Coalition Policy Perceptions

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We examine how voters form expectations about the policy positions of coalition governments. The literature generally assumes that voters believe the influence of coalition parties on government policy is proportional to the coalition parties' sizes. Yet little is known about whether, or how, voters form such expectations. In this article we leverage data from Austria, Germany, and Sweden and find that voters do not see coalition party influence as proportional. Voters take account of the coalition parties' bargaining strength, perceiving smaller coalition parties to 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.

Representative democracy rests on the principle that elected officials represent citizens who in turn hold their representatives accountable for their performance in office at election time. As a generation of scholarship has shown, holding coalition governments accountable is a harder task for voters than holding single-party governments accountable. In single-party governments, the policy position of the government is the policy position of the party in government. In a coalition government, however, no single party can expect to have its whole policy platform adopted. Instead, coalition parties negotiate the government's agenda (Martin and Vanberg 2011, 2014).

For representative democracy to function effectively, voters must be able to exercise their ability to hold individual coalition parties accountable. In order to evaluate whether the representatives have acted faithfully in the interests of the voter, the voter must evaluate what each coalition party achieved in office and whether the compromises struck reflect effort and commitment on the part of the representative. Thus, voters need a basic understanding of how casting votes for parties influences coalition policy. Without such expectations, voters cannot assess the degree to which

individual coalitions were successful in implementing their policy platforms—and whether to reward or punish the party for its performance. Whether voters develop expectations about coalition policy is, therefore, highly relevant to our understanding of representative democracy and of how individual parties are held to account.

Furthermore, scholars have begun examining how voters' expectations about coalition bargaining outcomes shape vote choice when strategic voting depends on voters forming expectations about coalition policy (e.g., Bargsted and Kedar 2009; Kedar 2011; Indridason 2011; Meffert and Gschwend 2010). This literature assumes that vote choice is affected by expectations about which coalition will form and which policies it will implement. Yet, to date, there have been no systematic analyses of whether voters form such expectations and whether they respond to the factors that generally are thought to influence coalition policy.

In this article we examine how voters form expectations about coalition policy and the degree to which the assumptions in the literature about coalition parties' influence on government policies are reflective of voters' perceptions. Thus, we ask the following question: Given a voter's beliefs

about the parties' policy positions and their sizes, what policy does she expect a given government coalition to implement?[1] Assuming that the government's policy position represents a compromise between the coalition parties, the question can be rephrased in terms of how much weight the voter assigns to each coalition party.

We examine voters' ex ante evaluations of coalitions that may form after an election using the voter's expectations of the ex post (i.e., postelectoral) bargaining power. Our plan of attack is as follows: First, as voters may have limited incentives to exert great effort to form accurate expectations, we posit three heuristics that voters may employ, that is, an equal influence, a proportional influence, and a bargaining strength heuristic. Second, we introduce a simple model to estimate each coalition party's weight and compare those with the weights implied by the aforementioned heuristics. Third, we modify the model to allow a direct test of the proportional influence heuristic when voters' expectations about party size are heterogeneous. Finally, we consider nonlinear least squares models that allow estimation of the influence of other covariates on the parties' coalition weights.

Our empirical analysis employs unique data on policy perceptions of voters from Austria, Germany, and Sweden. We find that voters are quite comfortable with reporting perceived policy positions of both parties and coalitions. The perceived coalition policies appear to be stable, indicating that they derive from some underlying logic of forming expectations. Our findings suggest that voters do not expect parties' policy influence to be proportional to their size but that larger and centrist parties are expected to have greater influence on coalition policy. However, we also find that voters expect small coalition parties to "punch above their weight." Voters, thus, see small parties as having disproportional influence on coalition policy. Interestingly, a similar small party bonus has repeatedly been demonstrated in the empirical literature on portfolio allocation in the context of Gamson's Law (e.g., Warwick and Druckman 2006) and voters' perceptions thereof (Lin et al. 2017).

EXPECTATIONS ABOUT GOVERNMENT COALITION POLICY

Voters in most multiparty parliamentary systems know that no single party will obtain a legislative majority in a given election and that a coalition cabinet will form. This coalition will subsequently implement policies that reflect the preferences of the individual coalition parties in some manner.

Thus, voters that care about policy outcomes face the rather daunting task of forming expectations about how their votes affect the coalition formation process and the policy that the coalition will implement.[2] This task essentially involves determining how much weight each coalition party carries. We are interested in how voters determine those weights, that is, how they perceive parties' influence on coalition policy. The idea that a coalition party's size and ideological position affect its influence on coalition policy is common (see, e.g., Bargsted and Kedar 2009; Duch, May, and Armstrong 2010; Huber and Powell 1994; Indridason 2011; Kedar 2005; Laver and Budge 1992; Powell 2000). It seem reasonable that voters will consider these same factors. Thus, we are interested in exploring how perceptions of coalition policy are influenced by voters' perceptions of constituent parties' policy positions and expectations about their size.

Of course, sophisticated voters may form expectations about coalition policy on the basis of a variety of factors, in addition to size and party ideology, that are likely to influence government policy.[3] 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 have little incentive to invest effort in forming expectations about policy, as each voter is unlikely to be pivotal. It, thus, seems reasonable for voters to rely on simple heuristics in forming their expectations.

Which heuristic might voters employ? Starting with a particularly simple heuristic, voters may expect coalition parties to wield equal influence and government policy to be the average of the parties' policy positions. This heuristic requires very little information. Voters only need to hold beliefs about the coalition parties' positions. Equal influence may seem an unlikely candidate as it is not common for scholars to use that assumption. However, one might argue that this assumption is embedded in an influential strand of theorizing about coalitions, veto-player theory, in which each veto-players' assent is required for a policy change to occur, and thus each has the same ability to influence policy (Tsebelis 2002). Indeed, when Tsebelis (2002) considers the effects of government alternation, the magnitude of the change is measured as a change in the midpoint of the coalition's ideological range.[4] A number of

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1. That is, how do voters map a vector of policy positions, $\{p_1, p_2, \ldots, p_k\}$, and an associated vector of party sizes, $\{v_1, v_2, \ldots, v_k\}$, into expectations about government policy when parties i and j form a coalition?

2. Fortunato and Stevenson (2013a) ask how voters form expectations about the outcome of the coalition formation and find that voters rely on heuristics such as the prime minster coming from the largest party.

3. Fortunato and Stevenson (2013a) address voters' expectations about the outcome of the coalition formation process. On a related note, Duch, Przepiorka, and Stevenson (2015) examine how experimental subjects attribute responsibility in coalition governments.

