

Modeling Preferences Using Roll Call Votes in Parliamentary Systems

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Models of ideal point estimation usually build on the assumption of spatial preferences. This ignores legislators' non-policy incentives and is thus likely to produce implausible results for many legislatures. We study this problem in parliamentary systems and develop a model of roll call voting that considers both the *policy* and the non-policy, *tactical* incentives of legislators. We go on to show how the relative weight of these policy and tactical incentives is influenced by the identity of the mover and characteristics of the motion. Analyses of two data sets of 2174 roll call votes in German state legislatures and 3295 roll call votes in the British House of Commons result in three main findings. First, we show that tactical incentives may be more important than policy incentives, and second, that the importance of tactical incentives varies with the importance of motions. Third, there are interesting twists: backbench private members' bills may reverse tactical incentives whereas proposals from anti-system parties are virtually always rejected by moderate parties, rendering these votes uninformative. Our findings have implications for ideal point estimation in parliamentary systems, as well as for research on separation of power systems.

1 Introduction

Recent decades have seen a growing number of statistical methods for the analysis of recorded votes to place legislators in a latent policy space. It is well understood that the validity of these ideal point estimates rests entirely upon the validity of the underlying behavioral model of voting. If legislators condition their vote only on the relative distance between a policy proposal, the status quo, and their most preferred policy, “off-the-shelf” estimators do indeed produce meaningful estimates of most-preferred outcomes or positions in a policy space (McCarty 2011, 83). However, these estimates no longer reflect policy positions to the extent that legislators vote for alternatives for reasons other than spatial considerations (Clinton 2003, 384). Ignoring party pressures, for example, would result in distorted ideal point estimates because observed votes are a function both of an actor's true ideal point as well as party pressure (Clinton 2012, 84).

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Poole (2005) hypothesizes that non-spatial factors can be incorporated into the two-space theory of spatial voting which he expresses in a stylized $XW = Y$ matrix form where X is the matrix of individuals' positions on the issue dimensions and Y is the low-dimensional basic space to be detected. The unknown mapping W reflects the constraints imposed by the nature of the political contest on elites' strategic position-taking. One obvious candidate for such a constraint is ideology, which forces parties to be consistent with their ideological stance when taking a position on issues such as abortion or gun control. Poole suggests that non-spatial factors such as party pressure can be captured by W once we think of W as an individual matrix and not a general one.

In this article we propose a different approach. We construct a model that explicitly considers both spatial and non-spatial motivations. In particular, we argue that while some roll call patterns are best understood as stemming from spatial preferences over public policies, others reflect conflicts over private goods, such as office or vote spoils. Although standard item response models or optimal classification (OC) might readily capture both types of conflict, we argue and demonstrate empirically that the interpretation of these preferential choice data in a more complex, behavioral model of legislative voting is more direct.

Although our argument is more general, it is particularly relevant in parliamentary systems. Parliamentary systems are a challenge for the specification of item response models, as the voting behavior of parties and legislators is heavily influenced by non-spatial considerations (Müller and Strøm 1999). Backbench members of parliament (MPs) with higher ambitions, for example, may choose not to display their disagreement with party leaders in their votes in order to remain in good standing (Benedetto and Hix 2007). Furthermore, the need to cultivate a distinct profile in the multi-party competition for electoral votes may lead parties to overstate ideological disagreement with other parties (Meguid 2005).¹ On the other hand, the desire to stay in power may cover policy disagreement between coalition parties when voting in parliament.

We use Markov Chain Monte Carlo (MCMC) simulation in a Bayesian framework to make inferences about the model parameters when studying preferential choice data from 2174 recorded votes from forty-five state parliaments in Germany and 3295 roll call votes in three Westminster parliaments. There are three main findings. First, we show that there are strong incentives for MPs to vote strategically based on the origin of a proposal, that is, whether it comes from the camp of the government or the opposition. In general, government proposals are rejected by the opposition and vice versa. Second, our research suggests that the relative weight of spatial and tactical motivations varies with the importance of the motion. While tactical incentives seem to dominate in votes on salient policy matters such as budgets, they are less strong in contexts where a vote is taken on presumably less important motions. Third, analysis of the German data shows that such non-spatial or tactical considerations also dominate the motivation of moderate parties when motions of anti-system parties are on the table. Since cooperation with anti-system parties is likely to harm them in the next election, moderate parties reject their proposals in unison. We also argue—and show—that backbench private members' bills in the House of Commons are less apt to trigger tactical, government versus opposition roll call voting.

Our findings have two main implications for the literature on ideal point estimation in parliamentary systems and beyond. First, when done carefully, ideal point estimation can enhance our understanding of the strategic interaction of parties under the logic of parliamentary systems of government. At first glance, our findings might suggest that ideal point estimation is simply not a good method for learning the policy preferences of parties and legislators in parliamentary systems—and, instead, we should turn to other methods such as expert surveys or quantitative text analysis. However, a more optimistic reading is in order: ideal point estimation does indeed provide information about legislators' "ideal points" as well as the relative weight of policy versus tactical incentives. Second, it is ubiquitous in roll call vote analysis to apply one behavioral model to the sample of all scalable votes (Poole 2005; Otjes 2011; Hix and Noury 2016). This approach implicitly

¹In a recent paper, Aldrich, Montgomery, and Sparks (2014, 437) address a related but different challenge for extant scaling procedures: when the level of bimodality or polarization in the distribution of legislators' preferences is high—that is, they are not (just) overstating policy disagreement—scaled preferences appear increasingly uni-dimensional regardless of "the true number of underlying dimensions".

assumes that legislators' motivations (or utility functions) do not vary across votes—an assumption hardly met in any presidential and parliamentary legislature (Høyland 2010). Our study suggests that in this situation off-the-shelf estimates may be biased in various ways and that we should instead turn to more complex behavioral models to arrive at valid point estimates. Overall, our article contributes to recent innovations in political methodology that aim at increasing the validity of measures derived from roll call analysis (see Peress 2009; Aldrich, Montgomery, and Sparks 2014; Stoetzer and Zittlau 2015).

2 Motivation

Recent decades have seen a growing number of scaling methods to make inferences on political conflict and preferences in legislatures based on the recorded votes of legislators. Although standard parametric (Clinton, Jackman, and Rivers 2004) and non-parametric (Poole 2005) techniques of ideal point estimation differ in the estimation parameter they maximize, their core assumptions are similar. First, legislators have preferences that are single-peaked and symmetric in a Euclidean policy or outcome space. Second, in any pairwise comparison, legislators vote sincerely for the option that is closest to their ideal point.² In its simplest version, the sincere spatial voting assumption results in cut points or hyperplanes (separating Yeas and Nays) that are perpendicular bisectors of the status quo and the proposal so that we can extract ideological positions from voting behavior in a straightforward manner.

However, the usefulness of ideal point estimates depends on the underlying behavioral model of voting as much as the usefulness of a model depends on the particular purpose it was built for (Clarke and Primo 2007, 743). Ignoring party pressure if it existed, for example, would lead us to misinterpret estimates as reflecting most-preferred policies while in fact they reflect pressured ideal points (Snyder and Groseclose 2000; Rosenthal and Voeten 2004; McCarty 2011). A second example is the divide between government and opposition. This divide may fit perfectly with the constraint that is given by parties' policy motivation if, for instance, coalitions are formed on the basis of ideological proximity. But this may not be the case when coalitions are ideologically divided or legislative coalitions form ad hoc, as it happens in the case of minority governments. If we want ideal point estimates to approximate policy preferences, the theoretical model underlying the statistical model needs to account for this complex interplay of motivations and constraints. In an ideal world, it should enable us to isolate spatial policy preferences from non-spatial, office-, and vote-related incentives.

In this article we seek to develop such a theoretical model that increases the validity of ideal points generated from voting behavior in *parliamentary systems*.³ Such a model, we argue, needs two components: First it must take into account how incentives flowing from the logic of parliamentary government influence the voting behavior of individual legislators and parties. Second, it has to acknowledge that the relative importance of these incentives may vary across different votes. We discuss both points in turn.

2.1 Ideal Point Estimation and Party Unity

Parties are groups of like-minded politicians (Krehbiel 1993) but not of clones. Due to factors such as individual convictions (Burden 2007) and constituency interests (Ladewig 2005), legislators hold different policy preferences. If legislators would vote sincerely, ideal points based on legislative votes would accurately describe this diversity. In fact, voting maps in the U.S. Congress suggest that this may be a defensible assumption (Poole 2005) even though the mapping is partly violated by mechanisms of agenda control (Cox and McCubbins 2005) and (albeit weak) party unity (Cox

²In addition to voter's utility function, Clinton and Meirowitz (2001) have considered a model of parliamentary voting that uses information about how the process leading to parliamentary votes (e.g., through agenda control and roll call vote requests) influences the location of proposals and status quo.

