Attributing Policy Responsibility under Coalition Governance

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Appendix

A.1 The Theory of Ecological Rationality Heuristics

As Shah and Oppenheimer (2008), Lau and Redlawsk (2001), and others have pointed out, the idea of heuristics for judgement, inference, and decision-making was introduced in the early seventies (Newell and Simon, 1972) to describe simple processes individuals use in place of complex algorithms for arriving at optimal decisions and accurate judgements or inferences. Further, while the popularity of the concept since has contributed to the word becoming a vague, catch-all term, its concrete meaning and usefulness can be recovered by focusing again on its original purpose: describing ways in which individuals can (and actually do) reduce the effort associated with complex processes of decision and judgement. To do that, of course, it is necessary to describe how a given heuristic reduces effort relative to some standard – a specific complex and effortful alternative. The benchmark in the literature (and the one that serves as our foil here) is an inferential process in which individuals come to a judgement for each alternative by integrating all the information relevant to that process (we call such relevant pieces of information "cues"). In fully rational models of judgement this integration is accomplished by a potentially complex mental model of the real world process governing the target inference. Such processes are "considered `the traditional gold standard for rational preferences' and inferences (Gigerenzer, Todd, & the ABC Research Group, 1999, p. 26) and a primary route to maximizing value or utility" (Shah and Oppenheimer, 2008, p.208).[1]

In the application in this paper, this complex inferential process would require individuals to come to an inference about the policymaking influence of each party (the alternatives) by collecting and integrating information about all the relevant variables (cues) associated with real policymaking power in a way that mimics the real, complex, non-additive, and non-linear policymaking process.

Following Shah and Oppenheimer (2008, p. 207), this complex inferential process, as applied to our situation, would require that people expend effort to:

1. Identify all cues – all relevant pieces of information relevant to true policymaking influence.
2. Recall and store cue values in memory for each party.

[1] We disagree with Shah and Oppenheimer's suggestion that the baseline inferential process to which heuristics should be compared is a linear additive model integrating all relevant cues. Rather, we would argue it is more productive to include the possibility that individuals use heuristics that reduce effort exactly by simplifying a complex mental model of some process to a linear additive one.

3. Integrate the cue values and their weights for all parties via some model of the real world policy-making process to come to an inference about the policymaking influence of each.

Of course, it is the implausibility of voters engaging in this this kind of complex inferential process that has motivated political scientist's skepticism of voters' ability to hold politicians accountable in complex policymaking environments and our (and others) attempts to identify the heuristics that they may use instead. Thus, if heuristics are cognitive strategies that reduce effort, it follows that a heuristic must target one or more of the effortful tasks listed above for simplification. Specifically, a given heuristic can reduce the effort needed to make an inference about policymaking influence relative to a full information benchmark by:

1. Reducing the number of cues about which information is collected (so necessarily ignoring some relevant cues) for each party.
2. Making it easier to recall and store cue values in memory
3. Integrating cue values for all parties via some model of the real world policy-making process that is considerably simpler than that required by the benchmark.

The third source of effort reduction is usually accomplished via inferential strategies that are either a simple compensatory function of cues (e.g., a linear additive model of cues and cue weights) or a non-compensatory function that gives primacy to one or more cues -- as a function of their relative weights in the real world process driving outcomes.[2]

[2] The idea of a cue's "weight in the real world process driving outcomes" is a bit tricky since the whole concept of a cue weight fits most naturally in outcome processes (i.e., the process of policy formation in our case) that are linear and additive. Indeed, Shah and Oppenheimer (mistakenly in our view) actually define the benchmark of full information rationality specifically as a linear additive function of all relevant cues and their weights (in contrast, we think the benchmark should simply be the respondents mental model of the process not matter if that model is linear and additive). However, even for outcome processes that are not linear and additive, we can imagine that the role any given cue plays in such a process implies a "weight function" for the cue, where the weight function need not be a single number (as we usually think of them in linear additive processes) but a function that maps how the cue impacts the outcome in potentially complex ways – including in ways that depend on other cues. Thus, if a heuristic theory in some way relies on the concept of the "value of a cue weight in the real world" (as, for example, occurs in decision heuristics like "take the best" in which individuals order cues by these real world weights and then decide based on the value of the first one; or in ecologically rational heuristics in which individuals come to know the values of these weights subconsciously) then we need to think of the "value of the weight in the real world" not as the potentially complex weight function but rather the empirical correlation between a cue and the outcome, given the function that describes its real impact on outcomes (where, in general, the correlations could be conditional on other cues, etc.).

Given this quite broad understanding of what heuristics are, there are a vast number of potential heuristic strategies that an individual might use in a given situation, each of which could focus on different combinations of the dimensions of effort reduction listed above. The question is: which of these potential heuristic strategies should we expect people to adopt in particular contexts?

In recent years, a large, multidisciplinary group of scholars led by Gerd Gigerenzer at the Max Plank Institute in Berlin have tried to answer this question with a theory of *ecologically rational* heuristics – arguing that out of the infinite space of possible heuristics that people could use to make a judgement, inference, or decision, they subconsciously come to use heuristics that are ecologically rational in their context.[3]

A heuristic is *ecologically rational* if it meets four criteria:

1. It relates relevant cues to inferences in a simple way that the average person can accomplish easily and intuitively. In practice, this likely means nothing more complicated than a linear additive function of the cues multiplied by their cue weights, with perhaps some interactions among cues.[4]

2. The values of relevant cues can be acquired cheaply (in terms of mental and physical resources).

3. Each cue included in the heuristic contributes to the accuracy of the target inference beyond what is achievable with other cues. Further, the larger the improvement in accuracy the more likely the cue should be used (given it meets the other criteria).

4. The weight voters assign to each of the cues included in the heuristic is learned and applied subconsciously through a learning or social learning process and so reflects the long-term empirical association between the cue and the real world values of the target inference (in our case policy influence) in the context in which individuals learned them.

Notice that the third and fourth criteria imply that individuals come to know, perhaps subconsciously, the values of the long-term associations between cues and the outcomes (i.e., the real world cue weights). This is an important assumption of the theory of ecologically rational heuristics and identifying the exact social learning mechanisms through which individuals come to know these associations is an

[3] See the edited volume by Gigerenzer, Hertwig, and Pachur (2011) for a review and many different theoretical and empirical applications of this idea.

[4] Indeed, in much of the heuristic literature even more simple functions are explored. For example, "take the best" heuristics rely on the single cue that is most closely associated with the outcome.

important ongoing project in the literature on ecological rationality (e.g., Rieskamp and Otto 2011) and learning from the environment more generally (Callander 2011). Of course, it is likely that there are a variety of such mechanisms, including direct inference of correlations from observations of co-occurrence in the real world. However, in cases like ours, in which it might be difficult for voters to access the accuracy of past inferences directly, voters may learn these associations from media or other authorities or even evaluate the success of their past inferences not in terms of quantitative accuracy, but whether or not the inference produced ex-post regret.

We can think of a heuristic that meets the criteria for ecological rationality (i.e., it is **cheap**, **simple**, and **accurate**) in a given context as ecologically rational in that context.[5] Likewise, an individual who uses such heuristics can be thought of as an ecologically rational individual. Finally, we sometime say (as a shorthand) that a given cue is ecologically rational if it is part of an ecologically rational heuristic.

Consider an example that illustrates how the theory of ecological rationally explains which heuristics will be used in a given context to make a particular inference and which will not. We will describe two different target inferences to be made by a person who has only lived in the West (i.e., the context). In the first, we give this person the names of two foreign cities – say New Deli and Nellore – and ask them which is larger? We suspect that most people in this western context would immediately choose New Deli. The reason is simply that they recognize New Deli but do not recognize Nellore. Indeed, for most people in this context, it feels like the answer just pops into the mind almost immediately without needing to think much about it.

This is an example of a *recognition heuristic*. In the western context, the recognition heuristic is ecologically rational for this inference because it relies on readily available informational inputs (do I recognize one, both, or neither of the cities?), is integrated quite simply into an inference ("if I recognize one city but not the other, then infer it is bigger; otherwise, I don't know"), and is, on average, accurate because in the context of the western media environment, foreign city size is likely highly correlated with how often the city is mentioned in the news, personal conversation, and educational settings (and so with the probability of recognition). Further, individuals seem to immediately (and perhaps only subconsciously) understand the long-term association between city recognition and city size.

Now consider a similar case in which a recognition heuristic would not be ecologically rational in this context. This time, we invoke the same context (an individual in the west), provide the same two cities (New Deli and Nellore) but change the target

[5] We could add the term "non-redundant" to this short-hand expression.

inference by asking “Which city is closer to Mumbai?” Did an immediate answer spring to mind like it did when we asked the previous question? We suspect not. Why?

The reason is that for the second question, the recognition heuristic is not ecologically rational and so, unlike the first example, is not available to unconsciously and immediately give us the answer. In this case, the recognition heuristic fails the third criterion of ecological rationality: differential recognition of foreign cities is likely not an accurate guide to their relative distance from Mumbai – and readers likely intuitively and subconsciously understood that so did not (subconsciously) reach for a recognition heuristic to produce an inference. Of course, the reason is that in the context of western media environments, it is unlikely that there is a reliable long-term correlation between city recognition and distance from Mumbai.

Of course, heuristics can also fail to be ecological rational in a given context because they fail the other criteria for ecological rationality. That is, they rely on cues whose values cannot be cheaply acquired in a given context, or integrate those cues in ways that are too complex for most people to use. In the text, for example, we argue that most individuals will not rely on a voting power cue – not because it would not help them better infer policy influence, but because information about parties’ levels of voting power cannot be cheaply acquired. Further, given the requirement that cues be integrated into an inference simply, one cannot get around this by assuming voters have information about party seat shares (a more easily acquired cue) but integrate this information into an inference about policymaking in a way that reflects the parties’ voting power (since that integrative function would necessarily be quite complex).

With that background, in this paper we suggest a quite specific ecologically rational heuristic that voters use to infer the policymaking influence of parties that has the following components:

- A simple linear additive integration function (i.e. the sum, for all cues, of cue_i*$weight_i$, where *i* indexes cues)
- A quite limited set of cues (e.g., roles, size, salience but not voting power and median status)
- Cue weights that reflect the long-term empirical association between the cue and real world policymaking influence in the specific policymaking context.

This leads to a set of testable hypotheses concerning (1) which cues (or perceived values of cues) will be associated with voters’ inferences, and (2) the relative size of

these empirical associations across cues and across contexts.[6]

That said, in this paper we cannot test every aspect of the heuristic we propose. First, sometimes the political science literature tells us nothing about the relative differences, across cues or for the same cue in different contexts, in the long-term empirical associations between real cue values and real policy influence, so we cannot go beyond directional hypotheses in these cases. Second, this study assumes a linear additive integration function and tests hypotheses about the impact on inferences of different perceived cues given that assumption (i.e., the empirical models assume linear additive functions – with some simple interactions between cues). Having identified the cues that seem to be used, however, future work could be designed to test if this set of cues is integrated into an inference with a linear additive function or some other (simple) one like appropriately modified versions of "take the best."[7]

A.1.1 References

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[6] It's important to remember that the empirical associations here are estimated associations between perceived cues and inferences of responsibility, not the long-term empirical associations between real cue values and real policy influence. Our theory suggests that for cues that are part of ecologically rational heuristics, the two empirical associations should be related, but whether they actually are is an empirical question.

[7] One (surmountable) roadblock to this effort is the fact that scholars studying such integration rules have tended to focus on heuristics used to make binary choices or choices over a set of alternatives. Many of the most studied integration rules really only apply to these kinds of situations. For example, "take the best" – which orders cues by their weights (long-term associations with outcomes) and then has the individual choose the alternative for which that cue value is highest. Thus, to study integration rules that result in a continuous judgement (like amount of influence) these new (or at least generalized) rules will need to be developed.

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A.2 The Drivers of Policy Influence in Coalition Governments

To identify likely candidates for the heuristic voters might use to infer parties’ policymaking influence, we must first identify, to the extent possible, the real drivers of that influence. Thus, in this section we both briefly review the large body of research in political science that has explored those drivers and (informally) propose a number of different candidate heuristics.

A.2.1 Government vs. Opposition

Almost all students of parliamentary government would agree that cabinet parties play a more important role in shaping legislative outcomes than their counterparts in the opposition. The empirical basis of this conclusion comes from many detailed case studies of government policy-making in western states that have, beginning early as the late nineteenth century, confirmed the increasingly central role that the cabinet (versus the legislature) plays in policy-making (e.g., Bagehot 1872, Bryce 1921, Wheare 1963, Cox 1987). This is plainly apparent in the fact that the legislative process in western parliamentary democracies revolves around cabinet-sponsored bills (Anderwig and Nijzink 1995, Doring 1995, Martin and Vanberg 2011). In addition, there is also a long history of quantitative studies examining the association between the ideological color of the cabinet (almost always on a single left-right policy dimension) and policy outputs like social and welfare spending, the size of government, economic policy, regulation, administrative action, and foreign policy (e.g., Wilensky, 1976, Castles 1982, Blais 1986, Huber and Stevens 1993, Blais et al. 1996, Shmidt 1983, Imbeau 1988, 1989; Noel and Therien 1995, Kang and Powell 2011, Martin and Vanberg 2019, and many others – see reviews by Blais et al. 1993, Caramani and Hug 1998, and Imbeau, Petry, and Lamari 2001). However, these studies, which have usually used some form of spending data to measure policy output, have not been

definitive – most likely due to a great deal of heterogeneity in data and methods, the limited set of focal policies examined, and the fact that most make no real attempt to contrast cabinet party preferences with those of opposition parties. That said, much of this evidence is, on balance, consistent with a real impact of cabinet composition on policy outcomes.[8]

More recent quantitative work, in contrast, is more definitive. This work has introduced new (and arguably much better) measures of (or proxies for) policy outputs that can be used to quantify the real policy impact of alternative cabinet compositions. These include work by Sebastian Hartmann (2014), which uses an extensive data set on actual policy measures, reported by the Economist Intelligence Unit, for a large number of western democracies over time,[9] work by Martin and Vanberg (2011, 2014) that examines the relative ability of cabinet vs. opposition parties in different countries to alter specific legislative bills, work by Thomson et al. (2017) and Royed, Naurin, and Thompson (2019) that codes, for a large sample of countries and cabinets, the extent to which parties (in both the cabinet and opposition) fulfill their specific election promises, and work by McDonald, Silva, and Budge (2004), McDonald and Budge (2005), and Warwick (2011) that proxy government policy outputs with the expressed position of the government as revealed in its government manifesto.

In contrast to the history of mixed results produced by studies of spending data, each of these quite different measures strongly confirms cabinet parties' policy-making advantage over opposition parties and the basic idea that cabinet parties can generally translate their policy preferences into government policy more successfully than opposition parties.[10]

Despite this general consensus that cabinet parties have more policymaking influence than oppositions, however, the extent of the cabinet's advantage in different contexts

[8] Imbeau, Petry, and Lamari's (2001) meta-analysis finds that 23% of 693 published tests of whether the partisan color of cabinet impacts policy outputs shows statistically significant effects. In contrast 7% of these tests produced significant results in the wrong direction (with 58% of these anomalies coming from the same two studies of fiscal policy). This review also came before more recent works, such as Martin and Vanberg (2019) that use a new data set on social policy in 15 parliamentary democracies over a period of 40 years (compiled by Scruggs, Jahn, and Kuitto 2014) to much more directly test this idea – finding unequivocally that policy-making in these area resides with the cabinet parties (whether acting in cabinet or in the legislature).

[9] The data come from the DFG-funded project *'Strong' vs. 'Weak' Governments and the Challenge of Economic Reforms* as part of the SFB 884 at the University of Mannheim and code each policy measure introduced and enacted that was reported by the Economist as either left or right.

[10] Particularly useful is the very recent edited volume by Naurin, Royed, and Thomson (2019), which provides both quantitative analysis of fulfillment of actual policy promises for both the cabinet and opposition parties and includes in depth country chapters that tell an even more convincing narrative of governments consistently implementing their promises and often overturning the policies of previous cabinet parties.

remains a frequent topic of debate. Specifically, the literature has explored two factors that may enhance the ability of opposition parties to influence legislation relative to cabinet parties: minority government and "strong" legislative intuitions that provide resources and opportunities for opposition parties to review and change legislation.[11] Indeed, Royed, Naurin, and Thompson (2019) note that while government parties often fulfill their promises, "surprisingly, opposition parties' pledges often have a reasonable chance of being fulfilled too." Likewise, Hartmann (2014) finds that even in cabinets dominated by left or right parties, respectively, a sizable minority of the policies passed move policy in the opposite direction, suggesting a path for at least some opposition influence.

A.2.1.1 Majority Cabinets and Weak Legislatures

There is almost universal agreement among political scientists that opposition parties facing majority cabinets in weak legislatures are essentially powerless (e.g. Martin and Vanberg 2011).[12] The policymaking dominance of the cabinet in such contexts arises, in the conventional view, from a set of informational and procedural advantages that were adopted in western parliaments in the late 19th and early 20th centuries in response to the increasing size and complexity of government. Gallagher, Laver, and Mair's (2006, p. 62) often quoted summary of this view is worth revisiting:

> *A common theme in studies of European politics has been the `decline of parliaments' which have everywhere, according to some perceptions, lost to the grasping hands of governments the power they supposedly possessed in the late nineteenth century. By the middle of the twentieth century, it was generally agreed that governments acted while parliaments just talked.*

When such cabinets also control a well-disciplined legislative majority (enforced, in part, by the threat of declaring legislation an issue of confidence) all significant policy debate occurs within the cabinet rather than between the cabinet and the opposition.[13]

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[11] "Strong" legislatures are those that have large numbers of small committees whose jurisdictions parallel those of government ministries, give committees the power to compel witness and re-write draft bills, and prevent government ministers from using extraordinary procedures to control the agenda - e.g., "urgency" and "guillotine" procedures. "Weak" legislatures lack these features (e.g. (Strøm 1990, 1998; Powell 2000).

[12] The exception to this are those scholars that give policymaking primacy to ideological centrality (or pivotally), whether in or out of the cabinet (and whatever the legislative context). We defer a discussion of these cases until section A.2.1.3.

[13] Evidence supporting this position is plentiful, though in many studies the authors do not explicitly limit their conclusions to the case of majority cabinets in strong legislatures. However, a careful review of the actual cases studied, the exceptions noted, and some attempts to control for government

A.2.1.2 Minority Cabinets and Strong Legislatures

The somewhat skeptical tone of the quote in the last section reflects the recognition that while it clearly applies to majority cabinets in weak legislatures, the "powerless opposition" theses has often been applied too broadly, without accounting for salient differences in intuitional and political context across countries. Most clearly, in contexts in which minority cabinets operate in strong legislatures, opposition parties may have significant policy-making influence. Strøm, for example, has explained the frequency of minority cabinets in Scandinavia by appealing to the strength of these countries' legislative institutions. Specifically, he argues that many Scandinavian parties who could otherwise join a cabinet choose not to do so, in part because the "expected loss of policy influence" from being outside the government in these strong legislatures "is modest" (Strøm 1986, p. 591).[14] Strøm (1990, 1998) and others (e.g. Powell 2000) have also examined this combination of strong legislatures and minority cabinets outside of Scandinavia and come to similar conclusions.