4. Note that this assumption is equivalent to equal influence in two-party coalitions.

other scholars (e.g., Borghetto, Visconti, and Michieli 2017; Kedar 2005; Pedrazzani and Zucchini 2013; Pellegata 2016; Rebessi and Zucchini 2018; Stecker and Tausendpfund 2016; Zucchini 2016) have also used the same assumption, either as their main measurement of government policy or as a robustness check. It is also worth considering that the assumptions scholars hold about the making of coalition policy may not be the best guide as to what a normal citizen might assume or be capable of. Assessing voter knowledge, including knowledge of party size, Fortunato, Lin, and Stevenson (2014, 1) find, for example, that "it can be strikingly low." If this is the case, then it may not be unreasonable to assume that voters see parties as having equal influence. Finally, even though we are somewhat skeptical of the idea that voters have no idea about how big the parties are, considering the equal influence heuristic is useful simply as a benchmark for considering how the other heuristics perform.

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

Heuristics may also employ observable political outcomes. Scholars have sought to evaluate the influence of individual parties on government policy, but, since measuring government policy is not trivial, they have often focused on bargaining outcomes that are easily quantifiable such as the allocation of ministerial portfolios (see, e.g., Browne and Franklin 1973; Gamson 1961; Warwick and Druckman 2006). The study of portfolio allocation revealed one of the strongest empirical relationships in political science; according to Gamson's Law, the allocation of portfolios is proportional to the legislative strength of the coalition parties. This finding has widely been adapted in empirical work and taken to imply that each coalition party's influence on policy is proportional to its seat share.[5] The Comparative Manifesto Project, for example, calculates government policy in this manner. Kim and Fording (2002) use a similar approach, weighing the parties' positions by their cabinet seats. In the context of portfolio allocation, proportional allocation is also often considered fair (Verzichelli 2008), which may further support voters' beliefs that policy influence is proportional to coalition party seat share. Voters can use this heuristic with relative ease; it only requires two pieces of information, the size of the coalition parties and their ideological positions.

Heuristic 2 (Proportional Influence). Voters expect government policy to be the seat share weighted average of the perceived coalition parties' policy positions.

It is worth noting that a subset of the literature employing the proportional influence assumption examines how government policy factors into voters' decisions, thus implicitly assuming that voters employ a proportional influence heuristic. This is a very strong assumption that has not been explored empirically before.

Voters may also be more sophisticated and consider how the bargaining process favors some parties. Formal theories of bargaining tend to focus on the parties' bargaining power, which generally suggest that the formateur should reap a disproportionately large share of the spoils (see, e.g., Austen-Smith and Banks 1988; Baron and Ferejohn 1989).[6] In these models bargaining power derives from two sources: party size and ideological position. Large parties enjoy an advantage for two reasons. First, large parties tend to have more opportunities to form coalitions, making the threat to walk away from the bargaining table more credible. Second, they are more likely to take a leading role in the coalition bargaining and occupy the formateur role (Diermeier and Merlo 2004). The former factor, in particular, is not directly related to party size (while correlated with it)—an increase in party size does not affect a party's bargaining power if it does not change which coalitions are backed by a majority (see, e.g., Ansolabehere et al. 2005). Thus, scholars regularly use bargaining power indexes to capture how bargaining strength is affected by the coalition formation opportunities available to each party. Ideological position influences bargaining strength for similar reasons. It affects the desirability of alternative coalitions and, therefore, the credibility of threats to terminate negotiations. A centrist party will have more options (i.e., it may find coalition partners on the left or on the right), whereas less centrist parties have few options other than to look toward the center. Centrist parties derive strength not only from having more potential partners but also through credible threats to form a coalition with a party whose preferences are opposed to that of their current bargaining partner. Note that throughout we use *bargaining strength* to refer to any factor or attribute that strengthens a party's bargaining position, while *bargaining power* is only used to refer to size-related factors (i.e., party size and bargaining indexes) affecting the parties' bargaining position, or bargaining strength.

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5. See, e.g., Ferland (2016), Golder and Lloyd (2014), Golder and Stramski (2010), and Indridason (2011). Others, e.g., De Sinopoli and Iannantuoni (2008), assume it is the weighted mean of all the parties' positions.

6. Not all coalition bargaining models predict a formateur advantage, and the respective empirical evidence is mixed. While the allocation of portfolios appears highly proportional, much less is known about how much influence coalition parties have on policy (see, e.g., Warwick 2011).

The idea that voters consider particular party or party system characteristics as heuristic devices for assessing parties' bargaining strength is less straightforward, and the possible bargaining strength heuristics vary in their sophistication. Relatively simple forms of the heuristic might involve merely focusing on either party size or the parties' ideological positions to gauge its bargaining strength. More sophisticated voters might substitute party size with consideration of how many different potential coalitions the party can form (or how many of the potential majority coalitions the party is pivotal to as captured by, e.g., the Banzhaf index).[7] Even more sophisticated voters might rely on heuristics that also take into account that bargaining power and ideological centrality interact, for example, noting that ideological centrality might be more valuable to small parties. For example, a small median party will always find itself in a strong bargaining position, and changes in its position will have little effect as long as it retains its median position. In contrast, a small party on the extremes of the ideological spectrum may have more to gain from moderating its position in order to be considered a viable coalition partner. Thus, heuristic 3 presents a set of bargaining strength heuristics that voters may employ in forming their expectations.

Heuristic 3 (Bargaining Strength). Voters expect parties that (i) are larger, (ii) are ideologically closer to the voter's perceived median party, or (iii) have greater bargaining power according to the Banzhaf index to have a disproportionate influence on the coalition's policy.

The three heuristics vary in terms of sophistication (as does the set of heuristics that fall under bargaining strength heuristics). The simplest one merely requires voters to associate each party with an ideological position. The most complex heuristic requires a sense of how bargaining strength derives from the ideological positions and the sizes of all the parties. While the set of bargaining strength heuristics appears to ask a lot of voters, voters may still get by with fairly limited information for at least the simpler forms of these heuristics.[8] It may be enough for voters to recognize that larger parties have more coalition formation opportunities, and are more likely to lead the eventual coalition, and to associate those

patterns with greater influence.[9] 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 observe coalition governments in office (Armstrong and Duch 2010; Gschwend 2007; Herrmann 2014). Electoral polls help citizens identify which coalitions are feasible, and parties sometimes form preelectoral coalitions (Golder 2005) or announce with which parties they might, or will not, form a coalition (Gschwend, Meffert, and Stoetzer 2017; Gschwend, Stoetzer, and Zittlau 2016). Thus, voters may apply such heuristics without a deep understanding of the coalition formation process.[10] Those heuristics can also be viewed in terms of how favorable the outcome is to the largest party. The equal influence heuristic ignores party size, while the proportional influence heuristic sees influence on policy in proportion to party size. Finally, the bargaining strength heuristic rewards parties for being large, having more bargaining power, or being ideologically central.[11]

To examine whether voters employ these heuristics, we leverage all preelection studies we know of that include questions about coalition policy positions. The data come from studies in three countries: (1) the 2009 German Longitudinal Election Study (GLES), (2) the 2013 Austrian Election Study (AUTNES), and (3) the 2014 Swedish National Election Study.[12] First, we show that voters are quite comfortable with reporting perceived policy positions of parties and coalitions and that those coalition policy positions appear to be stable, indicating that they derive from some underlying logic of forming expectations. Second, we introduce a simple model to estimate each coalition party's weight and compare those with the weights implied by the heuristics. Third, we estimate a model that allows a direct test of the proportional influence heuristic that takes into account heterogeneity in voters' expectations about the sizes of the coalition parties. Finally, we estimate nonlinear least squares models in order to consider how additional covariates influence the parties' coalition weights.