³This does not mean that the disturbances we talk about are irrelevant in presidential systems. However, they should be most pronounced in parliamentary systems with strong parties.

and McCubbins 1993). In parliamentary systems, the situation is quite different. When it comes to parliamentary voting, incentives for party unity may completely mask individual MPs' preference heterogeneity (Carey 2007; Andeweg and Thomassen 2011). The logic of parliamentary government locates political competition strongly within parties (Samuels and Shugart 2010), such that legislators' private goals are closely tied to toeing the party line. This is most evident for government MPs (Stecker 2015). In contrast to presidential systems, failure to secure majority support in the legislature may lead to government breakdown and early elections. Hence, in many votes government MPs are confronted with a *de facto* confidence vote in which they have to weigh their office (Heller 2001) and future policy goals (Diermeier and Feddersen 1998) against their sincere policy preferences. As a result, while some parliamentary activities, such as speeches (Proksch and Slapin 2012) or bill initiation, carry information about intra-party preference heterogeneity, there is, seemingly, not much to infer from individual voting behavior.

If party unity is perfect—as is often the case—the number of meaningful ideal points is reduced to the number of parties in parliament (Otjes 2011).⁴ The question of how to specify a useful model of parliamentary voting then quickly turns into the question of how the goals and incentives of political parties influence their voting behavior. Parties organize around the prevalent interests and conflicts in society. To the extent that parties vote according to their policy preferences, parliamentary voting would reveal true party positions and the dimensionality of policy conflicts. Yet, similar to individual legislators, parties pursue non-spatial goals such as vote and office (Müller and Strøm 1999)—goals that might conflict with sincere voting. How parties balance these goals in their voting calculus is crucially influenced by the logic of party competition embedded in the system of parliamentary governments. Party competition for votes rewards (at least in multi-party environments) parties that develop distinct policy positions (Grofman 2004) and selectively emphasize issues on which they enjoy advantages over competitors (Meguid 2005). In fact, many partisan activities such as parliamentary questions (Green-Pedersen 2010) or requesting recorded votes (Ainsley and Maxwell 2012) can be understood as a strategy to gain votes by developing such distinct profiles. In parliamentary systems this incentive for “branding” is moderated by the dualism of government and opposition.

For governing parties, the institutional necessity to support the executive introduces strong incentives for unity. In case of single-party majority governments, government unity is analytically identical to party unity and does not blur the display of inter-party preference distributions in voting further. In the case of coalition government, however, government unity will in most cases completely trump ideological differences between coalition parties. Of course, coalition partners might emphasize differences because of partly separate electoral fates (Martin and Vanberg 2011). Yet, this effect remains within the limits of mere position-taking as in order to govern effectively, coalition parties need to agree on a common position before a vote and support this position in unison during a vote (Martin and Vanberg 2004).

On the side of the opposition, government unity is mirrored by strong incentives to present itself to voters as a clear alternative to the ruling government.⁵ Even if an opposition party prefers a government proposal over the status quo, non-spatial incentives can induce opposition parties to vote against it or at least to abstain (Kellermann 2012, 760). Parties may agree on proposals only within specific boundaries around their ideal points—even for proposals that yield absolute policy gains. These boundaries may be set by voters' expectation that their party stands to its principles and that they would punish any compromising that goes too far (Tavits 2007; Pedersen 2012). In fact, experimental evidence has shown that opposition parties are most successful in influencing the political views of their supporters. Released from the necessity of compromise and implementation,

⁴Due to differences regarding individual legislators' abstentions and absence, voting patterns might still indicate some variation within parties.

⁵Dewan and Spirling (2011) suggest that by committing to vote against any government proposal opposition parties can indirectly drag policy outcomes into their direction. Such strategic opposition would force the government to accommodate their own opposition-leaning MPs, as it cannot rely on the support of government-leaning opposition MPs. Reputational considerations, however, often incentivize government parties to exclude the possibility of passing laws without an own majority. Oppositional voting strategies should then not affect governmental policy formulation.

opposition parties can uphold an unambiguous policy profile which fosters partisan cue taking by their followers (Brader, Tucker, and Duell 2013, 1490).

All in all, in parliamentary systems, votes on policy proposals are often simply votes for or against the government rather than reflecting the policy preferences of a party on the specific issue under consideration. In fact, Hix and Noury (2016) show that a single government–opposition axis structures almost all votes in parliamentary democracies. The consequences for ideal point estimation are far-reaching: Ideological distances within the government coalition are completely suppressed while ideological distances between government and opposition parties are (over-)emphasized. This implies that the revealed positions and dimensionality in parliaments are highly dependent on the patterns of government formation. Even small changes in parties' seat shares can therefore result in massive changes regarding ideal point estimates if they mean that more or fewer parties have to be included in a majority government. It must be noted, however, that the government–opposition divide in voting is not entirely “policy-free,” as government (and opposition) formation is strongly influenced by the ideological proximity of parties (Martin and Stevenson 2001).

2.2 *Ideal Point Estimation and Vote-Specific Incentives*

The second point of our argument is that a useful model of parliamentary voting needs to acknowledge that non-spatial incentives may vary across votes. More specifically, both the importance of motions and the mover of motions influence legislators' and parties' utility function underlying their voting decision. Consequently, intra-party and inter-party heterogeneity varies across votes. This has important implications for cross-sectional and cross-temporal comparisons of ideal point estimates, as the universe of roll call votes of a legislature is skewed along these dimensions.

First, the importance of motions influences the display of intra-party preferences, as incentives and opportunities for party unity vary with the importance of motions. Different studies show that the willingness of party leaders to induce party unity (and/or the willingness of members to voluntarily subordinate to party unity) is significantly higher for important, as opposed to unimportant motions (Hug 2010; Coman 2012). Accordingly, ideal point estimates yield more information on individual policy preferences during votes on less important motions (Høyland 2010).⁶ At the other extreme are budget votes, which are quasi-confidence votes on the government and its overall agenda. Losing such a vote is often synonymous with government breakdown. Hence, we expect that to a large extent tactical incentives outweigh policy preferences both within government and within the opposition. In contrast, votes that, from this angle, are less important should reflect, to a larger extent genuine policy preferences (for a similar argument on the individual level, see Zucco and Lauderdale 2011).

Second, tactical incentives differ according to the identity of the mover of a motion. One important distinction here is the dualism of government and opposition. Government motions yield a positive strategic utility for agreement for government parties and disagreement for opposition parties. Opposition motions, on the other hand, invite united rejection by government parties due to strategic reasoning. Another important dimension is between anti-system and moderate or mainstream parties. Parties often make electoral pre-commitments to try to form a coalition with another party or not to coalesce with a party, and such commitments are rewarded by voters (Golder 2006). In the most extreme case, an anti-pact rule would exclude one or more pariah parties from coalition bargaining because of their anti-system ideology. A similar logic applies to voting in parliament. Specifically, if cooperation with anti-system parties comes with prohibitive electoral costs, ruling out legislative cooperation with anti-system parties may yield electoral, non-policy rewards for moderate or mainstream parties.⁷

⁶A further potential complication lies in the fact that party unity might vary across parties (Rosenthal and Voeten 2004). Government parties, for example, command more resources to induce voting unity in light of diverging preferences than opposition parties. Hence, ideal points might underestimate intra-party heterogeneity particularly for government party groups.

⁷We use the terms anti-system, extreme, and pariah party interchangeably and mean a party that “represents a demand for major transformation of the society, either towards some future vision or back to an idealized past” (Powell 1986, 359).

Third, different tactical incentives are provided in votes on motions not sponsored by the party leadership but individual MPs. If these motions run against the official party line, both government and opposition parties might close their ranks and vote against their own backbenchers' proposals. On the other hand, or even more perfidious, parties may even have an incentive to support the off-the-party-line motion of a backbencher from the other party—just to highlight rifts within the ranks of the opponent.

The implication of this general discussion for ideal point estimation in parliamentary systems is to emphasize that we need to adapt utility functions to the general incentive structure of parliamentary systems as well as the specific voting situation. Failure to do so invites misinterpretations of both individual and party preferences. Spirling and McLean (2006, 91), for example, show how estimated ideal points invite bizarre conclusions if one ignores the variance of utility functions across parties and individual legislators. For example, left-wing Labour MPs in the British House of Commons who sincerely vote against the right-leaning policy of their own government are placed closer to the Conservatives, who strategically vote against the Labour government.

3 Statistical Model

We seek to make inferences on the importance of tactical gains in roll call voting by juxtaposing ideal point estimates of the standard, policy-based model with estimates from an extended model that considers tactical incentives. More specifically, we consider the mover of a motion and ask (i) to what extent opposition parties have incentives to vote against a government proposal on non-policy grounds (and vice versa), and (ii) how the salience of motions affects these incentives. Furthermore, we consider two extensions to explore whether mainstream parties reject proposals of anti-system parties for principled reasons, and whether votes on proposals of individual MPs are actually less dominated by the government–opposition divide.