Recent cross-national work on the fulfillment of policy promises by parties (Thompson et al., 2017; Naurin, Royed, and Thomson, 2019), however, has found that while (as emphasized above) cabinet parties have a large advantage over opposition parties in getting their promises fulfilled, the size of this advantage is dramatically larger for majority vs. minority cabinets.

A.2.1.3 Strong Legislatures (and Majority Cabinets)[15]

While most of Strom's work on opposition influence in strong legislatures has focused on minority cabinets, other work on strong legislatures has not always done so. Instead,

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majority status (and sometimes some aspects of strong and weak legislative intuitions) suggest that such a restriction is often (though not always) warranted. Relevant studies include much of the large empirical literature cited above that examines how well the partisan composition of the cabinet predicts the content of budgets, whether studied during periods of welfare expansion (Cameron 1978; Castles and McKinlay 1979; Hicks and Swank 1992; Korpi 1989) or retrenchment (Allan and Scruggs 2004; Korpi and Palme 2003; Jensen and Mortensen 2014). Likewise, the comparative literature on legislative institutions has meticulously documented the decline, in majoritarian parliaments, of private-member bills relative to cabinet bills (Andeweg and Nijzink 1995: 171, Bräuninger and Debus 2009; Döring 1995).

[14] In addition, Strøm argues that all cabinet parties face and electoral penalty for participating in cabinet (the well know "cost of ruling") and so it can be rational – given policy oriented parties and limited reductions in policy influence – to remain outside that cabinet. Fortunato (2019) confirms the electoral penalty in his analysis of party support using panel data on three Scandinavian cases (as well as several non-Scandinavian ones), as well showing that it is worse the more voters perceive cabinet parties have compromised their policy position in cabinet.

[15] The parentheses used here are meant to emphasize that most of the evidence in the literature relevant to this question mixes majority and minority cases, though with a preponderance of majority cases. In addition, we forego a separate section on the logically complete case of weak legislatures and minority government, since this has not been a concern of scholars – likely because there are not many cases of systems that regularly produce minority cabinets with weak legislative institutions.

these studies mix minority and majority governments in their empirical work (though often the data consists mostly of majority governments). For example, the comparative work in *Parliaments and Majority rule in Western Europe* edited by Herbert Döring (1995) collectively shows that parliamentary committees outside of the United kingdom and Ireland all deal with legislation in a meaningful way. In fact, Powell (2000) finds that the strength of legislative committees and majority status combined explain expert evaluations of opposition influence almost perfectly.

More recently, Martin and Vanberg (2011) have challenged the idea that strong legislatures confer significant policymaking power to oppositions. In their analysis of bill histories in the strong legislatures of Denmark, Germany, and the Netherlands, they show that opposition parties in these legislatures have essentially no influence on the content of legislation. However, Martin and Vanberg point out that the only case of minority government in their sample was Denmark, which is somewhat unusual in that Danish minority cabinets during the period of their study tended to form issue by issue legislative majorities with different opposition parties, rather than the more usual case of relying on a single "support" party across issues. Given this, they speculate (p. 121) that this latter type of support party should exert more influence. Indeed, Royed, Naurin, and Thompson's (2019) analysis of promise fulfillment finds that the best predictor (by far) of opposition party pledge fulfillment is the existence of a formal support agreement between the party and the government. Thus, the most reliable take-away from their empirical work is that oppositions, in strong legislatures facing majority governments (as well as all those in weak legislatures) show little evidence that they can significantly alter the content of legislation (at least without a formal support agreement with the government).

Finally, recent work by Fortunato, Martin, and Vanberg (2019) relies on the same bill-history data that Martin and Vanberg used from the strong legislatures of Germany, the Netherlands, and Denmark to examine whether opposition parties that control committee chairs in strong legislatures are able to change government bills. However, unlike in Martin and Vanberg's previous work, they do find a significant opposition impact – i.e., government bills are changed more often when opposition parties control legislative committee chairs. Thus, they conclude that their previous result should be revised because "failing to account for party control of committee chairs masks opposition influence that becomes apparent when this factor is taken into account" (p. 786).

In sum, it is clear that most political scientists would endorse the view that cabinet parties have more policy influence than opposition parties ceteris paribus. Where legislatures are weak (and so lack most of the intuitional resources and opportunities

needed to check the cabinet) this difference is stark. However, in strong legislatures, the evidence of cabinet dominance is more mixed. Where strong legislative institutions coincide with minority government (and especially minority governments that rely on the consistent support of one or more support parties), some opposition parties (e.g., those supporting the cabinet) almost certainly have significant influence. However, whether this conclusion extends to cases of strong legislatures more generally (i.e., cases of majority government or minority cabinets that build shifting issue by issue coalitions) is a matter of debate – with perhaps the preponderance of the evidence suggesting limited opposition influence.

A.2.2 Cabinet Parties

Another question that has animated work on policymaking influence in parliamentary systems asks which parties within government have more or less influence (in general or in particular policy areas). The general contours of this debate juxtapose ministerial (including prime ministerial) power against more equitable (or, more precisely, proportional) coalition compromise.

The view that ministerial parties should have disproportionate influence in the policy domains they control has been most forcefully articulated by Laver and Shepsle (1996) in their "portfolio-allocation model" of cabinet decision-making. Governments may well begin their life with a coalition agreement that, more or less thoroughly, articulates compromise positions in various policy areas; however, once governing begins, the procedural and informational advantages that departmental control gives to ministers creates an irresistible temptation to ignore the coalition agreement and implement the policies they most prefer in the domains they control. The result is a set of policy outputs that reflect the issue-by-issue ideal points of relevant ministerial parties (and the overall policy portfolio of a cabinet will be the resulting legislative "log-roll"). This view is partially supported by Royed, Naurin, and Thompson's (2019, p. 75) analysis of pledge fulfillment, who find that for coalition cabinets, holding the portfolio relevant to a particular pledge "has a positive and highly significant effect on fulfillment of junior partners' pledges."

A contrasting view of cabinet policy-making asserts that the delegation problem at the heart of the portfolio allocation model can be solved (or at least ameliorated) by utilizing institutional tools that let cabinet partners "keep tabs" on one another, including detailed coalition contracts, junior ministers, (intra-cabinet) collective decision-making rules, and legislative committees (Eichorst 2014; Martin and Vanberg 2011; Strøm and Müller 1999; Thies 2001). The central prediction of this framework is that, in the presence of such institutional parameters, government policy on any given

issue dimension is more likely to reflect coalition compromise – usually characterized as a seat-weighted average of the cabinet parties' positions on any given policy dimension. Thus, the overall policy portfolio of the government will simply be the aggregation of these issue-by-issue compromises.

Martin and Vanberg (2014) designed an explicit test of these competing explanations in the context of strong legislative institutions and they find that the coalition compromise model of multiparty policy-making better explains real policy outcomes than the ministerial dominance model. However, in a more recent paper, Martin and Vanberg (2019) point out that these two different theoretical models may be best suited to different institutional contexts – ministerial autonomy should be a better model of policy outcomes where monitoring intuitions are weak (so that cabinet partners cannot monitor one another), while coalition compromise should be a better model where monitoring intuitions are strong. Analyzing changes in unemployment policy for 15 parliamentary democracies over a 40-year period, they show that "the strength of legislative institutions significantly shapes the relative policy influence of coalition parties." Thus, the most recent work on cabinet decision-making suggests that the true relationship between cabinet roles and policy influence is conditional on institutional context. Of course, whether such subtleties (or indeed the whole debate between ministerial power and coalition compromise) are relevant for voters' perceptions of policy influence is quite another question.

A.2.3 Prime Ministers

The modern literature on cabinet decision-making reviewed above, which emphasizes how cabinets overcome (or do not overcome) problems of delegation, has curiously ignored one feature of cabinet decision-making that, on its face, may be salient to voters: the fact that just one party holds the Prime Ministry, is the titular head of government, and may possess institutional resources giving it influence in policy-making beyond that arising from the ministries it controls. Nonetheless, other scholars, motivated by the idea that parliamentary electoral politics has become increasingly personalized around the race for the prime ministry, have asked whether prime ministers actually have a disproportionate influence on policy outcomes (e.g. Diodati, Marino, and Carlotti 2018; Poguntke and Webb 2015).

Political scientists have identified four potential sources of prime-ministerial policy-making influence. First, many prime ministers have the power to dissolve the legislature and can therefore try to use this power as a "bargaining chip" when they negotiate over policy with other parties (Diermeier and Stevenson 2000; Lupia and Strøm 1995; Strøm and Swindle 2002). Accordingly, prime ministers sometimes make

dissolution threats to extract policy concessions from parties that would be electorally disadvantaged by having a new election (Becher and Christiansen 2015) – and, given rational expectations, may be able to extract such concessions even in the absence of a formal threat.

Second, many prime ministers have the formal power to attach a confidence vote to a policy proposal. This allows prime ministers to unilaterally (or together with the nonpartisan head of state) link the adoption of a bill with the survival of the coalition government. By doing so, prime ministers can apply pressure to their partners to support the measure or else lose procedural control of the floor as well as their ministerial portfolios (Diermeier and Feddersen 1998). Alternatively, the extant threat of this procedure may be levied to extract policy concessions in the pre-plenary bargaining over policy (Huber 1996).

Third, in most cases, the prime ministerial party was the formateur in the coalition negotiations that resulted in the formation of the cabinet (Glasgow, Golder, and Golder 2011). This position as the agenda setter in the negotiations that formed the cabinet may have allowed the party to both shape the cabinet composition to its liking and extract policy rents by, among other strategies, making take-it-or-leave-it offers to potential coalition partners.

Finally, prime ministerial offices are often endowed with agenda powers and bureaucratic resources that give them a disproportionate ability to shape the legislative agenda (O'Malley 2007). Indeed, in some cases, prime ministers enjoy almost hegemonic control over cabinet proposals (i.e., the German Chancellor).

Given these four advantages, it is fair to say that most political scientists would expect prime-ministers to play a leading role in policy-making in most modern parliaments. That said, there has been surprisingly little empirical work that has attempted to confirm or refute this expectation on cross-national data about real policy outcomes. Among the few studies that do exist, Goodhart (2013) discovered, in a sample of 16 parliamentary democracies, that the preferences of the prime ministerial party have a greater impact on inflation policy and interest rates than those of the finance minister. In contrast, Becher (2010) finds no compelling evidence that prime ministerial parties enjoy additional policy influence over unemployment policy, absent control the relevant portfolios. However, Thomson et. al. (2017) and Royed, Naurin, and Thompson's (2019) extensive analysis of promise fulfillment discussed above finds that in coalition cabinets, the prime minister's party is much more likely to fulfil its election

promises than its coalition partners.[16]

A.2.4 Bargaining Power

A large literature in political science has posited that a party's policy-making influence depends most importantly on its bargaining power, stemming from two different sources: ideological centrality and "voting power." We discuss each of these in turn below.

A.2.4.1 Pivotal Parties and Ideological Centrality

A long tradition of theoretical work in political science has argued that ideological centrality in general, and median or pivotal status in particular, confer significant policymaking power, independent of a party's role in the cabinet or opposition (Baron 1991; Morelli 1999; Denzau and Mackay, 1983; Krehbiel, 1991, 1998). Thus, pivotal parties, whether in the cabinet or not should be able to move policy outcomes in their favor. The starkest statement of this position is laid out in Laver and Schofield's often quoted passage (1990, p. 111):

> "It makes no difference if [the 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 problem with this strong theoretical posture, however, is that it has seldom been demonstrated (or even explored) empirically. For example, the many empirical studies of cabinet policymaking that have examined the drivers of real policy changes (e.g., those cited at the beginning of this review) have focused mostly on how ideological shifts in the cabinet change spending (and some other) policies but have seldom explicitly tested for the relevance of the median party.

Further, more recent empirical work that has directly addressed the question has produced mixed results. This empirical work has focused on testing one implication of the "median mandate" model of elections, which (according to Naurin, Royed, and Thompson 2019) argues that "holding the median legislator is more important than holding government office for influencing government policy."[17] Specifically, McDonald, Silva, and Budge (2004) and McDonald and Budge (2005) estimate the association between the left-right position of the median legislator's party and the

[16] Royed, Naurin, and Thompson (2019) report results for both prime ministers of coalition cabinets and chief executives more generally. Overall, they show that "Holding the chief executive post increases the odds that a governing party's pledge will be fulfilled by 38%" (p .74)

[17] To be clear, the median mandate model includes much more than this one proposition, but this is the one most relevant to the current discussion.

policy position of the government (as expressed in the negotiated government platform) and find consistent evidence both across countries and over time that the position of the median legislator's party is predictive of the negotiated government policy position expressed in the government program.[18]

This finding, however, has been challenged by Warwick (2011), who used an expanded version of the same data set, but different empirical methods, to argue that it is neither the median legislator's nor the median voter's position that drives government policy, but the weighted individual policy positions of the parties that make up the cabinet – a result consistent with the conclusions of Martin and Vanberg (2014), who also tested the explanatory power of the weighted mean of cabinet parties' positions against that of the median legislator on policy outcomes (but with a different dependent variable, as explained above).

Naurin, Royed, and Thompson (2019) add to these mixed results with their finding of only a weak effect of being the median party (and distance from the median) on party pledge fulfillment across both government and opposition parties. However, as one of the few studies to examine policy outputs by party and to include opposition parties, they provide some useful nuance and clarity to these mixed results by examining the question separately for opposition and cabinet parties. Specifically, while they find only a weak relationship between median status (and distance to the median) and promise fulfilment for cabinet parties, they find that opposition parties that contain the median legislator are more likely to fulfil their pledges. More generally, they conclude (p. 73):

> "On balance, we conclude that proximity to the median legislator has a small effect on the likelihood of pledge fulfillment at most and that this effect is mediated for the most part by other variables: the likelihood of holding executive office and party size. Being the median legislative party appears to increase the likelihood of fulfillment for opposition parties' pledges but not for governing parties' pledges. Moreover, holding the median legislator is less important than holding executive office for pledge fulfilment."

Overall, the empirical evidence directly relevant to the hypothesis that median status confers policy-making influence in the western democracies is clearly mixed. However, in addition to the empirical effort cited above, a balanced assessment of the literature should also give some weight to (1) the long-standing theoretical consensus (among many formal theorists) that if parties rationally pursue their policy interests,

[18] And, Thomson et al. (2017), among others, have found that a large percentage of promises made in government manifestos are kept.

ideological centrality should confer policy-making influence,[19] (2) studies that show ideological centrality and median status are important drivers of cabinet participation (e.g., van Roozendal 1992, Martin and Stevenson 2000, 2010),[20] and (3) experimental studies that show median players in laboratory settings do tend to exert influence on collective decisions.

Thus, for our purposes, there is enough theory and evidence implicating median status as an important source of policy-making influence that we consider heuristics that include it as a cue in our empirical work. Further, it makes sense to relax the strict version of the median hypothesis and also consider (as many of the empirical studies above do) the possibility that ideological centrality more generally confers influence.

A.2.4.2 Voting Power

Much of the literature on bargaining power has ignored the ideological sources of bargaining power in favor of conceptions that rely only on the seat shares of parties (in the legislature or cabinet). Bargaining power in this literature is equated with the "voting power" of parties, defined generally as the share of winning coalitions in which the party is pivotal. There are various commonly used indexes of such power (e.g., the Shapley Shubik index, Banzhaf power index, minimum integer weights) that differ in the details but are qualitatively similar.

Formal models of multi-party bargaining almost universally tell us that this kind of bargaining power should matter to negotiated policy outcomes since a party that is in many different policymaking coalitions should be able to leverage these "outside options" into influence over the outcome. However, empirical tests of the impact of voting power on policy outcomes in parliamentary democracies have been rare. For example, none of the large-scale cross-national studies of the determinants of policy outcomes (or proxies for those outcomes) discussed above (e.g., Hartmann 2014; Martin and Vanberg 2011, 2014; Royed, Naurin, and Thompson 2019; McDonald, Silva, and Budge 2004; McDonald and Budge 2005; Warwick 2011) include measures of voting power in their models.

Those empirical studies that do exist have not focused on policy outcomes but instead on the impact of voting power on government formation and allocation of cabinet portfolios. With respect to the allocation of portfolios, a mountain of work on

[19] Though, here too there are diverging voices. For example, in the U.S. context Dion and Huber (1996, 43), Rohde (1991), Aldrich (1995), and Aldrich and Rohde (2000), and Cox and McCubbins (2002, 2005) all argue that majority parties can use restrictive rules, negative agenda power, and gatekeeping, to avoid the pivotal median legislator's influence.

[20] Over 80% of coalition cabinets include the legislative median.

Gamson's Law shows that the numerical distribution of portfolios follows a strong proportionality norm (e.g., Browne and Franklin 1973; Schofield 1976; Browne and Frendreis 1980; Schofield and Laver 1985; Carmignani 2001; Mershon 2001; and Warwick and Druckman 2001, 2006) and so on its face, there seems little room for voting power (which generally differs from simple seat weights) to have an impact on this distribution. That said, when Ansolabehere et al. (2005), actually directly tested the impact of voting power on portfolio allocation in a large sample of cabinets they found "that for parties that join (but did not form) the government, there is a linear relationship between their share of the voting [power] in parliament and their share of cabinet posts. The party that forms the government (the formateur) receives a substantial "bonus" relative to its voting [power]." (p. 550).

While this result has been challenged on various grounds, it did focus attention the need to understand how the theoretical models that imply differential voting power in cabinet negotiations can be reconciled with the proportionality of portfolio allocation. For example, Cutler et al. (2016) argue that when one models the process of portfolio allocation jointly with the preceding process of cabinet formation, one obtains both a proportional allocation of portfolios and a significant policy impact of voting power – "because portfolio distribution follows the much more difficult process of policy bargaining in the typical government formation process." (p. 31). In other words, the policy bargain that determines cabinet membership reflects voting power as theoretical models predict, but portfolio allocation given membership in the cabinet (which comes after the policy bargain is made) follows a proportionality norm. Their analysis of data on cabinet composition and portfolio allocation over 16 democracies in the post-war period strongly confirms their argument.

Martin and Vanberg (2019) go even farther and argue that voting power actually does impact the allocation of portfolios but that its impact is not visible in the numerical distribution of cabinet ministries over parties because this distribution is highly visible to party activists who demand a proportional allocation. Thus, parties who have more bargaining power than their raw seat weight would indicate exercise this power by obtaining a greater share of less visible portfolio payoffs – principally by obtaining control over the ministries that are most valuable to them. To test this proposition, Martin and Vanberg summarize the non-visible payoffs that parties receive from being allocated specific ministries and not others in terms of the policy risk associated with not controlling the ministry (parties that stand to lose more in terms of policy if they are exclude from the ministry pay a higher policy cost for not obtaining it). Examining the impact of voting power on the distribution of this kind of "policy risk" over cabinet partners they find a strong evidence for their argument.

