Minister to Median Issue Divisiveness* and the *Median Opposition Party* indicator represents how the median divisiveness effect differs for a median opposition party versus a median coalition partner. Similarly, the coefficient on the interaction between *Minister to Median Issue Divisiveness*, the *Median Opposition Party* indicator and the *Minority Government* indicator represents how the median divisiveness effect differs for a median opposition party facing a minority government versus one facing a majority government. To better illustrate the effect of median party divisions from the proposing minister for the relevant categories of legislative actors, we present in Table 2 the median divisiveness effects from Table 1 *conditional* on the identity of the median party.

**Table 2.** *Effects of Minister to Median Divisiveness on the Extent of Legislative Amendment to Government Bills, Conditional on the Identity of the Median Party*

Identity of the Median Party	Effect of Minister to Median Divisiveness
Coalition Partner	0.013 (0.019)
Opposition Party Facing Majority Government	-0.041 (0.041)
Opposition Party Facing Minority Government	0.045** (0.019)

Negative binomial model. N=1109. Significance levels : \* : 10% \*\* : 5% \*\*\* : 1%.

First, the findings clearly show that an increase in the distance between the median party and the proposing minister, at least when the median party is a coalition partner, has no impact on how extensively the minister's proposal is amended in the legislature. Importantly, however, we have simultaneously evaluated in Table 1 the hypothesis that the changes made to a bill should increase as the ideological distance between the proposing minister and the coalition compromise increases. The effect of this distance is reflected in the coefficient on *Government Issue Divisiveness*. This effect is positive and statistically significant: Where the divisions between the proposing minister and the coalition compromise in the policy area associated with a bill are larger, the bill is likely to be changed more extensively in the legislative process. Taken together, these results imply that ideological division within the

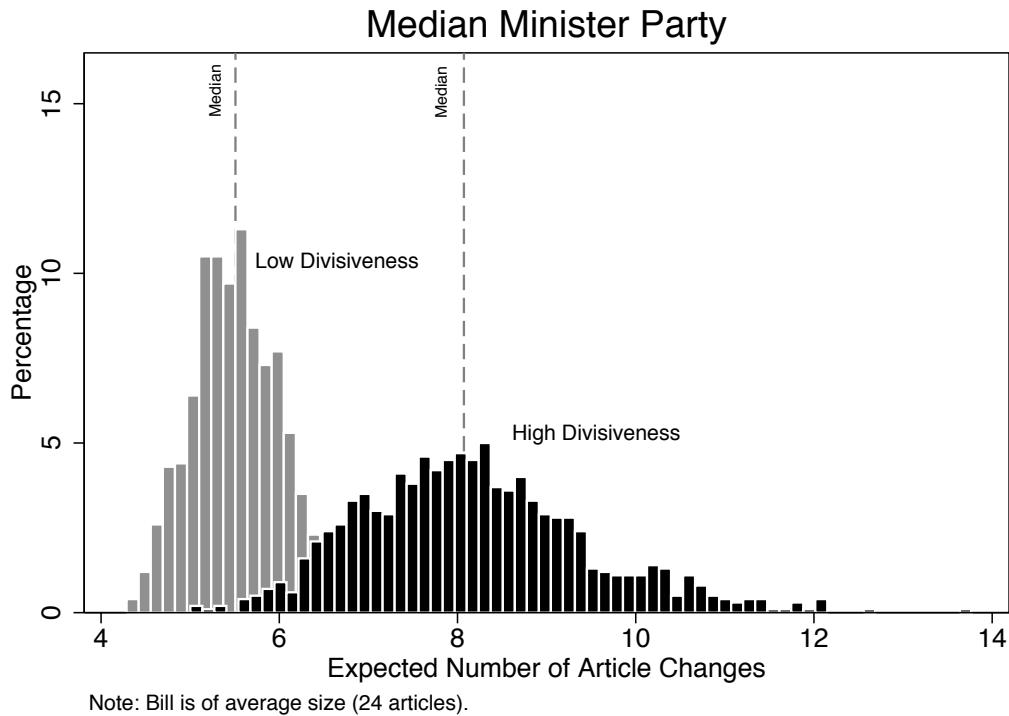
governing coalition is indeed important in policymaking, but that its importance does not depend on whether a party in the government controls the legislative median. The results also provide clear evidence against the ministerial autonomy model, supporting the findings from previous research (Thies 2001; Martin and Vanberg 2004, 2005, 2011).

