

A comprehensive statistical model for estimating party ambiguity

LUKAS F. STOETZER

DOMINIC NYHUIS

University of Zurich

Goethe University Frankfurt

Version: August 2017

Recent research on electoral behavior has suggested that spatially informed vote choices are frequently obstructed by vague party positions. Given the significance of clear and distinct party platforms for meaningful representation, several studies have investigated the conditions under which parties are perceived as ambiguous. Yet, previous studies have often relied on measures of positional ambiguity that are fairly remote from the concept, casting doubt on their substantive conclusions. The present contribution introduces a statistical model for estimating a comprehensive measure of party ambiguity that incorporates the two principal factors driving ambiguity: non-positions and positional inconsistency. The model employs issue perceptions in an item response framework to explicitly parametrize the general ambiguity of party positions. The model is applied to data from the Chapel Hill expert survey and associated with party characteristics that drive perceptions of party ambiguity.

Elections are the principal mechanism in modern democracies for ensuring that governmental behavior reflects public preferences. The ideal of effective political representation requires that citizens are able to choose between parties with clear and distinct policy profiles. This allows voters to select the competitor who best approximates their own preferences. In practice, the criteria of democratic theory and the responsible party model in particular are frequently violated (cf. Adams, 2001; Jones and McDermott, 2004). When parties' positions are vague, citizens are unable to evaluate the policies that might be enacted after the election, constituting the danger of misrepresenting citizens' interests.

Given the value of clear policy profiles for effective political representation, it is not surprising that a number of studies have investigated the conditions under which parties voice ambiguous policy positions. Previous research on the subject has frequently suggested that vague position-taking can be traced back to strategic behavior (Page, 1976, 1978; Somer-Topcu, 2015; Bräuning and Giger, 2016), such that parties deliberately blur their preferences in order to increase their electoral appeal, not least by exploiting common errors in voters' information processing (Laslier, 2006; Jensen, 2009; Aragonès and Postlewaite, 2002; Alesina and Holden, 2008).

While the recent emphasis on ambiguous party profiles thus reflects a valid concern in spatial voting, empirical research interested in the perceptual aspect of ambiguous position-taking has often employed measures of positional ambiguity that are fairly remote from the concept. Scholars have frequently relied on the variability (Campbell, 1983*b,a*; Somer-Topcu, 2015) and missingness of policy placements in surveys (Bartels, 1986; Berinsky and Lewis, 2007). The principal drawback of these measures is their limitation to single dimensions, be they latent or issue-specific. The present contribution proposes a novel technique for estimating ambiguity perceptions from party placements on multiple issues. Building on an IRT model (e.g., Clinton, Jackman and Rivers, 2004; Martin and Quinn, 2002; Jessee, 2009; Poole, 1998) that links latent policy platforms to issue positions, we explicitly parametrize the ambiguity of policy platforms. The model thus yields party positions along with explicit estimates of party ambiguity. Importantly, the model recovers a comprehensive estimate of party ambiguity that incorporates the two main factors driving ambiguity perceptions – non-positions and positional inconsistency.

In an application of the model to the Chapel Hill expert survey (Bakker et al., 2015), we obtain ambiguity estimates for 24 European party systems for the years 2006, 2010, and 2014. A comparison with previous ambiguity measures demonstrates notable differences between measures based on latent scales and the proposed measure, highlighting the need to be mindful of the intricacies of political information processing in research on perceptions of ambiguity.

The remainder of this contribution begins by outlining the concept of ambiguity and its links to models of party competition. We discuss perceptions of policy platforms and introduce a measurement paradigm for positional ambiguity that inherits from the theoretical account by Enelow and Hinich (1981). Section 2 derives an associated statistical model. A simulation study in section 3 assesses the ability of the model to recover different sources of ambiguity. Subsequently, we apply the model to data from the Chapel Hill Expert survey (section 4). A case study of the German party system explores the model results in detail (section 4.1). We go on to examine the full set of party systems (section 4.2) and investigate the relationship of the proposed measure with previous measures (section 4.3). Section 4.4 associates the measure with various party characteristics to gauge factors that impede voters from perceiving parties clearly. Section 5 concludes with a discussion of the findings and potential extensions for future research.