In sum, there have long been strong theoretical reasons to believe that voting power (as distinct from raw seat shares) confers real policymaking influence. However, empirical confirmation of this impact (particularly outside of government formation) has been slow in coming. Recent empirical work focusing on bargaining over cabinet formation and portfolio allocation has begun to show that voting power has a real impact on outcomes. That said, one lesson from this work that is clearly important for this paper, is that much of this impact is complex, hard to uncover, and, perhaps by design, hidden from voters.

A.2.5 Party Size

Nearly all of the studies reviewed above have implications for how (various conceptions of) party size impacts policy-making influence. Thus, in this section we bring together these various stains of thought and ask what the literature tells us about the relationship between party size and policy-making influence.

A.2.5.1 Seat Shares of Cabinet Parties

We begin with the observation that if Gamson's Law holds, the two main theories of cabinet decision-making reviewed above (ministerial autonomy and coalition compromise and monitoring) have almost identical implications for the general or aggregate policy output of cabinets, aggregating across jurisdictions. First, under ministerial autonomy, the resulting legislative log roll in which each minister gets her way on the policy jurisdictions she controls (and parties' shares of cabinet posts are proportional to the share of legislative seats they bring to cabinet) will produce an aggregate policy package that is close to the cabinet seat share weighted preferences of cabinet parties. Likewise, if government policy on each policy dimension closely reflects the cabinet compromise on that dimension (as Martin and Vanberg 2014 and Warwick 2011 argue is the case), the resulting aggregate policy package will once again be proportional to the cabinet members' cabinet seat shares. As such, these different models of cabinet decision making both imply a simple linear relationship between cabinet seat shares and general policy-making influence.[21]

In contrast to this simple relationship, however, our review of the literature on "voting power" would suggest that small cabinet parties that are pivotal members of many different winning coalitions should have disproportionate policy-making influence, a

[21] Only by examining voters' perceptions of attributions within jurisdictions would these different models produce contrasting expectations about influence. Indeed, the second empirical study reported in the text, which examines attributions of responsibility across several different specific policy dimensions, suggests that voters may in fact attribute more influence to parties they expect to hold relevant ministerial portfolios.

situation that would disrupt any simple relationship between party size and real policy influence.

A.2.5.2 Seat Shares for Opposition Parties

Next, our review of work on opposition influence also has implications about the relationship between the legislative seat shares of opposition parties and their policymaking influence, though this relationship is not as clear as it is for cabinet parties. First, the very large literature on the dominance of cabinets, which essentially discounts the policy impact of the opposition entirely, obviously implies no relationship between opposition seat shares and policy-making influence. If parliaments do not matter, or only matter as a forum for cabinet partners to police each other (Martin and Vanberg 2011), then there is no reason to think that larger opposition parties would have any more influence over policy outcomes than small opposition parties.

Of course, if one grants that legislatures have some ability to impact legislation, as many have argued at least for strong legislature and/or oppositions facing minority cabinets, then there is some reason to expect a relationship between the legislative seat share of opposition parties and real policymaking influence. Most clearly, this would be the case when legislative powers like committee memberships are distributed to opposition parties proportionally to their seat share. For example, Fortunato, Martin, and Vanberg's (2019) demonstration that opposition control of committee chairs (in strong legislatures) confers real policymaking influence also implies that this influence should be proportional to seat share -- because these chairs are allocated proportionally.

Second, some opposition parties may exert influence because they are cabinet support parties – i.e., opposition parties that consistently support a minority cabinet. If the policy preferences of support parties contribute to the coalition compromise similarly to that of cabinet parties (i.e., they are weighted by the share of legislative seats the support party brings to the cabinet), we should expect larger support parties to have more influence.[22]

[22] However, notice that this result does not follow under the ministerial autonomy theory, which would leave support parties without the institutional resources to control the agenda on relevant dimensions and so not include them in the legislative log-roll defining overall policy influence. Of course, it's probably more productive to think of this implication as a weakness of the ministerial autonomy model, given the increasingly persuasive evidence that support parties without mistrial portfolios do influence policy.

A.2.6 Policy Salience

A final issue that has animated work on cabinet decision-making and that is potentially important for voter perceptions of policy influence is that parties do not all care about the same issues. Parties' supporters may care about some issues more than others, parties may have more policy expertise in some areas than others, and aligned interest organizations may consistently push particular policy agendas (e.g., business groups, environmentalists, labor unions). Consequently, parties may become tied, in voters' minds, to particular policy agendas on which they are differentially judged to be more responsible (Budge and Farlie 1983; Petrocik 1996). But do parties for which a given issue is more salient actually have more real policymaking influence on those dimensions?

One mechanism that could drive such differential influence is the allocation of ministerial portfolios. If coalition partners tend to be allocated the portfolios that are most salient to them (and controlling a portfolio confers at least some additional influence, as Laver and Shepsle (1996) and many others argue it does) then salience may well predict differential influence. Thus, Bäck, Debus, and Dumont's (2011) empirical demonstration that portfolios are more likely to be allocated to parties for which they are more salient establishes at least the possibility of this link. If one further links this with Thompson et al.'s (2017) recent demonstration that coalition partners that receive portfolios that are relevant to specific pre-electoral promises are significantly more likely to fulfil those promises than otherwise, then there is a clear, empirically verified, mechanism through which policy salience may confer influence, even beyond the impact one might expect from a given numerical distribution of portfolios.[23]

Of course, even if a cabinet party is denied a salient ministry, it is likely to put more effort into (and have more external resources -- like interest group activity – relevant to) shaping the coalition bargain on that dimension and/or using executive and legislative institutions to check ministerial autonomy on that dimension. Martin and Vanberg's (2014) empirical study on policy outputs of coalition cabinets, for example, weights government party positions by issue salience, which is consistent with Baron and Diermeier's (2001) theoretical argument that the coalition compromise on a given issue dimension will shift toward the ideal point of the party for which the issue is most important. Likewise, Bawn and Rosenbluth (2006) argue that coalition governments tend to spend more than single party governments because each

[23] The authors interpret the p-value on this result (.06) as a "non-finding" but given the relatively large size of the effect, we think this almost significant (at .05) result is better interpreted as a positive finding.

coalition party is able to implement their preference for more spending in the policy areas that are most salient to them. The theoretical possibility that parties have disproportionate influence, at least when in cabinet, on the issues that are most salient to them thus appears to be well-documented, though the empirical case is more limited.

Since almost all work on policy salience has focused on cabinets parties, little theoretical or empirical work has considered the question of whether policy salience should provide greater influence to relevant opposition parties. Yet, work by Jensen and Seeberg (2015), as well as other work in this vein (see Burstein 2003 for a review of this large literature), provides one potential avenue for this influence. They argue that opposition parties can increase the salience of issues on which they have an electoral advantage by highlighting them at every opportunity – in campaign messages, legislative debate, leadership speeches, and parliamentary questions. If they are successful, the argument goes, the public will be attentive and energized about these issues and therefore constrain government policymaking on them.[24] Further, it seems plausible that this influence may be even stronger if the opposition party is in the same general ideological family as the cabinet parties – so in this way can act from opposition as the "conscience" of the government on the issue.

A.2.7 Summary: Drivers of Policymaking Influence

The review above makes it clear that size, role (including cabinet, opposition, pm, and support party status), ideological centrality, voting power, and issue salience are the key drivers of policy influence identified in the empirical literature. Given this, the modern literature on heuristics suggests that these characteristics could be the basis for "ecologically rational" heuristics for inferring policymaking influence (conditioned on them meeting cost and simplicity criteria). Thus, in the empirical analysis in this paper, we examine how voters' perceptions of each of these cues are related to their attributions of policymaking influence both generally and for specific policies. That said, it is unlikely that the each of these characteristics are equally useful to voters. Specifically, even if a heuristic is accurate, voters will only rely on that heuristic if its informational inputs are also easy to obtain and understand. This may suggest that some of the more complex characteristics of parties (e.g., ideological centrality, voting power) will be less useful to voters. However, rather than speculate about these

[24] Jensen and Seeberg (2015) argue that the empirical record of policymaking around welfare state retrenchment reflects exactly this dynamic: leftist opposition parties, who effectively "own" the popular position in support of maintenance of the social safety net have consistently drawn sufficient attention to the negative effects of welfare state retrenchment that they have limited rightist governments' scope of action.

questions here, we leave these as the empirical questions we address in the main paper.

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A.3 Alternative Specifications for Retrospective Models

In this section we present the results of several alternative specifications of the model presented in Table 1 of the main text to explore the robustness of the central findings.

A.3.1 Substituting the Shapely-Shubik Index for the Banzhaf Index of Voting Power

This model is the same as that in Table 1 in the main text but substitutes the perceived Shapley-Shubik Index for the perceived Banzhaf Index. The two measures produce qualitatively identical results (i.e., significantly negative for Italy, significantly positive for UK, insignificant for the remaining countries).

Table A.3.1.1: Replication of Table 1 with Banzhaf Replaced by Shapely-Shubik

Variable	Denmark	Germany	Italy	Netherlands	UK
Prime minister	1.88***	2.27***	1.34***	1.67***	1.52***
	(0.17)	(0.15)	(0.12)	(0.12)	(0.16)
Cabinet partner	1.50***	1.42***	0.87***	1.36***	0.89***
	(0.11)	(0.08)	(0.06)	(0.09)	(0.13)
Opposition	0.81***	0.92***	0.47***	0.66***	0.42***
	(0.10)	(0.06)	(0.05)	(0.07)	(0.09)
Legislative seats	5.33***	5.05***	5.38***	3.74***	1.66***
	(0.71)	(0.39)	(0.42)	(0.96)	(0.40)
Cabinet share	0.38	-0.55*	0.31	0.32	0.59**
	(0.22)	(0.23)	(0.16)	(0.20)	(0.23)
Median	0.09	0.04	-0.15*	0.06	0.03
	(0.07)	(0.07)	(0.07)	(0.06)	(0.08)
Centrality	-0.01	-0.00	0.00	0.03***	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Shapely-Shubik	-1.15	-0.35	-0.74*	-0.19	0.90**
	(0.61)	(0.24)	(0.31)	(0.84)	(0.30)
Affinity	0.04***	0.03***	0.02***	0.02**	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Party 1	-0.49**	-1.77***	0.29**	-0.28**	-1.95***
	(0.16)	(0.16)	(0.11)	(0.10)	(0.14)
Party 2	-1.04***	-0.72***	-1.24***	-1.36***	-0.83***

	(0.16)	(0.15)	(0.12)	(0.11)	(0.14)
Party 3	0.59***	-1.13***	-1.57***	-1.24***	-0.55***
	(0.15)	(0.15)	(0.12)	(0.10)	(0.12)
Party 4	-0.73***	-1.34***	-0.65***	-1.40***	-1.84***
	(0.16)	(0.16)	(0.11)	(0.11)	(0.15)
Party 5	-2.40***	-1.79***	-0.43***	-1.02***	-1.43***
	(0.18)	(0.16)	(0.11)	(0.10)	(0.14)
Party 6	-1.42***	0.25	-0.45***	-2.00***	
	(0.16)	(0.13)	(0.11)	(0.11)	
Party 7	-0.66***		-1.33***	-0.29**	
	(0.15)		(0.12)	(0.09)	
Party 8	-0.36*		-1.17***	-1.34***	
	(0.16)		(0.12)	(0.10)	
Party 9			-1.25***	-1.42***	
			(0.12)	(0.11)	
Cut point 1	-1.26***	-1.18***	-1.23***	-1.76***	-2.20***
	(0.19)	(0.16)	(0.12)	(0.13)	(0.17)
Cut point 2	0.18	0.23	-0.07	-0.38**	-0.68***
	(0.18)	(0.17)	(0.12)	(0.13)	(0.17)
Cut point 3	1.33***	1.60***	0.97***	0.80***	0.50**
	(0.19)	(0.17)	(0.13)	(0.13)	(0.17)
Cut point 4	2.49***	2.96***	2.15***	2.04***	1.64***
	(0.19)	(0.17)	(0.13)	(0.13)	(0.17)
Random intercepts	0.27***	0.46***	0.49***	0.40***	0.66***
Var (respondents):	(0.03)	(0.04)	(0.04)	(0.03)	(0.06)
Ln(likelihood)	-6047.36	-5260.46	-7745.46	-8084.92	-3874.47
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

Party 5 = **DK:** CD; **DE:** Pirates; **IT:** M5S; **NL:** PvdA; UK: SNP

Party 6 = **DK:** LA; **DE:** SPD; **IT:** NCD; **NL:** PVD

Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

A.3.2 Adding Largest Party and a Cubic Function of Legislative Seat Share

In this section we replicate Table 1 in the main text using a flexible (cubic) function of legislative seat share and allowing for a discontinuity in the relationship between legislative seat share and attributions of influence for the largest party. Notice the voting power estimate flips for Italy and that there are significances changes on cabinet share for Germany and Italy (though the effects are still very small). However, the central results of Table 1 remain unchanged. Further, while the exponentiated seat share terms are positive and different from zero in most models, the actual shape of the function mapping seats to influence that they imply is effectively identical to the linear specification of size presented in the main text (recalling, of course, that these coefficients and seat shares are mapped to a non-linear link function to generate the response probabilities in the ordered probit model).

Table A.3.2.1: Replication of Table 1 with more flexible functions of Legislative Seat Share and a Largest Party Dummy

Variable	Denmark	Germany	Italy	Netherlands	UK
Prime minister	1.79***	2.03***	1.24***	1.64***	1.40***
	(0.17)	(0.15)	(0.12)	(0.12)	(0.16)
Cabinet partner	1.40***	1.15***	0.77***	1.34***	0.76***
	(0.12)	(0.09)	(0.06)	(0.09)	(0.13)
Opposition	0.72***	0.71***	0.39***	0.65***	0.35***
	(0.10)	(0.06)	(0.05)	(0.07)	(0.09)
Legislative seats	10.14***	12.24***	11.45***	5.11***	10.15***
	(1.10)	(1.07)	(0.75)	(1.40)	(1.18)
Legislative seats^2	-21.70***	-23.85***	-30.00***	-6.71	-27.17***
	(4.25)	(4.46)	(3.37)	(6.04)	(4.03)
Legislative seats^3	14.64***	13.64**	21.79***	-1.81	18.27***
	(4.29)	(5.03)	(3.55)	(8.30)	(3.68)
Largest party	0.12	0.32*	0.42***	0.11	0.62***

	(0.08)	(0.14)	(0.11)	(0.08)	(0.11)
Cabinet share	0.33	-0.12	0.38*	0.34	0.54*
	(0.23)	(0.24)	(0.16)	(0.20)	(0.23)
Median	0.09	0.09	-0.12	0.06	0.01
	(0.07)	(0.07)	(0.07)	(0.06)	(0.08)
Centrality	-0.02	-0.00	-0.00	0.03***	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Banzhaf index	-0.12	0.02	0.77*	0.48	0.67*
	(0.57)	(0.26)	(0.32)	(0.78)	(0.30)
Affinity	0.04***	0.03**	0.02***	0.02**	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Party 1	-0.58***	-1.70***	0.24*	-0.27**	-1.64***
	(0.16)	(0.17)	(0.11)	(0.10)	(0.15)
Party 2	-1.00***	-0.90***	-1.14***	-1.29***	-0.76***
	(0.16)	(0.16)	(0.12)	(0.11)	(0.14)
Party 3	0.58***	-1.25***	-1.45***	-1.20***	-0.52***
	(0.15)	(0.16)	(0.12)	(0.11)	(0.13)
Party 4	-0.73***	-1.30***	-0.66***	-1.35***	-1.55***
	(0.16)	(0.16)	(0.12)	(0.11)	(0.15)
Party 5	-2.25***	-1.71***	-0.50***	-1.00***	-1.22***
	(0.18)	(0.17)	(0.12)	(0.10)	(0.14)
Party 6	-1.34***	0.16	-0.41***	-1.90***	
	(0.16)	(0.15)	(0.12)	(0.12)	
Party 7	-0.68***		-1.23***	-0.28**	
	(0.15)		(0.12)	(0.10)	
Party 8	-0.42**		-1.09***	-1.32***	
	(0.16)		(0.12)	(0.10)	
Party 9			-1.14***	-1.32***	
			(0.12)	(0.11)	
Cut point 1	-1.08***	-1.05***	-1.01***	-1.63***	-1.76***
	(0.19)	(0.17)	(0.13)	(0.14)	(0.18)
Cut point 2	0.38*	0.40*	0.17	-0.25	-0.21
	(0.19)	(0.17)	(0.13)	(0.14)	(0.18)
Cut point 3	1.55***	1.79***	1.23***	0.93***	0.98***
	(0.19)	(0.17)	(0.13)	(0.14)	(0.18)
Cut point 4	2.71***	3.15***	2.41***	2.17***	2.13***

	(0.19)	(0.18)	(0.13)	(0.14)	(0.18)
Random intercepts	0.28***	0.47***	0.48***	0.40***	0.64***
Var (respondents):	(0.03)	(0.04)	(0.04)	(0.03)	(0.06)
Ln(likelihood)	-6020.99	-5204.33	-7670.00	-8077.46	-3835.64
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

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Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

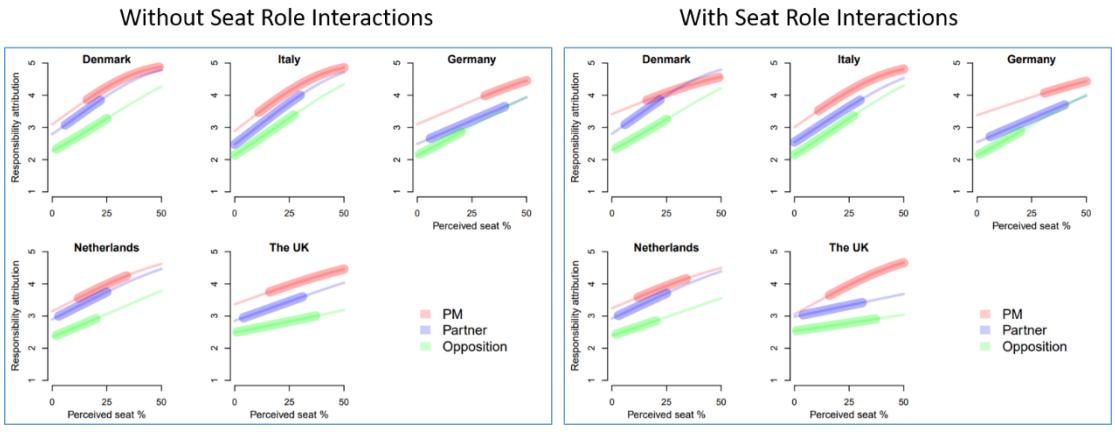
A.3.3 Interacting Role Dummies with Legislative Seat Share

In this section we re-estimate the model in the main text but interact perceived legislative seat share with dummies for perceived PM status, perceived junior partner, and perceived opposition status. There are two main questions we seek to explore, one methodological and one substantive. The methodological question is whether the estimated relationships between perceived legislative seat shares and attributions of influence for each role are different in the interacted and non-interacted models? The substantive question is whether the strength of the relationship between legislative seat shares and attributions of responsibility differ across countries and especially between opposition parties in different countries – since the literature on strong and weak parliaments may suggest that the relationship between legislative seat share and attributions of influence should be weaker in weak parliaments.