To get a better sense of what these findings mean, we examine the impact of government issue divisiveness, as well as minister to median coalition partner divisiveness, on the expected number of article changes in a bill more directly. The conventional way to do this would be simply to use the coefficient estimates to predict the extent of bill change for certain values of the covariates, and then compare across predictions. However, in generating these predictions, we would only be making use of the coefficient point estimates, ignoring the uncertainty surrounding the estimates (as reflected in the standard errors). This obscures information concerning the variable nature of our predictions and thus our level of confidence in the comparisons we make. Consequently, we use a slightly different strategy. Because we would like our illustration of substantive effects to reflect not only the coefficient estimates themselves, but also the level of uncertainty associated with them, we employ statistical simulations that allow us to incorporate both pieces of information. To perform the simulations, we first draw 1,000 simulated values of the main and ancillary parameters of our model from a multivariate normal distribution (where the mean is equal to the vector of parameter estimates and the variance is equal to the estimated variance-covariance matrix). Next, we use the simulated parameters to produce 1,000 expected values for the number of changes made to a hypothetical bill under various scenarios.

In Figure 4, we consider two scenarios. These are defined by whether the hypothetical bill deals with relatively non-divisive issues or with relatively contentious ones. In both scenarios, we assume that the party of the proposing minister is the median party in the legislature.<sup>11</sup> The median opposition and median coalition partner indicators, the minister to median distance variable, and its interactions with the median indicators are all necessarily

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<sup>11</sup>We define a bill dealing with issues of “low divisiveness” as one with a value of *Government Issue Divisiveness* that is in the lower 25% of the sample of bills, and a bill dealing with issues of “high divisiveness” as one with a value in the upper 25% of bills.

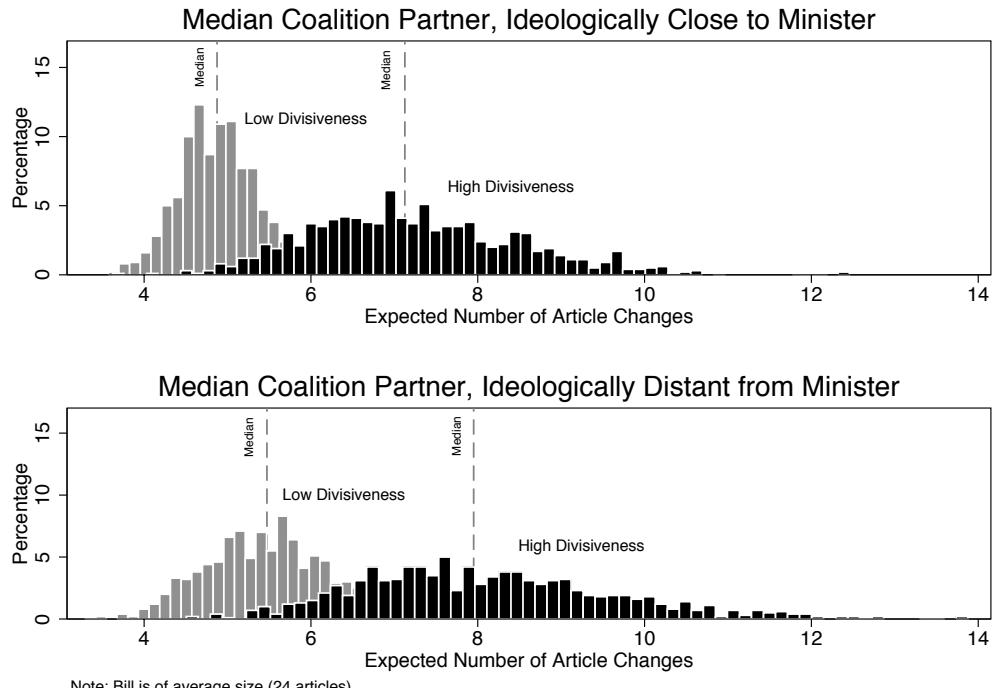


**Figure 4.** *Government Issue Divisiveness and Legislative Amendment for Median Minister Party*

set to zero since the minister is the median party. The junior minister indicator is also set to its modal value of zero (as is its interaction with government divisiveness). All other variables are held at their mean sample values, including bill size, which is set at 24 articles.