I. PARTY COMMUNICATION AND THE PERCEPTION OF PARTY POSITIONS

NON-POSITIONS AND INCONSISTENT POSITIONS

The foundational model of modern political analysis holds that political actors compete by advancing policy positions and that voters select the alternative that best coincides with their own preferences (Downs, 1957). Taking this model of political behavior as a point of reference, a number of contributions have questioned to what extent this highly stylized account approximates political competition in the real world (e.g., Stokes, 1963; Petrocik, 1996; McDermott, 1998). One dissenting point of view has been that, given ambiguous policy signals, voters frequently face substantial uncertainty regarding the policy positions of the various competitors.

Questioning the clarity of the policy signals and the resulting inability of voters to individuate the preferences of political actors is far from a mere academic endeavor as it speaks to the performance of democratic institutions. One of the central stipulations of the responsible party model requires that parties offer distinct – that is clear and unique – policy platforms for voters to choose from (Ranney, 1954; Castles and Wildenmann, 1986; Adams, 2001). While the divergence of policy platforms is a classic point of contention in the literature on party competition (e.g., Grofman, 2004; Alesina, 1988; Sigelman and Emmett, 2004; Schofield, 2007), positional ambiguity has only recently come into more widespread focus (e.g., Vavreck, 2001; Franklin, 1991; McKelvey, 1980; Glazer, 1990).

Although the clarity of policy positions has received much less scholarly attention than competitive position-taking, positional ambiguity has, in fact, been a consistent undercurrent in the literature all the way back to Downs (1957). Downs points out that under certain conditions it can be advantageous for political actors not to take a position on some of the issues in order not to alienate potential voters (Downs, 1957, 136). In line with this insight in strategic obfuscation, a number of contributions have attempted to delineate the conditions that make an unclear position appealing to parties. Various scholars have tried to link the position-taking of political elites with voter preferences. For instance, several studies have provided evidence that dispersed voter preferences are associated with ambiguous position-taking (Campbell, 1983a; Jones, 2003). In a similar vein, uncertainty about voters' preferences (Glazer, 1990), as well as gaps between the preferences of voters and political elites (Campbell, 1983b; Milita, Ryan and Simas, 2014) should lead political actors to voice more ambiguous policy profiles. Ambiguity can also be a viable communication strategy if it successfully exploits errors in voter information processing (Laslier, 2006; Jensen, 2009; Aragonès and Postlewaite, 2002; Alesina and Holden, 2008).

The accounts enumerated above suggest that political actors affect the perceived clarity of their platforms by varying the level of precision of their campaign messages. In its most fundamental form, this can come in the guise of a non-message that provides voters with no information on party preferences. In a more subtle variant, parties can make reference to an issue without specifying their intended course of action (Shepsle, 1972, 555). Both variants can be subsumed under the heading of a *non-position* as a

crucial driving factor for ambiguous party perceptions. Yet, a non-position is not the only factor that affects public perceptions of party ambiguity. Several authors have for example argued that parties as collective actors might project ambiguous images if multiple individuals voice contradicting preferences (Bernauer and Bräuninger, 2009; Gabel and Scheve, 2007; Kam, 2009, ch. 2). This can lead to perceived positions that do not align with the dominant continuum of political conflict. *Inconsistent positions* are therefore a second and fundamental factor that shapes public party images. Hence, to assess party ambiguity comprehensively, a measurement strategy should be mindful of both of these mechanisms.

ISSUE MESSAGES AND PLATFORM PERCEPTIONS

Having established the underlying factors of ambiguous party perceptions, we now consider how party communication relates to public perceptions of party platforms. At a fundamental level, voters make inferences on the ideological location of parties based on a multitude of single policy signals. This is to say that parties emphasize specific policies which allow voters to pinpoint parties' positions on latent scales. This insight into the relationship between specific policy messages and perceptions of latent party positions is crucial for analyses of perceived positional ambiguity as most research is interested in a comprehensive sense of party ambiguity – not least to reflect the many formal accounts, which have typically considered uncertainty on latent dimensions (Shepsle, 1972; Chu and Niou, 2005; Dellas and Koubi, 1994; Laslier, 2006; Aragonès and Neeman, 2000). Yet, even though ambiguity has taken a prominent place in the recent literature on party position-taking, current measures of positional ambiguity do not match these intuitions.