Figure A.3.3.1 provides a picture of the relationship between legislative seat share and attributions of responsibility built from the estimates in the main text (left side) and the interacted model (full results in Table A.3.3.2).

The main methodological takeaway from the comparison of the two figures is that the explicit interactions do not make much of a difference in what the model is telling us about the relationship of legislative seats and attributions of influence across government roles.

Figure A.3.3.1: **Estimated Relationships between Legislative Seat Share and Attributions of Policymaking Influence by Government Role in Models with and without Explicit Interactions**



In assessing this methodological question (i.e., do we need to include explicit interactions between roles and legislative seat share?), it's important to examine these substantive pictures in addition to the coefficients in the table below, because a number of features of that estimation make comparison of the coefficients (and the

significance of the interactions) across models difficult. First, the very different distribution of perceived seat shares across roles make simple comparisons of the coefficients on the interaction terms less helpful. Do we really care if the function mapping perceived seats to influence differs between PMs and partners in parts of the seat distribution in which there is little overlapping data? Adding to this issue is the fact that our discrete, bounded dependent variable causes the relationship between size and attributions for PMs to necessarily flatten at higher sizes in which almost everyone awards the highest possible influence to these parties.

Another issue is that the baseline we use for the set of dummies capturing perceived government role is being perceived to be *out* of the legislature. This choice of baseline is useful in that it allows us in Table 1 in the main text to show coefficients for each of the substantively interesting government roles against this baseline and so easily compare their rough relative magnitudes. However, when we use this same baseline for the model that interacts seats with the role dummies, it means the baseline for the interactions is also a party that the respondent said was not in the legislature. This is only possible because the surveys allowed respondents to both tell us that a party was not in the legislature and then later in the survey to say that that party had legislative seats. While (happily) few respondents actually did this, enough did that it allows us to use these cases as a baseline in the interactive model. The downside, of course, is that it makes comparisons of coefficients on the interaction terms across roles in the model even less helpful. Of course, the choice of baseline does not matter substantively (any baseline would produce the *exact* same substantive conclusions) and so we can avoid any problem by just calculating predicted values over legislative seats (as we do above) and not trying to interpret coefficients. Finally, it's worth reiterating that the choice of baseline, whether in the interacted or non-interacted model is completely irrelevant to these predicted values for the various roles (these will be the same no matter which baseline we choose) and so the odd nature of the baseline in the interacted model is not a concern (and of course it is not odd in the non-interacted model since being out of the legislature is a legitimate "role" a party could play).

All of that said, it turns out that even with the methodological difficulties in directly comparing coefficients across countries described above, in this case we can actually draw the same methodological conclusion from a simple comparison of the coefficients from Table 1 and the interacted version of this model in the table below. In Table 1 in the text, we see that the coefficients on legislative seat share are approximately 5.0 for Denmark, Germany, and Italy, 3.63 for the Netherlands, and only 1.78 for the UK. Likewise, one can calculate the implied coefficient on legislative seat

share for opposition parties from the interactive models in Table A.3.3.2 simply by adding the coefficient on "Legislative seats" and "Opposition*Legislative seats" for each country. This produces implied coefficients of 4.92, 5.33, and 5.19 for Denmark, Germany, and Italy, 2.94 for the Netherlands, and only 1.3 for the UK – which are, of course, almost identical to the coefficients one gets from the non-interacted model (and is why the pictures of substantive effects do not change across models).

Given that both models reveal essentially the same relationship between legislative seats and attributions of influence for each role, we can focus on either in interpreting the substantive message of the estimates for differences across countries. Specifically, both models show that the relationship between legislative seat shares and attributions of policymaking responsibility to opposition parties is much flatter in the UK than in the other countries. This results is, of course, consistent with the idea that voters in strong legislatures discount the role of the opposition (as we have already seen in the differences in the estimates on the indicators for opposition status for strong and weak legislatures) – since, if opposition parties have little influence (due to agenda setting and other institutions that favor the cabinet), then having more opposition seats should do little to change this.

That said, the results for Italy and the Netherlands undermine this conclusion because Italy is usually considered a moderate to weak legislature and the Netherlands a strong one. However, in our data Italian voters seem to place a heavy weight on opposition legislative seat share (as much as Germany and Denmark) while Dutch voters have a diminished one (with the estimate falling between the estimates for Germany and Denmark vs. the UK).

Finally, it is worth noting that this apparent partially negative finding (with respect to H6) goes away if one uses a slightly different definition of what makes a legislature strong or weak, which is likely more relevant to the argument being made here. That is, if one focuses on specific legislative powers that may be most relevant for producing contextual differences in the relationship between legislative seats and policy-making influence, the pattern or results we find makes more sense. Specifically, if (as we suggested above) the reason that the influence of opposition parties may be greater in strong legislatures than in weak is that opposition parties get committee assignments in proportion to their size and in strong legislatures these committees have the ability to alter legislation, then all of the criteria that are often used to characterize a legislature as strong or weak may not be relevant. Instead, if we focus narrowly on committee powers like the authority to rewrite government bills, urgency powers, existence of the legislative "guillotine," and whether there is a binding plenary debate before the committee stage, then we find that the Denmark, German, and Italy

each have five of these features that are commensurate with Strong committee power. The Netherlands has only 3 and the UK zero (Martin and Vanberg 2011, p.46).[25] This ordering is, of course, exactly the ordering we get for the strength of the relationship between legislative seat share of opposition parties and voters' attributions of policymaking influence.

[25] The reason the Netherlands and Italy switch position in less narrow definitions of the strength of the legislature as to do with the size of the legislative committee system – where Italy has few standing committees relative to the number of government ministries and the Netherlands have many.

Table A.3.3.2: Estimated Results of Interacting Role and Legislative Seat Share

Variable	DK	GE	IT	NL	UK
Prime minister	2.26***	2.72***	1.61***	2.04***	1.38***
	(0.19)	(0.21)	(0.14)	(0.17)	(0.20)
Cabinet partner	1.51***	1.57***	1.09***	1.64***	1.28***
	(0.13)	(0.09)	(0.07)	(0.11)	(0.14)
Opposition	0.84***	0.97***	0.62***	0.97***	0.71***
	(0.11)	(0.07)	(0.06)	(0.10)	(0.11)
Legislative seats	5.61***	9.29***	10.02***	10.07***	8.97***
	(1.11)	(0.85)	(0.90)	(1.50)	(1.63)
Prime minister*	-2.27*	-6.14***	-4.64***	-6.50***	-4.44**
Legislative seats	(1.11)	(0.97)	(0.95)	(1.46)	(1.70)
Cabinet partner*	0.27	-5.29***	-5.00***	-6.12***	-7.22***
Legislative seats	(1.11)	(0.90)	(0.90)	(1.37)	(1.65)
Opposition*	-0.69	-3.96***	-4.83***	-7.13***	-7.67***
Legislative seats	(0.96)	(0.90)	(0.88)	(1.34)	(1.63)
Median	0.09	0.06	-0.15*	0.07	0.04
	(0.07)	(0.07)	(0.07)	(0.06)	(0.08)
centrality	-0.01	-0.00	0.00	0.03***	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Banzhaf index	-0.52	-0.29	-0.59	0.15	0.52
	(0.60)	(0.25)	(0.31)	(0.77)	(0.29)
Affinity	0.04***	0.03**	0.02***	0.02**	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Party 1	-0.71***	-1.82***	0.29*	-0.29**	-1.89***
	(0.15)	(0.16)	(0.12)	(0.10)	(0.14)
Party 2	-1.24***	-0.81***	-1.25***	-1.38***	-0.60***
	(0.15)	(0.15)	(0.12)	(0.11)	(0.14)
Party 3	0.40**	-1.21***	-1.54***	-1.25***	-0.38**
	(0.15)	(0.15)	(0.12)	(0.10)	(0.13)
Party 4	-0.94***	-1.40***	-0.66***	-1.42***	-1.77***
	(0.15)	(0.16)	(0.12)	(0.11)	(0.15)
Party 5	-2.57***	-1.83***	-0.43***	-1.00***	-1.36***
	(0.18)	(0.16)	(0.12)	(0.10)	(0.14)
Party 6	-1.62***	0.18	-0.46***	-2.01***	
	(0.16)	(0.14)	(0.12)	(0.11)	

Party 7	-0.87***		-1.35***	-0.30**	
	(0.15)		(0.12)	(0.10)	
Party 8	-0.60***		-1.19***	-1.33***	
	(0.16)		(0.12)	(0.10)	
Party 9			-1.26***	-1.43***	
			(0.12)	(0.11)	
Cut point 1	-1.42***	-1.17***	-1.08***	-1.49***	-1.90***
	(0.18)	(0.17)	(0.13)	(0.14)	(0.18)
Cut point 2	0.03	0.25	0.08	-0.10	-0.37*
	(0.18)	(0.17)	(0.13)	(0.14)	(0.18)
Cut point 3	1.18***	1.62***	1.12***	1.08***	0.81***
	(0.18)	(0.17)	(0.13)	(0.14)	(0.18)
Cut point 4	2.34***	2.97***	2.30***	2.31***	1.97***
	(0.18)	(0.17)	(0.13)	(0.14)	(0.18)
Random intercepts	0.27***	0.44***	0.48***	0.40***	0.68***
Var (respondents):	(0.03)	(0.04)	(0.04)	(0.03)	(0.06)
Ln(likelihood)	-6044.52	-5239.51	-7730.95	-8071.24	-3854.42
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

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Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

A.3.4 Splitting the Sample on Political Knowledge

I this section we replicate the model in Table 1 but split the sample between respondents with high and low levels of political knowledge. Our measure of political knowledge is a simple additive measure that includes items for whether (and to what extent) the respondent knew the cabinet role, legislative seat share, and ideological position or each party in the system. High knowledge individuals are above the mean on this measure and low are below it. Alternative measures that combined these variables using different factor analytic models produce the same results.

What differences manifest when we split the sample between high and low knowledge respondents? First, if we define a large substantive difference in the estimates between high and low knowledge respondents as those with a difference in sign (significant or not) or a difference in statistical significance (i.e., above or below $p < .05$), then most of the differences between high and low knowledge respondents are confined to variables for which the estimated effects in Table 1 were quite small and/or non-robust and inconsistent across countries and/or different specifications. This is, of course, exactly what we would expect when we do analyses on sub-samples: effects not large and consistent in the main analysis are likely to move around.

Specifically, we see some differences in our estimates for centrality and (in one country each) the median and Banzhaf variables. In no case, however, do these differences bring any order to the estimates for these variables across countries. The estimates are still small, largely insignificant, and sometimes in the wrong direction – that is, they do not suggest in any way that consideration of knowledge can somehow "save" these variables and change our conclusion that voters do not in general use them in their inferences about policymaking responsibility.

Next, we do see a consistent difference in the estimate for the cabinet share variable – with high knowledge voters consistently giving more weight to cabinet share than less knowledgeable voters, even if the estimates are generally insignificant. This is interesting and may suggest that more knowledgeable voters are more willing to collect and integrate this information into their inferences about responsibility attribution. However, we hesitate to make too much of this, since the effects, while directionally consistent, are all very small and statistically insignificant in most cases (and in one case has the wrong sign).

Next, the differences in estimates between the high and low knowledge respondents for cabinet roles and legislative seat share are limited. Specifically, in no case do we get a change in sign for these variables. For roles, we also never get a change in

statistical significance (i.e., going from below to above $p < .05$ or vis-a-versa) or a change in the recovered rank-ordering of the three covariates. That said, it is interesting that we see high knowledge voters in the strong parliaments of Denmark and the Netherlands giving more weight to opposition parties than low knowledge voters do. Likewise, in the weak UK parliament we see that high knowledge voters give less weight than low knowledge voters to the opposition.

Thus, the only substantively large differences in effects between low and high information voters come in the legislative seat share variable and in the estimates on the party dummy variables included in the model.

For legislative seats, these differences are confined to the Netherlands and the UK but tell opposite stories. In the Dutch case, high knowledge voters give twice as much weight to legislative seats as low knowledge voters (though both effects are positive and large relative to other effects in the model, the one for low knowledge voters is not significant). In the British case, it is low knowledge voters who give more weight to legislative seats compared to high knowledge voters.

Turning to the party dummies in the model, we see large consistent differences between the high and low knowledge group and every one of these differences for which we have any intuition at all seems consistent with high knowledge voters bringing information to their inferences about policymaking influence that make them more accurate than otherwise. That is, as explained in the text, these party dummies capture any unmeasured variables that would cause voters to systematically attribute more or less influence to a party than we would expect based on the variables in the model. Thus, if these are significant in either direction they suggest that voters are using information to inform their attributions of influence other than the cues we have identified and included in the model. For example, they might be using information about actual episodes of policymaking gleaned from news reports.

Given this, it is striking that with only one exception, the estimates for these party dummies are larger (in absolute value) for high knowledge voters than low knowledge voters. What does this mean? It means that while both high and low knowledge voters are using the cues we identify, the high information voters are bringing more information about the parties (not included in the model) to their inferences about influence than are low information voters. This makes a lot of sense to us (and gives us additional confidence that our overall design is getting things right).

Further, the one case in which we see that the coefficient on a party dummy is smaller for high knowledge voters than low is exactly the one case in which we might expect such a result. Specifically, this is a case in which Italian voters attributed more

influence to the rightist opposition party FI-PdL than we might otherwise expect. Indeed, there is no ready explanation for this higher level of attribution in the recent policymaking history of the party. A leftist coalition had won the election and formed two successive cabinets and so there is no clear reason that we would expect voters to attribute a lot of influence to this rightist party, other than the simple fact that it was led by Silvio Berlusconi. That is, this looks like a kind of irrational "Berlusconi effect" in which Italians just think that somehow, even in opposition, this perennial figure in Italian politics (and incredible survivor) had influence. So, it is interesting that this effect disappears if one confines the sample to knowledgeable voters, who judge the party's influence exactly as our model would predict based on its size and role (i.e., the party dummy effect goes to zero and there is no "Berlusconi effect" for these voters).

Next, if we look at the other two cases in which we estimated positive party dummy effects (both cases of large powerful cabinet partners at least one of which had a clear recent history of policymaking success), we find that high knowledge voters attribute more influence to these parties than less knowledgeable voters.

As we explain in appendix A.8.2, Danish voters thought the RV in Denmark had more influence than you would expect based on its role as a partner and its size because (in our view) many of these voters had observed the RV not only obtain a number of highly publicized rightist policy victories (in fiscal policy) as a member of a leftist cabinet, but also force the leftist SPP out of the government as a result of these victories. As we can now see, however, this effect is limited to knowledgeable voters. Indeed, low knowledge voters do not do this at all – for them the estimate on the party dummy is zero and so their attributions of influence to the RV are exactly what we would predict from the cues in the model.

Finally, another case for which we have good intuition about the recent history of policymaking success is the Lib-Dems in the UK. Clearly, we would expect the coefficient on this variable to be negative given the much-discussed failure of the Lib-Dems to win policy concessions from the Conservatives – and it is. However, here again it is the knowledgeable voters who see this and not the less knowledge ones. Indeed, the difference is stark with a negative coefficient of 1.37 for knowledgeable voters (which is substantively large in this model) and an insignificant 0.24 for less knowledgeable voters.

Table A.3.4.1: Replication of Table 1, Splitting the Sample on High and Low Knowledge

Variable	DK high	DK low	GE high	GE low	IT high	IT low	NL high	NL low	UK high	UK low
Prime minister	1.68***	1.98***	2.66***	1.90***	1.10***	1.29***	1.76***	1.40***	1.22**	1.36***
	(0.22)	(0.29)	(0.44)	(0.18)	(0.17)	(0.17)	(0.21)	(0.16)	(0.38)	(0.20)
Cabinet partner	1.49***	1.11***	1.33***	1.17***	0.94***	0.57***	1.80***	0.94***	0.97***	0.76***
	(0.14)	(0.20)	(0.15)	(0.11)	(0.07)	(0.11)	(0.14)	(0.12)	(0.25)	(0.17)
Opposition	0.81***	0.53**	0.89***	0.84***	0.50***	0.48***	1.01***	0.49***	0.44***	0.59***
	(0.12)	(0.19)	(0.08)	(0.10)	(0.06)	(0.09)	(0.13)	(0.11)	(0.12)	(0.16)
Legislative seats	5.09***	5.54***	4.63***	4.80***	5.22***	4.90***	4.64***	1.53	0.77	3.32***
	(0.79)	(1.30)	(0.56)	(0.58)	(0.51)	(0.65)	(1.09)	(1.46)	(0.52)	(0.70)
Cabinet share	0.23	0.09	-0.31	-0.63*	0.51*	0.22	0.25	0.02	0.80*	0.32
	(0.29)	(0.40)	(0.40)	(0.28)	(0.22)	(0.26)	(0.26)	(0.33)	(0.35)	(0.32)
Median	0.05	0.17	0.07	0.01	-0.14	-0.16	0.05	0.06	0.09	-0.03
	(0.07)	(0.23)	(0.09)	(0.13)	(0.09)	(0.14)	(0.07)	(0.14)	(0.09)	(0.13)
Centrality	-0.02	0.01	-0.01	0.02	0.00	-0.00	0.03***	0.00	-0.03	-0.03
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Banzhaf index	-0.67	-1.79	-0.22	-0.40	-0.30	-0.80	-1.39	2.53	0.65	-0.04
	(0.67)	(1.17)	(0.31)	(0.39)	(0.38)	(0.46)	(0.95)	(1.30)	(0.38)	(0.48)
Affinity	0.04***	0.04*	0.04***	0.01	0.02***	0.01	0.02*	0.02	0.02	0.02
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Party 1	-0.82***	0.04	-2.04***	-1.39***	0.04	0.50**	-0.68***	-0.28	-3.21***	-1.20***
	(0.22)	(0.26)	(0.46)	(0.19)	(0.17)	(0.16)	(0.17)	(0.14)	(0.37)	(0.18)
Party 2	-1.33***	-0.76**	-0.66	-0.59***	-1.59***	-0.71***	-1.86***	-1.13***	-1.60***	-0.54***
	(0.22)	(0.28)	(0.44)	(0.17)	(0.18)	(0.18)	(0.18)	(0.16)	(0.37)	(0.16)
Party 3	0.53**	0.00	-1.18**	-0.90***	-1.86***	-1.18***	-1.72***	-0.98***	-1.37***	-0.24
	(0.20)	(0.26)	(0.45)	(0.17)	(0.18)	(0.18)	(0.18)	(0.15)	(0.31)	(0.14)
Party 4	-1.00***	-0.56*	-1.48**	-1.17***	-0.94***	-0.34*	-1.92***	-1.04***	-3.01***	-1.21***
	(0.21)	(0.27)	(0.46)	(0.17)	(0.17)	(0.16)	(0.18)	(0.16)	(0.37)	(0.19)
Party 5	-2.82***	-1.38***	-2.07***	-1.39***	-0.76***	-0.07	-1.52***	-0.53***	-2.51***	-0.95***
	(0.24)	(0.32)	(0.46)	(0.18)	(0.17)	(0.16)	(0.17)	(0.14)	(0.37)	(0.18)
Party 6	-1.73***	-1.06***	0.71	0.06	-0.62***	-0.55***	-2.55***	-1.53***		
	(0.22)	(0.30)	(0.42)	(0.15)	(0.17)	(0.17)	(0.19)	(0.17)		
Party 7	-0.95***	-0.31			-1.59***	-1.24***	-0.72***	-0.14		
	(0.21)	(0.28)			(0.18)	(0.19)	(0.17)	(0.14)		
Party 8	-0.68**	0.06			-1.43***	-0.95***	-1.87***	-0.79***		