We see immediately that as government issue divisiveness increases for a bill, so too does the number of amended articles. The median predicted number of changes for a relatively non-divisive bill is approximately 5.5 articles, compared to over 8 articles for a relatively divisive bill, an increase of approximately 50%. This is a sizable substantive effect that strongly supports the hypothesis that the further ministers drift from the coalition compromise—*even when the minister is from the median legislative party*—the more extensive the changes that will be made to their proposals in the legislative process. Thus, this finding provides evidence against both the idea that ministers enjoy policy autonomy and the idea that the legislative median controls policymaking. If either of these were the case, we would see no difference in expected amendments as a function of divisiveness within the governing coalition.

We show further support for this claim in Figure 5, where we consider four additional scenarios. In each scenario, a coalition partner, rather than the minister, controls the legislative median. The scenarios differ in terms of whether the hypothetical bill deals with relatively non-divisive issues or with relatively contentious ones within the coalition *as a whole*, and by whether the coalition partner that occupies the median legislative position is ideologically close or ideologically distant from the minister.<sup>12</sup> Except for the median opposition variables and the junior minister variables (which are set to zero), all other variables are held at their mean sample values, including bill size, which is set at 24 articles.



**Figure 5. Government Issue Divisiveness and Legislative Amendment for Ideologically Close and Ideologically Distant Median Coalition Partners**

<sup>12</sup>As above, we define a bill dealing with issues of “low divisiveness” as one with a value of *Government Issue Divisiveness* that is in the lower 25% of the sample of bills, and a bill dealing with issues of “high divisiveness” as one with a value in the upper 25% of bills. Similarly, we define “low minister to median partner divisiveness” as one with a value of this variable that is in the lower 25% of the sample of bills and “high minister to median partner divisiveness” as one with a value of this variable that is in the upper 25% of the sample of bills.

The top pane of the figure shows the expected number of article changes for low and high government divisiveness when the median coalition partner is ideologically close to the minister. As in the previous case, where the minister's party was the median party, we see that more divisive bills within the coalition are changed more extensively in the legislative process. Specifically, highly divisive bills receive about 45% more changes than non-divisive bills. The question at hand is whether amendment becomes even more extensive when the median coalition partner is further away from the minister, holding overall government divisiveness at its same level.<sup>13</sup> If so, this would be evidence in favor of the legislative median model of policymaking.

As a comparison of the top and bottom panes of the figure reveal, however, there is very little difference between the degree of amendment to a minister's bill in a situation in which the (median) coalition partner is close to the minister in policy terms and when the partner is far away. When the median partner party is ideologically distant, a bill that is non-divisive for the coalition as a whole is predicted to have approximately 5.5 articles changed, compared to 4.9 articles changed when the median partner is ideologically close. As the degree of overlap between the "low divisiveness" distributions in the two panes suggest, this small difference of a 12% increase in expected articles amended is not statistically significant. Similarly, for bills of high overall coalition issue divisiveness, the figure shows that the expected number of article changes goes from 7.1 articles when the median partner is ideologically close to the minister to 8 articles when the median partner is far away, which is again a substantively small, statistically insignificant effect. Not surprisingly, then, the difference between article changes on highly divisive bills and non-divisive bills when the median partner is ideologically distant is essentially the same as when the median partner is ideologically close: the increase in article changes is approximately 45%. In short, in terms of determining the extent to which a minister's policy proposals gets amended, the driving ideological factor at the government level is the difference between the position of the minister and the position of the coalition

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<sup>13</sup>Such a situation could occur, for example, in a three-party coalition in which two partners of equal relative size, but different distances from the minister, "trade" their status as the median party (which could happen with a change in the policy positions of other legislative actors, leaving overall government divisiveness the same).

compromise, with no added amendment “bonus” for median coalition partners who are far from the minister.