We should emphasize one issue here. Statistical models of roll call voting such as multi-dimensional scaling or OC are general scaling procedures to analyze a broad range of preferential choice data that reflect similarity between respondents and objects (Rosenthal and Voeten 2004, 625). Thus, the first question to ask is whether these statistical models can be used to estimate an extended model as well. On the one hand, office spoils or electoral rewards are private goods with rivalry in consumption so that actors' preferences will most likely be nonsatiable: the term “most-preferred position” simply does not have a natural interpretation. On the other hand, we can think of a basic dimension where government and oppositional actors have antipodal “positions” at the extremes of a one-dimensional “policy” space. We would expect OC to recover this government–opposition division as one or, at times, the only basic dimension. However, interpreting the results of an OC will be less natural if the conflict that is related to the government–opposition divide varies across the roll calls. For example, consider a change from a center-left to a center party government (within the legislative term). This will result in two basic dimensions, one capturing the divide between the first set of government and opposition parties, and one that reflects the new coalition pattern. Although OC readily captures both conflicts, its interpretation is less intuitive and such over-fitting of the data is also unenlightening, as the underlying conflict is effectively one-dimensional—it is the one between the government and the opposition. Hence, we claim that an extended model may facilitate a better interpretation of preferential choice data.

To make our case, we start by fitting the standard spatial roll call model using the W-NOMINATE and non-parametric OC algorithms to the German data. As we will demonstrate in the next section, both methods produce two-dimensional maps that successfully account for a large part of the variation in votes. The results do not really comport with our prior beliefs about ideological party locations, suggesting that left-right is not the most important dimension structuring these votes. We then fit three different models to the data that all combine policy and tactical motivations but make different assumptions about the type of these tactical incentives.

In the standard exposition of the roll call model, agents have spatial preferences over policies and vote for the alternative that is closer to their ideal point (plus some random disturbance).⁸ More specifically, we assume stochastic utility functions in an n -dimensional space so that the preferences of agent i with ideal point $z_i \in \mathfrak{R}^n$ are represented by

$$u_i(x) = -(x - z_i)^2 + \varepsilon_i, \quad (1)$$

where x is an alternative in the policy space \mathfrak{R}^n and ε_i is the stochastic component that has a Type I extreme value distribution. For a given proposal x_j and its status quo q_j , the probability that agent i votes *Yea* (i.e., $y_{ij} = 1$) is then given by

$$\Pr(y_{ij} = 1) = \Pr((q_j - z_i)^2 - (x_j - z_i)^2 > \varepsilon_{ij} - \varepsilon'_{ij}), \quad (2)$$

$$= F(\beta_{1j} + \beta_{2j}z_i), \quad (3)$$

where F is the logistic distribution as the difference between two extreme value distributed random variables is logistic distributed with variance $\sigma_j^2 = \text{var}(\varepsilon_{ij} - \varepsilon'_{ij})$.⁹ The coefficient $\beta_{2j} = 2(x_j - q_j)/\sigma_j$ is a vector of discrimination parameters that indicate the extent to which the probability for a *Yea* varies with a change in the ideal point, and $\beta_{1j} = -(x_j^2 - q_j^2)/\sigma_j$ captures the part of the probability of a *Yea* vote that is unrelated to the latent position.

We consider four extensions. First, in an *office model*, not only do legislators have single-peaked and symmetric preferences over policies, but also tactical incentives to support or challenge government. Obviously, these incentives depend on the type of the mover of a motion (government or opposition) and the affiliation of the legislator to government and opposition. We consider the following extension:

$$\Pr(y_{ij} = 1) = F(\beta_{1j} + \beta_{2j}z_i + (\delta_1 \chi_G^j - \delta_2 \chi_O^j)(\chi_G^i - \chi_O^i)), \quad (4)$$

where χ is an indicator function (with values one and zero) indicating whether proposal j was proposed by the government or the opposition (χ_G^j, χ_O^j), and the camp the MP belongs to (χ_G^i, χ_O^i). Accordingly, δ_1 is the weight of the tactical gain of a government party that votes for a government camp proposal, and of the tactical loss of an opposition party that votes for a proposal that has been submitted by the government or government parties. In the same vein, δ_2 is the weight of the tactical gain of an opposition party that votes for an oppositional motion, and also of the tactical loss that incurs to a government party would it be voting *Yea* to an oppositional proposal. If these tactical gains were irrelevant, we would expect the δ parameters to be close to zero. An implicit assumption of the specification is that tactical incentives are absent in cross-party or bipartisan bills.

Second, we explore the expectation that the extent to which the dualism of government and opposition affects voting behavior hinges on the importance of votes. As we argued above, budget votes, for example, are quasi-confidence votes on the entire government agenda. Tactical incentives should thus outweigh policy preferences to a larger extent. In a *confidence vote model*, we estimate the magnitude of the tactical incentive at the motion level using the following specification:

$$\Pr(y_{ij} = 1) = F(\beta_{1j} + \beta_{2j}z_i + ((\delta_1 + \gamma s)\chi_G^j - (\delta_2 + \gamma s)\chi_O^j)(\chi_G^i - \chi_O^i)), \quad (5)$$

where $0 \leq s \leq 1$ is a measure for the salience or importance of a motion. In this specification of the model, $\delta_1 + \gamma$ is the weight for highly important motions. The same applies for δ_2 . We note that this model is encompassing the *office model* (for $\gamma = 0$).

⁸As we argue in the empirical section, a uni-dimensional policy space is sufficient to make our argument here. The exposition here considers the more general case.

⁹We use the standard assumption that the disturbances of each legislator are drawn from the same distribution, whereas each bill might have its own disturbance distribution. Estimating vote-specific tactical incentives (like vote-specific party pressure parameters in the two cut-point models [Snyder and Groseclose 2000; McCarty, Poole, and Rosenthal 2001; Clinton, Jackman, and Rivers 2004]) is not feasible here due to the small number of legislators. For a heteroscedastic specification of the standard model with varying but unmodeled components of the utility, see Lauderdale (2010).

Third, we consider an *anti-system party model* accounting for the tactical incentives that result from the divide between mainstream and anti-system parties. While there is variance across countries and time, in many parliamentary systems mainstream parties are keen on not being associated with anti-system parties (given that the latter do not have coalition or blackmailing power). Thus, mainstream parties often vote against proposals put forward by anti-system parties out of principle, though—and this is important—they cannot prevent anti-system parties from voting for their own proposals. Anti-system parties were present in several German state parliaments, so we use these data to explore the tactical incentives of German mainstream parties to not vote for an anti-system party motion:

$$\Pr(y_{ij} = 1) = F(\beta_{1j} + \beta_{2j}z_i + ((\delta_1 + \gamma s)\chi_G^j - (\delta_2 + \gamma s)\chi_O^j)(\chi_G^i - \chi_O^i) - (\delta_3 + \gamma s)\chi_A^j\chi_M^i), \quad (6)$$

where χ_A^j and χ_M^i are indicator functions for anti-system party proposals and mainstream parties, respectively.

Finally, the House of Commons data allow us to test the expectation that motions put forward without any party-backing from either side are less captured by tactical, office-related incentives. The specification we use is

$$\Pr(y_{ij} = 1) = F(\beta_{1j} + \beta_{2j}z_i + ((\delta_1 + \delta'_1 p + \gamma s)\chi_G^j - (\delta_2 + \delta'_2 p + \gamma s)\chi_O^j)(\chi_G^i - \chi_O^i)), \quad (7)$$

where $p \in \{0, 1\}$ is a simple dummy for private members' bills. We note that this *private members' bill model* is encompassing the *confidence vote model* for $\delta'_1 = \delta'_2 = 0$.

We use a Bayesian approach that gives us maximum flexibility in translating our theoretical model into a statistical model. We apply MCMC simulation to obtain inferences for the ideal points, the model parameters for tactical incentives, and the item discrimination, and item difficulty parameters (which are not of primary interest in this study). This provides us with posterior distributions of the quantities of interest, which we summarize in the following section by means of Bayesian posterior means and 95% highest probability density intervals.