	(0.22)	(0.25)			(0.18)	(0.18)	(0.18)	(0.15)		
Party 9					-1.57***	-0.84***	-1.88***	-1.35***		
					(0.18)	(0.18)	(0.19)	(0.18)		
Cut point 1	-1.62***	-0.82*	-1.34**	-1.05***	-1.43***	-1.15***	-1.96***	-1.47***	-3.39***	-1.54***
	(0.24)	(0.34)	(0.47)	(0.20)	(0.19)	(0.18)	(0.22)	(0.18)	(0.39)	(0.23)
Cut point 2	-0.10	0.14	0.23	0.11	-0.24	-0.08	-0.53*	-0.28	-1.73***	-0.30
	(0.24)	(0.34)	(0.47)	(0.20)	(0.19)	(0.18)	(0.22)	(0.18)	(0.39)	(0.23)
Cut point 3	1.07***	1.24***	1.80***	1.28***	0.82***	0.96***	0.69**	0.80***	-0.44	0.75**
	(0.24)	(0.35)	(0.47)	(0.20)	(0.19)	(0.19)	(0.22)	(0.18)	(0.39)	(0.23)
Cut point 4	2.26***	2.36***	3.31***	2.51***	2.03***	2.13***	1.95***	2.04***	0.89*	1.71***
	(0.24)	(0.35)	(0.47)	(0.20)	(0.19)	(0.19)	(0.22)	(0.19)	(0.39)	(0.23)
Random intercepts	0.25***	0.43***	0.58***	0.29***	0.45***	0.58***	0.43***	0.36***	0.57***	0.80***
Var (respondents):	(0.03)	(0.11)	(0.06)	(0.05)	(0.04)	(0.08)	(0.04)	(0.06)	(0.07)	(0.12)
Ln(likelihood)	-5244.35	-738.83	-3317.84	-1881.41	-5697.86	-1986.54	-6367.40	-1660.12	-2470.31	-1322.15
Respondents	564	93	558	286	512	249	579	175	464	256
N	4948	610	3858	1697	4971	1627	5535	1339	2414	1118

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

Party 5 = **DK:** CD; **DE:** Pirates; **IT:** M5S; **NL:** PvdA; UK: SNP

Party 6 = **DK:** LA; **DE:** SPD; **IT:** NCD; **NL:** PVD

Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP;

Party 9 = **IT:** UdC; **NL:** SGP

A.3.5 Alternative Measures of Median Status and Centrality

In this section we provide estimates with the alternative measures of median status and centrality explained explained in A.6.7.

Table A.3.5.1 Replication of Table 1 allowing Multiple Median Parties

Variable	Denmark	Germany	Italy	Netherlands	UK
Prime minister	1.88***	2.26***	1.34***	1.67***	1.52***
	(0.17)	(0.15)	(0.12)	(0.12)	(0.16)
Cabinet partner	1.50***	1.41***	0.87***	1.36***	0.89***
	(0.11)	(0.08)	(0.06)	(0.09)	(0.13)
Opposition	0.82***	0.91***	0.47***	0.66***	0.42***
	(0.10)	(0.06)	(0.05)	(0.07)	(0.09)
Legislative seats	5.09***	5.07***	5.31***	3.65***	1.76***
	(0.67)	(0.39)	(0.40)	(0.86)	(0.39)
Cabinet share	0.38	-0.54*	0.32*	0.32	0.59**
	(0.22)	(0.23)	(0.16)	(0.20)	(0.23)
Centrality	-0.01	-0.02	-0.00	0.03***	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Median	0.01	0.16**	-0.02	0.01	0.04
	(0.05)	(0.05)	(0.05)	(0.04)	(0.07)
Banzhaf	-0.91	-0.45	-0.77**	-0.07	0.76**
	(0.57)	(0.23)	(0.29)	(0.75)	(0.28)
Affinity	0.04***	0.03***	0.02***	0.02**	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Party 1	-0.48**	-1.79***	0.29**	-0.27**	-1.96***
	(0.16)	(0.16)	(0.11)	(0.10)	(0.14)
Party 2	-1.03***	-0.74***	-1.25***	-1.36***	-0.83***
	(0.16)	(0.15)	(0.12)	(0.11)	(0.14)
Party 3	0.61***	-1.15***	-1.57***	-1.23***	-0.54***
	(0.15)	(0.15)	(0.12)	(0.10)	(0.12)
Party 4	-0.72***	-1.34***	-0.65***	-1.39***	-1.84***
	(0.16)	(0.16)	(0.11)	(0.11)	(0.15)
Party 5	-2.40***	-1.80***	-0.46***	-1.02***	-1.44***
	(0.18)	(0.16)	(0.11)	(0.10)	(0.14)
Party 6	-1.41***	0.22	-0.45***	-1.99***	
	(0.16)	(0.13)	(0.11)	(0.11)	
Party 7	-0.65***		-1.33***	-0.29**	

	(0.15)		(0.12)	(0.09)	
Party 8	-0.36*		-1.17***	-1.33***	
	(0.16)		(0.12)	(0.10)	
Party 9			-1.25***	-1.41***	
			(0.12)	(0.11)	
Cut point 1	-1.26***	-1.15***	-1.23***	-1.75***	-2.19***
	(0.19)	(0.16)	(0.12)	(0.13)	(0.18)
Cut point 2	0.18	0.27	-0.07	-0.37**	-0.67***
	(0.19)	(0.17)	(0.12)	(0.13)	(0.17)
Cut point 3	1.33***	1.63***	0.97***	0.81***	0.50**
	(0.19)	(0.17)	(0.13)	(0.13)	(0.17)
Cut point 4	2.49***	2.99***	2.15***	2.04***	1.65***
	(0.19)	(0.17)	(0.13)	(0.13)	(0.18)
Random intercepts	0.27***	0.46***	0.49***	0.40***	0.66***
Var (respondents):	(0.03)	(0.04)	(0.04)	(0.03)	(0.06)
Ln(likelihood)	-6048.55	-5255.88	-7747.73	-8085.40	-3875.48
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

Party 5 = **DK:** CD; **DE:** Pirates; **IT:** M5S; **NL:** PvdA; UK: SNP

Party 6 = **DK:** LA; **DE:** SPD; **IT:** NCD; **NL:** PVD

Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

Figure A.3.5.2 Replication of Table 1 allowing Multiple Median Parties and Measuring Centrality from the Center of the LR Scale Rather than from the Median Position

	Denmark	Germany	Italy	Netherlands	UK
Prime minister	1.88***	2.26***	1.34***	1.63***	1.51***
	(0.17)	(0.15)	(0.12)	(0.12)	(0.16)
Cabinet partner	1.50***	1.41***	0.87***	1.34***	0.88***
	(0.11)	(0.08)	(0.06)	(0.09)	(0.13)
Opposition	0.82***	0.92***	0.46***	0.65***	0.41***
	(0.10)	(0.06)	(0.05)	(0.07)	(0.09)
Legislative seats	5.10***	5.10***	5.28***	3.60***	1.78***
	(0.67)	(0.39)	(0.40)	(0.86)	(0.39)
Cabinet share	0.38	-0.53*	0.33*	0.30	0.58*
	(0.23)	(0.23)	(0.16)	(0.20)	(0.23)
Centrality	0.00	-0.04**	-0.03**	-0.06***	-0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Median	-0.02	0.14**	-0.01	0.13***	-0.02
	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)
Banzhaf	-0.94	-0.51*	-0.78**	-0.13	0.63*
	(0.57)	(0.23)	(0.29)	(0.75)	(0.28)
Affinity	0.04***	0.04***	0.03***	0.03***	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Party 1	-0.49**	-1.79***	0.24*	-0.21*	-1.92***
	(0.16)	(0.16)	(0.11)	(0.10)	(0.14)
Party 2	-1.04***	-0.72***	-1.31***	-1.30***	-0.79***
	(0.16)	(0.15)	(0.12)	(0.11)	(0.14)
Party 3	0.61***	-1.15***	-1.57***	-1.14***	-0.49***
	(0.15)	(0.15)	(0.12)	(0.10)	(0.12)
Party 4	-0.70***	-1.34***	-0.70***	-1.36***	-1.80***
	(0.16)	(0.16)	(0.12)	(0.11)	(0.15)
Party 5	-2.42***	-1.78***	-0.45***	-0.95***	-1.41***
	(0.18)	(0.16)	(0.11)	(0.10)	(0.14)
Party 6	-1.42***	0.23	-0.49***	-1.91***	
	(0.16)	(0.13)	(0.11)	(0.11)	
Party 7	-0.65***		-1.33***	-0.32***	
	(0.15)		(0.12)	(0.09)	
Party 8	-0.36*		-1.20***	-1.34***	

	(0.16)		(0.12)	(0.10)	
Party 9			-1.25***	-1.42***	
			(0.12)	(0.11)	
Cut point 1	-1.30***	-1.12***	-1.19***	-1.52***	-2.17***
	(0.18)	(0.16)	(0.12)	(0.13)	(0.17)
Cut point 2	0.15	0.30	-0.04	-0.15	-0.66***
	(0.18)	(0.17)	(0.12)	(0.13)	(0.17)
Cut point 3	1.30***	1.67***	1.00***	1.04***	0.52**
	(0.18)	(0.17)	(0.12)	(0.13)	(0.17)
Cut point 4	2.45***	3.03***	2.19***	2.27***	1.66***
	(0.18)	(0.17)	(0.13)	(0.13)	(0.17)
Random intercepts	0.27***	0.46***	0.49***	0.40***	0.64***
Var (respondents):	(0.03)	(0.04)	(0.04)	(0.03)	(0.06)
Ln(likelihood)	-6049.07	-5252.62	-7744.09	-8077.60	-3871.10
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

Party 5 = **DK:** CD; **DE:** Pirates; **IT:** M5S; **NL:** PvdA; UK: SNP

Party 6 = **DK:** LA; **DE:** SPD; **IT:** NCD; **NL:** PVD

Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

Figure A.3.5.3 Replication of Table 1 allowing quadratic function on centrality

	Denmark	Germany	Italy	Netherlands	UK
Prime minister	1.88***	2.27***	1.34***	1.67***	1.53***
	(0.17)	(0.15)	(0.12)	(0.12)	(0.16)
Cabinet partner	1.51***	1.42***	0.87***	1.36***	0.89***
	(0.11)	(0.08)	(0.06)	(0.09)	(0.13)
Opposition	0.82***	0.91***	0.47***	0.66***	0.42***
	(0.10)	(0.06)	(0.05)	(0.07)	(0.09)
Legislative seats	5.13***	5.10***	5.30***	3.63***	1.78***
	(0.67)	(0.39)	(0.40)	(0.86)	(0.39)
Cabinet share	0.38	-0.55*	0.31	0.32	0.59**
	(0.22)	(0.23)	(0.16)	(0.20)	(0.23)
Median	0.07	0.01	-0.15*	0.05	0.04
	(0.07)	(0.08)	(0.07)	(0.07)	(0.08)
Centrality	0.00	0.04	0.00	0.04*	(0.05)
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Centrality squared	0.00	0.01	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00
Banzhaf	(0.99)	(0.40)	-0.66*	(0.08)	0.75**
	(0.58)	(0.24)	(0.29)	(0.75)	(0.29)
Affinity	0.04***	0.03**	0.02***	0.02**	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Party 1	-0.49**	-1.77***	0.29**	-0.28**	-1.96***
	(0.16)	(0.16)	(0.11)	(0.10)	(0.14)
Party 2	-1.03***	-0.72***	-1.24***	-1.36***	-0.83***
	(0.16)	(0.15)	(0.12)	(0.11)	(0.14)
Party 3	0.60***	-1.13***	-1.57***	-1.24***	-0.54***
	(0.15)	(0.15)	(0.12)	(0.10)	(0.12)
Party 4	-0.73***	-1.34***	-0.64***	-1.40***	-1.84***
	(0.16)	-0.16	(0.11)	(0.11)	(0.15)
Party 5	-2.40***	-1.79***	-0.43***	-1.02***	-1.43***
	(0.18)	-0.16	(0.11)	(0.10)	(0.14)
Party 6	-1.41***	0.23	-0.44***	-2.00***	
	-0.16	-0.13	(0.11)	(0.11)	
Party 7	-0.65***		-1.33***	-0.29**	
	(0.15)		(0.12)	(0.09)	
Party 8	-0.36*		-1.17***	-1.34***	

	(0.16)		(0.12)	(0.10)	
Party 9			-1.25***	-1.42***	
			(0.12)	(0.11)	
Cut point 1	-1.27***	-1.22***	-1.22***	-1.77***	-2.20***
	(0.19)	(0.17)	(0.13)	(0.13)	(0.18)
Cut point 2	0.17	0.19	(0.07)	-0.39**	-0.68***
	(0.19)	(0.17)	(0.13)	(0.13)	(0.17)
Cut point 3	1.32***	1.56***	0.97***	0.79***	0.50**
	(0.19)	(0.17)	(0.13)	(0.13)	(0.17)
Cut point 4	2.48***	2.92***	2.15***	2.02***	1.64***
	-0.19	-0.17	-0.13	-0.13	-0.18
Random intercepts	0.27***	0.46***	0.49***	0.40***	0.66***
Var (respondents):	-0.03	-0.04	-0.04	-0.03	-0.06
Ln(likelihood)	-6047.46	-5258.39	-7745.64	-8084.76	-3875.53
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

Party 5 = **DK:** CD; **DE:** Pirates; **IT:** M5S; **NL:** PvdA; UK: SNP

Party 6 = **DK:** LA; **DE:** SPD; **IT:** NCD; **NL:** PVD

Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

Figure A.3.5.4 Replication of Table 1 omitting the affinity term

	Denmark	Germany	Italy	Netherlands	UK
Prime minister	1.84***	2.27***	1.34***	1.67***	1.45***
	(0.17)	(0.15)	(0.12)	(0.12)	(0.15)
Cabinet partner	1.50***	1.43***	0.87***	1.37***	0.88***

	(0.11)	(0.08)	(0.06)	(0.09)	(0.12)
Opposition	0.82***	0.92***	0.47***	0.65***	0.45***
	(0.10)	(0.06)	(0.05)	(0.07)	(0.09)
Median	0.11	0.04	-0.15*	0.07	0.03
	(0.07)	(0.07)	(0.07)	(0.06)	(0.07)
Legislative seats	5.19***	5.10***	5.35***	3.73***	1.57***
	(0.67)	(0.39)	(0.40)	(0.84)	(0.38)
Cabinet share	0.41	-0.54*	0.31	0.26	0.73***
	(0.22)	(0.23)	(0.16)	(0.20)	(0.22)
Centrality	(0.01)	0.01	0.00	0.03***	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Banzhaf	(1.07)	(0.42)	-0.69*	(0.13)	0.80**
	(0.58)	(0.24)	(0.29)	(0.74)	(0.28)
Party 1	-0.52***	-1.78***	0.28*	-0.28**	-1.99***
	(0.16)	(0.16)	(0.11)	(0.10)	(0.14)
Party 2	-1.07***	-0.71***	-1.25***	-1.34***	-0.85***
	(0.16)	(0.15)	(0.12)	(0.11)	(0.13)
Party 3	0.57***	-1.14***	-1.56***	-1.21***	-0.59***
	(0.15)	(0.15)	(0.12)	(0.10)	(0.12)
Party 4	-0.76***	-1.33***	-0.66***	-1.39***	-1.89***
	(0.16)	(0.16)	(0.11)	(0.10)	(0.14)
Party 5	-2.40***	-1.77***	-0.43***	-1.01***	-1.48***
	(0.18)	(0.16)	(0.11)	(0.10)	(0.14)
Party 6	-1.45***	0.24	-0.45***	-1.98***	
	(0.16)	(0.13)	(0.11)	(0.11)	
Party 7	-0.67***		-1.32***	-0.29**	
	(0.15)		(0.12)	(0.09)	
Party 8	-0.40*		-1.17***	-1.32***	
	(0.16)		(0.12)	(0.10)	
Party 9			-1.24***	-1.41***	
			(0.12)	(0.11)	
Cut point 1	-1.14***	-1.11***	-1.16***	-1.69***	-2.18***
	(0.18)	(0.16)	(0.12)	(0.13)	(0.17)
Cut point 2	0.30	0.30	0.00	-0.31*	-0.66***
	(0.18)	(0.16)	(0.12)	(0.13)	(0.17)
Cut point 3	1.44***	1.66***	1.04***	0.87***	0.50**

	(0.18)	(0.17)	(0.12)	(0.13)	(0.17)
Cut point 4	2.59***	3.02***	2.22***	2.10***	1.64***
	(0.19)	(0.17)	(0.13)	(0.13)	(0.17)
Random intercepts	0.26***	0.45***	0.49***	0.42***	0.66***
Var (respondents):	(0.03)	(0.04)	(0.04)	(0.03)	(0.06)
Ln(likelihood)	-6069.48	-5265.62	-7752.05	-8248.02	-4049.04
Respondents	657	844	761	754	720
N	5558	5555	6598	6874	3532

*** p < 0:001, **p < 0:01, * p < 0:05, two-tailed test.

Reference party = **DK:** SD; **DE:** CDU/CSU; **IT:** PD; **NL:** VVD; **UK:** Con

Party 1 = **DK:** DPP; **DE:** AfD; **IT:** FI-PdL; **NL:** CDA; **UK:** Greens

Party 2 = **DK:** K; **DE:** The Greens; **IT:** FdI; **NL:** CU; **UK:** Lab

Party 3 = **DK:** RV; **DE:** DL; **IT:** IdV; **NL:** D66; **UK:** LDP

Party 4 = **DK:** Unity List; **DE:** FDP; **IT:** LN; **NL:** GL; **UK:** PC

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Party 7 = **DK:** SPP; **IT:** SC; **NL:** PVV

Party 8 = **DK:** V; **IT:** SEL; **NL:** SP

Party 9 = **IT:** UdC; **NL:** SGP

A4: Summary Statistics for all Variables and Knowledge of the Cues used in the Retrospective Models

In this section we provide summary statsitics for all of our variables by country and also describe the extent to which our respondents knew the true value of parties' governement roles, legislative seat sizes, and median status.