After initial studies have circumvented the challenge of assessing party ambiguity empirically by remaining predominantly formal, scholars interested in ambiguous position-taking have increasingly tried to apply the resulting propositions to real-world data. The most widely employed evidence for an empirical analysis of ambiguity stems from survey research. Most prominently, a number of studies have captured the clarity of party messages as the placement variability on policy scales (Campbell, 1983^{b,a}; Somer-Topcu, 2015; Rovny, 2012) or with explicit survey items querying respondent certainty of party placements (Alvarez and Franklin, 1994). In a variant of this idea,

Bartels (1986) uses missing values in placement items as an indicator for lacking positional clarity (cf. Berinsky and Lewis, 2007).¹ The principal shortcoming of these measures is that they reside at the level of single policy dimensions. When analyzing single issues, the resulting measure does not provide a comprehensive image of party ambiguity. Conversely, when assessing party ambiguity on latent dimensions, it is unclear how aggregate ambiguity relates to party messages on specific issues.

The present contribution therefore aims to generate a measure of ambiguity that utilizes perceptual data while sidestepping some of the shortcomings of previous measures by integrating party perceptions on single issues in a comprehensive indicator. Specifically, we aim to generate a measure of party ambiguity that incorporates both *non-positions* and *inconsistent positions*. As a precursor, we explicate our notion of ambiguous party perceptions more systematically. We conceive of an ambiguous party position as the uncertainty associated with the latent party position. At the same time, parties only disseminate specific policy signals to the electorate – signals at the level of individual issues. Therefore, uncertainty regarding the latent party position should be considered an aggregate measure of the clarity of messages at the level of single issues. Importantly, given our aim of estimating a comprehensive measure of ambiguity, the uncertainty associated with the latent party position should capture both forms of ambiguity.

Consider how these propositions should be evident in the perceptual ambiguity of several typical cases. Single-issue and niche parties ordinarily do not voice preferences on all issues that constitute the political discourse in a given system. Hence, while voters will have a clear understanding of where niche parties stand on specific issues, their silence on issues that are not vital to their platform will impede voters' ability to perceive these parties on a latent scale. In a similar vein, new party system entrants might struggle to receive media coverage, leading to uncertainty among the public regarding their issue stances. Both of these observations are best described as flowing from non-position-taking, whether voluntarily or involuntarily. Consider by contrast

¹Because of the challenges inherent in survey measures, several studies have proposed text-based measures of ambiguity as an alternative research strategy (Page, 1978; Milota, Ryan and Simas, 2014; Hayes et al., 2008; Lo, Proksch and Slapin, 2016; Bräuninger and Giger, 2016). While avoiding the aforementioned challenges, text-based measures may or may not coincide with party messages perceived by voters. More to the point, text-based measures of party ambiguity cannot speak to public perceptions thereof.

the perception of an anti-system party that voices issue stances that are inconsistent in terms of an ordinary latent scale. Such a party should similarly be perceived as more ambiguous in terms of the latent scale, but the ambiguity is more heavily affected by positional inconsistency.

The proposed approach to perceptions of latent party positions follows standard conventions in the theoretical literature (Enelow and Hinich, 1981; Bartels, 1986). Latent positions are characterized by a belief distribution over the latent dimension, such that party platforms not only differ in expectation but also in variance. Two parties can hold the same position, but vary in their level of ambiguity. Parties' issue positions are directly linked to latent ambiguity. Unclear or conflicting stances on issues like immigration, taxation, or the environment result in increasing uncertainty regarding the latent party position, generating an additional source of noise when observers extrapolate party platforms.

II. STATISTICAL MODEL

The statistical model for ambiguity is derived from a particular link between latent policy platforms, along with associated ambiguity, and position perceptions on single issues.² In accordance with common latent space models in political science (Clinton, Jackman and Rivers, 2004; Martin and Quinn, 2002; Jesse, 2009; Poole, 1998), the position of party $k \in (1, \dots, K)$ on issue $j \in (1, \dots, J)$ by observer $i \in (1, \dots, N)$ is expressed as a function of the policy-platform x_k , a discrimination parameter of the policy-issue β_j and an issue-specific difficulty parameter α_j :

$$y_{ijk}^* = \alpha_j + \beta_j x_k + \epsilon_{ijk}. \tag{1}$$

We further assume that the party ambiguity, denoted as η_k , influences the magnitude of the stochastic error:³

² Rozenas (2013) describes a similar model to estimate ambiguity from a general liberal-conservative scale.