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7. Note that the simpler proportional influence heuristic only requires information about the coalition parties, whereas measures relying on whether parties are pivotal to the various potential coalitions require information about all parties.

8. 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.

9. Recent research shows that voters assign greater responsibility (Angelova, König, and Proksch 2016) and more portfolios (Lin et al. 2017) to the party of the prime minister (see also Crabtree et al. 2020).

10. Fortunato et al. (2014), find, e.g., 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.

11. The placement of the bargaining strength heuristic can be questioned, as, e.g., a large extremist party may lack bargaining strength, and this ranking will, thus, not always hold true. However, as larger parties tend to be relatively centrist, this ranking does not strike us as unreasonable.

12. We use the GLES Short-Term Campaign Panel (wave 6; Rattinger et al. 2015), the AUTNES prestudy module (Kritzinger et al. 2017), and the Swedish Internet Campaign Panel, particularly waves 2 and 6 (Boije and Dahlberg 2014). Each of these was conducted ahead of the elections.

PERCEPTIONS OF COALITION POLICY

Austria, Germany, and Sweden all have a history of coalition governments, which means that voters have substantial experience in judging coalition possibilities.[13] Respondents were asked to place parties and several coalitions on a 0–10 left/right scale. In the GLES, for instance, 80%–82% of all respondents report a policy position for the Christian Democratic Union (CDU), the Social Democratic Party (SPD), the Free Democratic Party (FDP), and the Greens (B90).[14] While one might think evaluating coalition policies is difficult, this suggests that respondents feel comfortable placing coalitions on a left/right scale as well.[15]

Moreover, the Swedish data provide a unique opportunity to assess the reliability of those judgments, as respondents reported the perceived position of the Social Democrat–Green (SAP-MP) coalition in two waves (2 and 6) four months apart. A full 43% placed the coalition at the very same value in both waves, and about 85% report a value within a unit distance on the 0–10 left/right scale. While one might worry that respondents do not have clear expectations about coalition policy and simply guess, the observed stability suggests that there is logic to how they arrive at those expectations. In the next section, we introduce a simple model to estimate how voters perceive the policy positions of coalitions.

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 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.[16] If the weight of the parties is assumed to be proportional to their legislative seat share—as the literature often assumes—α_j equals the coalition seat share $s_j = l_j / \sum_{j \in G} l_j$,

where G is the set of coalition parties and l_j is party j's legislative seat share.

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:

$$C_i = \alpha_A A_i + (1 - \alpha_A)B_i, \qquad (1)$$

where A_i and B_i now represent each voters' perceived party positions, and C_i is the respective perceived coalition position. Rearranging equation (1), we obtain

$$C_i = \alpha_A A_i + B_i - \alpha_A B_i; \qquad (2)$$

$$C_i - B_i = \alpha_A(A_i - B_i). \qquad (3)$$

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 the respondents' perceived difference between the coalition policy and party B's policy $(C_i - B_i)$ on perceived difference $(A_i - B_i)$ between the policy positions of parties A and B.[17] Throughout we refer to the first-named coalition party as A and the second-named party as B. Figure 1 shows the estimated coalition weights, $\hat{\alpha}_A$, and the 95% confidence intervals along with the predicted weights based on the equal influence (*dashed line*) and the proportional influence (*empty circles*) heuristics (using actual vote share).[18] Note that comparison with the proportional influence benchmark relies on the assumption that the respondents' expectations about the parties' sizes are correct on average.

The results offer three lessons. First, voters do not employ the equal influence heuristic. None of the confidence intervals around the estimated coalition weights cross 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 use the proportional influence heuristic either. The coalition weights consistent with proportional influence are typically quite different from the estimated weights. The only exceptions are coalitions that include the Austrian Freedom Party (FPÖ).

Figure 1. Estimated coalition weight ($\hat{\alpha}_A$) of first party

However, when the estimated and the expected weights differ, the estimated weight is consistently smaller than implied by proportionality; that is, the larger coalition party is consistently expected to have less influence. Instead, our evidence is consistent with the small party advantage found in the portfolio allocation literature (e.g., Browne and Frendreis 1980) and also with recent work on voters' perceptions of portfolio allocation (Lin et al. 2017).

Third, voters do take party size into account.[19] Across all the coalitions (with two exceptions), the larger party's estimated weight is greater than that of its coalition partner. Moreover, the coalition weight of the larger party in each coalition increases with the party's relative size; for example, the CDU in Germany carries greater weight in a coalition with a small party (FDP) than one with a large party (SPD). In Austria and Sweden, we observe the same pattern for the coalitions that do not conform to proportional influence.[20] However, party size is not 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 seat share in the SPD-B90 coalition than the CDU did in the CDU-SPD coalition.

As noted above, scholars often make assumptions about the policy positions of coalitions in empirical and theoretical work when the coalition policy affects voters' choices. Com-

monly it is assumed that coalition policy is determined in a Gamson's Law–like fashion (e.g., Ferland 2016; Golder and Lloyd 2014; Golder and Stramski 2010; Indridason 2011), but this will cause problems if voters' perceptions diverge far from proportional influence.

To evaluate the size of this discrepancy, we calculate the expected coalition policy, (i) assuming that respondents form expectations about coalition policy in accordance with the proportional influence heuristic (C_i^{PI}), in which case their expectations about party size determine the weight of each party, and then (ii) using the estimated weights shown in figure 1. In each case, we use the respondents' reported party positions (A_i and B_i). Thus, we first calculate $C_i^{\mathrm{PI}} = \alpha_{\mathrm{PI}}A_i + (1 - \alpha_{\mathrm{PI}})B_i$, where α_{PI} is the respondent's expectation about party A's coalition vote share, and compare it with the expected coalition policy obtained using the estimated weights; that is, $\hat{C}_i = \hat{\alpha}_A A_i + (1 - \hat{\alpha}_A)B_i$. Table 1 shows the mean difference ($|C_i^{\mathrm{PI}} - \hat{C}_i|$) for each coalition. The mean difference ranges from very small (.03 for the coalition of the Social Democratic Party of Austria [SPÖ] and the FPÖ) to quite substantial (.60 for the SAP-MP coalition).