A.4.1. Summary Statistics for Variables Used in Table 1

Table A.4.1.1: Denmark (2014)

Variable	Obs	Mean	Std. dev	Min	Max
Responsibility attribution	5,558	3.02	1.33	1	5
Prime minister	5,558	0.13	0.33	0	1
Cabinet partner	5,558	0.20	0.40	0	1
Opposition	5,558	0.57	0.50	0	1
Not in Parliament		0.11	0.31	0	1

Seats	5,558	0.11	0.10	0	0.92
Cabinet share	5,558	0.12	0.22	0	1
Median	5,558	0.07	0.26	0	1
Centrality	5,558	-2.56	2.21	-10	0
Banzhaf index	5,558	0.11	0.11	0	1
Affinity	5,558	-3.52	2.61	-10	0

Table A.4.1.2: Germany (2014)

Variable	Obs	Mean	Std. dev	Min	Max
Responsibility attribution	5,555	2.79	1.46	1	5
Prime minister	5,555	0.15	0.36	0	1
Cabinet partner	5,555	0.22	0.41	0	1
Opposition	5,555	0.32	0.47	0	1
Not in Parliament	5,555	0.31	0.46	0	1
Seats	5,555	0.15	0.16	0	0.8
Cabinet share	5,555	0.15	0.24	0	1
Median	5,555	0.08	0.27	0	1
Centrality	5,555	-2.07	2.02	-10	0
Banzhaf index	5,555	0.15	0.19	0	1
Affinity	5,555	-2.62	2.16	-10	0

Table A.4.1.3: Italy (2014)

Variable	Obs	Mean	Std. dev	Min	Max
Responsibility attribution	6,598	2.87	1.36	1	5
Prime minister	6,598	0.12	0.32	0	1
Cabinet partner	6,598	0.27	0.44	0	1
Opposition	6,598	0.45	0.50	0	1
Not in Parliament	6,598	0.16	0.37	0	1
Seats	6,598	0.11	0.12	0	0.9
Cabinet share	6,598	0.11	0.23	0	1
Median	6,598	0.07	0.25	0	1
Centrality	6,598	-2.67	2.38	-10	0
Banzhaf index	6,598	0.11	0.16	0	1

Affinity	6,598	-3.49	2.68	-10	0

Table A.4.1.4: The Netherlands (2012)

Variable	Obs	Mean	Std. dev	Min	Max
Responsibility attribution	6,874	2.97	1.25	1	5
Prime minister	6,874	0.11	0.32	0	1
Cabinet partner	6,874	0.24	0.43	0	1
Opposition	6,874	0.59	0.49	0	1
Not in Parliament	6,874	0.05	0.22	0	1
Seats	6,874	0.10	0.08	0	0.7
Cabinet share	6,874	0.11	0.18	0	1
Median	6,874	0.06	0.24	0	1
Centrality	6,874	-2.48	2.17	-10	0
Banzhaf index	6,874	0.10	0.09	0	1
Affinity	6,874	-3.18	2.52	-10	0

Table A.4.1.5: The United Kingdom (2012)

Variable	Obs	Mean	Std. dev	Min	Max
Responsibility attribution	3,532	3.31	1.34	1	5
Prime minister	3,532	0.22	0.42	0	1
Cabinet partner	3,532	0.23	0.42	0	1
Opposition	3,532	0.48	0.50	0	1
Not in Parliament	3,532	0.07	0.25	0	1
Seats	3,532	0.18	0.16	0	0.96
Cabinet share	3,532	0.20	0.28	0	1
Median	3,532	0.14	0.34	0	1
Centrality	3,532	-1.94	2.04	-9	0
Banzhaf index	3,532	0.18	0.17	0	1

Affinity	3,532	-3.00	2.40	-10	0

A.4.2. What Voters Know about the the Parties' Roles, Sizes, and Median Status

Table A.4.2.1: Voters' Knowledge on Cabinet Roles

	Correctly Identified PM	Correctly Identified Whole Cabinet and PM
Denmark	74.37%	64.46%
Germany	91.71%	76.99%
Italy	83.17%	13.41%
The Netherlands	82.34%	66.63%
United Kingdom	90.94%	75.29%

Table A.4.2.2: Voters' Knowledge on Median Party (using CMP Rile as the True Party Position)

	All Respondents		
	True Median Party	% Respondents who know the true median Party	Year of the CMP data
Denmark	SD	11.7%	2011
Germany	Greens	9.1%	2013
Italy	PD	20.1%	2013
The Netherlands	CU	3.0%	2012
United Kingdom	LDP	42.6%	2010
	Among Respondents who only identify only one median party		
Denmark	SD	19.7%	2011
Germany	Greens	17.0%	2013
Italy	PD	34.8%	2013
The Netherlands	CU	5.3%	2012
United Kingdom	LDP	62.9%	2010

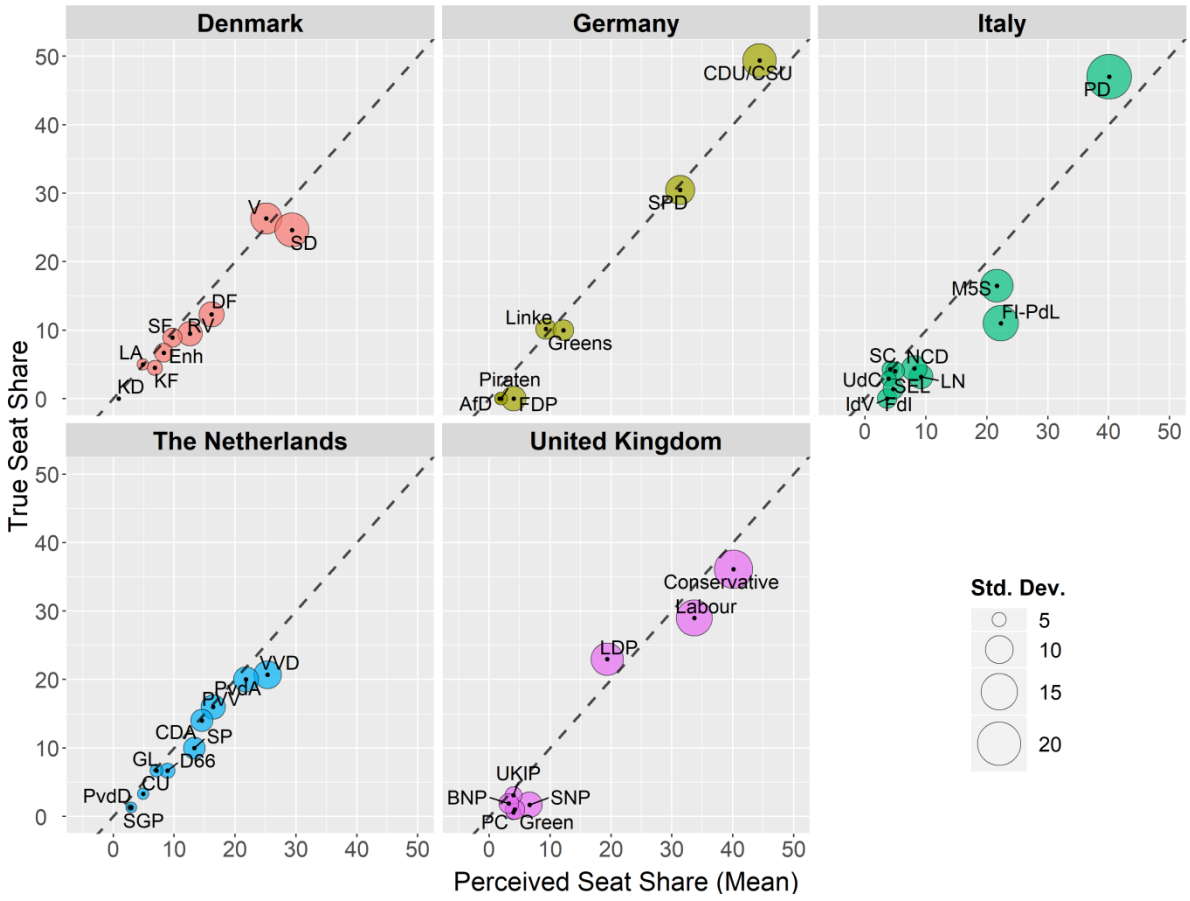
CMP is the latest version of the Comparative Manifestos Project and Rile is the commonly used method for using that data to measure the left-right positions of parties.

Table A.4.2.3: Voters' Knowledge on Median Party (using CHES Left-Right as the True Party Position)

	Among All Respondents		
	True Median Party	% Respondents who know the true median Party	Year of the CHES data
Denmark	RV	22.7%	2014
Germany	SPD	20.6%	2014
Italy	PD	20.1%	2014
The Netherlands	CDA	25.3%	2010
United Kingdom	LDP	42.6%	2010
	Among Respondents who only identify only one median party		
Denmark	RV	38.1%	2014
Germany	SPD	38.6%	2014
Italy	PD	34.8%	2014
The Netherlands	CDA	44.9%	2010
United Kingdom	LDP	62.9%	2010

CHES is the Chapel Hill Elite Survey.

Figure A.4.2.4: Voters' Knowledge on Party Seat Share



The size of each circle represents the variance in voters' perception of a party's legislative seat share, and the dash lines indicate perfect knowledge on party size. Thus, a larger circle and a greater distance from a circle to the dashed line suggest that voters are collectively less accurate about a party's legislative seat share.

A.5 More information about the political context of each election in our dataset

While our main empirical goal is not a cross-national comparison (we only have five countries) we also want to be sensitive to the way that political context may impact our results (and so often present results separately for each country). Consequently, this appendix provides a summary of the political contexts in which each of our surveys was conducted. Specifically, Table A.5.1 summarizes some of the institutional variables that Powell and Whitten (1993) identified as key indicators of the extent of power sharing across systems generally.

Table A.5.1: Institutional Context at the Time of the Surveys

Country	Majority/ Minority status of the government	Powerful second chamber	Internal Party Cohesion	Strength of the parliament	Number of parties in government
Italy	Majority	*Yes**	High	Medium	*4**
Netherlands	*Minority**	No	High	*Strong**	2
Denmark	*Minority**	No	High	*Strong**	2
Germany	Majority (grand coalition)	No**	High	*Strong**	2
UK	Majority	No	High	Weak	2

*Italicized entries are those which should lead to more power-sharing.

**The German upper house (the Bundesrat) actually has important legislative veto powers, but this veto can be overridden with a 50 percent plus one vote of all Bundestag members (unless it is deemed to affect policy areas where the Basic Law grants the Länder concurrent powers), which greatly reduces the role of the Bundesrat under conditions of majority government. Furthermore, it is unlikely that there is much Bundesrat resistance to government decisions under the condition of a grand coalition. This is because Bundesrat delegations (composed of members representing the, typically coalition, governments of the Länder) vote en bloc, and when those delegations are divided, they abstain. These abstentions are de facto ascent to government policy as they deny the Bundesrat sufficient votes needed to force conciliation or fight the lower house's simple majority veto.

Two of the countries in our dataset had minority cabinets at the time of the surveys (Denmark and the Netherlands). All other countries had majority governments, and Germany had a "grand coalition" between SPD and CDU/CSU (who together controlled 72% of the seats in the Bundestag). Furthermore, all countries except Italy had a two-party government. Italy was characterized by a strong upper chamber coupled with a large coalition government. Martin and Vanberg (2011) have estimated the "policing strength" powers of the opposition relative to the government and we use this score as a measure of the formal powers of the opposition to influence policy – i.e., the strength of the parliament. Finally, according to Laver and Benoit's (2015) characterization of the cabinet bargaining environment, at the time of our surveys Germany and Italy had strongly dominant party bargaining environment, the UK had a top three bargaining environment, and Denmark and the Netherlands had open

bargaining environments.

A.6 Measurement of Variables

A.6.1 Survey Design and Administration

The surveys used in this paper are part of a series of surveys designed by the authors to address shortcomings in the corpus of exiting election surveys that make this corpus difficult to use to explore questions about responsibility attribution. The first of these problems is simply that no other survey of which we are aware has tried to develop and field a direct question about which parties voters think have (or have had) more or less influence over policy. The second problem is that very few surveys ask voters about their perceptions of the values of the cues that our theory implicates. These include not only questions about the ideological positions of parties (which is asked a lot), but also the perceived roles of the parties (almost never asked) and the legislative seat shares of the parties (almost never asked and when included usually only asks which of several pairs of parties is larger).

The former omission seems to have occurred because survey designers simply assumed that almost all voters in parliamentary systems know which parties are in the cabinet and which is holds the prime ministry. In contrast, the latter omission seems to have stemmed from the opposite belief – that voters could not possibly know the cardinal values of parties' seats or seat shares and even if they do, it is too difficult to ask them about these values for all parties in a survey. Various papers by the authors and others that have drawn on our new surveys have subsequently proved these assumptions quite wrong (citations removed).

Each of the surveys reported in this paper was designed by the authors and implemented on the Qualtrics survey platform. In each case, respondents came from online panels run by Survey Sampling International (SSI) or YouGov. The invitations to potential panelists to take the survey did not in any way reveal that the survey was about politics and so we are not worried that the probability of opting into the survey was directly related to interest or knowledge about politics. Further, in each survey not all respondents who opted in took the survey. Instead, respondents were accepted (or not) in real time to meet demographic targets on age and gender -- so that the final sample matched census proportions for these demographics.

As explained in the text, the countries examined in this paper where chosen because they had a coalition incumbent cabinet at the time of the survey and they varied

ways relevant to our hypotheses – i.e., some strong and weak legislatures, some legislatures with a history of minority cabinets, some cabinets with many parties and some with only two.

A.6.2 Question Wording in Denmark (2014), Germany (2014), and Italy (2014)

Responsibility Attribution

The "legislative process" consists of legislators proposing, modifying, and voting on legislation. Ultimately, this process produces a set of new laws and modifications to old laws. Taking into account of all the various means parties may use to influence the legislative process, how much influence do you think each of the parties below ultimately had on the outcomes of the legislative process in [NAME OF COUNTRY] during the most recent government?

{1}. No influence at all
{2}
{3}
{4}
{5}. A great deal of influence
{6}. Don't know

Perceived Seat Share

Approximately what percentage of seats in the [NAME OF LOWER HOUSE] do you think each of the following political parties currently holds? For example, if you think a party doesn't hold any seats in the [NAME OF LOWER HOUSE], please indicate this by typing in 0 in the box. If you think a party controls all the seats in the [NAME OF LOWER HOUSE], please indicate that by typing in a 100. If you are not sure, please type in your best estimate.

Perceived Party Role

For each of the following political parties, please choose the option which BEST describes each party's role in the current government. {1} Party of the Prime Minister {2} Party is in the cabinet but not the party of the Prime Minister {3} Party is in the opposition in the [NAME OF LOWER HOUSE] {4} Party has no seats in the [NAME OF LOWER HOUSE]

A.6.3 Question Wording in the United Kingdom (2012)

Responsibility Attribution

The "legislative process" consists of legislators proposing, modifying, and voting on proposed legislation. Ultimately, this process produces a set of new laws and modifications to old laws. Taking account of all the various means parties may use to influence the legislative process, how much influence do you think each of the parties below ultimately has on the outcomes of the current legislative process in Britain?

{1}. No influence
{2}. Very little influence
{3}. Some influence
{4}. Quite a lot of influence
{5}. A great deal of influence
{6}. Complete influence

Perceived Seat Share

Now we would like to get more specific about the sizes of the parties. What percentage of the seats in the House of Commons do you think each of the following parties holds? If you think a party has no seats in the House of Commons, please indicate that by typing in a zero. If you are not sure, please give us your best guess; but, if you really do not want to answer for a party, just leave the corresponding box blank. Please give your answer for each party as a number between 0 and 100.

Perceived Government Role

Please choose the option which best describes each party's current role in the government.

{1}. Party of the Current Prime Minister
{2}. Party is in the current cabinet but is not the party of the Prime Minister
{3}. Party is currently in the opposition
{4}. Party has no seats in the House of Commons

A.6.4 Question Wording in the Netherlands (2012)

Responsibility Attribution

The "legislative process" consists of legislators proposing, modifying, and voting on legislation. Ultimately, this process produces a set of new laws and modifications to old laws. Taking into account of all the various means parties may use to influence the legislative process, how much influence do you think each of the parties below ultimately had on the outcomes of the legislative process in the Netherlands during the most recent government?

{1}. No influence at all
{2}
{3}
{4}
{5}. A great deal of influence
{6}. Don't know

Perceived Seat Share

Now we would like to get more specific about the sizes of the parties. What percentage of the seats in the House of Representatives do you think each of the following parties holds? If you think a party has no seats in the House of Representatives, please indicate that by typing in a zero. Your answer for each party must be a number between 0 and 100. If you are not sure, please give us your best guess; but, if you really do not want to answer for a party, just leave the corresponding box blank.

Perceived Party Role

Please choose the option which best describes each party's role in the most recent government — the government formed after the September 2010 election.

{1}. Party of the Current Prime Minister
{2}. Party is in the current cabinet but is not the current Prime Minister
{3}. Party is currently in the opposition
{4}. Party has no seats in the House of Representatives

A.6.5 Question Wording in the United Kingdom (2015)

Party Positions on Taxes and Spending Issue

Now, on the issue of the level of Taxes versus Spending on Social Welfare and Health Programs, where would you place yourself and the following parties:

	Lower taxes and less spending						Higher Taxes and More Spending
	1	2	3	4	5	6	7
Yourself							
Conservative Party							
Labour Party							
Liberal Democratic Party							
Scottish Nationalist Party (SNP)							
UK Independence Party (UKIP)							

Party Positions on EU Integration

Now, on the issue of EU integration, where would you place yourself and the following parties?

	Less integration with the EU						More integration with the EU
	1	2	3	4	5	6	7
Yourself							
Conservative Party							
Labour Party							
Liberal Democratic Party							
Scottish Nationalist Party (SNP)							
UK Independence Party (UKIP)							

Party Positions on Scottish Independence

Now, on the issue of how much independence from the UK Scotland should be granted, where would you place yourself and the following parties?