³It is possible to specify more general error variances by assuming that the error term depends further on the product of observer- and item-specific error variances (e.g., Hare et al., 2014): $\epsilon_{ijk} \sim N(0, \eta_k^2 \sigma_j^2 \sigma_i^2)$. However, as the interest of the present contribution is simply the magnitude of the party-specific ambiguity parameters, we employ a model variant where the other error variances are set to 1.

$$\epsilon_{ijk} \sim N(0, \eta_k^2) \quad (2)$$

As most survey items ask observers to place parties on ordered rating scales, we rely on a variant of a rating scale model, where the observed scales are ordinal (Andrich, 1982; Samejima, 1969).⁴ Respondents are expected to place party k in category $t \in (1, \dots, T)$ if the position y_{ijk}^* on issue j is above a certain threshold τ . The observed outcome y_{ijk} is given by:

$$y_{ijk} = \begin{cases} 1 & \text{if } y_{ijk}^* < \tau_1 \\ t & \text{if } \tau_t < y_{ijk}^* < \tau_{t+1} \\ T & \text{if } y_{ijk}^* > \tau_T, \end{cases} \quad (3)$$

where the thresholds are under the ordering constraints $\tau_1 < \dots < \tau_t < \dots < \tau_T$. The probability that a respondent places a party on an issue in a specific category can be derived analogously to the normal ogive version of the graded response model (Fox, 2010, p.14):

$$Pr [y_{ijk} = 1] = \Phi \left[\frac{\tau_1 - \beta_j x_k - \alpha_j}{\eta_k} \right] \quad (4)$$

$$Pr [y_{ijk} = t] = \Phi \left[\frac{\tau_t - \beta_j x_k - \alpha_j}{\eta_k} \right] - \Phi \left[\frac{\tau_{t-1} - \beta_j x_k - \alpha_j}{\eta_k} \right] \quad (5)$$

$$Pr [y_{ijk} = T] = 1 - \Phi \left[\frac{\tau_T - \beta_j x_k - \alpha_j}{\eta_k} \right], \quad (6)$$

where $\Phi()$ is the normal CDF. Note that the probability is determined by the party platform x_k and the ambiguity term η_k . Whereas higher values of the party platform increase the likelihood that an observer places a party in a higher category (assuming

⁴The rating scale model relies on issue scales with identical numbers of categories. It is straightforward to extend the model to incorporate different numbers of categories per issue (see e.g. Quinn, 2004).

positive β_{ij} values), higher values in the ambiguity parameter decrease the impact of the party platform on placements, leading to more variance in perceptions.

The model thus allows for a stochastic interpretation of the two sources of ambiguity. Ambiguity can increase disagreement between observers because of vague or non-position, but also render a party's position less consistent with the latent scale. First, a party with an unambiguous latent position should exhibit less variation in its perceived issue positions relative to a party with an ambiguous platform. Since ambiguity decreases the impact of the latent party position on the placement probability in a specific category, the likelihood that two observers place a party in a similar category decreases for parties with more ambiguous platforms. Second, the weaker relationship between a party's platform and issue positions due to increasing ambiguity also makes issues stances less constrained by this underlying dimension. Consequently, an ambiguous left party might hold unexpected right-wing positions on immigration, an inconsistency that can be captured by ambiguous positioning.⁵