The models above are unidentified, as any linear transformation of the ideal points can be offset by a linear transformation of the β s. We therefore restrict the prior of the ideal point of one party to be positive and impose a mean-zero, unit-variance constrained on the ideal points. As prior distributions, we assume $\beta_{1j} \sim \mathcal{N}(0, 1)$ and $\beta_{2j} \sim \mathcal{N}(0, 1)$, and $z_i \sim \mathcal{N}(0, 1)$ for the ideal points. For δ and γ parameters, we assume normal priors with mean zero and variance 100. For all models, three Markov chains are run with a 7000 iteration burn-in followed by a 5000–15,000 iteration sample thinned to every fifth (15th) iteration. The chains are initialized with starting values for the ideal points and the motion-specific beta parameters. As starting values for the z s, we use the loadings of a principal component analysis of the (augmented) vote matrix. To obtain starting values for the β s, we regress any single vote on the ideal point starting values from above and use the parameters of these logit models in one chain (plus some noise from a standard normal distribution in the two other chains). For the MCMC estimation, we employ the open source software JAGS (Plummer 2013) accessed via the R (R Core Team 2014) package `runjags` (Denwood 2015). Convergence of the MCMC chains is assessed by comparing several model runs, visual inspection of trace and autocorrelation plots, and using Gelman–Rubin diagnostics. We find that median potential scale reduction factors for *all* parameters in all models (i.e., a maximum of $2 \times 2174 + 12 = 4360$ for the German data, $2 \times 3295 + 17 = 6607$ for the UK) differ from 1.00 by at most .01. Autocorrelation (with lag 50 or 150, respectively) is below .1 for all parameters. We consider this as sufficient evidence for convergence.

4 German State Legislatures: Government–Opposition Divisions in a Multiparty System

We first assess our hypotheses using roll call votes from the legislatures of the sixteen German states (*Länder*). These state parliaments provide for an ideal environment to test whether the dualism of government and opposition and vote-specific factors affects the voting calculus of legislators. To begin with, German regional party systems are by and large congruent. Although the literature on regional party systems suggests that there are some differences between Eastern and Western states,

conservative and more liberal states, empirical studies based on manifestos show strong and coherent clustering of positions of regional parties, across states but also over time (Bräuninger and Debus 2012). At the same time, there is almost no variation with respect to the institutional structure—something that is impossible to achieve in cross-national research using roll calls (Cheibub 2007, 134).¹⁰ In particular, the formal rules governing roll call request and selection in the German state parliaments are almost identical (Stecker 2010). Recorded votes are only admissible for substantive decisions such as bills, amendments, and resolutions. Procedural questions must not be decided by a roll call. Furthermore, the rules for agenda formation are identical across all legislatures, with all parties having access to the plenary agenda proportional to their seat share. Accordingly, there are no agenda-specific effects (Clinton and Meirowitz 2001) such as negative agenda control that would narrow the set of preference constellations that were eligible for roll calls (Cox and McCubbins 2005). Taken together, this allows us to pool the data across state legislatures and make effective use of more than 2100 recorded votes. At the same time, the parties are sorted into different government–opposition constellations and are selectively exposed to the presence of anti-system parties. This is a promising testing ground for patterns of tactical incentives that do not match conventional left-right divisions.

4.1 Data

We use data from a comprehensive analysis of minutes of plenary proceedings from German state legislatures. Processing these documents led to a total of 238,954 roll call votes of individual MPs from all sixteen legislatures and forty-five legislative terms in the time period 1988–2011.¹¹ As our main concern in this article is to determine whether voting behavior in parliamentary systems is driven by the government–opposition division in addition to pure policy concerns, our analysis is situated at the level of parliamentary party groups. We thus aggregate individual roll call votes to the level of party groups and pool the data across all legislative terms. Although this aggregation is congruent with our research design, it also produces little loss of information because roll call votes in German legislatures are characterized by high levels of party unity. Less than half of the votes see any deviation from the party line, and on average only one out of thirty-one MPs votes differently than the party leadership (Stecker 2015).

We drop all absences and abstentions from the data set, as these pose a particular challenge to ideal point estimation (Rosas, Shomer, and Haptonstahl 2015). On average, 17% of MPs are absent during a vote, a rate that is far below other parliaments (Rosas, Shomer, and Haptonstahl 2015, 3). As we are interested in the position of parties, not MPs, the small share of individual absences is unlikely to bias our inferences. Abstentions, on the other hand, are not as easy to dismiss, as they arguably represent a distinct position on a vote. In fact, there are 337 motions in our data set where the majority of MPs of a party group abstain. Again, an understanding of the calculus behind abstentions needs to take into account the logic of parliamentary government and the type and mover of motions. Abstentions by opposition parties on government proposals, for instance, may be indicative of policy agreement: the agreement is not made public by voting *Yea*, as this would run counter to the opposition's incentive to distance itself from the government. Thus, as the link between policy positions and abstentions is possibly conditional on the type of the mover, we drop all abstentions from the data set.

We also discard fifty-nine roll calls that produced a unanimous vote among the parliamentary party groups and forty-seven roll calls where after deletion of abstentions there is just one party left. This leaves us with a total of 7737 party group votes on 2174 roll calls. For each roll call we coded the mover of a motion (government parties $n = 479$; opposition parties $n = 1570$, hereof anti-system parties $n = 105$; cross-partisan $n = 125$) and the type of motion. Motions are coded as “important” if they concern financial and budget affairs bills ($n = 375$). Our analysis includes the five mainstream

¹⁰Most importantly, the rules for roll call vote requests vary considerably across national parliaments, thereby introducing a considerable risk of comparing inherently different sets of roll calls (Hug 2010).

¹¹This includes *Yeas*, *Nays*, and abstentions of MPs who were members of a parliamentary group.

Table 1 Statistics for W-NOMINATE and OC analyses for one-, two-, and three-dimensional models

	<i>W-NOMINATE</i>		<i>OC</i>	
	<i>Correct class. %</i>	<i>APRE</i>	<i>Correct Class. %</i>	<i>APRE</i>
1 Dimension	95.6	.878	95.7	.882
2 Dimensions	94.4	.844	99.0	.980
3 Dimensions	99.5	.987	99.9	.999

parties Christian Democrats (CDU), Liberals (FDP), Social Democrats (SPD), Greens (GRU), and Socialists (PDS) as well as the three right-wing extremist parties German People's Union (DVU), National Democratic Party (NPD), and the Republicans (REP) that all other parties consider as anti-system parties.¹² For each legislature, we indicate whether a party belongs to the government (coalition) or not. There is almost no variation in governments' majority status. In all but two cases, we observe single party majority governments or minimal winning coalitions.¹³ Nevertheless, there is variation in coalition patterns—which is critical to our endeavor to disentangle spatial (policy) from non-spatial (office) preferences (Krehbiel 1993).

4.2 *W-NOMINATE and OC Results*

Is it worthwhile to consider such an extended “1.5-dimensional” model as we presented above? In order to establish a baseline to compare our model to, we first estimate one- to three-dimensional models using W-NOMINATE and OC as implemented in the R packages `wnominate` (Poole et al. 2011) and `oc` (Poole et al. 2014). In contrast to our model in the previous section, W-NOMINATE assumes that legislators have policy preferences with Gaussian loss. As these are approximately quadratic in the neighborhood of the ideal point, the difference typically is marginal.¹⁴ OC is less restrictive but assumes that preferences are single-peaked and symmetric in a Euclidean space (Poole 2005, 46).

Table 1 reports the summary statistics for the overall fit of one-, two-, and three-dimensional models of the data as estimated using W-NOMINATE and OC. The percentage of correct classifications is based on the votes taken by all parties. As a second statistic we use the Aggregate Proportion Reduction of Error (APRE), which indicates the reduction of false predictions when moving from a null model where each party simply votes with the majority on each vote. The statistics suggest that both methods do extremely well in explaining vote choice by locating parties in low-dimensional spaces. For W-NOMINATE, the percentage of correctly classified votes is as large as 95.6% for the one-dimensional model and 99.5% for a three-dimensional spatial configuration. OC is slightly better, explaining 95.7% of the votes in a one-dimensional setup and virtually all votes in a two-dimensional one. Although these figures are extremely high when compared with studies of roll call voting in presidential systems, legislatures in other parliamentary systems

¹²There is some variation regarding the presence of parties in the legislatures. The two major parties, Christian and Social Democrats, are present in all forty-five legislatures, and the other mainstream parties in many to most, anti-system parties in few: REP crossed the threshold in Baden-Württemberg in two consecutive elections, the NPD was once elected into parliament in Saxony, and the DVU was part of the state legislatures in Brandenburg, Bremen, and Saxony-Anhalt. In a number of state legislatures smaller parties also gained parliamentary representation. As these parties are all regional parties, we exclude them from the analysis. We also exclude MPs who left their parliamentary group over the course of a legislative term. Finally, in Bavaria, there is an independent Christian Democratic party (the CSU), officially dubbed a “sister-party” of the CDU, that has a more conservative stance on social policies. However, to simplify matters, we refer to both parties as the CDU in what follows.

¹³The exceptions are two minority governments in Saxony-Anhalt in 1994–2002 that have been supported by the socialist PDS. All the results we present below are robust against excluding these cases or considering the PDS as a government party.

¹⁴Estimates of the non-Bayesian Gaussian-logit W-NOMINATE model and the Bayesian quadratic-logit model typically differ in the extremes of the policy space; see Carroll et al. (2009).