	Less Scottish independence						More Scottish independence
	1	2	3	4	5	6	7
Yourself							
Conservative Party							
Labour Party							
Liberal Democratic Party							
Scottish Nationalist Party (SNP)							
UK Independence Party (UKIP)							

Government Policy Positions

Now, we are interested in your opinion about the kinds of policies you think would result if different combinations of parties were to form a cabinet. Below, we describe three policy issues. Please indicate the policies that you think the new government would pursue if it was supported by the following parties (whom together controlled a majority of seats in the House of Commons):

{1}. Prime minister: Labour; Cabinet partner: The Scottish National Party
{2}. Prime minister: Labour; Cabinet partner: The Liberal Democratic Party
{3}. Prime minister: Labour; Cabinet partner: None; With support on votes of no confidence from: The Scottish National Party
{4}. Prime minister: The Conservative Party; Cabinet partner: The Liberal Democratic Party
{5}. Prime minister: The Conservative Party; Cabinet partner: The Liberal Democratic Party; With support on votes of no confidence from: The UK Independence Party (UKIP)

Taxes vs. Spending on Social Welfare and Health

Lower taxes and less spending						More taxes and more spending
1	2	3	4	5	6	7

EU integration

Less integration with the EU						More integration with the EU
1	2	3	4	5	6	7

Scottish Independence

Less Scottish independence						More Scottish independence
1	2	3	4	5	6	7

A.6.6 Question Wording in Denmark (2015)

Party Positions on Taxes and Spending Issue

Where would you place yourself and the following parties on the question of taxes versus public spending on welfare and health?

	Lower taxes and less spending						Higher Taxes and More Spending
	1	2	3	4	5	6	7
Yourself							
Social Democrats							
Radicals							
Conservatives							
Socialist People's Party							
Liberal Alliance							
Christian Democrats							
Danish People's Party							
Liberals							
Unity List							
The Alternative							

Party Positions on EU Integration

Where would you place yourself and the following parties on the question of Danish integration in the European Union?

	Less integration with the EU						More integration with the EU
	1	2	3	4	5	6	7
Yourself							
Social Democrats							
Radicals							
Conservatives							
Socialist People's Party							
Liberal Alliance							
Christian Democrats							
Danish People's Party							
Liberals							
Unity List							
The Alternative							

Party Positions on Refugees

Where would you place yourself and the following parties on the question of asylum rules in Denmark?

	Less strict asylum rules						More stricter asylum rules
	1	2	3	4	5	6	7
Yourself							
Social Democrats							
Radicals							
Conservatives							
Socialist People's Party							
Liberal Alliance							
Christian Democrats							
Danish People's Party							
Liberals							
Unity List							
The Alternative							

Government Policy Positions

Now, we are interested in your opinion about the kinds of policies you think would result if different combinations of parties were to form a cabinet. Below, we describe three policy issues. Please indicate the policies that you think the new government would implement if it was supported by the following parties (whom together controlled a majority of seats in the Danish parliament), regardless of how likely or unlikely you think it is this government would form:

{1}. Prime minister: Liberals; Cabinet partners: Conservatives and Danish People's Party; Support parties: Liberal alliance

{2}. Prime minister: Liberals; Cabinet partners: Conservatives; Support parties: Liberal Alliance and Danish People's Party

{3}. Prime minister: Liberals; Cabinet partners: Conservatives; Support parties: Liberal Alliance

{4}. Prime minister: Social Democrats; Cabinet partners: Radicals and the Unity List; Support parties: Socialist People's Party and the Alternative

{5}. Prime minister: Social Democrats; Cabinet partners: Radicals; Support parties: Socialist People's Party, the Alternative and the Unity List

{6}. Prime minister: Social Democrats; Cabinet partners: Radicals; Support parties: Socialist People's Party, the Alternative

Taxes vs. Spending on Social Welfare and Health

Lower taxes and less spending						More taxes and more spending
1	2	3	4	5	6	7

EU integration

Less integration with the EU						More integration with the EU
1	2	3	4	5	6	7

Asylum rules

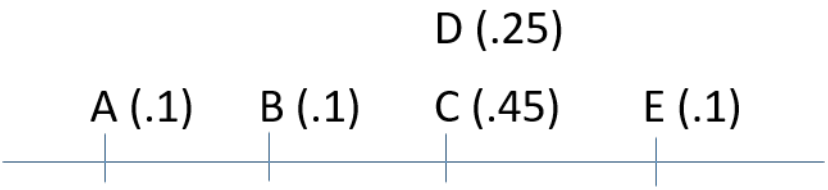
Less strict asylum rules						More strict asylum rules
1	2	3	4	5	6	7

A.6.7 Measurement of Calculated Variables

Our models also include some other variables in addition to the variables that were derived from answer to the questions above. These are described below.

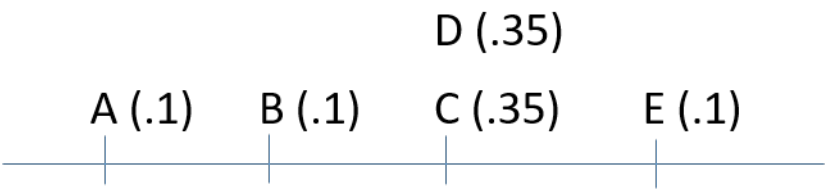
Median Status: We created several different versions of this variable. The version used in Table 1 in the main text takes a "1" for the party that is perceived to be the seat weighted median for each respondent and 0 otherwise. Specifically, median party status is calculated for each party and each respondent in the usual way – i.e., using each respondent's perceived left right position for each party (on a 0-10 left-right scale) along with their perceived legislative seat shares of each party. Since our respondents were free to assign the same position to different parties, we sometimes have more than one median party identified. For the measure in the main text, we recode these cases in two steps.

To understand the first step an example is helpful. We sometimes have multiple median parties that look like the following situation (where numbers in parentheses are the seat weights of the parties and they are ordered left to right):



In this case, both D and C are median parties. However, only C is pivotal in the sense that it can form majority coalitions to both the left and right. D cannot do so on its own. In situations like those above, we do not code D as median but do code C as median.

Next, if there are multiple median parties but none are pivotal in that they can form coalitions to the left and right (as depicted in the case below) then we code neither as median.



The reason for these coding rules is that the theoretical reason that the median is privileged in the literature is because it creates a pivotal party. Parties that are on a median position but not alone in that position and not pivotal should not have the policy influence generally expected of median-pivotal parties.

That said, we also calculate a version of the median variable allowing multiple median parties and report results using this variable in Appendix A.3.5. Doing so does not change our substantive conclusions at all.

Centrality: This variable is the distance on the left-right scale between the perceived position of the party and the perceived median position (calculated using all seat weights). The sign of the variable is flipped such that a larger value indicates that the party is perceived to be closer to the median position. Notice that this is the weighted median position on the scale and so exists whether or not we have identified a specific a median party for the respondent.

An alternative way to measure centrality (which is used in the models reported in Appendix A.3.5) is simply the distance on the left-right scale between the perceived position of the party and the middle of the scale (position 5).

Banzhaf and Shapley-Shubik Indices: The Banzhaf variable was calculated for each respondent, for each party, by using the respondent's perceived legislative seat shares for each party to identify all the "perceived winning coalitions." Next, we calculated for each of these perceived winning coalitions, the proportion in which the focal party was pivotal and assigned this proportion as the Banzhaf score. The Shapley-Shubik index is calculated similarly, but depends on the order in which parties are added to a coalition and so is calculated slightly differently. The calculations were done in R and the programs are available in the replication materials.

Affinity: This variable is the distance between a respondent's left-right self-placement and the respondent's placement, on the same scale, of a given party. The sign of the variable is flipped such that a larger value indicates that the respondent perceives the party to be more ideologically proximate.

Cabinet share: This variable is a proxy for the share of cabinet seats that the respondent perceives the party to hold. It calculated from perceived legislative seats as the proportion of perceived legislative seats the party bring to the cabinet, where

the cabinet is the set of parties the respondent perceives to hold cabinet seats. The variable thus sums to 1 for each respondent in the sample and it takes a "0" for all perceived opposition parties as well as parties not perceived to hold any legislative seats.

A.7 Additional Specifications and Summary Statistics for Prospective Models

A.7.1. Summary Statistics for Variables Used Prospective Models

Table A.7.1.1: The United Kingdom (2015) – taxation and spending

Variable	Obs	Mean	Std. dev	Min	Max
Labour position	1,105	5.03	1.65	1	7
LDP position	1,039	4.40	1.29	1	7
Conservatives position	1,099	3.48	1.98	1	7
UKIP position	923	3.70	1.83	1	7
SNP position	890	5.13	1.61	1	7
PM: Labour; partner: SNP	1,076	4.88	1.57	1	7
PM: Labour; partner: LDP	1,075	4.68	1.34	1	7
PM: Labour; support: SNP	1,073	4.97	1.51	1	7
PM: Conservative; partner: LDP	1,071	3.72	1.56	1	7
PM: Conservative; partner: LDP; support: UKIP	1,067	3.60	1.50	1	7

Table A.7.1.2: The United Kingdom (2015) – EU integration

Variable	Obs	Mean	Std. dev	Min	Max
Labour position	1,089	4.87	1.43	1	7
LDP position	1,029	4.89	1.41	1	7
Conservatives position	1,095	3.68	1.69	1	7
UKIP position	1,088	1.79	1.53	1	7
SNP position	883	4.52	1.67	1	7
PM: Labour; partner: SNP	1,076	4.67	1.40	1	7
PM: Labour; partner: LDP	1,075	4.69	1.29	1	7
PM: Labour; support: SNP	1,073	4.77	1.40	1	7
PM: Conservative; partner: LDP	1,071	3.89	1.36	1	7
PM: Conservative; partner: LDP; support: UKIP	1,067	3.34	1.44	1	7

Table A.7.1.3: The United Kingdom (2015) – Scottish independence

Variable	Obs	Mean	Std. dev	Min	Max
Labour position	1,019	3.36	1.64	1	7
LDP position	962	3.35	1.52	1	7
Conservatives position	1,032	2.92	1.61	1	7
UKIP position	875	3.27	1.90	1	7
SNP position	1,071	6.38	1.37	1	7
PM: Labour; partner: SNP	1,076	5.06	1.52	1	7
PM: Labour; partner: LDP	1,075	4.03	1.43	1	7
PM: Labour; support: SNP	1,073	4.88	1.51	1	7
PM: Conservative; partner: LDP	1,071	3.37	1.45	1	7
PM: Conservative; partner: LDP; support: UKIP	1,067	3.40	1.47	1	7

Table A.7.1.4: Denmark (2015) – taxation and spending

Variable	Obs	Mean	Std. dev	Min	Max
Unity List (UL)	1,231	5.88	1.68	1	7
Socialists (SPP)	1,249	5.56	1.44	1	7
Alternatives (ALT)	939	5.11	1.57	1	7
Soc. Dems. (SD)	1,317	5.07	1.32	1	7
Radicals (Rad)	1,234	4.33	1.44	1	7
Liberals (LIB)	1,315	2.65	1.58	1	7
Conservatives (CON)	1,245	2.68	1.53	1	7
Liberal Alliance (LA)	1,209	2.35	1.69	1	7
Nationalists (DPP)	1,257	3.89	1.56	1	7
Cabinet 1	1,179	3.10	1.47	1	7
Cabinet 2	1,165	1.14	1.47	1	7
Cabinet 3	1,148	2.85	1.49	1	7
Cabinet 4	1,148	5.24	1.22	1	7
Cabinet 5	1,144	5.02	1.18	1	7
Cabinet 6	1,121	4.99	1.20	1	7

Table A.7.1.5: Denmark (2015) – EU integration

Variable	Obs	Mean	Std. dev	Min	Max
Unity List (UL)	1,117	3.13	2.06	1	7
Socialists (SPP)	1,125	3.90	1.64	1	7
Alternatives (ALT)	712	3.89	1.71	1	7
Soc. Dems. (SD)	1,199	5.11	1.32	1	7
Radicals (Rad)	1,137	5.20	1.47	1	7
Liberals (LIB)	1,169	4.69	1.80	1	7
Conservatives (CON)	1,118	4.72	1.64	1	7
Liberal Alliance (LA)	1,001	4.19	1.78	1	7
Nationalists (DPP)	1,201	2.23	1.60	1	7
Cabinet 1	1,139	3.77	1.56	1	7
Cabinet 2	1,128	3.89	1.57	1	7
Cabinet 3	1,114	4.16	1.58	1	7
Cabinet 4	1,112	4.69	1.27	1	7
Cabinet 5	1,106	4.69	1.23	1	7
Cabinet 6	1,084	4.72	1.21	1	7

Table A.7.1.6: Denmark (2015) – Asylum rules

Variable	Obs	Mean	Std. dev	Min	Max
Unity List (UL)	1,221	2.23	1.55	1	7
Socialists (SPP)	1,222	2.84	1.44	1	7
Alternatives (ALT)	830	2.91	1.56	1	7
Soc. Dems. (SD)	1,290	3.93	1.45	1	7
Radicals (Rad)	1,233	3.37	1.66	1	7
Liberals (LIB)	1,273	5.69	1.21	1	7
Conservatives (CON)	1,204	5.36	1.32	1	7
Liberal Alliance (LA)	1,096	5.03	1.54	1	7
Nationalists (DPP)	1,319	6.52	1.17	1	7
Cabinet 1	1,180	5.75	1.26	1	7
Cabinet 2	1,166	5.61	1.32	1	7
Cabinet 3	1,143	5.27	1.33	1	7
Cabinet 4	1,139	3.55	1.48	1	7
Cabinet 5	1,133	3.67	1.46	1	7
Cabinet 6	1,116	3.71	1.42	1	7

A.7.2. Predictors of Policy Influence in the Prospective Models

In this section we prestent regression models that take the estimated influence of each party on propsective policy outcomes (in each of the hypothetical governments presented to respondents in a country) as the dependent variable. Data are stacked over hypothetical cabinets and issues within a given country. The predictors are indicators for party role in the hypothetical cabinet, party dummies, indicators for each issue, and interactions between party and issue.

Table A.7.2.1: Perceived prospective policy influence in the United Kingdom (2015)

Parameter	Coefficient
Support	0.18***
	(0.03)
Partner	0.13***
	(0.03)
PM	0.37***
	(0.03)
LDP	0.09
	(0.05)
Conservatives	0.05
	(0.04)
UKIP	0.01
	(0.05)
SNP	0.12*
	(0.05)
Scottish Independence	-0.06
	(0.04)
EU integration	0.06
	(0.04)
LDP*Scottish independence	-0.03
	(0.06)
LDP*EU integration	-0.09
	(0.06)
Conservatives* Scottish independence	0.02
	(0.06)
Conservatives*EU integration	-0.09
	(0.06)
UKIP*Scottish independence	0.12*
	(0.06)
UKIP*EU integration	-0.02
	(0.06)
SNP*Scottish independence	0.188**
	(0.06)
SNP*EU	-0.12
	(0.06)
Constant	0.04
	(0.03)

***p≤.001, **p≤.01, *p≤.05, standard errors are in parentheses.
The omitted role category is opposition. The omitted party category is Labour. The omitted policy category is tax and spending.

Table A.7.2.2: Perceived prospective policy influence in Denmark (2015)

Parameter	Coefficient
Support	0.08***
	(0.01)
Partner	0.10***
	(0.01)
PM	0.31***
	(0.02)
Socialist People's Party	0.00
	(0.03)
The Alternative	-0.01
	(0.03)
Social Democrats	-0.02
	(0.03)
The Radicals	-0.03
	(0.03)
Liberals	-0.01
	(0.03)
Conservatives	0.04
	(0.03)
Liberal Alliance	-0.02
	(0.03)
Danish People's Party	-0.01
	(0.03)
Asylum rules	-0.03
	(0.03)
EU integration	0.00
	(0.03)
Socialist People's Party*Asylum rules	0.00
	(0.04)
Socialist People's Party *EU integration	-0.04
	(0.04)
The Alternative*Asylum rules	0.11**
	(0.04)
The Alternative *EU integration	-0.01
	(0.04)
Social Democrats*Asylum rules	0.02
	(0.04)
Social Democrats *EU integration	0.05
	(0.04)
The Radicals*Asylum	0.07
	(0.04)
The Radicals *EU	0.01
	(0.04)
Liberals*Asylum	0.05
	(0.04)
Liberals*EU integration	0.02
	(0.04)
Conservatives*Asylum	-0.04
	(0.04)
Conservatives *EU integration	-0.06
	(0.04)
Liberal Alliance*Asylum rules	-0.01
	(0.04)
Liberal Alliance*EU integration	0.02
	(0.04)
Danish People's Party*Asylum rules	0.11**
	(0.04)
Danish People's Party *EU integration	0.04
	(0.04)
Constant	0.06**
	(0.02)

***p<.001, **p<.01, *p<.05, standard errors are in parentheses.
The omitted role category is opposition
The omitted party category is the Unity List
The omitted policy category is tax and spending

A.7.3 Results for each party in each coalition on each issue

A.7.3.1 Estimation Methods

We estimate these models via MCMC sampling using Stan (called through rStan) which allows us to estimate influence weights for each of the parties while constraining the weights to lie on the corresponding unit simplex. The model also includes a scaling (or ``shrinkage'') parameter, though estimates of this parameter are always close to 1, suggesting that allowing for such scaling is not particularly important in these data. In addition, we report results from two other estimations strategies: constrained OLS and convex optimization. Convex optimization is a simple method of optimal value choice under constraint. In our case, the constraints bind the parameter estimates to the unit simplex (they must be non-negative and collectively sum to one). See Boyd and Vandenberghe (2004) for a detailed explanation of convex optimization, but also note that each procedure produces nearly identical results (see below) and the estimates from each are the best-fitting linear combination of party influence weights.

Note that while these weight vectors are not unique for one respondent (e.g., if a respondent thought Party A had policy position 1, Party B had position 7, Party C had position 4, and also thought the adopted policy would be at 4, then various linear combinations of these policy position could produce a weighted average of 4), they are identified from the data over all respondents because we have substantial variation in the respondents' perceived placements of parties and the expected policy positions of the hypothetical governments. It is this variation that is used to identify a single linear combination that best fits all the data for a single hypothetical government.

A.7.3.2 United Kingdom

Table A.7.3.2.1: Taxation and spending (RStan)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.42	0.33	0.48	0.04	0.03
	(0.04)	(0.03)	(0.04)	(0.03)	(0.02)
LDP	0.19	0.29	0.16	0.18	0.18
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Conservatives	0.04	0.04	0.02	0.56	0.54
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
UKIP	0.03	0.06	0.04	0.11	0.16
	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)
SNP	0.32	0.27	0.30	0.11	0.10
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard deviations of the posterior means are in parentheses.