In order to obtain parameter estimates for the model, we rely on a Bayesian estimation framework. It is well-understood that the one-dimensional rating scale model as presented above is not identified (Fox, 2010). First, the *location* of the metric needs to be fixed. We achieve this by transforming the difficulty parameters to have a mean of zero. At each iteration m we specify the last $\alpha_j^{(m)}$ to be equal to $-1 \sum_{j=1}^{J-1} \hat{\alpha}_j^{(m)}$. We further place informative standard normal priors on the thresholds $\tau_j \sim N(0, 1)$, the untransformed difficulty parameters $\hat{\alpha}_j \sim N(0, 1)$ and the platforms $x_k \sim N(0, 1)$. The standard normal priors help to identify the *scale* of the metric. To further identify the scale, we transform the discrimination parameters at each iteration m of the sampling scheme to have a product of one $\beta_j^{(m)} = \hat{\beta}_j^{(m)} (\prod_{j=1} \hat{\beta}_j^{(m)})^{-1/J}$. We do the same for the ambiguity term $\eta_k, \eta_k^{(m)} = \hat{\eta}_k^{(m)} (\prod_{k=1} \hat{\eta}_k^{(m)})^{-1/K}$. This product constraint is similar to the strategy employed by Lauderdale (2010) to identify heteroskedastic error variances in item response models. It implies that the ambiguity estimates can only be interpreted relative to other parties. Parties with values above 1 exhibit more ambiguity compared to parties with values below 1. If all parties were subject to similar levels of ambiguity,

⁵The second mechanism works similar to unpredictable voters in ideal point analyses (Lauderdale, 2010), where a higher error variance term makes ideal-point estimates less predictive for legislatures' roll call voting. Our model differs from the model of Lauderdale (2010), as our model considers multiple perceived positions on the single issues, such that the error term can further capture the first source of ambiguity: disagreement among observers.

the ambiguity term would be equal to 1 for all. The *direction* of the scale is defined by transforming all issues in a way that higher values indicate liberal positions and forcing all discrimination parameters to be positive using a log-normal prior $\hat{\beta}_j \sim LN(0, 1)$. For the untransformed ambiguity parameters $\hat{\eta}_k \sim LN(0, 1)$, we use the same prior distribution. We simulate the model using a No-U-Turn sampler (Hoffman and Gelman, 2014) as implemented in Stan (Carpenter et al., 2017).

III. SIMULATION STUDY

This section serves to test whether the proposed model recovers plausible ambiguity estimates that reflect both mechanisms leading to ambiguous party perceptions: ambiguity as non-positions and ambiguity as inconsistent positions. We simulate data for three stylized scenarios in order to assess how distinct data generation mechanisms manifest themselves in the ambiguity parameter estimates. We randomly draw a series of party placements for a party system of six parties (A-F) on ten issues with an eleven-point scale each, ranging from one to eleven. We simulate issue placements for thirty experts. For the unambiguous parties, we simulate the issue placements using a normal distribution centered around a party-specific mean and a standard deviation of 1.5.⁶ We run three variants for each scenario, where we replace one, two, and three parties with ambiguous parties based on distinct data generation mechanisms.⁷

In the first – inconsistent – scenario, the issue perceptions for the ambiguous parties do not line up with the latent space. Specifically, we simulate issue placements for half of the issues by all thirty observers using a normal distribution with the ordinary party means (see footnote 6); the other half is simulated with draws from a normal distribution with means mirrored at the midpoint of the scale.⁸ In the second – semi-vague – scenario, the issue perceptions for the ambiguous parties are drawn from a normal distribution with the ordinary means for half of the issues and the other half is simulated using a uniform distribution across the full range of the issue scales. This scenario might be particularly fitting for the position perceptions of niche parties

⁶We select parties with mean positions of 2, 3, 5, 7, 9, and 10 as a plausible scenario for a European multi-party system. The parties hold the same mean positions on all issues, which reflects an item response model in which the discrimination and difficulty parameters are the same for all items. The random draws are rounded to the nearest integer to mimic the actual empirical evidence.

⁷The parties to be replaced are party B, party E, and party D.

⁸Half of the issues for party B have a mean of 9, a mean of 3 for party E, and a mean of 5 for party D.