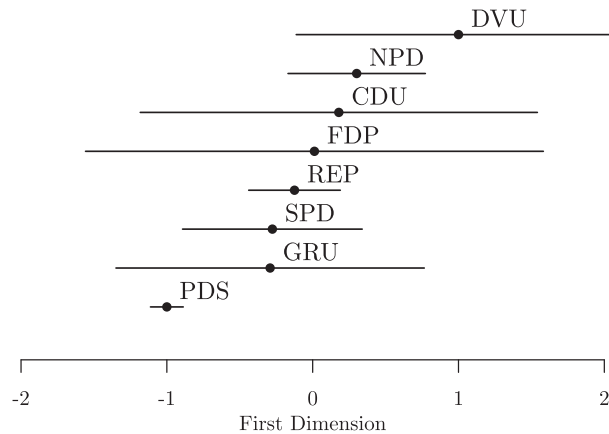


Fig. 1 Party locations in a one-dimensional space using W-NOMINATE. The plots show point estimates and intervals of four standard errors for each coordinate based on the parametric bootstrap implemented in `wnominate` (Lewis and Poole, 2004, 110).

exhibit similar patterns and overall fit statistics.¹⁵ Overall, this suggests that both methods do a remarkable job of classifying party votes in German state parliaments, so that “extending” the basic spatial model will hardly increase the number of correct classifications. This, however, is only part of the story. A more relevant question is whether the spatial configurations of ideal points produced by these methods are interpretable and interesting.

Figure 1 shows the results of the W-NOMINATE estimation for the one-dimensional setup. The estimated ideal points of the parties are, with one exception, in the order we would expect to see.¹⁶ The extremist DVU is located at the right end of the dimension at 1.0, followed by the extremist NPD; the mainstream parties CDU and FDP are in the middle. Social Democrats and Greens are on the left-hand side; the socialist PDS, successor of the former East German communist party, is placed at the left end of the space at -1.0 . What is somewhat surprising, however, is the placement of the right-populist REP between Liberals and Social Democrats.

The estimated standard errors from eighty parametric bootstrap samples—using the option implemented in the R package `wnominate`—suggest that the above order may not be reliable. In Fig. 1, we plot confidence intervals based on point estimates plus/minus two standard errors but add a warning at the same time: As W-NOMINATE constrains the parameter space to $[-1, +1]$, the sampling distribution cannot be symmetric or even normal, so that the entire uncertainty in the estimate of the DVU and the PDS must be on the left- or the right-hand side, respectively (Clinton and Jackman 2009, 611). Apart from this, almost all confidence intervals are as large as half the length of the space. The intervals of CDU and FDP even span over the entire space.

The two-dimensional W-NOMINATE model in the left panel of Fig. 2 comes with its own problems. The ideal points of the four mainstream parties—CDU, SPD, GRU, and PDS—are clustered in the upper middle and upper left corner. One right-wing extremist party, REP, is located at the bottom together with the liberal FDP; another one, NPD, is close to the left PDS and GRU. It is apparent that neither the displayed nor any rotated coordination system is really suggestive of a left-right ideological divide that is assumed to characterize the German party system. We might be tempted to interpret the first dimension as a left-right divide but, again, the placement of extremist parties does not support this, the confidence intervals are nonsensical, and the interpretation of the second dimension would be even more difficult.

¹⁵Poole (2000), for instance, reports 85% and 90% correct classifications when applying for one- and two-dimensional OC models to the U.S. Senate. For the Canadian parliament, Godbout and Høyland (2011) report about 95% and 99% correct classified votes, and Rosenthal and Voeten (2004) 92% and 97% for the French National Assembly.

¹⁶See, for instance, party positions on the left-right scale derived from a 2003 expert survey by Benoit and Laver (2006): PDS (3.6), GRU (7.1), SPD (8.4), FDP (13.4), CDU (13.6), REP (18.8), DVU (19.4), and NPD (19.7).

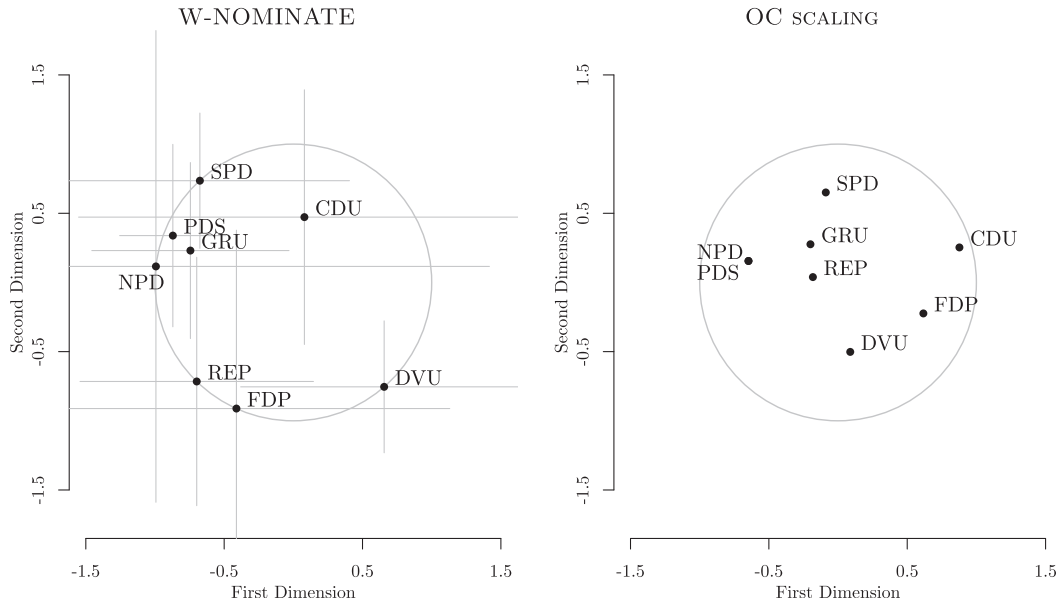


Fig. 2 Party locations in two-dimensional spaces using W-NOMINATE and OC scaling. The vertical and horizontal lines in the W-NOMINATE panel show intervals of four standard errors for each coordinate based on the parametric bootstrap implemented in *wnominate* (Lewis and Poole 2004, 110).

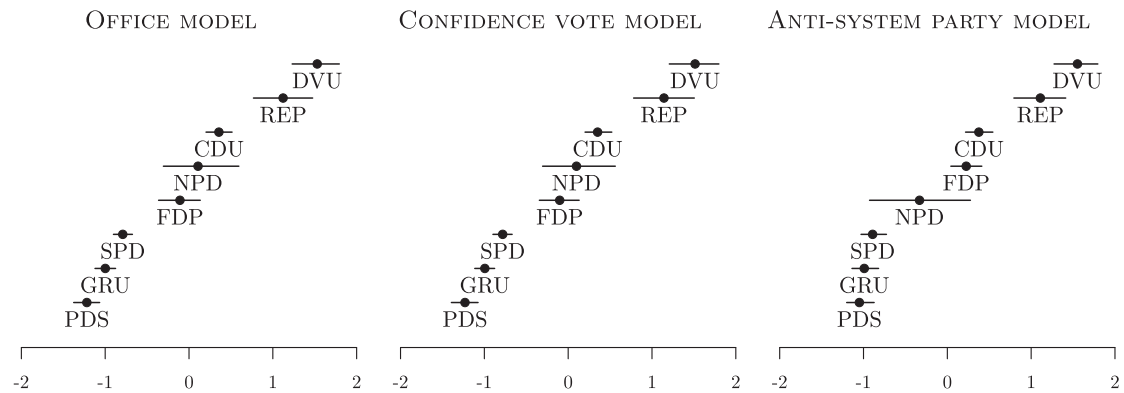


Fig. 3 Party ideal points in German state parliaments. The panels present posterior means and 95% highest probability density intervals for the three German state parliament models.

The configuration of ideal points from OC is not intuitive either. A one-dimensional OC scaling provides the following rank order: NPD, PDS, GRU, DVU, SPD, REP, FDP, and CDU. Thus, while the ordering of ideal points of the mainstream parties fits reasonably well to conventional wisdom—with PDS, Greens, and SPD to the left, and CDU and FDP to the right—the placement of REP and DVU seems cumbersome, and that of the NPD at the left extremely bogus. In the two-dimensional model, shown in the right panel of Fig. 2, a substantive interpretation of the 45-degree line running from North-West to South-East may be based on the notion of left-right while the orthogonal axis captures the divide of anti- versus pro-system parties. But again, the placement of the right-extremist NPD at virtually the same position as the Socialist PDS seems unreasonable. In sum, this indicates that both W-NOMINATE and OC do extremely well in explaining the variation in our pooled preferential choice data. However, the estimated spaces are difficult to interpret substantively.

