Coalition Policy Perceptions*

Shaun Bowler[†1], Thomas Gschwend[‡2], and Indridi H. Indridason[§1]

[1]University of California, Riverside
[2]University of Mannheim

January 26, 2018

Abstract

How do voters form expectations about the policies of coalition governments? The literature generally assumes that voters hold beliefs consistent with Gamson's Law when making inferences about how the policy preferences of coalition parties affect government policy. Yet little is known about whether, or how, voters actually form expectations that way. In this paper we leverage data sets from Austria, Germany and Sweden and find that when it comes to citizens Gamson is wrong. While voters take account of the coalition parties' sizes and bargaining strength, voters also seem to perceive that smaller coalition parties have disproportional influence on coalition policy. In other words, voters who live under and vote for coalition governments have a somewhat different sense of policy outcomes than the literature currently suggests.

[†]Professor, Department of Political Science, University of California, Riverside, Riverside, CA 92521. *e*-mail: shaun.bowler@ucr.edu
[‡]Professor, Department of Political Science, University of Mannheim. *e*-mail: gschwend@uni-mannheim.de
[§]Professor, Department of Political Science, University of California, Riverside, Riverside, CA 92521. *e*-mail: indridi.indridason@ucr.edu

1

Parliamentary systems are often seen as coming in two varieties. The first, typically associated with Westminster, is characterized by single party majority governments. In the second type, party leaders must cobble together a legislative majority by forming government coalitions. Each type is generally thought to have certain advantages over the other. Single-party governments offer clear lines of accountability and voters can easily form expectations about what the party will seek to achieve while in government. Multiparty parliamentary systems, on the other hand, are thought to be more representative — voters have more parties to choose from and the system should, therefore, have a higher degree of ideological congruence (Golder and Stramski, 2010).

The strength of each type can be seen as the weakness of the other. In contrast to single-party governments, coalition governments are more difficult to hold accountable. In a coalition government, no single party can be expect to have its whole policy platform adopted. Instead, coalition parties negotiate the government's agenda (Martin and Vanberg, 2011). Thus, in order to hold individual coalition parties accountable, voters must have expectations about what a given coalition party can achieve. Without such expectations, voters cannot assess the degree to which individual coalition parties sought to implement, or were successful in implementing, their policy platforms — and whether to reward or punish the party for its performance.[1] Whether voters develop expectations about coalition policy is, therefore, germane to the question of accountability. Yet, the literature is so far largely silent about whether — or how — voters form such expectations.

The extensive literature on government formation has provided important insights into the bargaining over policy and office. Recently scholars have begun examining how voters' expectations about the government formation process shape vote choice and a growing literature on strategic voting under

---

[1]Voters could, of course, simply focus on holding the coalition as a whole — as opposed to individual parties — accountable.

coalition governments depends on voters developing expectations about coalition policy (see, e.g., Bargsted and Kedar, 2009; Indridason, 2011; Meffert and Gschwend, 2010). This literature explicitly assumes that vote choice is affected by voter expectations about which coalitions are likely to form and which policies they will implement. Yet, whether voters form such expectations remains an open question. To date, there has been no systematic analysis of whether that is the case and whether voters' expectations respond to the factors that generally are thought to influence coalition policy. Our findings suggest that — contrary to what the literature commonly assumes — respondents do not expect policy influence to be proportional to party size but that larger and ideologically centrist parties are, nevertheless, expected to have greater influence. Beyond understanding how voters form their expectations, their expectations about government policy under coalition governments are important for normative reasons. Voters need a basic understanding of how casting votes for parties influences coalition policy in order to make an efficient use of their vote.

Expectations about Government Coalition Policy

At election time, voters in most multi-party parliamentary systems know that no single party will obtain a majority and that a government coalition will form. The coalition will subsequently implement policies that reflect the preferences of the individual coalition parties to a greater or a smaller extent. Thus, voters that care about policy outcomes face the rather daunting task of figuring out how their votes affect the coalition formation process and the policy that the coalition will implement. In fact, voters must make some assumptions about this process and, thus, develop expectations about policy outcomes for their choices to be meaningful.[2]

---

[2]Fortunato and Stevenson (2013) address a related question, that is, how voters form expectations about the outcome of the coalition formation process and find evidence that voters rely on heuristics such as the prime minister coming from the largest party.

Forming expectations about coalition policy may be challenging but voters are unlikely to be entirely at a loss. Voters, after all, will know something about the parties taking part in the government formation. The formal and empirical literature on coalition bargaining has shown that characteristics of parties — typically their size and ideological position — help predict which coalitions form and how the spoils of office are divided.

The idea that the size and the ideological position of a coalition party affect its influence on coalition policy is widespread.[3] The assumption that each coalition party's influence is proportional to its seat share is widely used in empirical work.[4] The Comparative Manifesto Project, e.g., calculates government policy positions in this manner. Kim and Fording (2002) employ a similar approach but weigh the parties' positions by the number of cabinet seats. Overall, the literature makes very strong assumptions about how the policy preferences of coalition parties affect government policy. A subset of this literature examines how government policy factors into voters' decisions. Thus, it is implicitly assumed that voters hold beliefs consistent with those assumptions but there is little or no evidence to suggest that is the case.

A clear understanding of how voters evaluate government coalitions is important, if not essential, to explain voting behavior in multi-party systems and to evaluate theories of coalition voting.[5] In turn, it addresses questions fundamental to the functioning of representative democracy, i.e., to what extent voters are able to exert control over the direction of government and whether voters are able to hold governments accountable.

Highly sophisticated voters may form expectations about coalition policy[6]

---

[3]See, e.g., Laver and Budge (1992); Kedar (2005); Bargsted and Kedar (2009); Indridason (2011); Duch, May and Armstrong II (2010); Powell (2000); Huber and Powell (1994).

[4]See, e.g., Ferland (2016); Golder and Stramski (2010); Golder and Lloyd (2014); Indridason (2011). Others, e.g., De Sinopoli and Iannantuoni (2008) have assumed that policy is the vote weighted average of *all* the parties' positions.

[5]Some of the literature has avoided the issue by focusing on respondents' preferences for coalitions.

[6]Fortunato and Stevenson (2013) address how voters form expectations about the outcome of the coalition formation process. On a related note, Duch, Przepiorka and

on the basis of a variety of factors that are likely influence government policy. In reality, however, it is probably fair to say that policy making in parliamentary systems — even among scholars — is not very well understood. Moreover, even highly sophisticated voters may have little incentive to invest much effort in forming accurate expectations about policy — while accurate expectations may benefit voters collectively, each voter's action is unlikely to be pivotal. It seems, therefore, reasonable for voters to employ relatively simple heuristics to form their expectations.

Which heuristic do voters employ? Starting with one of the simplest heuristic imaginable, voters may expect coalition parties to wield equal influence and government policy to equal the average of the parties' positions. This heuristic requires very little information on the part of voters, i.e., voters only need to have beliefs about the coalition parties' positions.[7]

Heuristic 1 *(**Equal Influence**) Voters expect government policy to be the (unweighted) average of the coalition parties' policy positions.*

Heuristics may also reflect observable political outcomes. Scholars have sought to evaluate the influence of individual parties on government policy but as measuring government policy is not trivial, they have often focused on bargaining outcomes that are easily quantifiable. In particular, the allocation of ministerial portfolios has been studied extensively (see, e.g., Gamson, 1961; Browne and Franklin, 1973; Warwick and Druckman, 2006). Parties clearly care about holding ministerial portfolios, which are considered to confer some advantage in policy making within their remits.[8] The study of portfolio allocation revealed one of the strongest empirical relationships in political science, i.e., Gamson's Law. According to Gamson's Law, the allocation of portfolios is proportional to the legislative strength of the coalition parties.

Stevenson (2015) examine how experimental subjects attribute responsibility in coalition governments.

[7]Note that voters do not need to know the 'true' policy positions.

[8]See, e.g., Laver and Shepsle (1996).

Voters may similarly expect policy influence to be proportional. Proportional allocation is also often seen as being fair (see, e.g., Verzichelli, 2008), which may further support voters' beliefs regarding the influence of individual coalition parties. Moreover, the heuristic can be deployed with relative ease as it only requires two pieces of information; the size of the coalition parties and their ideological positions.

Heuristic 2 *(Proportional Influence/Gamson's Law) Voters expect government policy to be the seat share weighted average of the coalition parties' policy positions.*

Voters may also consider how the bargaining process favors some parties. Formal theories of coalition formation tend to focus on the parties' bargaining strength, which generally does not suggest proportional influence (see, e.g., Austen-Smith and Banks, 1988; Baron and Ferejohn, 1989).[9] In these models bargaining strength typically derives from two sources; party size and ideological position. Larger parties enjoy an advantage for at least two reasons. First, they tend to have more opportunities to form coalitions and be pivotal to a larger number of majority coalitions. This makes a party's threat to walk away from the bargaining table more credible. Second, larger parties are more likely to take a leading role in the coalition bargaining and occupy the formateur role (Diermeier and Merlo, 2004). The coalition bargaining literature shows that the formateur should reap a disproportionally large share of the spoils of office (see, e.g., Baron and Ferejohn, 1989).[10] Ideological position influences bargaining strength for similar reasons. It affects the

---

[9]The proportional influence heuristic and those based on the bargaining context are not necessarily mutually exclusive. Morelli's (1999) demand bargaining model demonstrates how bargaining outcomes resembling Gamson's Law can occur.