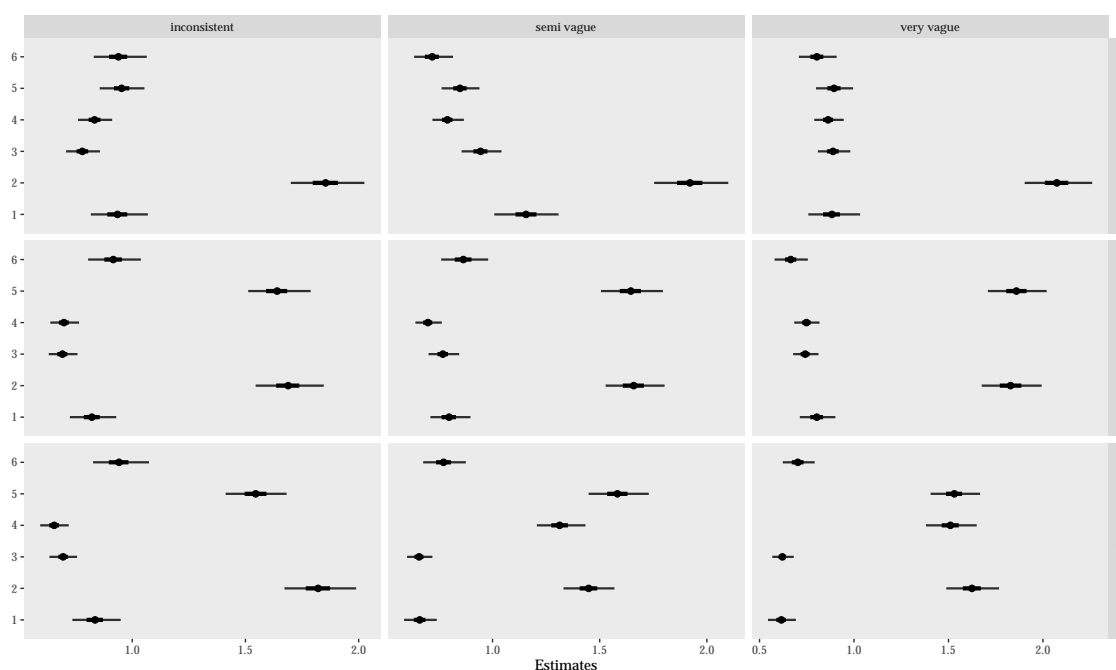


Figure 1: The Figure displays the ambiguity estimates for a simulation study with nine distinct scenarios. The column panels provide the estimates for the inconsistent scenario, the semi-vague scenario and the very vague scenario. The row panels vary the number of ambiguous parties in the party system.

(cf. Wagner, 2012; Meyer and Wagner, 2013; Meyer and Miller, 2015). By focusing their efforts on a subset of issues, niche parties create reasonably clear perceptions of their positions on certain issues, while leaving observers in the dark for others. In the third – very vague – scenario, the issue perceptions for the vague parties are uniformly distributed for all issues.

Figure 1 provides the ambiguity estimates for the three scenarios outlined above. The model consistently recovers the ambiguous competitors in the party system – party B in the scenario with one ambiguous party, parties B and E in the scenario with two ambiguous competitors and parties B, E, and D in the scenario with three ambiguous parties. Importantly, the model recovers the correct parties as ambiguous regardless of the specific underlying data generation mechanism, suggesting that the model picks up on both principal sources of party ambiguity. The only exception to this general rule is the inconsistent scenario with three ambiguous parties (bottom left panel). While the model correctly identifies parties B and E as ambiguous, it does not recover the ambiguity of party D. This observation can be explained by the set-up of the models for

the inconsistent scenario. We draw from a normal distribution with the ordinary party means for half of the issues and from a normal distribution with the mirrored value at the opposite end of the scale for the other half of the issues. Since the third ambiguous party in this scenario is centrist, mirroring the party position at the midpoint of the scale does nothing to increase the overall ambiguity of the party.

Note that we simulate the scenarios with comparatively few observations in order to stay as close as possible to the evidence underlying the empirical analysis to be presented below. The distribution of the simulated issue perceptions are therefore not smooth, such that the ambiguity parameters are not perfectly aligned within or across the scenarios. Consider as an example the ambiguity parameters for the non-ambiguous parties in the semi-vague scenario with one ambiguous party. Nevertheless, there is a clear difference between the nominally ambiguous and non-ambiguous parties in each case. In sum, the results should strengthen our confidence in the ability of the model to recover the different mechanisms that lead to ambiguous party perceptions.