4.3 Policy and Tactical Incentives in German State Legislatures

The results of ideal point estimations based on the three extensions of the standard, policy-based model are shown in Figs. 3 and 4 (Supplementary Table S1 in the Supplementary Materials

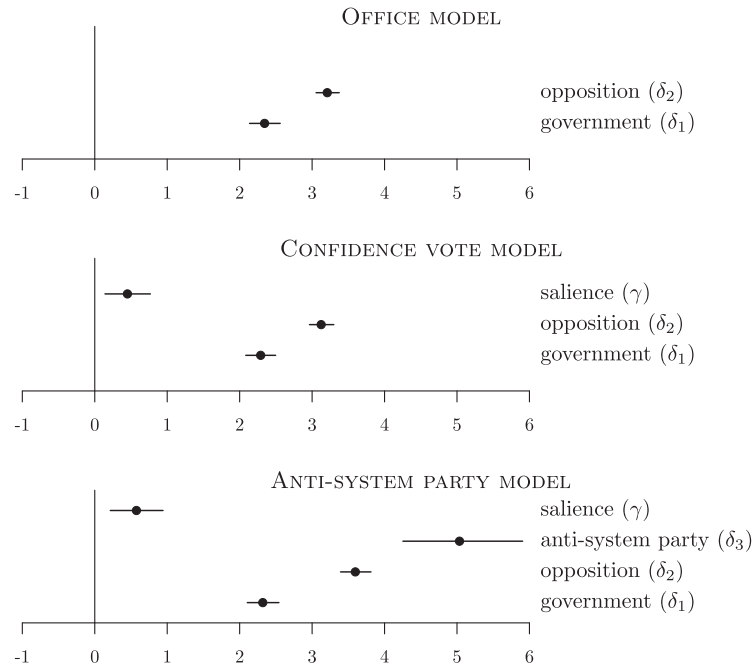


Fig. 4 Tactical incentives in German state parliaments. The panels show posterior means and 95% highest probability density intervals for the three German state parliament models.

provides summary statistics). The *office model* estimates party positions in one dimension along with two parameters that capture the office-motivation of parties: δ_1 is the gain (loss) when parties of the government (opposition) support a government proposal. In the same vein, δ_2 is the gain (loss) when parties of the opposition (government) vote for an opposition motion. In the *confidence vote model* we explore the expectation that these tactical, office-related incentives have more weight in voting in case of *significant* motions.¹⁷ In the *anti-system party model*, we consider proposals that have been introduced by anti-system parties. More specifically, we estimate the weight of the incentive to *not vote* for a motion that has been put forward by one of the three anti-system parties, DVU, NPD, or REP. Obviously, this factor should be completely irrelevant when legislative voting is based solely on spatial considerations.

The results of three statistical models strongly support our expectation of a prevalent government opposition division in voting that obfuscates voting along policy divisions. First, all three models produce highly plausible ideal positions for the five established, mainstream parties (Fig. 3). The rank order of these parties is the same as the one generated by W-NOMINATE and OC, and completely in line with the conventional wisdom about the ideological orientation of these parties: the socialist PDS is the left-most, followed by Greens and Social Democrats. The liberal FDP is in the center, and Christian Democrats (CDU) are on the right-hand side. What is different from the uni-dimensional W-NOMINATE and the OC estimation is the location of the three anti-system parties. All of our three models locate the right-wing DVU and REP at the extreme right of the

¹⁷We note that there is a related discussion on significant legislation and party influence on roll call voting in U.S. context. Using data from different Congresses, Snyder and Groseclose (2000) show that party influence is more frequent for motions on what party leaders consider as priority legislation. While the expectation is similar, the argument is different. Snyder and Groseclose consider the incentive of leaders to enforce unity within the party in the pursuit of vote-related goals such as establishing a brand name, maintaining competence reputation, etc. In our model of roll call voting in a parliamentary system, leaders have an incentive to emphasize the division of government and opposition. One might argue that in parliamentary systems both types of incentives matter, but as we argued above, party unity is almost perfect in our data, with a variance that is too small to be useful. Whatsoever, both arguments suggest that these vote- and/or office-related incentives are larger with highly visible legislation.

Table 2 Statistics of model fit for the German state parliament models

	<i>Correct Class.</i>	<i>APRE</i>	<i>Bayes residuals</i>
Office model	90.2	.807	.148
Confidence vote model	90.3	.807	.148
Anti-system party model	91.4	.831	.130

dimension at some distance to the CDU. Only the right-wing NPD is placed in the center of the space, to the left, or to the right of the FDP. We return to this puzzle below.

What is particularly striking is the size of the credible intervals of the corresponding posteriors: they are much smaller than in the W-NOMINATE estimate of the standard model. In fact, the small credible intervals suggest that we can be quite certain about the ranking of the individual parties and rather confident about party locations on the uni-dimensional scale. In the *office model*, for instance, the posteriors suggest that the CDU is right to the FDP with almost certainty, the likelihood that Greens are right to the SPD is more than 99.8%, and so on (we provide rank-order probabilities for the *office model* in Supplementary Table S2 in the Supplementary Materials). Neither the one-dimensional W-NOMINATE model nor the first dimension of the two-dimensional W-NOMINATE model (which is most prone to an interpretation in terms of ideological left-right) is conclusive here.

We conjecture that it is tactical incentives that obfuscate spatial preferences in the W-NOMINATE setup. The importance of these non-spatial motivations becomes evident in the *office model*. As the upper panel of Fig. 4 shows, the support of the posteriors of both office-related parameters, δ_1 and δ_2 , is positive (at any reasonable level of doubt), indicating that there is a net gain of staying in one's camp when voting on motions. For government proposals, the posterior mean of δ_1 is 2.3 and, almost certainly ($p > .99$), smaller than the weight for motions put forward by the opposition ($\delta_2 = 3.2$). This suggests that government proposals polarize less often or to a smaller extent than opposition proposals. Of course, we cannot separate the two mechanisms that are behind the polarization. Opposition parties might fear that they appear to be incompetent and incohesive when they vote against a proposal from their own camp. Or a government party is just reluctant to become publicly associated with an oppositional proposal *even* if the bill is closer to its ideal point than the status quo. The smaller effect for government proposals then indicates that opposition parties are *ceteris paribus* more willing to support a government motion. In any case, the size of δ_1 and δ_2 indicates that tactical incentives may trump policy incentives.¹⁸

The second model includes a measure of the weight, γ , for high-salience motions. We use the distinction between budget-related and other motions as a proxy for the importance of a motion. The positive support of the posterior indicates that salient motions are accompanied with a larger weight of tactical incentives, which is in line with what we expected (second panel of Fig. 4). It suggests that low-salience motions are more likely to trigger "sincere" voting behavior that is behavior driven by proximity evaluations. The dualism between government and opposition becomes more distinct with budget-related proposals, but we note that the difference between the two (mean of $\gamma = .4$) is small compared with the size of the tactical motivations (that is, δ_1 and δ_2). Accordingly, as Table 2 shows, the average number of correct predictions, based on the posterior distributions, does not increase (about 90% for both models) and the reduction in the average Bayes residuals is nil.¹⁹ This again highlights the dominance of the government–opposition divide in parliamentary systems. For the German case, this dominance seems to leave little room for additional effects on tactical incentives related to the importance of votes. Hence, even with (quasi-)

¹⁸Consider utility functions consistent with Equation (4), for example, $u_i(x) = -(x - z_i)^2 \pm \frac{\pi}{\sqrt{3}} \delta_1 \chi_G \mp \frac{\pi}{\sqrt{3}} \delta_2 \chi_O + \varepsilon_i$ for government/opposition parties.

¹⁹We define the average Bayes residual as the absolute difference between the actual 0/1-coded Nay/Aye vote and the estimated probability for a Aye vote, averaged over all legislators, roll calls, and draws from the posterior.

confidence votes on budget-related proposals, there is little to add to or to escalate the antagonistic us-versus-you logic present in any legislative vote. One might also argue that this is particularly relevant for the German state legislatures where the small number of parties (three to five in most cases) leaves us with only a few different voting coalitions—almost all of them can readily be explained by policy incentives and the government–opposition divide.

The third model takes into account possible disturbances of plain tactical incentives in legislative voting introduced by the mere presence of anti-system parties (lower panel of Fig. 4). According to our results, the latter actually introduce a dimension of conflict in legislative voting which is at odds with the conflicts that are based on policy incentives: motions introduced by an anti-system party are unlikely to enjoy support by other parties. The disincentive for mainstream parties is large (mean of $\delta_3 = 5.0$), reducing the Bayes residuals by 12%. Government and opposition parties across the whole political spectrum apparently try to marginalize anti-system parties by basically not considering their motions.

Even though the case of these German parties might seem very specific, it draws attention to a more general point: if the degree of cooperation between some parties within a legislature is not or not only based on spatial (or government–opposition) incentives, off-the-shelf estimators will not produce valid ideal points. There are several possible sources of such a non-cooperation. In the German case it is the deliberate exclusion of extreme right-wing parties from the daily routine of party competition and legislation.²⁰ It might be argued that rather than by principled non-cooperation, our results are driven by policy-based voting. Moderate parties might always vote against anti-system parties' motions, as these extreme proposals are never preferable to the status quo. Yet, qualitative evidence corroborates the principled non-cooperation hypothesis. In one state (Saxony-Anhalt), for example, the right-extremist DVU submitted proposals that were virtually taken from the CDU's party manifesto. Yet, the CDU voted against these motions.