[10]Not all coalition bargaining models predict a formateur advantage and the empirical evidence, in terms of portfolio allocation, is at best mixed. Although the allocation of portfolios appears highly proportional, much less is known about how much influence coalition parties have on policy and whether formateurs wield disproportional policy influence (see, e.g., Warwick, 2011).

desirability of alternative coalitions and, therefore, the credibility of threats to terminate negotiations. A centrist party will generally have more options, i.e., it may find coalition partners on the left or on the right, whereas parties whose ideological positions are less central have few options other than form a coalition with centrist parties. Note that centrist parties do not only derive strength from having more potential coalition partners but also through credibly threatening of forming a coalition with a party whose preferences are opposed to that of its current bargaining partner. Whether through intuition or experience, voters may recognize that larger and more centrist parties wield greater bargaining power.

Heuristic 3 *(Bargaining Strength)* *Voters expect larger and more ideologically centrist parties to have a disproportionate impact on the coalition's policy.*

The three heuristics vary in terms of sophistication. The simplest of the three only requires voters to associate each coalition party with an ideological position. The most complex heuristic of the three requires some sense that bargaining strength derives from the party's size and ideological position. While the third heuristic appears to ask a lot of voters, voters may still get by with fairly limited information about the bargaining process[11] — it may be sufficient to recognize that larger parties are more likely to act as formateurs, to lead the eventual coalition, and to associate that status with greater influence.[12] Moreover, that association may simply stem from empirical observation. As "members of the polity" (Lewis-Beck and Skalaban, 1989), citizens learn to distinguish small parties from large and experience coalition governments (Armstrong and Duch, 2010; Gschwend, 2007; Herrmann, 2014).

---

[11]The influence of bargaining strength may even be indirect, i.e., large, centrist parties may receive disproportional attention in the media that in turn colors voters' evaluations.

[12]Angelova, König and Proksch (2016) show that voters assign greater responsibility to the party of the prime minister (see also Crabtree et al., 2017; Glasgow, Golder and Golder, 2011).

Coalitions are not rare in multi-party systems — especially as coalitions often form at lower levels of government. Electoral polls help citizens identify which coalitions are feasible. Parties sometimes form pre-electoral coalitions (Golder, 2005) or announce with which parties they might, or will not, form a coalition. Such coalition signals (Gschwend, Meffert and Stoetzer, 2017; Gschwend, Stoetzer and Zittlau, 2016) provide voters with easy-to-use yardsticks to figure out which coalitions are likely to form. Thus, voters are generally well equipped to apply such heuristics without a deep understanding of the coalition formation process.[13]

The three heuristics can also be ranked in terms of how favorable the outcome is to the largest party. The equal influence heuristic ignores party size while the Gamson's Law heuristic rewards parties in proportion to their size. Finally, the bargaining strength heuristic rewards parties for being ideological more central in addition to being large.

To examine whether voters employ these heuristics, we leverage all election studies we are aware of, which include questions about the perceived policy positions of coalitions. The data we use stems from three different countries. (1) the 2009 German Longitudinal Election Study (GLES), (2) the 2013 Austrian Election Study (AUTNES), (3) the 2014 Swedish National Election Study (SNES).[14] First, we show that voters are quite comfortable with reporting perceived policy positions of parties and coalitions. Moreover, panel data shows that those coalition policy position appear to be stable rather than than randomly made-up. Second, we introduce a simple model to estimate the coalition weight of each coalition party and compare those with the weights implied by the heuristics above. Third, we estimate a model that allows us a

---

[13]See also Fortunato, Lin and Stevenson (2014), who show that, while political knowledge may be limited, voters are better informed about the aspects of the political system that are relevant in a given political context.

[14]We use data from the GLES Short-term Campaign Panel (wave 6) that included the relevant variables (Rattinger et al., 2015), the AUTNES pre-study module (Kritzinger et al., 2017) as well as Swedish Internet Campaign Panel, particularly waves 2 and 6 (Boije and Dahlberg, 2014).

direct test of the proportional influence heuristic that also takes into account heterogeneity in voters' expectations about the sizes of the coalition parties. Finally, we estimate non-linear least squares models in order to consider how additional covariates influence the parties' coalition weights.

Perceptions of Coalition Policy

Austria, Germany and Sweden are ideal cases for examining how voters evaluate coalitions. First, their history of coalition governments means that voters have substantial experience in judging coalition possibilities. Moreover, a variety of coalitions have formed in those countries: Grand Coalition, as well as several coalitions between a strong and a small party such as SPÖ-FPÖ and ÖVP-SPÖ (in Austria), SAP-MP (in Sweden) and CDU-FDP, SPD-FDP, SPD-Greens (in Germany). Second, the GLES is the only electoral study we are aware of that includes questions about the ideological placement coalitions as well as items about the expected vote share of each party, which allows for a direct test of the heuristics.[15]

Respondents were asked to place parties on a 0-10 left/right scale. While 82 percent report policy positions for the large parties, CDU[16] and SPD, 80 percent report a position for the smaller parties, FDP and the Greens (B90).[17] Respondents were also asked about their policy perceptions of three two-party coalitions: (1) the Grand Coalition (CDU-SPD), (2) the black-yellow coalition (CDU-FDP) and, (3) the red-green coalition (SPD-B90). About 76 percent place those coalitions on the left/right scale. Respondents, thus, find it only

---

[15]The Austrian as well as the Swedish data (Boije and Dahlberg, 2014; Kritzinger et al., 2017) only include questions about ideological positions.

[16]We refer to the CDU/CSU pre-electoral coalition as CDU. The CSU only competes in Bavaria where the CDU does not compete. We use the perceived policy positions of the CSU for Bavarian respondents.

[17]That is about the same number of respondents that report whether they have developed a partisan identification for any party; a standard survey item. Other studies about voter perceptions of coalitions report that 80 percent of respondents know which parties are in government (Angelova, König and Proksch, 2016).

slightly more difficult to place coalitions on the left/right scale. Similar results are reported by Meyer and Strobl (2016) using AUTNES data. While one could naively think that evaluating policy positions of coalitions is a relatively complicated task, the presented evidence rather suggests that respondents feel generally comfortable placing coalitions on a left/right scale. Moreover, the Swedish data provides us with a unique opportunity to asses the reliability of those judgments because respondents report the perceived position of a coalition between the Social Democrats (SAP) and the Greens (MP) in two different waves four months apart (wave 2 and 6). We find that 43% of those who place the coalition in both waves report the very same value. About 85% report a value of ±1 scale point difference between both waves. While one might wonder whether respondents make up coalition placements on the top of their head, the apparent stability seems to indicate rather that they know what they are doing.

Finally, when theorizing about perceived policy positions of coalitions its seems more appropriate to conceptualize them as depending on respective party positions than vice versa. Analyzing response latencies, Meffert and Gschwend (2012) found that voters in Austria and Germany need more time to respond to items that involve coalitions than parties.[18] This evidence is consistent with the assumption that the perceived policy positions of coalitions depend on the party positions (and not the other way around). In the next section, we introduce a simple model of how voters perceive policy positions of coalition governments based on perceived policy positions of the respective parties.

A Model of Coalition Policy Perceptions

In theoretical and empirical work, coalition policy is usually assumed to be a function — typically a convex combination — of the coalition parties' policy

---

[18]The response latencies in those studies are available merely for measures of coalition and party preferences using a similar 11-point scale, but not placements on a left/right scale.

positions: $C = \alpha_A A + \alpha_B B = \alpha_A A + (1 - \alpha_A)B$, where A and B are the positions of the coalition parties, α_j is party j's *coalition weight*, and C is the government policy.[19] When the weight of the parties is assumed to be proportional to their legislative seat share — as Gamson's Law suggests — α_j is replaced with the seat share s_j.[20]

We begin by considering a simple model to estimate the voters' coalition weights. As voters may evaluate different coalitions, or parties, in different ways, we consider each coalition separately. For this we employ the simple two-party model above:

$$C_i = \alpha_A A_i + (1 - \alpha_A)B_i, \tag{1}$$

where A_i and B_i now represent each voters' perceived party positions. Rearranging equation 1 we obtain:

$$C_i = \alpha_A A_i + B_i - \alpha_A B_i \tag{2}$$

$$C_i - B_i = \alpha_A(A_i - B_i) \tag{3}$$

Thus, we can estimate party A's coalition weight $\hat{\alpha}_A$, the perceived influence of party A on the coalition policy directly by regressing each respondent's perceived difference $(C_i - B_i)$ between the coalition's policy and party B's policy on the respondent's perceived difference $(A_i - B_i)$ between the policies of party A and B. Throughout we refer to the first named party of a coalition as A, the second named party as B, and the coalition as C. The estimated

---

[19]More generally, the policy can be written as $C = \sum_{j \in G} \alpha_j p_j$, where G is the set of the coalition parties, p_j the policy position of party j, and α_j the weight of party j with $\sum_{j \in G} \alpha_j = 1$.