The magnitude of these differences must be kept in context—a difference of .25 might be considered insubstantial for a coalition whose parties are quite far apart ideologically, but one would arrive at the opposite conclusion if the parties are close ideologically. One way to get a sense of the substantive significance of these differences is to consider the average difference as a fraction of the distance between the coalition parties, $|C_i^{\mathrm{GL}} - \hat{C}_i|/|A_i - B_i|$, as shown in the last column of table 1. The differences as a share of the perceived distance between the parties range from low to moderate, with the exception of the SAP-MP coalition in Sweden where the difference is about 43% of the distance between the coalition parties.

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19. We examine another measure of bargaining power, the Banzhaf index, below.

20. The large discrepancy in the Swedish SAP-MP coalition is noteworthy. Polls ahead of the election indicated that the two parties would fall short of a majority with around 40% of the vote. It was, thus, clear that the coalition would have to rely on the support of an outside party, which in this case was the Left Party that sits to the left of the coalition. If voters expect the coalition to make concessions to the Left Party, our estimates would be biased toward giving the MP greater weight.

Table 1. Differences in Predicted Coalition Policy Positions: Proportional Influence (Votes) versus Estimated Weight

Coalition	Mean Difference	% Distance between Coalition Parties
Germany:		
CDU-SPD	.20	6
CDU-FDP	.16	12
SPD-B90	.18	14
Austria:		
SPÖ-ÖVP	.19	8
ÖVP-FPÖ	.05	2
SPÖ-Greens	.27	14
SPÖ-FPÖ	.03	1
Sweden:		
SAP-MP	.60	43

Note. CDU = Christian Democratic Union; SPD = Social Democratic Party; FDP = Free Democratic Party; B90 = Greens; SPÖ = Social Democratic Party of Austria; ÖVP = Austrian People's Party; FPÖ = Austrian Freedom Party; SAP = Social Democrat; MP = Green.

There are several ways to get at the substantive meaning of a change in the policy position of a coalition. In the literature on coalition voting that has assumed proportional influence to calculate government policy, coalition voting can take different forms. "Balancing" refers to a form of coalition voting in which voters aim to pull government policy toward their preferred policy. A centrist voter whose most preferred party is the CDU, for example, might opt to vote for the SPD, with the goal of pulling the coalition policy closer to the center. The basic result from the formal literature is that the expected coalition policy divides voters in terms of which coalition party they should vote for; a voter preferring a policy further to the left should vote for the coalition party on the left, while a voter preferring a policy to the right should do the opposite. Thus, if coalition parties' influence on coalition policy is assumed to be proportional to their size, then we would make an incorrect prediction about voters whose preferred policy lies between the proportional influence prediction and the true expectations of the voters. Sticking with the CDU-SPD coalition in Germany, 6% of the voters whose preferred policy lies between the platforms of the two coalition partners is not a negligible number.[21]

Another way to examine the substantive implications of our findings is to look at the impact of, say, a .20 change in coalition policy on outcome variables in the context of existing

research. For instance, Martin and Vanberg (2014) model the number of a bill's subsections amended in the legislative processes as a function of the ideological distance between the minister under whose jurisdiction the legislation falls and the coalition compromise, which assumes proportional influence. Using Martin and Vanberg's (2014) results, and focusing on Germany, we find that the predicted number of subsections amended changes by about 2% when the coalition compromise changes by .20 (as in our results for the CDU-SPD coalition). Our results show that incorrectly assuming that voters expect coalition parties to have proportional influence does have substantive consequences, sometimes quite large ones.

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 bonus; that is, their perceived influence is greater than their size would suggest. This assumes that respondents correctly anticipate the relative sizes of the coalition parties, which could explain the lack of support for the proportional influence heuristic. If expectations about party size are heterogeneous, then the coalition weights respondents use in forming expectations about coalitions' policy position will vary—even when using the same heuristic. In the next section we, therefore, take respondents' expectation about party size into account.

Heterogeneous expectations and order effects

The simple model in equation (1) is a convenient first approximation, but it mostly serves an illustrative purpose, as respondents differ in their 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 bonus, we rewrite equation (1) as a function of expected vote shares—to account for respondents' heterogeneous expectations—and perceived policy positions of the 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 majority. We use expected vote share as the German study did not include questions about seat share. Neither measure was available in the Austrian and the Swedish data. Thus, $V_{ji} = v_{ji}/(v_{ji} + v_{ki})$, where v_{ji} is party j's expected vote share relative to the expected vote share of parties j and k.[22] The terms $V_{Ai} A_i$ and $V_{Bi} B_i$ are the respondent specific vote-weighted policy positions of parties A and B. If

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21. This assumes that the distribution of these voters is uniform. If the distribution is not uniform and the voter density close to the expected coalition policy is higher, this percentage would be larger.

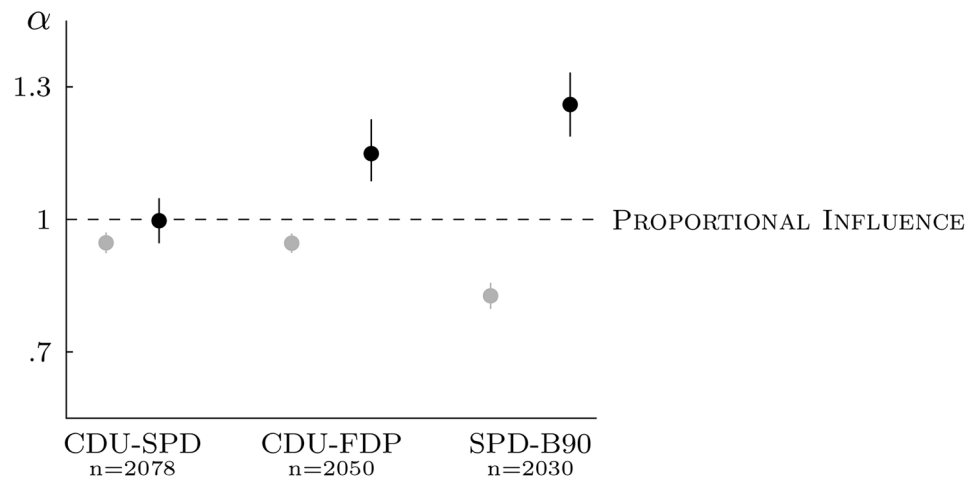22. The responses were automatically summed, so that respondent's predictions add up to 100%.

Figure 2. Estimated party weight (proportional influence: $\alpha_i = 1$)

the parties' influence is proportional to vote share, then $\alpha_A = \alpha_B = 1$. Again, we estimate the parties' influence using a linear model without a constant.