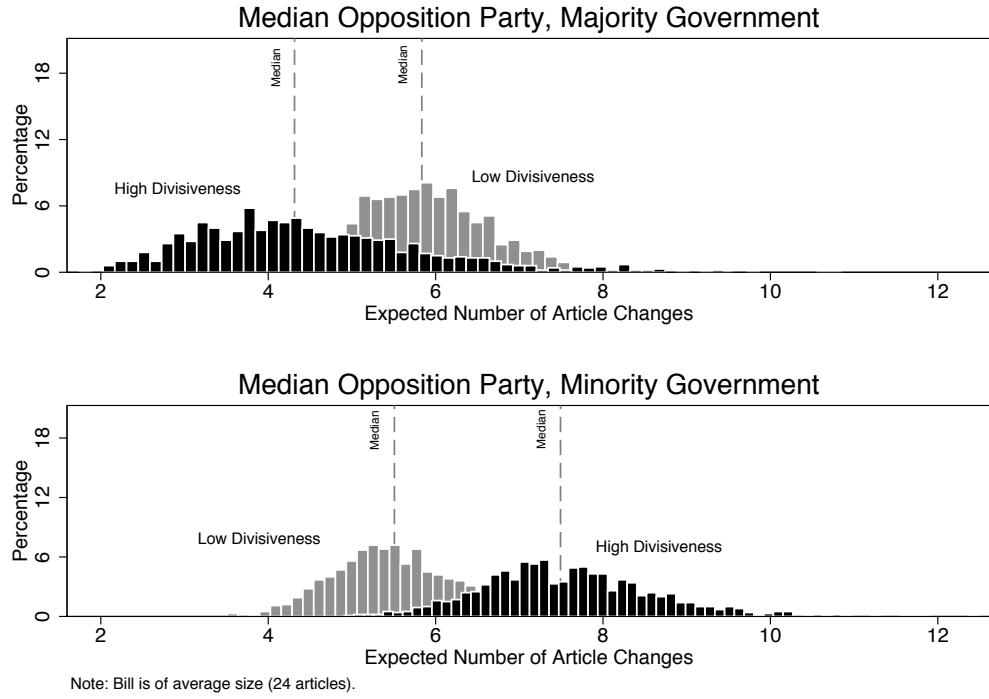
The results from Tables 1 and 2 also show that the median party has no influence on amending legislation if the party is in opposition and faces a *majority* government. The effect of minister-to-median divisiveness is statistically insignificant and in the opposite direction expect by earlier scholarship (Strøm 1990b; Powell 2000) That is, even in settings where legislative institutions are thought to provide ample opportunities for policy influence outside the government, an opposition party confronting a majority coalition—even if this party controls the legislative median—has little hope of containing ministers with whom they disagree. However, this situation changes when a *minority* government is in power. The results suggest that increasing policy distance between the minister and the median opposition party in this case has a positive and statistically significant effect on the number of changes to a ministerial draft bill. This is an interesting result, and represents the only piece of evidence so far in the literature on parliamentary government that the legislative median plays a substantial role in policymaking.

Analogous to the previous figure, Figure 6 displays the simulated distributions of the expected number of changes made to divisive and non-divisive bills, this time in terms of the distance between the proposing minister and the median party when it is in opposition, for both majority and minority governments.<sup>14</sup> The top pane of the figure reflects the earlier coefficient estimates for median opposition parties under majority government. Bills that greatly divide the minister and the median party in this case are actually less likely to be changed than bills on which they agree, although the difference between median expected changes on the two types of bills is not statistically different from zero.

When the median party in the opposition faces a minority government, however, a minister’s proposal is amended substantially more the further this median is from the minister.

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<sup>14</sup>Similar to our definition for government issue divisiveness, our definition of a bill dealing with issues of “low divisiveness” for the median opposition party is one with a value that is in the lower 25% of our sample of bills, and a bill dealing with issues of “high divisiveness” as one with a value in the upper 25% of the sample. Except for the median coalition partner variable (which is set to zero), all other variables are set at their sample means.



**Figure 6. Median Opposition Parties and Legislative Amendment for Majority and Minority Governments**

On a bill in which the (minority government) minister and the median opposition party are relatively close ideologically, approximately 5.5 articles in the bill are amended. On a bill in which the minister and median opposition party are ideologically distant, approximately 7.5 articles are changed, a (statistically significant) increase in amendments of about 36%. In short, in this special case, there is clear evidence supporting the claim that the median legislative party can have influence in policymaking.