[20]When the focus is on cabinet parties, s_j is simply equals party j's share of (weighted) portfolios but when the focus is on legislative seat share then $s_j = \frac{l_j}{\sum_{j \in G} l_j}$, i.e., the share of the government's legislative majority.

FIGURE 1: ESTIMATED COALITION WEIGHT ($\hat{\alpha}_A$) OF FIRST PARTY
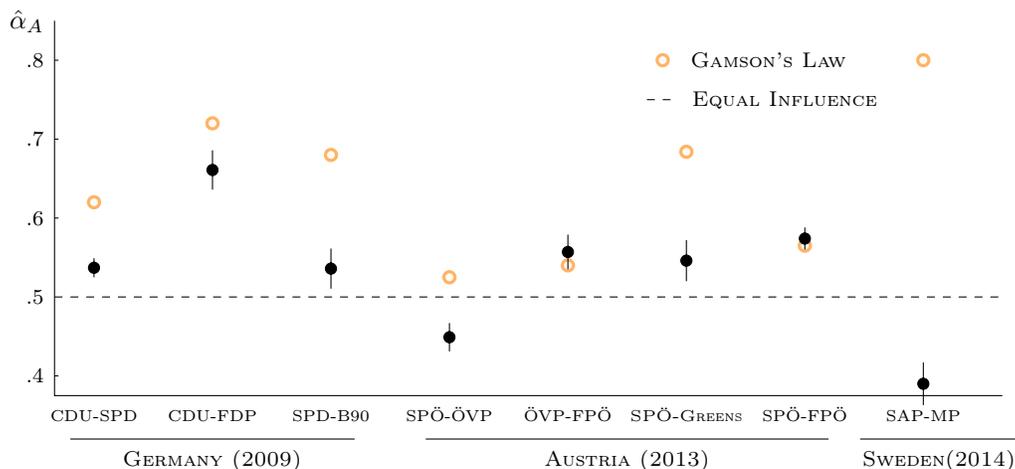
coalition weights, $\hat{\alpha}_A$, are graphed in figure 1 along with the predicted weights if respondents employ either the equal division (dashed line) or the proportional influence (hollow circle) heuristic. The predictions of Gamson's Law are based on actual seat shares.

The results teach us at least three lessons. First, voters do not employ the equal division heuristic. None of the confidence intervals around the estimated coalition weights include the dashed line. Although the heuristic is easy to apply for any coalition, respondents consistently consider the coalition parties to have unequal influence on coalition policy.

Second, voters generally do not seem to apply the Gamson's law heuristic either. The predicted coalition weights consistent with Gamson's Law are typically quite different from the estimated coalition weights. The only exceptions are coalitions that include the FPÖ. Nevertheless, wherever the estimated and the expected weights differ, we find that the estimated weight is consistently lower than the one expected by Gamson's Law. This implies that the perceived policy influence of the larger coalition party as likely

formateur is consistently smaller and, importantly, not larger as many models of coalition bargaining (e.g., Baron and Ferejohn, 1989) suggest. Instead, our evidence is consistent with the small party advantage found in the literature on portfolio allocation (see, e.g., Browne and Frendreis, 1980) and also with more recent work on voters' perceptions of portfolio allocation (Fortunato et al., 2016). The perceived policy influence of the smaller coalition party is typically stronger but never significantly weaker than Gamson's Law predicts.

Third, voters do, however, take party size into account. Across all the coalitions (with two exceptions), the bigger party is estimated to have greater weight than its coalition partner. Moreover, the estimated coalition weight of the larger party in each coalition increases with the party's relatively size, e.g., the CDU in Germany carries greater weight in a coalition with a small party (FDP) than a large party (SPD). In Austria and Sweden we observe the same pattern for those coalitions that do not conform to Gamson's Law. However, party size appears not to be the only thing that matters. The estimated weights for the CDU in the CDU-SPD coalition and SPD in the SPD-B90 coalition are highly similar although the SPD provided a larger coalition seats share in the SPD-B90 coalition than the CDU did in the CDU-SPD coalition.

To sum up, voters use neither the equal influence heuristic nor the proportional influence heuristic when evaluating coalition policy. There is, however, a clear small party advantage, i.e., the perceived influence of a small party is greater than Gamson's Law suggests. The latter claim requires assuming that respondents correctly anticipate the relative sizes of the coalition parties, i.e., the lack of support for the Gamson's Law heuristic could be explained by voters having different expectations about the size of the parties. If expectations about party size are heterogeneous, then the coalition weights respondents use when forming expectations about a coalition's policy position will differ — even while using the same heuristic. In the next section we, therefore, take into account respondents' expectation about the coalition parties' size.

Proportional Influence & Heterogenous Expectations

The simple model in equation 1 is a convenient first approximation but it mostly serves an illustrative purpose as respondents have different expectations about party size. To better test whether voters perceive the parties' influence on coalitions policy to be proportional to their size or whether there is a small party advantage, we rewrite equation (1) as a function of expected vote shares — to account for respondents' heterogenous expectations — and perceived policy positions of the respective parties:

$$C_i \;\; = \;\; \alpha_A V_{Ai} A_i + \alpha_B V_{Bi} B_i \tag{4}$$

where V_{ji} denotes respondent i's expectation about party j's contribution to the coalition's legislative majority. We use expected vote share as the study in Germany did not include questions about seat share. Neither information is available in the Austrian nor the Swedish data, which prevents us from using it. Thus, $V_{ji} = \frac{v_{ji}}{v_{ji}+v_{ki}}$ where v_{ji} is the expected vote share of party j relative to the expected vote share of party j and k of this coalition.[21] $V_{Ai}A_i$ and $V_{Bi}B_i$ are the respondent specific vote-weighted policy positions of parties A and B. If the parties' influence is proportional to vote share then α_A and α_B both equal one. Again, assuming normal errors we can estimate the parties influence on the coalition policy using a linear model without a constant.

Figure 2 displays the estimated weights, $\hat{\alpha}_A$ and $\hat{\alpha}_B$, together with their 95% confidence intervals. The proportional influence hypothesis can safely be rejected for all three coalitions.[22] None of the estimated confidence intervals intersect the reference line that indicates the expected value if voters use

---

[21] The survey question was: *"What percentage of the second votes do you think the parties will gain at the federal election on 27 September 2009?"* The responses were added up automatically to facilitate that the respondent's predictions summed to 100%.

[22] Significance tests with $H_0 : \alpha_A = \alpha_B = 1$. CDU-SPD: $F_{2,2076} = 33.70$ ($p < .0001$), CDU-FDP: $F_{2,2028} = 74.57$ ($p < .0001$), SPD-B90: $F_{2,1817} = 102.6$ ($p < .0001$).
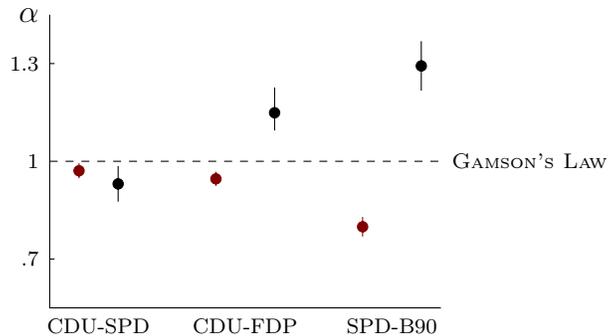
FIGURE 2: ESTIMATING THE PARTY WEIGHT
ESTIMATED WEIGHTS SYSTEMATICALLY DIFFER FROM GAMSON'S LAW ($\alpha_i = 1$).

this heuristic. Instead, we again find evidence that points to a small party advantage rather than a formateur advantage. The estimated coalition weight of the small parties, FDP and B90, are estimated to be systematically higher than expected by Gamson's Law.

So far we simply assumed that the first named party in each coalition was expected to be the stronger party within the coalition and, therefore, was likely to act as a formateur.[23] In each case the first named party was estimated to have less influence than its vote share suggested and there is, therefore, little indication of respondents perceiving a formateur advantage.

What if this assumption is wrong? What if voters don't use expected party size to determine the degree to which a party influences coalition policy, as we claim, but simply assign a higher coalition weight to first-named parties? This alternative explanation would cast doubts on our interpretation of the results. Fortunately, the Austrian data (Kritzinger et al., 2017) allows us to test this alternative explanation because it includes a random split-sample design. A random half of the sample was asked about the coalitions as we reported them above while for the other half the order of the parties was

---

[23]It bears noting that Austrian and German coalitions are formed in a 'free-style' form of coalition bargaining and there is no formal formateur but, as is the case where a formateur is appointed, the leader of the largest party is likely to adopt a role as a formateur.