Figure 2 displays the estimated weights, $\hat{\alpha}_A$ and $\hat{\alpha}_B$, together with the 95% confidence intervals (see also table A9). The proportional influence hypothesis can safely be rejected for all three coalitions.[23] None of the confidence intervals intersect the reference line that indicates the expected value if voters use this heuristic. Instead, the evidence points again to a small party bias. The weights of the small parties, FDP and B90, are estimated to be systematically higher than the proportional influence heuristic implies. Interestingly, Lin et al. (2017) come to a similar conclusion regarding voters' perceptions of portfolio allocation; that is, while voters' expectations tend toward proportionality, they expect smaller parties to do slightly better than their size would suggest.

Next, we look at the order in which the parties are presented. So far we have 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 or to lead the coalition.[24] 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 order assumption is wrong? What if voters do not focus on party size, as we assume, but simply assign a higher coalition weight to first-named parties on the assumption that the first-named

party will lead the coalition? This would cast doubts on our interpretation of the results. Fortunately, the Austrian data (Kritzinger et al. 2017) allow us to test this alternative explanation as it included a random split-sample design. Half of the sample was asked about the three coalitions as we reported them in table 1 (the coalition of the SPÖ and the Austrian People's Party [ÖVP], ÖVP-FPÖ, and SPÖ-FPÖ), while the other half saw the order of the parties reversed (ÖVP-SPÖ, FPÖ-ÖVP, and FPÖ-SPÖ). The order of the SPÖ-Greens coalition was not randomized.

The coalition weights $\hat{\alpha}_A$, estimated using equation (1), and confidence intervals are graphed in figure 3 (see also table A7). 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. When the order is flipped, the coefficient flips "around" the equal influence line. Thus, voters seem to distinguish larger from smaller parties when deriving coalition policy positions.

Modeling the coalition weight of parties

We now extend our model (eq. [1]) to allow the coalition weight (α) to also depend on other covariates that may explain why voters perceive a party to be influential in determining coalition policy. Our key covariates examine the role of the heuristics above in structuring voters' expectations.[25] Starting with the set of bargaining strength heuristics, we focus on the three factors that we identify as influencing bargaining strength. To measure the parties' size-related bargaining power, we consider, first, party size and, second, the Banzhaf

23. Significance tests with $H_0 : \alpha_A = \alpha_B = 1$ are as follows: CDU-SPD, $F_{2,2076} = 33.70$ ($p < .0001$); CDU-FDP, $F_{2,2028} = 74.57$ ($p < .0001$); SPD-B90, $F_{2,1817} = 102.6$ ($p < .0001$).

24. It bears noting that Austrian and German coalitions are formed in a "freestyle" 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.

25. We restrict the analysis here to the German data, as the GLES is the only survey that asks about party size.
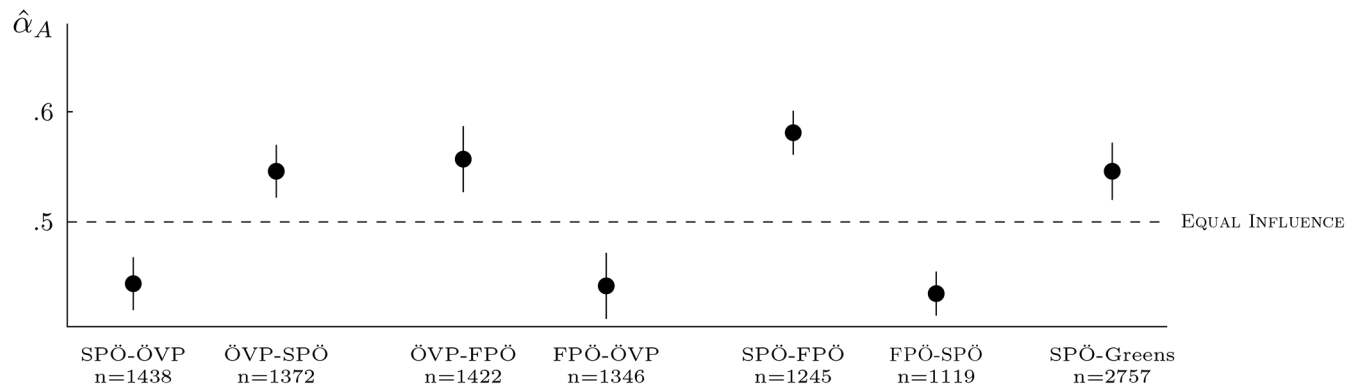
Figure 3. Estimated coalition weight ($\hat{\alpha}_A$) of first party

power index. In each case, we operationalize the bargaining power variable as $BP_{A_i}/(BP_{A_i} + BP_{B_i})$, with BP representing the parties' expected vote share or Banzhaf index. The normalized bargaining power adds up to 1, so only party A's bargaining power is needed in the model. The third factor we argue influences bargaining strength is ideological centrality, which is the respondent's perceived proximity of the party to the perceived median party. To construct our covariate the difference in ideological centrality (Δideological centrality), we take the perceived difference in the coalition parties' ideological centrality. Theoretically, the measure ranges from -10 to 10 and is positively related to party A's bargaining advantage.[26] Finally, we consider interactions between the two bargaining power variables and Δideological centrality to see whether voters consider ideological centrality more valuable to small parties.

The proportional influence heuristic implies that the marginal effect of the party size variable discussed above should equal 1. In contrast, the equal influence heuristic implies that the coefficients for all three variables (as well as their interactions) should equal 0. The bargaining strength heuristics offer less clear-cut expectations—they merely imply that respondents assign greater weight to larger parties, parties whose value on the Banzhaf index is higher, and parties that are ideologically more central.

We control for leader evaluations, party preferences, and political knowledge. Voters may be influenced by the personalities of the party leaders involved in the coalition negotiations and who lead their parties in government. Respondents may attribute greater influence to parties whose leaders they think show resolve in negotiations, have deep convictions and strong principles, are hardworking, or are simply stubborn, that is, characteristics that plausibly affect the negotiations. Voters' party preferences may also be a

source of perceptual biases that affect evaluations of coalition policy (Meyer and Strobl 2016). If a voter finds a party's argument in favor of certain policies persuasive, she may assume that others will also find them persuasive. We operationalize the difference in leader evaluation (Δleader evaluation) and the difference in party preference (Δparty preference) as the differences between the respondent's evaluation of, respectively, the leaders and the parties and scale the results to range from -1 to 1.