## 5. CONCLUSION

The policy preferences of the “median voter” have figured prominently in the empirical literature on the quality of representation in democratic polities (Powell 2000, 2006; Golder and Stramski 2010). The most important reason for turning to the median voter as a normative benchmark is that—at least on any single dimension of policy—the policy position of the median is the only one that is majority-preferred to all others. While not a decisive argument,

this feature does endow the policy favored by the median with some normative appeal. In the legislature, the preferences of the median voter are typically most closely represented by the policy positions of the median legislative party—indeed, the literature has demonstrated that median legislative parties are usually quite congruent with the preferences of the median voter, especially in proportional representation electoral systems (Powell and Vanberg 2000; McDonald, Mendes and Budge 2004). Given such congruence, one way to think about the quality of representation in democratic systems is to think about the influence of the median legislative party on policy. To the extent that median parties are “closer” to the median citizen than other parties, the quality of representation improves as the median party becomes more influential in the policy process. The purpose of our paper has been to evaluate the extent to which the median legislative party plays a critical role in the policymaking process, and to discern whether this influence is larger or smaller under different conditions.

Theoretically, the central position of the median party in legislative bargaining suggests that it should be able to wield considerable power, and draw policy outcomes to its ideal point (Krehbiel 1998; Laver and Schofield 1990). At the same time, additional features that structure bargaining in the legislature may reduce the influence of the median by restricting effective bargaining to a subset of legislative actors, especially when the governing coalition controls a majority of legislative seats (Rohde 1991; Aldrich and Rohde 2000; Cox and McCubbins 1993; Martin and Vanberg 2011). Our contribution has been to attempt to discern the influence of the median legislative party *empirically* by analyzing the extent to which government-sponsored legislation is amended during the legislative process, and estimating which actors’ preferences explain these changes.

Our findings are clear: With one exception, the influence of the median legislative party on policy is modest. In most circumstances, the median party is part of the governing coalition, and as part of this governing coalition, its preferences exercise influence over policies that are ultimately adopted by parliament. But—and this is the crucial point—the preferences of the median are *no more influential* than the preferences of any other party in the coalition. That is, as a member of the government, the preferences of the median matter because

policy represents a compromise among the positions favored by the parties in government. But the median party receives no “bonus” compared to other parties at the table in this bargaining process. Similarly, when the median legislative party is in opposition, and faces a majority government, it appears to exercise no influence on policy outcomes. There is only one circumstance in which our data reveal a clear influence of the median: situations in which the median party is in opposition, and faces a minority government. Our results suggest that in these circumstances, the median is able to draw policy outcomes towards its ideal point—a result that is very much in keeping with seminal arguments on the influence of opposition parties under minority government (Strøm 1990b). Importantly, our data reveal that this influence, which presumably derives from the government’s need to secure opposition votes for passage of its legislation, does not extend to all opposition parties equally, but instead favors the median legislative party.

These findings have a number of implications. The most obvious is that the extent to which the preferences of the median citizen are reflected in legislative outputs requires more careful analysis. If the median legislative party represents the preferences of the median citizen reasonably closely—an assumption that appears to be borne out empirically—then our results suggest that policy outputs are often systematically pulled away from the position of the median, and weighted towards policies preferred by (more extreme) members of a coalition government. This result calls into question the approach of studies that assess the quality of representation by measuring the congruence between citizen and legislative medians (Powell and Vanberg 2000; McDonald, Mendes and Budge 2004), and suggests that policy outputs may be less responsive to the preferences of the median voter than often assumed.

Of course, what we offer here is but a beginning, and there are a number of steps to take in future work. The most important one is to get at the connection between citizen preferences and policy outputs in a more direct manner. The contribution in the current paper is to move beyond abstract measures of congruence on the left-right scale, which have dominated the literature on the quality of representation to date, to considering actual policy-making at a micro-level. In focusing on the extent to which government bills are changed during

the legislative process, we are able to demonstrate more directly which parties appear to be influential in affecting concrete policy decisions. Nevertheless, the implications of our work for the quality of representation remain circumstantial in two important respects. First, we have only been able to focus on the degree of change to bills, without developing direct measures of the policy content and position of bills that are adopted. Second, the preferences of voters enter our analysis only indirectly through the assumption that the median legislative party serves as a reasonable proxy for (median) citizen preferences. Both aspects provide obvious opportunities for future work in order to more directly assess the substantive positions adopted in specific bills, and to link these positions directly to the preferences of voters on these issues.

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