15

FIGURE 3: ESTIMATED COALITION WEIGHT $(\hat{\alpha}_A)$ OF FIRST PARTY
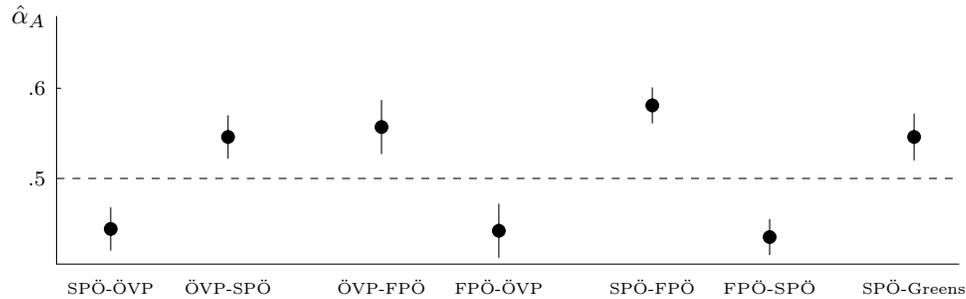
reversed for three coalitions. Using equation 1, we estimate the coalition weights for seven coalitions whose membership may be identical but they differ in terms of the order in which the parties are presented (the ÖVP-SPÖ, FPÖ-ÖVP, and FPÖ-SPÖ coalitions).

The estimated coalition weights, $\hat{\alpha}_A$, and their confidence intervals are graphed in Figure 3 along with a dashed reference line. If the estimated coalition weights are above the reference line the influence of the first named party on the coalition policy is perceived to be stronger than the influence of the second-named party.

No matter whether it is the first-named party or not, with the exception of one coalition (SPÖ-ÖVP), voters weighed larger parties more heavily. Thus, even if the larger party was the second-named party, the estimated weight of the larger party is, with one exception, consistently higher. Thus, the expected party size plays a role. Voters seem to distinguish larger from smaller parties when deriving coalition policy positions. In the next section we like to model the coalition weights directly.

Modeling the Coalition Weight of Parties

How influential are parties perceived in determining coalition policy? The model in the previous section offered a simple way of evaluating whether voters

adhere to the proportional influence heuristic. The estimated weights, $\hat{\alpha}$, in all the data we found that measure coalition policy perceptions (Germany, Austria and Sweden) were neither shown to equal one-half (figure 1) nor to reflect proportionality to party size (figures 1 and 2). The AUTNES split-sample experiment nevertheless shows that voters perceive larger parties to be more influential than smaller parties. In this section, we extend the model (1) above to allow the coalition weights (α) to depend on additional covariates in order to find out under which conditions do voters perceive a party more or less influential in determining coalition policy.

Our key covariates relate to the three heuristics. *Party Size* address the first two heuristics, *Equal Influence* and *Gamson's Law*. Only the German data allows us to operationalize all those heuristics. We therefore have to restrict the analysis in this section to the German case only. *Equal Influence* implies that party size has no effect on expected coalition policy while *Gamson's Law* implies that each parties' influence ought to be proportional to party size. We operationalize *Party Size* as the respondent's expectation about party A's share of the coalition's vote, i.e., $\frac{v_{A_i}}{v_{A_i} + v_{B_i}}$. As the normalized vote shares add up to one, only party A's vote share is needed.

The third heuristic, *Bargaining Strength*, implies that the size of a party has an effect but voters may consider other factors that determine bargaining strength in assessing the parties' coalition weight. Bargaining strength of a party is usually conceptualized in terms of the opportunities it has to form coalitions — the idea being that if a party has credible outside options then it has greater leverage in the coalition formation negotiations. As we have argued above, respondents' perception of a party's bargaining strength derives from two sources: the party's size and its ideological position. In order to operationalize how respondents perceive a party's bargaining strength more comprehensively, we also include a measure that accounts for how central the party is perceived to be ideologically. We construct a measure of a party's perceived *Ideological Centrality* to capture the perceived bargaining strength

17

parties' derive from their ideological positions — centrist parties have greater opportunities to form coalitions to both the left and the right and are, on average, closer ideologically to other parties. Thus, ideological centrality is measured by how close to the center of the left/right scale (at '5') each party is perceived, i.e., by the absolute distance between the respondent's placement of a party and the center of the left/right scale. A party's perceived ideological centrality ranges on a scale from 0 to 5 with higher values indicating greater centrality. We finally take the difference in perceived ideological centrality between the coalition parties', $\Delta Ideological\ Centrality$. This measure ranges from -5 to 5 and is positively related to party A's bargaining advantage.[24] We expect a larger coalition weight for the party perceived as being closer to the center and, hence, a positive coefficient for $\Delta Ideological\ Centrality$.

As for control variables, we consider how leader evaluations, party preferences and how informed voters are about politics influence the formation of policy expectations. Voters' expectations may be influenced by the personal characteristics of the party leaders who represent the parties in the coalition negotiations and lead their parties in government. A voter's affinity for a party leader, however, is not enough for the voter to think that the party will have greater influence on the coalition's policy. Voters must also think that the leader's qualities lend themselves to achieving more favorable policy outcomes. Thus, respondents should attribute greater influence to party leaders that they think show resolve in negotiations, have deep convictions and strong principles, are hard-working, or are simply stubborn — that is, characteristics that plausibly affect the outcome of negotiations. Controlling for leader evaluations is warranted as many have argued that parliamentary politics have increasingly become focused on party leaders (see, e.g., Aarts, Blais and Schmitt, 2011). To operationalize leader evaluation we use the like/dislike scores for party leaders. We calculate a 'leader differential' ($\Delta Leader\ Evalua$-

---

[24]That is, $(5-|p_A-5|)-(5-|p_B-5|) = -|p_A-5|+|p_B-5|$, where p_j is the respondent's placement of party j.

tion) as the difference between party A and B's leader evaluations. $\Delta Leader$
Evaluation is scaled to range from -1 to 1. If respondents perceive a leader
advantage it should translate into a greater weight for the advantaged party
and a positive coefficient for $\Delta Leader\ Evaluation$.

It is also possible that voters are affected by perceptual biases in their
evaluations of coalition policy (Meyer and Strobl, 2016). If a voter finds a
party's argument in favor of certain policies persuasive, they may assume that
others will also find them persuasive. We operationalize perceptual biases in
a similar manner to leader evaluations, using the like/dislike score for each
party. We calculate the party preference differential, $\Delta Party\ Preference$, as
the difference between the evaluations of party A and party B and scale the
results to range from -1 to 1. A positive coefficient is expected if voters'
expectations about coalition policy are shaped by perceptual biases.

Finally, we control for the level of a respondent's *Political Knowledge*
because it is conceivable that the ability of voters to reach conclusions about
the influence of various parties on coalition policy depends on their level of
intellectual engagement with politics. Respondents' relative placements of
political parties as well as their expectation about the relative size of a party
might be different for political experts, that have a lot of factual knowledge
than for respondents who don't know much about politics. We construct a
political knowledge scale (Cronbach's $\alpha = .83$) ranging between '0' and '1'
based on 13 factual knowledge items.[25]

Thus, in order to find out under which conditions do voters perceive a
party more or less influential in determining coalition policy, we extend the
model (1) above to allow the coalition weights (α_{Ai}) to depend on additional
covariates and, hence, to vary across respondents in the following way:

---

[25]We disregard all further knowledge items that have been measured after wave 6,
where the dependent variable of our analysis, respondents perceived coalition policy, was
measured.

$$
\begin{aligned}
C_i &= \alpha_i A_i + (1 - \alpha_i)B_i + \epsilon_i \text{ with} \qquad (5)\\
\alpha_i &= logit^{-1}(\gamma_0 + \gamma_1 PartySize_i + \gamma_2 \, \Delta IdeologicalCentrality_i \\
&\quad + \gamma_3 \, \Delta LeaderEvaluation_i + \gamma_4 \, \Delta PartyPreference_i \\
&\quad + \gamma_5 PoliticalKnowledge_i)
\end{aligned}
$$

The perceived policy position of a coalition should depend on the respective positions of the constituting parties and not the other way around (for evidence supporting this, see Meffert and Gschwend (2011)). Rather than estimating the coalition weight directly, we allow α_i to vary across respondents as a logistic transformation of a linear and additive function of additional covariates. This parametrization ensures that the resulting $\hat{\alpha}_i$ is a proper weight, i.e., it lives in the unit interval and that we avoid out-of-bounce predictions. We estimate the γ's for the above regression model using non-linear least squares (Davidson and MacKinnon, 1993) and use them to recover $\hat{\alpha}_i$ post-estimation. Note that a positive estimate indicates that larger covariate values increase the weight respondents assign to the first-named coalition party while decreasing the weight of the second-named party.

Table 1 shows the estimation results for the three coalitions: CDU-SPD (grand coalition), CDU-FDP (black-yellow coalition), and SPD-B90 (red-green coalition). For each coalition we run 3 models to evaluate the robustness of the effects across specifications. First, we only have *Party Size* in the model, second, we add our other key covariate, Δ*Ideological Centrality*, to the model, and third, we also include all control variables.