Finally, we control for political knowledge, as voters' perceptions of influence may depend on their level of intellectual engagement with politics. Respondents' relative placements of political parties as well as their expectations about party size may differ between political experts and respondents who do not know much about politics. We construct a political knowledge scale (Cronbach's $\alpha = .83$) ranging from 0 to 1, using 13 factual knowledge items.[27]

To sum up, we extend model (1) above to allow the coalition weight (α_i) to depend on individual specific covariates. For example, in the first specification in table 2 we estimate

$$C_i = \alpha_i A_i + (1 - \alpha_i)B_i + \varepsilon_i \text{ with}$$
$$\alpha_i = \text{logit}^{-1}(\gamma_0 + \gamma_1 \text{bargaining power}_i$$
$$+ \gamma_2 \Delta \text{ideological centrality}_i + \gamma_3 \Delta \text{leader evaluation}_i$$
$$+ \gamma_4 \Delta \text{party preference}_i + \gamma_5 \text{political knowledge}_i).$$

(5)

The perceived policy position of a coalition depends on the perceived positions of the constituent parties, individual specific coalition weights, and an error term ε_i with zero mean. Thus, we allow α_i to vary across respondents as a logistic

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26. That is, if the perceived median is 5, then $(5 - |p_A - 5|) - (5 - |p_B - 5|) = -|p_A - 5| + |p_B - 5|$.

27. In app. H we also examine whether political knowledge influences the choice of heuristics by considering high- and low-knowledge respondents separately (as well as exploring interactions). We disregard knowledge items that were measured after wave 6, when respondents' perceived coalition policy was measured.

Table 2. Determinants of Coalition Weight (α): Party Size and Banzhaf Index to Measure Bargaining Power

	CDU-SPD				CDU-FDP			
	Party Size		Banzhaf Index		Party Size		Banzhaf Index	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	.418	.390	.362**	.466***	−.936*	−.446	−.858**	−.421
	(.274)	(.272)	(.169)	(.178)	(.549)	(.673)	(.387)	(.431)
ΔIdeological centrality	.021***	.083**	.019**	.072***	.056***	.621***	.057***	.417***
	(.008)	(.037)	(.008)	(.024)	(.020)	(.172)	(.020)	(.110)
Bargaining power	.012	.162	.101	.054	1.897**	.958	1.746***	.968*
	(.461)	(.463)	(.238)	(.241)	(.751)	(.887)	(.499)	(.536)
ΔIdeological centrality × bargaining power		−.110*		−.086**		−.804***		−.521***
		(.063)		(.036)		(.230)		(.146)
ΔLeader evaluation	.095	.100	.085	.074	−.159	−.176	−.125	−.122
	(.095)	(.095)	(.096)	(.096)	(.212)	(.213)	(.211)	(.212)
ΔParty preference	.037	.028	.037	.045	.005	.050	.026	.053
	(.082)	(.082)	(.082)	(.082)	(.245)	(.244)	(.244)	(.242)
Political knowledge	−.385***	−.443***	−.387***	−.446***	.354	.571**	.424*	.548**
	(.124)	(.129)	(.124)	(.127)	(.247)	(.251)	(.245)	(.249)
Observations	1,644	1,644	1,640	1,640	1,632	1,632	1,625	1,625
Root mean square error	1.15	1.15	1.15	1.14	1.11	1.11	1.11	1.10

Note. CDU = Christian Democratic Union; SPD = Social Democratic Party; FDP = Free Democratic Party. Standard errors in parentheses.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

transformation of a linear and additive function of individual specific covariates. This ensures that the resulting $\hat{\alpha}_i$ is a proper weight; that is, it lies within the unit interval. The γ parameters are estimated using nonlinear least squares (Davidson and MacKinnon 1993), which can then be used to recover $\hat{\alpha}_i$ postestimation. A positive $\hat{\gamma}$ indicates that a larger value of the covariate increases the weight respondents assign to the first-named coalition party ($\hat{\alpha}_i$) and, consequently, decreases the coalition weight of the second-named party ($1 - \hat{\alpha}_i$).

Table 2 shows the estimation results for two of the German two-party coalitions: CDU-SPD (grand coalition) and CDU-FDP (black-yellow coalition).[28] For each coalition we

estimate four models: with and without an interaction between Δideological centrality and bargaining power and using two different measures of bargaining power (i.e., party size and Banzhaf index).

The estimated effect of Δideological centrality is consistent across the model specifications for the two 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 its partner's position.[29] The coefficients for bargaining power are positive as expected for the models without the interaction terms but are only statistically significant in CDU-FDP models.[30] The more bargaining power the CDU was expected to have, the

28. The results for the SPD-B90 coalition are provided in app. E (table A11) as almost all respondents (93%) expected it to be a minority coalition and, thus, to be reliant on the support of parties in the opposition. Modeling expectations for minority coalitions is a more complicated task, as it requires information about the respondents' assumptions about support parties and the concessions that those parties might demand. Respondents also saw these parties as very similar ideologically—nearly half placed them at the same position. The results suggest that voters evaluate this coalition on terms very different from the other two.

29. As shown in app. F, this remains the case if ideological centrality is calculated treating the midpoint of the scale (i.e., 5) as the ideological center.

30. The marginal effects of Δideological centrality and bargaining power can be negative in the models with an interaction, but the covariate values required for that to be the case are uncommon in the sample, e.g., the marginal effect of party size is negative for about 7% of the sample values of Δideological centrality.

more weight respondents placed on the CDU's position when evaluating the coalition. This implies that respondents see the CDU—by virtue of most voters seeing it as having more bargaining power—as being more influential. Thus, the perceived coalition policy is closer to the perceived CDU position than the coalition partner, the SPD or the FDP.

The estimated coefficients for the interaction terms are also consistently negative and, generally, statistically significant at the conventional levels. This indicates that the two sources of bargaining strength are substitutes rather than complements; for example, the parties have most to gain from an increase in bargaining power when they are disadvantaged in terms of ideological centrality. Thus, on the whole, voters perceive larger and more centrist parties of a coalition to be more influential in determining coalition policy.

We find little evidence of voters being influenced by perceptual biases. While the Δparty preference coefficients have the expected sign, the size of the effect is 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 they analyze did not ask for respondents' expectations about the parties' vote shares. Perceptual biases may 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 agree 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: Δparty preference has no independent effect in our model specification, suggesting that the causal mechanism by which perceptual biases matter primarily operates through biasing voters' expectations about electoral outcomes. Similarly, there is no direct evidence to suggest that party leader evaluations matter—although the same caveats apply here as with the effects of party preferences.[31]

Finally, the estimated coefficients for political knowledge do not show a consistent pattern. Politically knowledgeable respondents place less weight on the CDU in the CDU-SPD

coalition. The opposite is true for the CDU-FDP coalition, although the political knowledge estimates are less precise and not statistically significant across all the model specifications. This difference is intriguing and suggests that politically knowledgeable voters may indeed evaluate coalition influence on different terms. We explore this further in appendix H and find consistent evidence that less informed respondents appear to give greater weight to ideological centrality and, in the case of the CDU-SPD coalition, differences in leader evaluations.