Finally, even when accounting for anti-system party motions, we are still left with the central placement of the far-right NPD. This is puzzling given the aggressive nationalist and xenophobic rhetoric of the NPD. However, the party's folkish ideology and its populist strategy are also translated into skepticism toward globalization, an affinity for environmentalism, and calls for social justice (nota bene: for Germans). Perhaps the NPD's voting behavior reflects these different motivations that are not readily captured in a one-dimensional model of the policy space.

5 House of Commons: Government–Opposition Divisions in a Westminster System

The second case we consider is the British House of Commons. The Westminster system exhibits a strong dominance of, usually single-party, majority governments and an antagonistic confrontation between government and opposition (Lijphart 1999; Dewan and Spirling 2011). It thus provides for a parliament where our argument is particularly relevant. Roll call votes, divisions in British parlance, typically occur when the Speaker of the House notes disagreement between MPs simultaneously shouting “Aye” and “No” during a voice vote (Blackburn et al. 2003, 290; Rogers and Walters 2015, 154–56). In these divisions, Ayes and Noes are the only voting options, as there is no provision for formally registering abstentions (Cowley 2002, 14; Rogers and Walters 2015, 172).

5.1 Data

We collected data on all 3772 divisions that were recorded for the 53rd (starting in June 2001), the 54th, and the 55th (ending in March 2015) parliament. While a Labour (Lab) single-party government has been in place during the first two terms, the last term saw a coalition government of Conservatives (Con) and Liberal Democrats (LD). Data on voting behavior of MPs were taken from the Public Whip project.²¹ In addition, we created a novel data set including information on

²⁰From a more general perspective, there might also be personal or historic reasons for a party being basically ignored by other parties.

²¹www.publicwhip.org.uk.

the types and sponsors of motions that were subject to a division. Each motion is formally moved by an MP and put to a vote by the Speaker of the House at the end of a debate. In order to harvest this information, we went through the official Hansards and applied web-scraping and pattern-matching techniques implemented in R (Nolan and Temple Lang 2014; Munzert et al. 2015).

The rules and conventions of the House of Commons provide for voting situations that differ considerably from those in German parliaments. First, the tight grip of the government on parliamentary time and the disproportionate allocation of the remaining twenty opposition days to the two largest opposition parties (Döring 1995; May 2004, 317–18) constrain the range of parties that sponsor motions that are subject to divisions.²² In fact, 97% of the proposals voted upon in our data stem from one of the three major parties (including backbench business). This implies that in the House of Commons there is little risk that ideal point estimation is distorted by anti-system party proposals. Although some parties in the Commons, for example, the UK Independence Party (UKIP), show some similarity to anti-system parties, they can hardly press their issues to a vote.

Second, notwithstanding strong government control over the agenda, backbench business, that is, motions tabled by individual MPs, has a greater chance of being considered in the Commons. This is due to Standing Order No. 14, according to which “Private Members’ bills shall have precedence over government business on thirteen Fridays in each session” (Blackburn et al. 2003, 539), and also results from the Speaker’s discretion to select amendments from among all MPs (Rogers and Walters 2015, 48). Moreover, with the establishment of the Backbench Business Committee in 2010 backbenchers wrested an additional slice of parliamentary time from the government.²³

Third, there is greater variety of policy areas and motion types that are subject to recorded votes in the House of Commons. The House votes on amendments to the Queen’s speech, on motions to agree with amendments tabled by the House of Lords, on the question of whether a bill shall receive a second reading, on so-called programming motions (Cowley 2002, 32–33), and on arcane procedural items, such as on motions “to sit in private” (May 2004, 321–403). The valid identification of salient votes therefore requires a different strategy than the German case. Using only votes on budget and financial bills would limit our empirical leverage, as there are only forty-nine votes on budget resolutions found in our period of investigation, which are all sponsored by the government. Hence, we lack oppositional budget amendments that allow for a test of tactical incentives of government and opposition as in the German case.

Fortunately, the UK case offers a fine-grained measure of the importance the party leadership attaches to a specific motion. In a document, tellingly called “The Whip,” the party leadership’s assessment of importance is unambiguously communicated to each MP by the number of times an item is underlined (Rogers and Walters 2015, 83–89). Although these documents are not revealed to the public, they undoubtedly determine the attendance rate of MPs during a division, which thus provides a good proxy for the salience of a motion.

From the 3772 roll calls of the 2001, 2005, and 2010 parliament, we lose 179 due to missing information on voting behavior or the sponsor of the motion. We drop 208 divisions that were unanimous among the parties voting and also drop ninety free votes that we identified based on official information (Priddy 2015) and our reading of the Hansards. This leaves us with a total of 21,717 party group votes on 3295 roll calls. A total of 1636 motions originated from the government, and 1659 from the opposition; 99 motions were tabled by individual MPs from either government or opposition parties.

²²Before the 2010 parliament, the government controlled around 60%, opposition 30%, and backbenchers 10% of parliamentary time. Following reforms, backbenchers control grew to around 25%, while the government reigns over one-third of the time (Rogers and Walters 2015, 75–76).

²³While we could identify votes on motions from individual MPs originating from private members’ bills and debates on backbench business, this was impossible for the—very rare (Blackburn et al. 2003, 305)—occasions when the Speaker selects amendments from individual MPs that are not backed by their party.

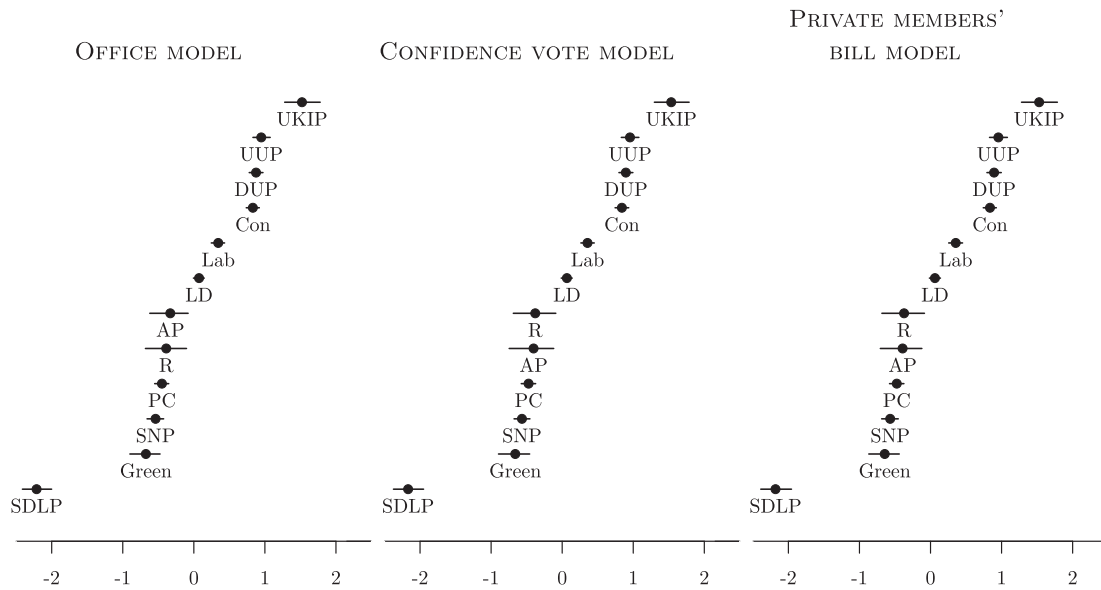


Fig. 5 Party ideal points in the House of Commons. The panels present posterior means and 95% highest probability density intervals for the three House of Commons models.

5.2 Policy and Tactical Incentives in the House of Commons

As with the German case, we present three models extending the standard, policy-based model of legislative voting. The results are shown in Figs. 5 and 6 (see Supplementary Table S3 for summary statistics). To begin with, extending the standard model of legislative voting clearly pays off for the House of Commons. When compared with a two-dimensional W-NOMINATE estimation (see Supplementary Fig. S1 in the Supplementary Materials), we gain confidence in point estimates of ideal points, as the credible intervals of the posteriors are much smaller in the extended model (Fig. 5). Moreover, the rank order of the parties resonates well with the conventional wisdom about the British parties. Our model clearly captures the lines of conflict that characterize political competition in the UK. Looking at the positioning of the three major parties first, we observe that the Conservative party is positioned clearly to the right of the Labour party, followed by the LD ($p > .999$). This is in line with position estimates based on expert surveys (e.g., Benoit and Laver 2006, 190) and manifestos (Volkens et al. 2010).