We find evidence supporting our hypotheses for the coalitions that were more likely to form; the grand coalition and the black-yellow coalition. The context of the 2009 election may be responsible for why the results for the SPD-B90 coalition are not in line with any of the heuristics — respondents may have devoted little attention to the SPD-B90 coalition because the

coalition was considered very unlikely to form.[26] In the remainder of this paper we focus our discussion on the two coalitions that were considered more likely to form and we are better able to explain how respondents weigh the ideological positions of the coalition parties in order to form expectations about the coalition's policy.

The explanatory variables have a consistent effect for the two coalitions (models $1-6$) considered more likely to form. The coefficients for *PartySize* are positive as expected. The larger party A was expected to be, the more weight respondents placed on party A's position when evaluating the coalition's policy. This implies that respondents see the CDU (party A in both coalitions) — by virtue of being seen as the bigger party by most voters — as being more influential. Thus, the perceived coalition policy is closer to the perceived CDU position than the respective coalition partner, the SPD or the FDP. Δ*Ideological Centrality* also has the hypothesized effect for these coalitions. Respondents that see the CDU as being closer to the ideological center attribute greater weight to the CDU's policy position and, consequently, smaller weight to the coalition partner's position. Thus, voters perceive larger and more centrist parties of a coalition to be more influential in determining coalition policy.

Moreover, we find little evidence of voters being influenced by perceptual biases. While the Δ*Party Preference* coefficients have the expected sign, the size of the effect is very small in comparison with the standard errors. This is an interesting — and potentially instructive — finding when compared with Meyer and Strobl (2016) who do find evidence of perceptual biases. The Austrian survey that Meyer and Strobl (2016) analyze did not ask for respondents' expectation about the parties' vote shares. Perceptual biases may

---

[26]The respondents were asked in the fifth wave (question `kp5_940`) whether the CDU-FDP and the SPD-Green coalitions would control a majority in parliament. Only seven percent said a SPD-Green coalition would obtain a majority. As noted above, respondents also saw these parties as being very close ideologically — nearly half the sample placed them at the same position.

TABLE 1: DETERMINANTS OF COALITION WEIGHT (α)

	CDU-SPD			CDU-FDP			SPD-B90		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	−0.321	−0.264	0.055	−0.595	−0.524	−0.616	0.779**	0.800**	1.162**
	(0.223)	(0.220)	(0.253)	(0.529)	(0.531)	(0.540)	(0.394)	(0.396)	(0.467)
Party Size	0.800**	0.926**	0.883**	1.581**	1.683**	1.600**	−0.929*	−0.969*	−1.922***
	(0.388)	(0.383)	(0.427)	(0.722)	(0.726)	(0.737)	(0.561)	(0.563)	(0.641)
Δ Ideological Centrality		0.216***	0.213***		0.081***	0.090***		0.029	0.018
		(0.020)	(0.020)		(0.031)	(0.032)		(0.025)	(0.026)
Δ Leader Evaluation			0.092			−0.276			0.352*
			(0.094)			(0.215)			(0.206)
Δ Party Preference			0.004			0.114			0.369*
			(0.079)			(0.241)			(0.202)
Pol.Knowledge			−0.426***			0.305			0.491**
			(0.122)			(0.244)			(0.240)
OBSERVATIONS	1644	1644	1644	1632	1632	1632	1582	1582	1582
ROOT MSE	1.16	1.11	1.11	1.12	1.11	1.11	1.06	1.06	1.06

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

work by influencing how persuasive respondents find the parties' arguments and those biases may then be reflected in the respondents' expectations about party size. That is, if a voter finds a party's platform appealing then she may assume other voters will also find the party's platform appealing and, consequently, expect more voters to cast their votes for the party. If perceptual biases operate primarily by influencing expectations about party size, the inclusion of party size in our models will capture the effects of perceptual biases. This is what our results show — $\Delta Party\ Preference$ has no independent effect in our model specification, suggesting that the causal mechanism by which perceptual biases matter primarily operate through biasing voters' expectations about electoral outcomes.[27]

Leader evaluations only have the hypothesized effect for two of the three coalitions the respondents were asked about and the coefficient is only statistically significant for one of those (SPD-B90 coalition). There is, thus, limited evidence to suggest that respondents' evaluations of the party leaders matter — although the same caveats apply here as with the effects of party preferences. That is, much like with party preferences, perceptual biases regarding party leaders may lead respondents to overestimate the size of the parties whose leaders they consider competent. It is, therefore, not possible to rule out that leader evaluations matter, i.e., through party size, but it does suggest that if leader evaluation effects are present they are unlikely to derive from respondents' expectation that the leaders' political savvy will pay dividends in the coalition negotiations.

Finally, the estimated coefficients for *PoliticalKnowledge* do not show a coherent pattern. Those who score higher on our knowledge scale seem to place less weight on the CDU position (and consequently place more weight on the SPD position) to determine the coalition's policy position of the CDU-SPD coalition. While we find no effect of political knowledge on the weight that

---

[27]Thus, we cannot rule out the possibility that perceptual biases matter. A more favorable opinion of a party may lead a respondent to expect a higher vote share for a party that in turns affects its influence on coalition policy.

determines the importance of the CDU position on the CDU-FDP coalition position, we find a positive effect of political knowledge on the weight that determines the importance of the SPD position on the SPD-Green coalition position.

How do the estimated effects compare with those implied by the heuristics discussed above? The non-linear parameterization of the coalition weight (α) implies that the substantive effects cannot immediately be inferred from the estimated coefficients but the effects can easily be examined by predicting the coalition weights using the estimated γ's for different values of the covariates. Figure 4 graphs the effects of *Party Size* and Δ*Ideological Centrality* for the two coalitions. In order to derive the average predicted weights together with their respective 95% confidence intervals, the values of the two variables, *Party Size* (on the left) and Δ*Ideological Centrality* (on the right), were varied while all other independent variables were set to their observed value for each respondent. The top panels present the results for the CDU-SPD coalition while the bottom panels presents the results for the CDU-FDP coalition. The panels on the left shows the average predicted weights conditional on the CDU's expected size (as a ratio of the respective expected two-party coalition vote share). The graphs show how respondents that expect the CDU to win more votes have higher predicted values of α, i.e., they are generally more likely to think the CDU will have a bigger impact on government policy.

The expectation according to the equal division heuristic, i.e., $\alpha = .5$, is shown by horizontal lines. The heuristic can quickly be dismissed as it can clearly be seen that the predicted coalition weights do depend on the parties' expected vote shares. Furthermore, the figures show that the predicted coalition weights (on the vertical axis) of the CDU are almost always greater than .5 and, for the majority of the respondents, the confidence intervals do not overlap the horizontal line. This suggests that an average voter perceives the CDU to have at least a slight advantage in determining coalition policy — this is evident from the fact that the CDU's predicted coalition weight is
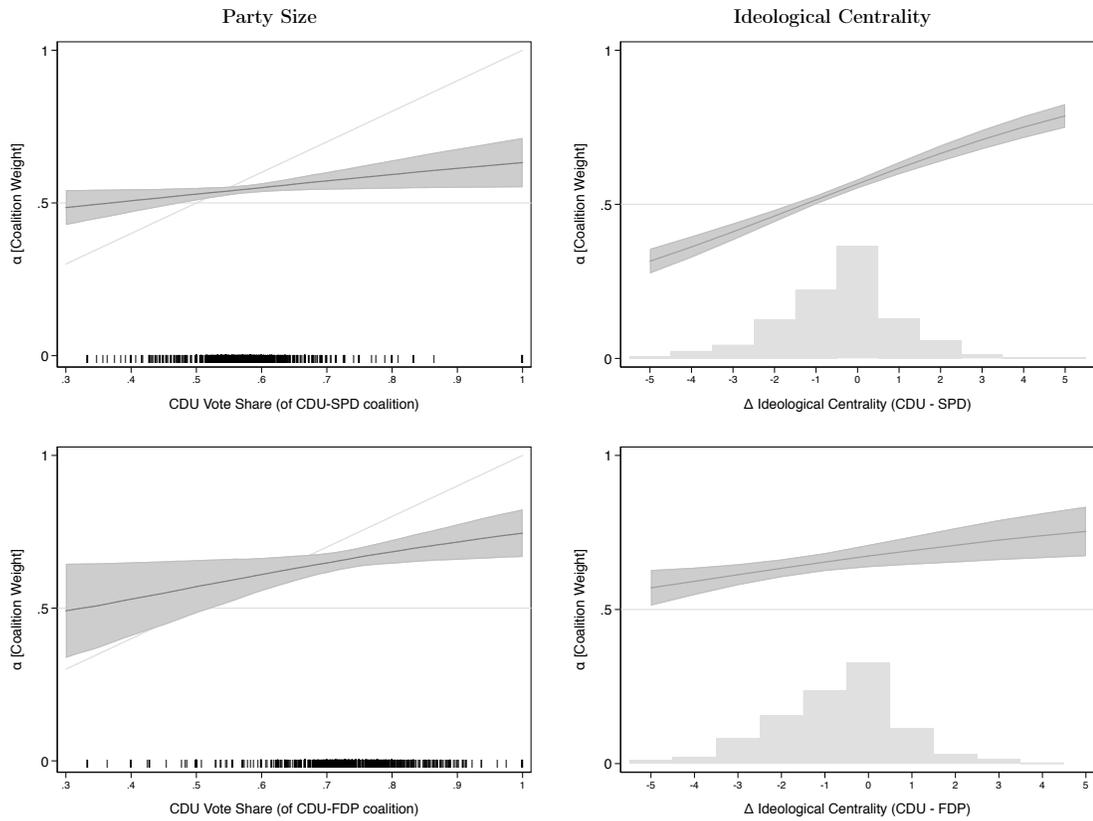
FIGURE 4: IMPACT OF PARTY SIZE & IDEOLOGICAL CENTRALITY
ON COALITION WEIGHT (α)

*The reference lines at $\alpha = .5$ indicate the predictions of the equal influence
heuristic. The reference lines with slope of one in the left panels show the
predictions of the Gamson's Law (proportional influence) heuristic conditional on
CDU's coalition vote share.*

larger than .5 for voters that expect the two coalition parties to have an equal vote share.