What do the results suggest about the use of heuristics? The equal influence heuristic can quickly, and unsurprisingly, be ruled out—respondents appear to consider ideological centrality and bargaining power, while the heuristic implies that neither should have an effect. The nonlinear parameterization of the coalition weight (α_i) makes adjudicating between the other heuristics less straightforward, as the substantive effects cannot immediately be read from the estimated coefficients. The effects can, however, be examined by predicting the coalition weights at different values of the covariates using the estimated $\hat{\gamma}$'s. Figure 4 graphs the effects of party size and Δideological centrality for the two coalitions.[32] To derive the average predicted weights together with the 95% confidence intervals, the values of the two variables, party size (figs. 4A and 4C) and Δideological centrality (figs. 4B and 4D), were varied while all other independent variables were held at their observed value for each respondent. The distributions of the covariates are shown using rug plots and histograms at the bottom of the figures. Figures 4A and 4C show the average predicted weights conditional on the CDU's expected size (as a share of the expected two-party coalition vote share), and figures 4B and 4D show the average predicted weights conditional on the CDU's perceived ideological centrality advantage. The graphs show that respondents who expect the CDU to win more votes or perceive it as more ideologically central have higher predicted values of α; that is, they expect that the CDU will have a bigger impact on government policy.

The horizontal lines show the expectation according to the equal influence heuristic (i.e., $\alpha = .5$). As noted above, the heuristic can be dismissed, as the predicted coalition weights depend on the parties' expected vote shares and how central they are perceived to be ideologically. Furthermore, figure 4 shows that the CDU's predicted coalition weights are almost always greater, and, for the majority of the respondents, the confidence intervals do not overlap .5. This suggests that an average voter perceives the CDU to have at least

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31. Thus, we cannot rule out the possibility that perceptual biases matter. A more favorable opinion of a party or a party leader may lead a respondent to expect a higher vote share for a party that in turns affects its influence on coalition policy. Indeed, expected coalition vote share is correlated with both party and leader evaluations. For an example of the magnitude of the correlation, a jump from the 10th to the 90th percentile of Δparty preference corresponds to about a 4–7 percentage point increase in the party's vote share.

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32. The graphs for the model in which the Banzhaf index is used as a measure of bargaining power are presented in app. G.
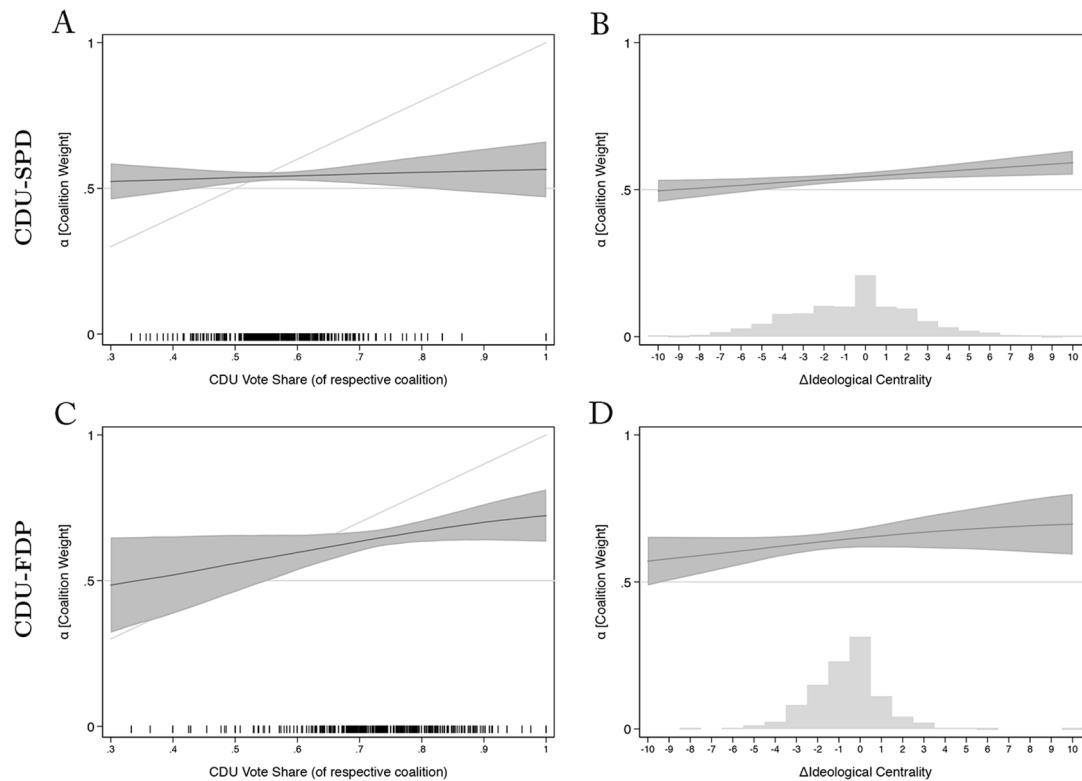
Figure 4. Impact of party size (*A*, *C*) and ideological centrality (*B*, *D*) on coalition weight (α). Reference lines at $\alpha = .5$ indicate the predictions of the equal influence heuristic. Reference lines with slope of 1 in panels *A* and *C* show the predictions of the proportional influence heuristic conditional on CDU's share of the coalition's vote.

a slight advantage in determining coalition policy—this is evident from the CDU's predicted coalition weight being larger than .5 for voters who expect the coalition parties to have an equal vote share.

Respondents employing the proportional influence heuristic would simply assign a coalition weight to the party proportional to its expected coalition vote share. The reference lines with slope of 1 in figures 4*A* and 4*C* illustrate those predictions. They make clear that the effect of party size is often smaller than implied by the proportional influence heuristic. While the confidence intervals overlap the reference line for proportional influence prediction for low values of the CDU vote share in figure 4*C*, it bears noting that only about 10% of the respondents form coalition policy perceptions consistent with the proportional influence heuristic. In case of the CDU-SPD coalition, about 21% of the respondents fall into the vote share range where the 95% confidence interval covers the prediction of the proportional influence heuristic. Overall, there is little reason to conclude that the proportional influence heuristic accurately describes how voters form expectations about the parties' policy influence.

Instead, the results across both coalitions suggest that the CDU pays a policy penalty, as the predicted coalition weight is mostly below what would be expected were influence

proportional. Although the CDU seems to have more influence over coalition policy than its coalition partner, the larger the CDU is expected to be relative to its coalition partner, the higher its policy penalty seems to be. Consequently, the smaller party within the coalition has a disproportionately large influence on coalition policy.

Overall, then, the respondents' expectations appear to fall somewhere in between the equal influence and proportional influence heuristics. Importantly, the standard assumption invoked in the literature—that voters expect the policy influence of coalition parties to be proportional to their size—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 Franklin 1973; Browne and Frendreis 1980; Indridason 2018; Warwick and Druckman 2006). This finding also suggests that voters do not perceive a formateur advantage—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. Bargaining power clearly matters, however. Respondents appear to

recognize that parties with more bargaining power will be better able to influence coalition policy. The finding that bargaining power affects a party's policy influence, however, tells us little about whether this advantage derives from the party's size or other factors, such as greater likelihood of acting as a formateur or leading the coalition.