On the political right, we see the two Unionist parties from Northern Ireland—the Democratic Unionist Party (DUP) and the Ulster Unionists (UUP)—with ideal points close to the Conservatives (Con < DUP < UUP has a probability of $p = .75$, see Supplementary Table S4 for rank-order probabilities in the first, *office model*). The UKIP appears to be the right-most party in the political spectrum. On the left we have a diverse set of political parties whose positions have so far not been evaluated in a comparative manner.²⁴ According to the results of all three models, the far left is occupied by the Social Democratic and Labour Party. The next closest party is the Greens (i.e., Caroline Lucas, who became the first Green party MP in the 2010 election). What is somewhat surprising in this context is the rather moderate position of George Galloway (Respect Party, R), who is typically regarded as one of the most leftist MPs with regard to the terms that are considered in this study. In any case, the credible interval is large and we find the Alliance Party (AP) of Northern Ireland and Plaid Cymru (PC) from Wales, all advocates for more autonomy, at basically the same position. Finally, for the Scottish Nationalists Party (SNP), our model produces a slightly more leftist latent trait, which is—as is the location of PC—in line with case study research (see Lynch 2009; Massetti 2010).

²⁴ Arguably, this is a consequence of their size. For the period under study, the SNP is the largest of these parties, with five to six seats.

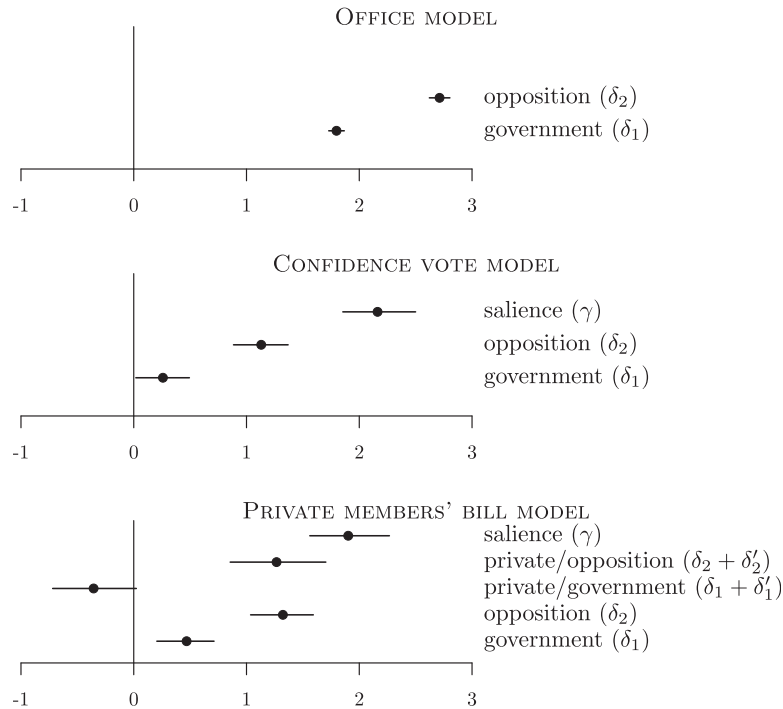


Fig. 6 Tactical incentives in the House of Commons. The panels show posterior means and 95% highest probability density intervals for the three House of Commons models.

Table 3 Statistics of model fit for the House of Commons models

	<i>Correct Class.</i>	<i>APRE</i>	<i>Bayes residuals</i>
Office model	87.8	.735	.190
Confidence vote model	87.9	.738	.187
Private members' bill model	88.0	.739	.187

Besides ideal points largely corresponding to existing research, the results of the statistical models highlight the strong distorting effect of the government–opposition divide in legislative voting. The positive parameters in the *office model* suggest that parties derive utility from voting along the government–opposition divide (upper panel of Fig. 6). As for the German case, the ordering of δ_1 and δ_2 indicates that tactically driven confrontation is less pronounced for government proposals.

Considering the *confidence vote model* for the UK provides evidence for our second point: clearly, with important motions on the table the incentives for strategic government-versus-opposition voting increase substantially (second panel of Fig. 6). Moreover, relative to the size of the office incentives, the possible disturbance of the standard policy-based voting model introduced by the salience of a motion is much larger when compared with our German example. However, we note that the more complex models increase the number of correct classifications only at the margin (Table 3). The significance of the government–opposition divide does vary across votes, but only to a limited degree (with a mean of .73 and an interquartile range of .17).

Finally, our last model clearly identifies motions on private members' bills as a distinct voting situation. In contrast to non-private government matters, $\delta_1 + \delta'_1$ takes a negative value which, presumably, summarizes two effects (lower panel of Fig. 6). First, to affirm its monopoly over the agenda, the government has incentives to vote against those motions of its own MPs that are not backed by the party. Note that slots for private members' bills are distributed in a lottery outside of

any noteworthy partisan control. In fact, when in government, both Labour and Conservatives vote against the majority of motions tabled by their own backbenchers. Second, for the opposition, incentives for tactical voting against the government fade when these motions are tabled by government backbenchers. Rather, it may seem worthwhile to support some of these motions in order to highlight conflict within the ranks of the government. Next, $\delta_2 + \delta'_2$ differs only marginally from the posterior for non-private member items (δ_2). Although these backbench motions from opposition MPs do not invite tactical partisan rejection by the government, incentives for the government to keep *any* business not sponsored by the government at bay remain high. Moreover, both parameters also suggest that voting might be more policy-driven when the House considers backbench matters.

6 Conclusion

This article deals with two shortcomings of the existing literature on ideal point estimation in parliamentary systems of government. First, we outlined a method that improves the validity of estimates of legislators' ideal points in parliamentary systems by considering both the policy and the tactical incentives of legislators and parties. Specifically, our results suggest that parties in parliamentary systems may derive huge tactical utility from voting along the lines of government and opposition. In our study of German state parliaments and the British House of Commons, tactical utility even outweighs spatial utility. Furthermore, principled rejection of proposals from anti-system parties also reduces the weight of policy motives in parliamentary voting. Second, we argued that one theoretical model of voting does not fit all scalable votes, as the utility functions of legislators vary significantly from one vote to another. Hence, we estimated a model that is sensitive to the voting context. Specifically, we demonstrate that salient in contrast to non-salient motions increase the impact of strategic goals in legislators voting calculus. Accordingly, voting behavior in salient votes is less informative for estimating policy preferences.

One central implication of our article is that ideal point estimation has to take the problem of selection bias seriously. As each voting context suppresses policy motives to a different degree, the validity of estimated ideal points hinges on the composition of the sample of scalable votes. This is particularly relevant for studies that pool all scalable votes within a parliament and compare the derived ideal points and dimensionality across different parliaments (e.g., Hix and Noury 2016). Findings from such studies are vulnerable to omitted-variable bias, as each of these parliaments may deliver a distinct roll call vote sample (Hug 2010) and a particular constellation in terms of government and opposition and the relevance of other tactical incentives. Hence, a detailed understanding of each parliament's roll call vote sample should stand at the beginning of ideal point estimation. Our results also indicate the type of incentives that researchers should particularly look out for. For one, the importance of the government–opposition divide varies only to a limited extent across votes. At least for the cases we look at, reflecting upon the importance of votes (for government and opposition) improves the model fit at the margins only. We conjecture that this might be different in systems where the boundary between government and opposition is less pronounced, such as systems with minority governments or within the European Parliament. The extent to which this may be the case, however, is a topic left for future research. What seems to be more important at any rate is a sound understanding of additional lines of conflict that are non-spatial in nature. Such empirical information could then be used to explicitly model varying utility functions of those legislators present and voting.

We conclude with a desideratum: Based on a realistic theoretical model of voting, the application of ideal point estimation techniques to parliamentary systems promises various insights. Most importantly, resulting ideal points and measures of dimensionality reveal how policy preferences interact with structural conflicts such as between government and opposition in determining parties' voting behavior. Yet, to our knowledge, all studies—this study being no exception—limit their empirical focus to roll call votes, that is, votes that provide information on the behavior of individual legislators. This focus seems perfectly reasonable in the context of the U.S. Congress, as virtually all decisions are taken by roll call and individual voting behavior is largely driven by individual preferences (which is accompanied with a completely different view on the relationship

between legislators and parties in legislative voting [see Jenkins 2008]). Yet, in many parliamentary systems this focus on roll calls imposes unnecessary limitations on the empirical value of ideal points. First, in many parliaments roll calls are only a sample of all votes that may not even cover the most relevant parliamentary decisions. Furthermore, high incentives for party unity reduce the descriptive accuracy of ideal points for individual policy preferences anyway. Hence, we should enlarge our empirical focus to the sample of all (relevant) parliamentary votes—many of which are held by signal voting that only reveals collective party behavior. Such a focus would allow us to paint a more complete picture of how partisan policy preferences and structural incentives interact in voting on democratic decisions.

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