The second heuristic is the one identified with Gamson's Law or proportional influence. Respondents employing the proportional influence heuristic would simply assign a coalition weight to the party that is equal to its expected vote share (as a share of the coalition parties' total expected vote share). The Gamson's Law heuristic is shown in the panels on the left, i.e., an upwards-sloping line with a slope of one. While Gamson's Law implies that party size has a positive effect on coalition policy, the graph for the CDU-FDP coalition makes transparent that the effect of *Party Size* for the prediction of the coalition weight is somewhat smaller than what the Gamson's Law heuristic implies. Although the slope is less than one, it bears noting that about 15% of the respondents have expectations about the relative size of the CDU in a CDU-FDP coalition that Gamson's Law would predict. For the expected relative size of the CDU in a CDU-SPD coalition we find that about 39% of the respondents fall in the range where the 95% confidence interval covers the prediction of the Gamson's Law heuristic. Overall, though, there is little reason to conclude that Gamson's Law accurately describes voters' expectations about parties policy influence. Instead, the results across both coalitions suggest that the CDU seems to pay a policy penalty. While the CDU seems to have more influence over coalition policy than its respective coalition partner, the larger the CDU is expected relative to its coalition partner, the higher this policy penalty seems to be. Consequently, the respective smaller party within the coalition has an advantage in terms influence on the coalition policy above what could be expected based on Gamson's Law.

Overall, then, neither heuristic appears to capture respondents' expectations about government policy and, instead, their expectations fall somewhere in between the two heuristics. Importantly, the standard assumption invoked in the literature — that voters hold beliefs consistent with Gamson's Law when making inferences about how the policy preferences of coalition parties

affect government policy — is *not* supported by our data. Instead respondents appear to see smaller coalition parties having disproportional influence on policy, which echoes the findings in the literature that smaller parties receive a disproportionate share of cabinet portfolios (see, e.g., Browne and Frendreis, 1980). This finding also suggests that voters do not perceive a formateur advantages — although the evidence on this point is indirect as no formateurs are formally appointed in the German system and the conclusion can, thus, only be supported if one is willing to assume that larger parties are more likely to occupy a formateur-like role. Party size clearly matters, however. Thus, respondents appear to recognize that larger parties will be better able to influence coalition policy but finding a positive effect of party size cannot tell us whether this advantage derives from the party's bargaining strength or other factors, such as greater likelihood of acting as a formateur.[28]

Ideological centrality, our second proxy for bargaining strength, suggests that voters appear to behave as if they pay attention to the bargaining context, i.e., how the parties' ideological position may affect their ability to form coalitions. The right panels of Figure 4 show how ideological centrality affects voter expectations about coalition policy. The first thing to note is that perceived ideological centrality has a positive effect on the respondents' expected coalition weight. This suggests that voters see centrist parties as having a bargaining advantage as expected by the bargaining strength heuristic.[29] Another thing to note is that the CDU's weight, in particular in the CDU-FDP coalition model, tends to be higher ($> .5$) even when the CDU is disadvantaged in terms of perceived ideological centrality — this is true

---

[28]The likelihood of being chosen formateur can, of course, be considered part of a party's bargaining strength but here we wish to distinguish between bargaining strength that derives from credible threats to pursue alternative coalitions and the advantage of having a higher probability of acting as a formateur.

[29]The finding could also be interpreted as indirect support for McDonald and Budge's (2005) argument about the median mandate, i.e., that political parties will have a hard time moving policy away from the median legislator and voters, therefore, would assign less weight to the policy influence of parties that are further away from the middle of the policy spectrum.

when the CDU and SPD are seen as equally central and for any difference in ideological centrality in the CDU-FDP coalition. This is explained by the fact that the predicted weights are calculated holding other covariates fixed at their actual values and the CDU is generally perceived to be the bigger party. This is interesting in light of the fact that the distribution of the difference in ideological centrality, as shown by the histograms in Figure 4, does not favor the CDU. Thus, the effect of party size seems to outweigh the effects of ideological centrality in the minds of the voters — although this is far clearer in the case of the CDU-FDP coalition than the CDU-SPD coalition.

To sum up, we find that party size and ideological centrality generally have a positive effect on the weight voters assign to a party's ability to influence government policy for the two coalitions that are deemed more likely to form. The finding with regard to the SPD-B90 coalition, on the other hand, are more difficult to make sense of and, perhaps, have also something to do with voters' perceptions of the Greens as a niche party being disproportionally focused on the environment. A party that has a visible core issue that it is unwilling to compromise on may be perceived to have greater influence on government policy. That is, if the party is only expected to join a coalition if getting their way on that issue, then the policy influence of the party does not depend on the size of that party.

Conclusions

Taking a cue from Gamson's Law, a considerable body of work on politics and policy-making in multi-party parliamentary systems assumes that the policy positions of coalition governments are simply the weighted average of the coalition parties' positions. More recently, political behavior scholars have noted that instrumental voters in multi-party systems have an incentive to cast their votes both as to influence which coalition form as well as the policies adopted by coalition governments. 'Coalition voting' of this form requires

28

voters to form expectations about the policies coalition governments will implement and, implicitly or explicitly, much of the literature has assumed that voters form expectations in line with Gamson's Law. Our evidence, using unique survey data on the policy positions of parties and government coalitions, suggests, however, that voters do not perceive policy influence to be proportional to party size. This result is in line with recent work on responsibility attribution in coalition governments. First, there is experimental evidence on responsibility attribution in the context of collective decision making, akin to coalition governments, where blame is neither assigned equally not proportionally to the actors' size (Duch, Przepiorka and Stevenson, 2015). Second, our finding squares nicely with recent survey evidence (Angelova, König and Proksch, 2016) showing that voters neither assign responsibility equally nor proportionally to the size of a coalition party.

While our results provide evidence that voters perceive parties to neither have equal nor proportional influence on coalition policy, they suggest that voters are sensitive to factors that contribute to parties' bargaining strength. That is, we find that party size matters — albeit less than Gamson's Law would suggest — but also that ideology, which acts as constraint on the parties' threats to credibly pursue alternative coalitions, influences voters' perceptions. Thus, although the findings here are cause for concern for theories that rely on the proportional influence assumption, some comfort can be taken in the fact that voters do respond to the key factors scholars have argued to determine coalition policy. That is, voters appear capable of forming expectations about coalition policy and those expectations vary in predictable manner with party size and ideological centrality.

These findings have consequences for theories of coalition politics. Voters see coalitions differently from how theories such as Gamson's imply. True, most theories of coalitions consider party actions and do not directly address voters. But voter perceptions and party strategies must be linked both empirically and theoretically. Empirically, if it is the case that voters systematically see

small parties in coalitions as more important than their size suggests then the actors (parties) have to take that into account. Theoretically the same thing applies unless we are willing to assume that party actions regarding coalitions are completely independent of voter perceptions. Any theory of democratic politics takes as a basic assumption that elite behavior is constrained by voter behavior. It would seem difficult to have a model of coalitions and elections where voter and parties do not share common knowledge of who is important within a coalition. At the very least, even as political science theory says 'here is how the coalition game is played out by parties', voters who live in those systems are telling us 'we see it differently'.

A large store of anecdotes exits about the importance of small parties in coalition politics. They are portrait as 'kingmaker' using their 'blackmail' power. More systematic evidence than anecdote is seen in formal measures of influence. They show the value of small parties when they are in the right place (i.e. a good position in the policy space) at the right time. The results we show here provide another and different kind of systematic evidence that shows the impact of small parties in multi-party politics. Voters who live with coalition politics systematically see coalition politics play out in a way that means small parties have an influence on policy outcomes larger than their size would suggest. This is a different kind of evidence from the more anecdotal forms we often see which make the case for small party influence.