Ideological centrality, the other component of bargaining strength that we examine, suggests that voters behave as if they pay attention to the bargaining context, that is, how the parties' ideological positions affect their ability to form coalitions or the value of their outside options. Figures 4B and 4D show how ideological centrality affects expectations about coalition policy. Perceived ideological centrality has a positive effect on the party's coalition weight. This suggests that voters see centrist parties as having a bargaining advantage in line with the bargaining strength heuristic.[33] Another thing to note is that the CDU's weight tends to be higher ($>.5$) even when the CDU is disadvantaged in terms of ideological centrality (i.e., Δideological centrality < 0). This is explained by the predicted weights being calculated holding other covariates fixed at their actual values, and the CDU is generally perceived to be the bigger party. Interestingly, 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, although this is far clearer in the case of the CDU-FDP coalition than the CDU-SPD coalition.

In sum, we find that a party's perceived bargaining strength—whether driven by size-related heuristics or from being perceived as more ideological centrist—has a positive effect on the weight voters assign to a party's ability to influence government policy. On this evidence, voters, on balance, appear to lean toward the more sophisticated heuristics we considered. Not only do voters appear to consider both bargaining power and ideology, they also appear to view these as substitutes. The level of sophistication suggested by the results is somewhat surprising in light of findings about voter knowledge, such as Fortunato et al.'s (2014), but, as they also suggest, voters may seek out information that is valuable given the political context they are in. And, while we do not want to overstate voters' use of relatively sophisticated heuristics, forming expectations about coalitions' policy can be seen as fairly fundamental in multiparty parliamentary systems.

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33. 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.

CONCLUSION

Taking its cue from Gamson's Law, a considerable body of work on politics and policy making in multiparty parliamentary systems assumes policy influence in coalition governments follows the same pattern evident in the allocation of cabinet portfolios; that is, the policy positions of coalition governments are simply the weighted average of the coalition parties' positions. More recently, scholars have noted that instrumental voters in multiparty systems have an incentive to cast their votes to influence both which coalitions form as well as the policies adopted by coalition governments. "Coalition voting" of this sort requires voters to form expectations about the policies coalition governments will implement, and, implicitly or explicitly, much of the literature assumes that voters expect policy influence to be proportional to party size. 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. There is experimental evidence on responsibility attribution in the context of collective decision making, akin to coalition governments (Duch et al. 2015), and survey evidence (Angelova et al. 2016) showing that voters do not assign responsibility equally or in proportion to size.

While our results provide evidence that voters perceive parties' influence on coalition policy to be neither equal nor proportional, they do suggest that voters are sensitive to the coalition parties' bargaining strength. That is, we find that bargaining power matters—albeit not in strict proportion in the case of party size—but also that ideology, which acts as constraint on the parties' threats to credibly pursue alternative coalitions, influences voters' perceptions. Thus, although our findings are a 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 determine coalition policy. That is, voters appear capable of forming expectations about coalition policy, and those expectations vary in a predictable manner with bargaining power (whether measured in terms of party size or the Banzhaf power index) and ideological centrality.

The question, then, is how our results inform future work on coalition politics. At this stage, our recommendations are necessarily limited, as data availability restricts our analysis to a handful of coalitions, and there is considerable variation in terms of how well, or poorly, the observed expectations approximate the proportional influence heuristic. More extensive data on a larger number of coalitions would offer an

opportunity to examine party and contextual factors that may explain that variation—and, thus, offer predictions that can serve as a guide for selecting coalition weights in empirical and formal work. For now, however, our findings merely demonstrate voters' perceptions of coalition policy (i) are not quite proportional to party size but (ii) are, however, shaped by voters' perceived ideological positions of the parties. This then suggests, first, that scholars who rely on the assumption of proportional influence may, at minimum, want to examine the robustness of their results to alternative assumptions about coalition weights that accord proportionally greater influence to smaller coalition parties. Second, as far as we know, scholars generally do not consider how ideological position may affect coalition policy (or perceptions of it) through its role in influencing the parties' bargaining strength, yet the relative proximity to the ideological center is one of our most robust findings, and it would, therefore, seem important to incorporate ideological centrality into measures of coalition policy.

As noted above, our analysis is necessarily limited to the three preelection studies in Austria, Germany, and Sweden that included questions about coalition policy, and only the German survey asked respondents about their expectations of party size, which provides leverage to examine more closely how party size (or bargaining power) affects parties' coalition weights. Our hope is that future election studies will increasingly incorporate questions about coalition policy and respondent's expectations of other important party characteristics (e.g., expected vote share). One potential issue here stems from the possibility that the variation in the expected vote share derives from a lack of political knowledge or interest, which might then bias our results (although our analysis of the role of political knowledge in app. H does not clearly indicate that this is an issue). However, this suggests that a fruitful way forward would involve using experiments in which party characteristics can be randomly assigned. An obvious benefit of such an approach would be to allow the consideration of a variety of different contexts in a more efficient manner than what is possible in regular election studies where in each election there are only a handful of potential coalitions.

Our findings raise several questions that invite further study. First, are voters' expectations accurate? Answering this question is a significant challenge, as it requires knowledge of how much influence individual coalition parties actually have, but our understanding of government policy making in parliamentary systems remains underdeveloped.[34]

By the same token, it would be of considerable interest to see how politicians form expectations about coalition policy. It is important to note, however, that the question of whether voters' expectations are accurate is not relevant when it comes to studying, for example, coalition voting—the question there is whether voters respond systematically to their perceptions 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 (see, e.g., Indridason 2011; Martin and Vanberg 2014), despite the fact that it is at best a rough approximation given the empirical regularities scholars observe to the contrary in the context of portfolio allocation (see, e.g., Browne and Frendreis 1980; Warwick and Druckman 2006). The dominant assumption of proportional influence in the literature is, as we have seen here, also at odds with voters' coalition policy perceptions and, similarly, at odds with voters' perceptions of portfolio allocation (Lin et al. 2017). While one may doubt that voters are able to make informed inferences about the influence of coalition parties, it is intriguing that their perceptions mirror the deviations from Gamson's Law established in the literature on portfolio allocation.

Finally, understanding whether and how voters form expectations about coalition policy is not only important in terms of 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. Whether they adopt a retrospective or prospective outlook, voters risk voting against their own interests if they lack understanding of how their votes affect policy outcomes. 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 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 be the case. Strøm (1984), for example, argues that one reason

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34. This is not to say that the question has been ignored. Debus (2008), Laver and Budge (1992), and Warwick (2001), e.g., have sought to

estimate the influence of coalition parties by comparing the manifestos of coalition parties with coalition agreements.

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.

ACKNOWLEDGMENTS

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