Table A.7.3.2.2: Taxation and spending (Constrained OLS)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.43	0.33	0.48	0.01	-0.01
	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)
LDP	0.20	0.30	0.17	0.20	0.21
	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Conservatives	0.04	0.04	-0.01	0.55	0.53
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
UKIP	0.01	0.07	0.04	0.16	0.20
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
SNP	0.32	0.26	0.31	0.08	0.06

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard errors are in parentheses. The final coefficient in each model is not estimated directly (it is the complement to the sum of the directly estimated coefficients) and so we do not report an estimated standard error for this coefficient.

Table A.7.3.2.3: Taxation and spending (Convex optimization)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.43	0.33	0.48	0.01	0.00
LDP	0.20	0.30	0.16	0.20	0.21
Conservatives	0.04	0.04	0.00	0.55	0.53
UKIP	0.01	0.07	0.04	0.16	0.20
SNP	0.32	0.26	0.31	0.08	0.06

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row.

Table A.7.3.2.4: Scottish Independence (RStan)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.23	0.33	0.26	0.07	0.11
	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)
LDP	0.06	0.11	0.06	0.24	0.09
	(0.04)	(0.06)	(0.04)	(0.06)	(0.05)
Conservatives	0.06	0.12	0.08	0.36	0.36
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)
UKIP	0.10	0.11	0.10	0.15	0.26
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
SNP	0.54	0.32	0.50	0.18	0.18
	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard deviations of the posterior means are in parentheses.

Table A.7.3.2.5: Scottish independence (Constrained OLS)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.25	0.32	0.28	0.07	0.13
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
LDP	0.03	0.13	0.03	0.27	0.11
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Conservatives	0.06	0.16	0.08	0.39	0.39
	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)
UKIP	0.10	0.13	0.11	0.17	0.27
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
SNP	0.55	0.27	0.51	0.11	0.10

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard errors are in parentheses. The final coefficient in each model is not estimated directly (it is the complement to the sum of the directly estimated coefficients) and so we do not report an estimated standard error for this coefficient.

Table A.7.3.2.6: Scottish independence (Convex optimization)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.25	0.32	0.28	0.07	0.13
LDP	0.03	0.13	0.03	0.27	0.11
Conservatives	0.06	0.16	0.08	0.39	0.39
UKIP	0.10	0.13	0.11	0.17	0.27
SNP	0.56	0.27	0.51	0.11	0.10

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row.

Table A.7.3.2.7: European Union (RStan)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.52	0.45	0.54	0.06	0.05
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
LDP	0.13	0.29	0.13	0.19	0.15
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Conservatives	0.03	0.05	0.02	0.54	0.42
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
UKIP	0.05	0.04	0.02	0.14	0.36
	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)
SNP	0.26	0.17	0.29	0.06	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard deviations of the posterior means are in parentheses.

Table A.7.3.2.8: European Union (Constrained OLS)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.52	0.46	0.54	0.06	0.04
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
LDP	0.14	0.29	0.13	0.19	0.17
	(0.05)	(0.04)	(0.4)	(0.04)	(0.04)
Conservatives	0.02	0.05	0.02	0.54	0.41
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
UKIP	0.06	0.02	0.01	0.15	0.37
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
SNP	0.26	0.18	0.30	0.06	0.01

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard errors are in parentheses. The final coefficient in each model is not estimated directly (it is the complement to the sum of the directly estimated coefficients) and so we do not report an estimated standard error for this coefficient.

Table A.7.3.2.9: European Union (Convex optimization)

Party	PM: Labour Partner: SNP Support: None	PM: Labour Partner: LDP Support: None	PM: Labour Partner: None Support: SNP	PM: Conservative Partner: LDP Support: None	PM: Conservative Partner: LDP Support: UKIP
Labour	0.52	0.46	0.54	0.06	0.04
LDP	0.14	0.29	0.13	0.09	0.17
Conservatives	0.02	0.05	0.02	0.54	0.41
UKIP	0.06	0.02	0.01	0.15	0.37
SNP	0.26	0.18	0.30	0.06	0.01

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row.

A.7.3.3 Denmark

Table A.7.3.3.1: Taxation and spending (RStan)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.05	0.04	0.03	0.14	0.15	0.12
	(0.03)	(0.03)	(0.02)	(0.04)	(0.03)	(0.04)
Socialists (SPP)	0.03	0.04	0.02	0.17	0.14	0.15
	(0.02)	(0.03)	(0.02)	(0.04)	(0.04)	(0.04)
Alternatives (ALT)	0.05	0.05	0.05	0.07	0.06	0.07
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Soc. Dems. (SD)	0.04	0.04	0.04	0.37	0.32	0.34
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)
Radicals (Rad)	0.03	0.04	0.06	0.08	0.12	0.12
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Liberals (LIB)	0.38	0.30	0.38	0.06	0.06	0.05
	(0.05)	(0.05)	(0.04)	(0.03)	(0.03)	(0.03)
Conservatives (CON)	0.21	0.25	0.20	0.05	0.08	0.08
	(0.04)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)
Liberal Alliance (LA)	0.04	0.08	0.18	0.04	0.06	0.05
	(0.03)	(0.04)	(0.04)	(0.02)	(0.03)	(0.03)
Nationalists (DPP)	0.17	0.15	0.04	0.03	0.01	0.03
	(0.04)	(0.04)	(0.03)	(0.02)	(0.01)	(0.02)

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard deviations of the posterior means are in parentheses.

Table A.7.3.3.2: Taxation and spending (Constrained OLS)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.06	0.03	0.02	0.15	0.18	0.12
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Socialists (SPP)	-0.02	0.02	-0.05	0.20	0.18	0.17
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Alternatives (ALT)	0.06	0.06	0.09	0.07	0.06	0.07
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Soc. Dems. (SD)	0.02	0.00	0.02	0.42	0.35	0.37
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)
Radicals (Rad)	0.01	0.03	0.06	0.09	0.13	0.13
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Liberals (LIB)	0.40	0.32	0.39	0.03	0.06	0.03
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Conservatives (CON)	0.23	0.26	0.22	0.04	0.07	0.07
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Liberal Alliance (LA)	0.08	0.13	0.22	-0.02	0.02	0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Nationalists (DPP)	0.16	0.14	0.04	0.02	0.04	0.01

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard errors are in parentheses. The final coefficient in each model is not estimated directly (it is the complement to the sum of the directly estimated coefficients) and so we do not report an estimated standard error for this coefficient.

Table A.7.3.3.3: Taxation and spending (Convex optimization)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.05	0.03	0.00	0.15	0.17	0.12
Socialists (SPP)	0	0.02	0.00	0.21	0.17	0.17
Alternatives (ALT)	0.06	0.06	0.08	0.07	0.05	0.07
Soc. Dems. (SD)	0.01	0.00	0.00	0.41	0.35	0.37
Radicals (Rad)	0.01	0.03	0.05	0.08	0.13	0.13
Liberals (LIB)	0.40	0.32	0.39	0.03	0.04	0.03
Conservatives (CON)	0.24	0.26	0.22	0.03	0.07	0.07
Liberal Alliance (LA)	0.09	0.13	0.23	0.00	0.02	0.02
Nationalists (DPP)	0.15	0.14	0.03	0.02	0	0.01

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row.

Table A.7.3.3.4: Refugees (RStan)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.04	0.07	0.06	0.07	0.03	0.04
	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.03)
Socialists (SPP)	0.04	0.03	0.02	0.12	0.05	0.08
	(0.03)	(0.03)	(0.02)	(0.05)	(0.03)	(0.04)
Alternatives (ALT)	0.02	0.02	0.03	0.23	0.28	0.20
	(0.02)	(0.02)	(0.02)	(0.05)	(0.04)	(0.04)
Soc. Dems. (SD)	0.03	0.04	0.03	0.32	0.30	0.33
	(0.02)	(0.03)	(0.02)	(0.04)	(0.03)	(0.04)
Radicals (Rad)	0.02	0.02	0.02	0.16	0.20	0.24
	(0.01)	(0.02)	(0.02)	(0.04)	(0.04)	(0.04)
Liberals (LIB)	0.43	0.38	0.43	0.02	0.05	0.04
	(0.05)	(0.05)	(0.05)	(0.02)	(0.03)	(0.03)
Conservatives (CON)	0.05	0.14	0.18	0.02	0.02	0.02
	(0.03)	(0.04)	(0.05)	(0.02)	(0.02)	(0.02)
Liberal Alliance (LA)	0.07	0.02	0.05	0.01	0.02	0.01
	(0.03)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)
Nationalists (DPP)	0.29	0.27	0.16	0.05	0.06	0.03
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.02)

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard deviations of the posterior means are in parentheses.

Table A.7.3.3.5: Refugees (Constrained OLS)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.06	0.11	0.12	0.07	-0.02	-0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Socialists (SPP)	0.05	0.01	-0.03	0.14	0.06	0.09
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Alternatives (ALT)	-0.06	-0.05	0.01	0.24	0.34	0.23
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Soc. Dems. (SD)	0.04	0.05	0.03	0.34	0.33	0.36
	(0.04)	(0.04)	(0.04)	(0.34)	(0.04)	(0.04)
Radicals (Rad)	-0.02	0.01	0.00	0.17	0.22	0.25
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Liberals (LIB)	0.47	0.42	0.44	0.01	0.11	0.09
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)
Conservatives (CON)	0.05	0.16	0.20	0.03	-0.06	-0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Liberal Alliance (LA)	0.08	-0.02	0.05	-0.10	-0.04	-0.03
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Nationalists (DPP)	0.33	0.32	0.17	0.10	0.06	0.06

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard errors are in parentheses. The final coefficient in each model is not estimated directly (it is the complement to the sum of the directly estimated coefficients) and so we do not report an estimated standard error for this coefficient.

Table A.7.3.3.6: Refugees (Convex optimization)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.02	0.07	0.10	0.07	0.00	0.00
Socialists (SPP)	0.04	0.00	0.00	0.13	0.05	0.08
Alternatives (ALT)	0.00	0.00	0.00	0.24	0.32	0.22
Soc. Dems. (SD)	0.03	0.04	0.03	0.33	0.31	0.35
Radicals (Rad)	0.00	0.00	0.00	0.16	0.21	0.25
Liberals (LIB)	0.47	0.42	0.44	0.00	0.06	0.05
Conservatives (CON)	0.03	0.15	0.20	0.00	0.00	0.00
Liberal Alliance (LA)	0.08	0.00	0.05	0.00	0.00	0.00
Nationalists (DPP)	0.33	0.32	0.17	0.07	0.05	0.05

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row.

Table A.7.3.3.7: European Union (RStan)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.04	0.03	0.04	0.15	0.12	0.13
	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)
Socialists (SPP)	0.04	0.07	0.04	0.04	0.05	0.05
	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Alternatives (ALT)	0.02	0.02	0.02	0.08	0.07	0.06
	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)	(0.03)
Soc. Dems. (SD)	0.04	0.04	0.10	0.49	0.39	0.36
	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)
Radicals (Rad)	0.04	0.04	0.03	0.06	0.16	0.19
	(0.03)	(0.03)	(0.03)	(0.04)	(0.05)	(0.05)
Liberals (LIB)	0.31	0.33	0.40	0.09	0.09	0.08
	(0.05)	(0.05)	(0.05)	(0.03)	(0.04)	(0.04)
Conservatives (CON)	0.15	0.13	0.10	0.03	0.06	0.04
	(0.05)	(0.05)	(0.05)	(0.02)	(0.04)	(0.03)
Liberal Alliance (LA)	0.08	0.15	0.18	0.03	0.04	0.06
	(0.04)	(0.05)	(0.05)	(0.02)	(0.03)	(0.03)
Nationalists (DPP)	0.29	0.19	0.08	0.03	0.03	0.02
	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard deviations of the posterior means are in parentheses.

Table A.7.3.3.8: European Union (Constrained OLS)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.07	0.03	0.08	0.17	0.13	0.15
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Socialists (SPP)	0.06	0.12	0.04	0.02	0.04	0.04
	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)
Alternatives (ALT)	-0.05	-0.03	-0.02	0.09	0.07	0.06
	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Soc. Dems. (SD)	0.01	0.01	0.12	0.52	0.39	0.37
	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)
Radicals (Rad)	0.04	0.02	-0.03	0.05	0.16	0.19
	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)
Liberals (LIB)	0.29	0.29	0.37	0.13	0.11	0.11
	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Conservatives (CON)	0.17	0.15	0.11	-0.01	0.06	0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Liberal Alliance (LA)	0.08	0.15	0.18	0.03	0.02	0.07
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Nationalists (DPP)	0.34	0.26	0.15	0.00	0.02	-0.01

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row. Standard errors are in parentheses. The final coefficient in each model is not estimated directly (it is the complement to the sum of the directly estimated coefficients) and so we do not report an estimated standard error for this coefficient.

Table A.7.3.3.9: European Union (Convex optimization)

Party	PM: LIB Partner: CON Partner: DPP Support: LA	PM: LIB Partner: CON Support: DPP Support: LA	PM: LIB Partner: CON Support: LA	PM: SD Partner: RAD Partner: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: UL Support: SPP Support: ALT	PM: SD Partner: RAD Support: SPP Support: ALT
Unity List (UL)	0.05	0.02	0.07	0.17	0.13	0.14
Socialists (SPP)	0.05	0.12	0.03	0.02	0.04	0.04
Alternatives (ALT)	0.00	0.00	0.00	0.09	0.07	0.06
Soc. Dems. (SD)	0.01	0.01	0.10	0.52	0.39	0.37
Radicals (Rad)	0.03	0.01	0.00	0.05	0.16	0.19
Liberals (LIB)	0.29	0.29	0.37	0.13	0.11	0.11
Conservatives (CON)	0.16	0.15	0.10	0.00	0.06	0.01
Liberal Alliance (LA)	0.08	0.15	0.18	0.02	0.02	0.07
Nationalists (DPP)	0.33	0.26	0.15	0.00	0.02	0.00

Note: Each column represents a government. Each cell entry represents the proportion policy weight attributed to the party in the row.

A.8 Additional Discussion and Notes on the Analysis

In this section, we discuss and number of different issue about the analysis that we did not have space to discuss in the main text but that may be of interest to readers.

A.8.1 How Should Heuristic voters attribute responsibility in situations of minority government?

In the text we suggest that voters in systems with a history of minority cabinets, as with strong parliaments, may attribute more responsibility to opposition members. We define the relevant context here as a history of minority cabinets rather than just a specific instance of minority government because cue weights are determined in our theory by voters coming to understand the long-term correlations between cues and real influence. Thus, we expect a few instances of minority government would not be enough for voters to come to use minority-specific weights (even during a one-off minority cabinet). That said, when there is a history of both types of cabinets, it is possible that voters (subconsciously) learn both minority context and majority context specific weights and apply them in the appropriate instance. Rieskamp and Otto's (2001) SL model of how individuals might come to subconsciously understand these weights, which is based explicitly on learning, would be consistent with this expectation.

In addition, in the text we point out that in our empirical analysis we cannot readily differentiate this case from that of strong/weak parliaments. Specifically, we have two minority cabinets in our sample for the first empirical study: Denmark and the Netherlands. Both these systems also have a history of minority cabinets and are also strong parliaments (although Denmark's parliament is stronger and it has had minority governments exclusively for the past 50 years). That said, Germany is the one case in our sample of a strong legislature without a history of minority government and in all cases in our results conforms to what we would expect for strong parliaments. This is in part why, in our interpretations in the text, we emphasize contextual differences in the strength of the parliament over those about a history of minority cabinets.

A.8.2 Discussion of the Signficantly Positive Estimated Party Dummies in Table 1

There are three significant positive party effects in the party dummies in Table 1. The first, for the Danish Radicals, is consistent with an unusual set of events occurring in Denmark before the survey. Despite issuing a joint leftist manifesto (``Sammen om Danmark'') in the 2011 campaign, the Social Democrats and the Socialist People's Party

fell short of the seats needed to form a government on their own and coalesced with the economically rightist Radicals. The cabinet then pursued a series of conservative fiscal policies, over which the Radicals were attributed outsized influence in the media narrative. This eventually led to the SPP's withdrawal from cabinet following a backbencher revolt in 2014 --- a widely covered event providing evidence of the Radicals' ``true'' influence (they were even able to force SPP out of the government) above and beyond what may be inferred from their size and role, and ultimately shaping voter attributions as manifest in an unusual positive coefficient on this party dummy. The second, FI-PdL in Italy, may represent a ``Berlusconi effect'' in which Italian voters may have intuited that the man who had dominated Italian politics for decades could exert more influence than his party's opposition status and seat share (reduced from its typical levels) would otherwise warrant. The third is for the SDP in Germany, which was in a grand coalition with the CDU/CSU.

A.8.3 Discussion of the Impact of Including Previous Real Cabinet Compositions among our Hypothetical Cabinets in the Prospective Analysis

One of the hypothetical coalitions that were presented to respondents in the prospective design for the UK (the Conservative Lib-Dem cabinet) had occurred before – indeed, it was the incumbent cabinet at the time of the survey. Thus, it is possible that in predicting the policy that this hypothetical cabinet might produce if it formed following the election, respondents may well have been thinking retrospectively about the recent policy record of the Conservative-Lib Dem coalition and so contaminate our assessment of the impact of roles for this case. However, given the widespread perception that the Lib-Dems had been a particularly ineffectual coalition partner, if this happened we should expect a more negative assessment of the influence of the Lib-Dems in a “hypothetical” post-election Lib-Dem coalition than we actually see.

For example, when asked retrospectively about the Lib Dems in the actual Cons/Lib-Dem cabinet, our respondents in 2012 (recall the cabinet started in 2010) already attributed to the Lib-Dems quite a bit less policy-making influence than we would expect based on their role and size and less than other substantial cabinet partners from other countries. [26] One can see this quite clearly by comparing the estimates for the dummy variables marking cabinet partners in UK, Denmark, Germany, and the Netherlands in Table 1. These are the estimates of the impact of the party label on policymaking influence after accounting for the other variables in the model and so

[26] The multiple, quite small Italian partners do not seem a good comparison to the Lib-Dems here and so we do not include them in the comparison.

include the impact of retrospective information about that influence like the Lib-Dems previous history of policymaking with the conservatives. These estimates from Table 1 are: the Danish party 3: RV (0.6), the German party 6: SDP (0.24) and the Dutch party 1: CDA (-0.28). Compare these to the much larger (more negative) Lib-Dem estimate of -0.54 (party 3). So this is consistent with the narrative that even by 2012 British voters thought that the Lib-Dems were losing in policy-making to the conservatives beyond what would be expected from their position as a partner and their size and much more so than the other substantial cabinet partners in our retrospective study.

However, when we give respondents in 2015 a hypothetical post-election Conservative/Lib-Dem cabinet, we do not estimate an influence weight that is considerably smaller for the Lib-Dems in this coalition than other cabinet partners in either the UK and Danish cases (these detailed estimated are in the appendix A.7.3). So it is at least plausible that our respondents evaluated the likely policy positions based mainly on the information we provided rather than the Lib-Dem's recent history of governing with the Conservatives.