Whether and how voters can hold multi-party governments accountable is a long standing question within the literature, particularly as it relates to how economic voting may take place given coalition governments (see e.g. Powell and Whitten (1993); Anderson (2000, 2007); Angelova, König and Proksch (2016)). In very general terms this literature suggests that larger parties will share more of the credit and blame than smaller parties and in particular the largest effects will be associated with the Prime Minister's party (Debus, Stegmaier and Tosun, 2014). What we see, then, are unequal but predictable patterns of accountability across parties within a coalition. But theories such

as Gamson's suggests a more precise expectation: presumably the parameters in models of economic voting should be proportional to the size of the parties. This expectation provides a benchmark against which to assess the size of parameters. Our results provide another, different, benchmark suggesting that if indeed voters see small parties as having an effect larger than their size then we should see small parties being held accountable to a greater degree than a proportional influence heuristic would suggest: smaller parties should be seen to be more responsible than a naive version of Gamson's theory applied to accountability would predict.

Our findings, however, raise a number of questions that require further study. First, are voters' expectations accurate? Answering this question is a significant challenge as answering that question requires knowledge of how much influence individual coalition parties actually have on government policy but our understanding of policy making in parliamentary systems remains underdeveloped.[30] It is important to note, however, that the question of whether voters' expectations are accurate is not relevant when it comes to studying coalition voting, i.e., the question there is whether voters vote strategically in response to *their* perception of the political context.

Second, on a related note, we might flip the question around and ask whether scholars' expectations about coalition policy are accurate. The assumption of proportional influence is quite dominant in the literature but as we have seen it is at odds with voters' perceptions and it is possible that the voters' perceptions are more on point. While one may doubt the ability of voters to make informed inferences about the influence of coalition parties, the discrepancy is nonetheless somewhat disconcerting. One may, thus, ask why would voters develop expectations that deviate from proportional influence? It is not clear to us, a priori, that expectations that are largely based on empirical findings about the allocation of ministerial portfolios are superior

---

[30]This is not to say the question has been ignored. Warwick (2001), Laver and Budge (1992), and Debus (2008), for example, have sought to estimate the influence of coalition parties by comparing the manifestos of coalition parties with coalition agreements.

to the perceptions of survey respondents that live in a coalition system and observe the policy output of coalition governments.

Third, our results are necessarily limited to three elections in three countries, Austria, Germany and Sweden. The 2009 GLES is so far, the only survey available that includes the necessary battery of questions to examine voters' perceptions of party influence on government policy. While the Austrian as well as the Swedish survey does include questions about the policy positions of potential coalitions, respondents were not asked about their expectations about party size. Our hope, however, is that our findings here will encourage scholars to include questions about the policy positions of coalition governments in future surveys. We have evidence here that respondents can do this. It might also be prudent to move from an eleven point to a twenty-one (or a 101) point scale where there are many political parties (and many potential coalitions).

Finally, understanding whether and how voters form expectations about coalition policy is not only important in terms improving theoretical and empirical research on coalition politics and voting behavior — it also has quite significant implications for representation and voters' ability to hold governments accountable. The choices of voters at election time risk not being meaningful if voters lack understanding of how their votes affect policy outcomes. Thus, to make effective use of their votes, prospective voters need both a basic understanding of what to expect from the coalition formation process and how much influence individual coalition parties have on policy outcomes. Similarly, retrospective voters need to be able to evaluate the performance of individual coalition parties. Doing so requires also establishing benchmarks against which to measure the performance of parties. That is, it may not be reasonable to expect a small minor coalition partner to have the same influence as a major coalition party and one might, therefore, consider a minor party to have performed well even if it has only been moderately successful in pursuing its policy agenda. The extent to which voters evaluate

coalition parties on those terms is not clear. Some accounts suggest that this may not the case. For example, Strøm (1984) argues that one reason minority governments form is that they wish to avoid the electoral penalty that comes with being in government — incorrect expectations about influence on coalition policy would then potentially further dissuade small parties from joining governing coalitions. While our results necessarily fall short of showing that voters form accurate expectations about coalition policy, they do show that voters form expectations and that those expectations tend to vary in predictable ways with factors that ought to influence the bargaining strength of the parties.

References

Aarts, Kees, André Blais and Hermann Schmitt. 2011. *Political leaders and democratic elections.* Oxford University Press.

Anderson, Christopher J. 2000. "Economic Voting and Political Context: A Comparative Perspective." *Electoral Studies* 19(2-3):151–170.

Anderson, Christopher J. 2007. "The End of Economic Voting? Contingency Dilemmas and the Limits of Democratic Accountability." *Annual Review of Political Science* 10(1):271–296.

Angelova, Mariyana, Thomas König and Sven-Oliver Proksch. 2016. "Responsibility attribution in coalition governments: Evidence from Germany." *Electoral Studies* 43:133–149.

Armstrong, David A. and Raymond M. Duch. 2010. "Why can voters anticipate post-election coalition formation likelihoods?" *Electoral Studies* 29(3):308–315.

Austen-Smith, David and Jeffrey S. Banks. 1988. "Elections, Coalitions, and Legislative Outcomes." *American Political Science Review* 82:405–422.

Bargsted, Matias A. and Orit Kedar. 2009. "Coalition-Targeted Duvergerian Voting: How Expectations Affect Voter Choice under Proportional Representation." *American Journal of Political Science* 53(2):307–323.

Baron, David P. and John A. Ferejohn. 1989. "Bargaining in Legislatures." *The American Political Science Review* 83(4):1181–1206.

Boije, Edvin and Stefan Dahlberg. 2014. The 2014 Internet Campaign Panel. Technical report University of Gothenburg.

Browne, Eric C. and John P. Frendreis. 1980. "Allocating Coalition Payoffs by Conventional Norm: An Assessment of the Evidence from Cabinet Coalition Situations." *American Journal of Political Science* 24(4):753–768.

Browne, Eric C. and Mark N. Franklin. 1973. "Aspects of Coalition Payoffs in European Parliamentary Democracies." *American Political Science Review* 67(2):453–469.

Crabtree, Charles, Matt Golder, Thomas Gschwend and Indridi H Indridason. 2017. "It's Not Only What you Say, It's Also How You Say It : The Strategic Use of Campaign Sentiment." *Working Paper* .

Davidson, Russell and James G. MacKinnon. 1993. *Estimation and Inference in Econometrics*. Oxford University Press.

De Sinopoli, Francesco and Giovanna Iannantuoni. 2008. "Extreme voting under proportional representation: the multidimensional case." *Social Choice and Welfare* 30(3):401–417.

Debus, Marc. 2008. "Office and Policy Payoffs in Coalition Governments." *Party Politics* 14(5):515–538.

Debus, Marc, Mary Stegmaier and Jale Tosun. 2014. "Economic Voting under Coalition Governments: Evidence from Germany." *Political Science Research and Methods* 2(01):49–67.

Diermeier, Daniel and Antonio Merlo. 2004. "An Empirical Investigation of Coalition Bargaining Procedures." *Journal of Public Economics* 88(3):783–797.

Duch, Raymond M., Jeff May and David A. Armstrong II. 2010. "Coalition-directed Voting in Multiparty Democracies." *American Political Science Review* 104(04):698–719.

Duch, Raymond, Wojtek Przepiorka and Randolph Stevenson. 2015. "Responsibility Attribution for Collective Decision Makers." *American Journal of Political Science* 59(2):372–389.

Ferland, Benjamin. 2016. "Revisiting the ideological congruence controversy." *European Journal of Political Research* 55(2):358–373.

Fortunato, David, Nick Lin, Mathias Tromborg and Randy T Stevenson. 2016. "Gamson's Law and Voters' Perceptions of Portfolio Allocation." *Working Paper* .

Fortunato, David, Nick Lin and Randolph T. Stevenson. 2014. "Political Knowledge in Coalition Democracies." *Paper prepared for the Annual Meeting of Midwest Political Science Association, April 2014, Chicago, IL* .

Fortunato, David and Randolph T. Stevenson. 2013. "Heuristics and coalition expectations.".

Gamson, William A. 1961. "A Theory of Coalition Formation." *American Sociological Review* 26(3):373–382.

Glasgow, Garrett, Matt Golder and Sona N. Golder. 2011. "Who "Wins"?

Determining the Party of the Prime Minister." *American Journal of Political Science* 55(4):937–954.

Golder, Matt and Gabriella Lloyd. 2014. "Re-evaluating the relationship between electoral rules and ideological congruence." *European Journal of Political Research* 53(1):200–212.

Golder, Matt and Jacek Stramski. 2010. "Ideological Congruence and Electoral Institutions." *American Journal of Political Science* 54(1):90–106.

Golder, Sona Nadenichek. 2005. "Pre-electoral coalitions in comparative perspective: A test of existing hypotheses." *Electoral Studies* 24(4):643–663.

Gschwend, Thomas. 2007. "Ticket-splitting and strategic voting under mixed electoral rules: Evidence from Germany." *European Journal of Political Research* 46(1):1–23.

Gschwend, Thomas, Lukas Stoetzer and Steffen Zittlau. 2016. "What drives rental votes? How coalitions signals facilitate strategic coalition voting." *Electoral Studies* 44:293–306.

Gschwend, Thomas, Michael F. Meffert and Lukas F. Stoetzer. 2017. "Weighting Parties and Coalitions: How Coalition Signals Influence Voting Behavior." *The Journal of Politics* 79(2):642–655.

Herrmann, Michael. 2014. "Polls, coalitions and strategic voting under proportional representation." *Journal of Theoretical Politics* 26(3):442–467.

Huber, John D. and G. Bingham Powell. 1994. "Congruence between Citizens and Policymakers in Two Visions of Liberal Democracy." *World Politics* 46(03):291–326.

Indridason, Indridi H. 2011. "Proportional Representation, Majoritarian Legislatures, and Coalitional Voting." *American Journal of Political Science* 55(4):955–971.

Kedar, Orit. 2005. "When Moderate Voters Prefer Extreme Parties: Policy Balancing in Parliamentary Elections." *American Political Science Review* 99(2):185–199.

Kim, Heemin and Richard C. Fording. 2002. "Government partisanship in Western democracies, 1945-1998." *European Journal of Political Research* 41(2):187–206.

Kritzinger, Sylvia, Eva Zeglovits, Julian Aichholzer, Christian Glantschnigg, Konstantin Glinitzer, David Johann, Kathrin Thomas and Markus Wagner. 2017. "AUTNES Pre- and Post Panel Study 2013. GESIS Data Archive, Cologne. ZA5859 Data file Version 2.0.1.".

Laver, Michael J. and Ian Budge. 1992. *Party Policy and Government Coalitions*. Basingstoke: Macmillan.

Laver, Michael J. and Kenneth A Shepsle. 1996. *Making and Breaking Governments: Cabinets and Legislatures in Parliamentary Democracies*. Cambridge: Cambridge University Press.

Lewis-Beck, Michael S. and Andrew Skalaban. 1989. "Citizen Forecasting: Can Voters See into the Future?" *British Journal of Political Science* 19(01):146–153.

Martin, Lanny W. and Georg Vanberg. 2011. *Parliaments and Coalitions: The Role of Legislative Institutions in Multiparty Governance*. Oxford: Oxford University Press.

McDonald, Michael D. and Ian Budge. 2005. *Elections, parties, democracy: Conferring the median mandate*. Oxford: Oxford University Press.

Meffert, Michael F. and Thomas Gschwend. 2010. "Strategic coalition voting: Evidence from Austria." *Electoral Studies* 29(3):339–349.

Meffert, Michael F. and Thomas Gschwend. 2011. "Polls, coalition signals and strategic voting: An experimental investigation of perceptions and effects." *European Journal of Political Research* 50(5):636–667.

Meffert, Michael F. and Thomas Gschwend. 2012. "Coalition Preferences in Multiparty Systems." *Paper prepared for the 65th annual conference of the World Association for Public Opinion Research, Hong Kong, June 14-16, 2012.* pp. 1–23.

Meyer, Thomas M. and Daniel Strobl. 2016. "Voter perceptions of coalition policy positions in multiparty systems." *Electoral Studies* 41(1):80–91.

Morelli, Massimo. 1999. "Demand competition and policy compromise in legislative bargaining." *American Political Science Review* 93(4):809–820.

Powell, G. Bingham. 2000. *Elections as Instruments of Democracy: Majoritarian and Proportional Visions*. New Haven & London: Yale University Press.

Powell, G. Bingham and Guy D. Whitten. 1993. "A Cross-National Analysis of Economic Voting: Taking Account of the Political Context." *American Journal of Political Science* 37(2):391–414.

Rattinger, Hans, Sigrid Roßteutscher, Rüdiger Schmitt-Beck, Bernhard Weßels and Markus Steinbrecher. 2015. "Short-term Campaign Panel (GLES 2009). GESIS Data Archive, Cologne. ZA5305 Data. Version 5.0.0.".

Strøm, Kaare. 1984. "Minority Governments in Parliamentary Democracies: The Rationality of Nonwinning Cabinet Solutions." *Comparative Political Studies* 17(2):199–227.

Verzichelli, Luca. 2008. Portfolio Allocation. In *Cabinets and Coalition Bargaining: The Democratic Life Cycle in Western Europe*, ed. Kaare Strøm, Wolfgang C. Müller and Torbjörn Bergman. pp. 237–267.

Warwick, Paul V. 2001. "Coalition Policy in Parliamentary Democracies: Who Gets How Much and Why." *Comparative Political Studies* 34(10):1212–1236.

Warwick, Paul V. 2011. "Voters, Parties, and Declared Government Policy." *Comparative Political Studies* 44(12):1675–1699.

Warwick, Paul V. and James N. Druckman. 2006. "The portfolio allocation paradox: An investigation into the nature of a very strong but puzzling relationship." *European Journal of Political Research* 45(4):635–665.

Appendix

Robustness to Measurement Error

Figures 1 and 2 show that when it comes to citizens, Gamson is wrong. An alternative explanation might be that measurement error in the independent variables might have attenuated our estimate of the coalition weight α. Given the data that is available to us we cannot simply identify a measurement model to see how strong the impact of measurement error is in attenuating our estimates. Instead we look at a subsample of 'political experts'. These are respondents of the 2009 GLES that rank in the upper half of the knowledge scale we constructed based on 13 factual knowledge items about politics. If there are substantial amount of measurement error than it should be smallest for 'political experts'.

Table 2 provides the estimates that have been graphed in figure 1 for the realized samples. We can see, mirroring the results that have been presented graphically in figure 1 that the respective coalition weight if the first named party of each coalition is systematically larger than .5.

<div align="center">

TABLE 2: ESTIMATED COALITION WEIGHT OF FIRST PARTY

</div>

	COALITION		
	CDU-SPD	CDU-FDP	SPD-B90
α	0.536***	0.656***	0.538***
	(0.006)	(0.013)	(0.014)
OBSERVATIONS	2080	2051	2034

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ for H_0: $\alpha = 0.5$.

The estimation results based on using a linear regression without a constant are not very much different if we look at the subsample of 'political experts'. The respective estimation results across all three coalitions are summarized in table 3.

The estimation results based on using only the subsample of 'political experts' show that the estimated coalition weights stay pretty much constant in size compared to the ones presented in table 2 and, because of the reduced sample size, the respective standard errors get larger. Despite that, we still find that the estimated coalitions weights are systematically different from .5.

TABLE 3: ESTIMATED COALITION WEIGHT OF FIRST PARTY
– EXPERTS ONLY –

	COALITION		
	CDU-SPD	CDU-FDP	SPD-B90
α	0.523**	0.658**	0.560**
	(0.007)	(0.018)	(0.019)
OBSERVATIONS	1064	1059	1054

Standard errors in parentheses. * p < 0.10, ** p < 0.05 for H$_0$: $\alpha = 0.5$.

Thus, even using a sample of 'political experts' where one would expect measurement error in the independent variable to be less severe, citizens seem not systematically use the equal inference heuristic. Moreover, all those estimated coalition weights for political experts are also systematically different from what Gamson's law would predict ($\alpha_{CDU} = .62$ for a CDU-SPD coalition, $\alpha_{CDU} = .72$ for a CDU-FDP coalition, and $\alpha_{SPD} = .68$ for a SPD-Green coalition).

In addition to the simple model presented in equation (1) of the paper we extend our analysis to also account for respondents' heterogenous expectations about the size of parties. We use the systematic component of a model as defined in equation (4) and presented the estimated weights based on a linear model without a constant in figure 2. Using all available data we find that the estimated weights are (with the exception of the weight of the SPD in the CDU-SPD coalition) systematically different from '1', the prediction if voters use the Gamson's law heuristic. Again, when it comes to citizens and we additionally account for their varying expectations about the sizes of those parties, Gamson is still wrong.

The same argument can apply here as well, though. Measurement error might be responsible for why the estimated weights are different from '1'. As above, we replicate our analysis with the subsample of 'political experts'. In this subsample we obtain, again, very similar estimates and somewhat larger standard errors. Nevertheless, we do not find other weights that would support the prediction of Gamson's Law. In addition one could argue that Gamson would predict that both weights are jointly not different from '1'. This can be safely rejected for all three coalitions (Significance tests with $H_0 : \alpha_A = \alpha_B = 1$. CDU-SPD: $F_{2,1061} = 40.03$ ($p < .0001$), CDU-

FDP: $F_{2,1057} = 9.57$ ($p < .001$), SPD-B90: $F_{2,1051} = 37.61$ ($p < .0001$). The comparable values of the F-tests using the entire data are presented in footnote 22 in the main text).

Thus, we conclude that if we use the subsample of 'political experts' as the best approximation to a sample that include measures of the relevant concepts that are free of measurement error we do not find evidence that citizen follow systematically the Gamson's law heuristic.[1]

---

[1]Moreover, one can straightforwardly show that differential item functioning (DIF), which also can generate measurements that are different from the 'true value', does not bias regression estimates but merely causes heteroscedastic errors.