IV. PARTY POSITIONS IN THE CHAPEL HILL EXPERT SURVEY

Our statistical model of ambiguity requires a set of respondents that express their perceptions of parties' issue positions on comparable scales. While a general population survey with questions on party perceptions on various policy scales might be preferable, we rely on data from the Chapel Hill expert surveys in order to ensure a sufficient number of issue placements. For the purposes of the present study, expert surveys have one major advantage. If even experts are unsure where to place a party on a given issue, it is reasonable to assume that the party's position on that particular issue is rather ambiguous.

The Chapel Hill expert survey, fielded in the years 2006, 2010 and 2014 contains a battery of issue placements (Bakker et al., 2015). The items cover topics such as spending versus taxation, redistribution, immigration, and the environment. There are eleven issues that are contained in all three waves.⁹ An additional advantage of the Chapel Hill surveys is the possibility of running cross-country comparisons. The data

⁹For the exact wording of the questions see Appendix B.

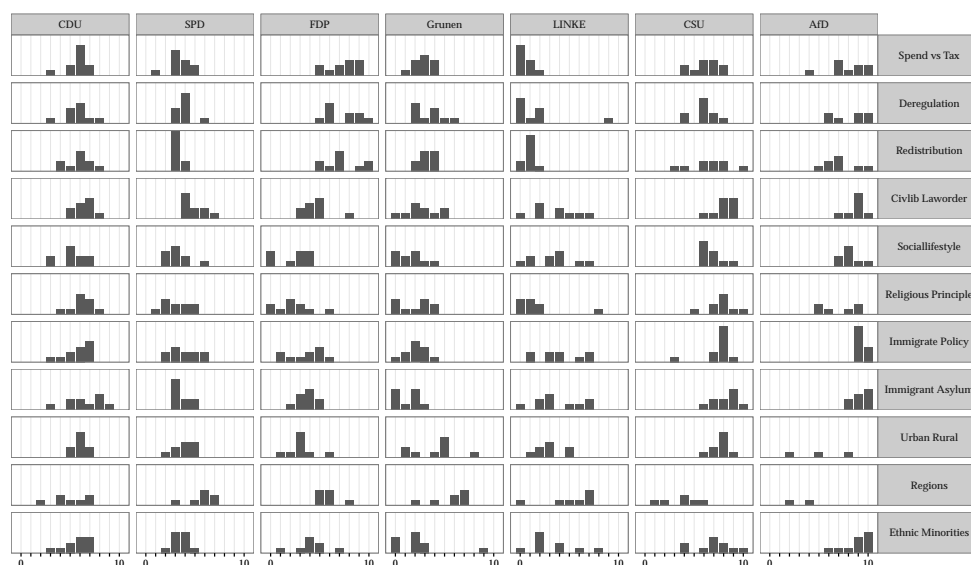


Figure 2: Party placements for Germany on eleven issues in the 2014 wave of the Chapel Hill expert survey. The bars show the frequency with which experts have selected the categories. See the appendix for the wordings of the dimensions.

includes placements for 204 parties in 24 countries over the three time points, resulting in 462 cases with multiple expert ratings each.¹⁰

We estimate the model separately for each country-year combination, allowing us to identify variation across years, but also to analyze the stability of the estimates.¹¹ In order to gain a detailed understanding of the link between the data and the model results, we illustrate the estimates for the German party system in greater detail.

PARTY PLATFORMS AND AMBIGUITY IN GERMANY

The Chapel Hill expert survey contains information on the six major German parties – the Christian Democratic Union (CDU), the Social Democrats (SPD), The Free Democratic Party (FDP), The Alliance '90/The Greens (GRÜNE), The Left (DIE LINKE) and the Christian Social Union in Bavaria (CSU). In addition, the expert survey asked respondents to place the emerging right-wing populist party Alternative for Germany (AFD) in the 2014 wave of the survey. The party system contains three catch-all parties

¹⁰We restrict our sample to parties that won at least 3% of the popular vote in the previous election.

¹¹We run four parallel chains with 3,000 iterations, discarding the first 1,500 as burn-in. We use random initial values, except for the discrimination and ambiguity parameters, which we initially set to one. The chains converge relative quickly. All R-hat values are below 1.1, with all effective number of parameter draws above 400.

Party Ambiguity

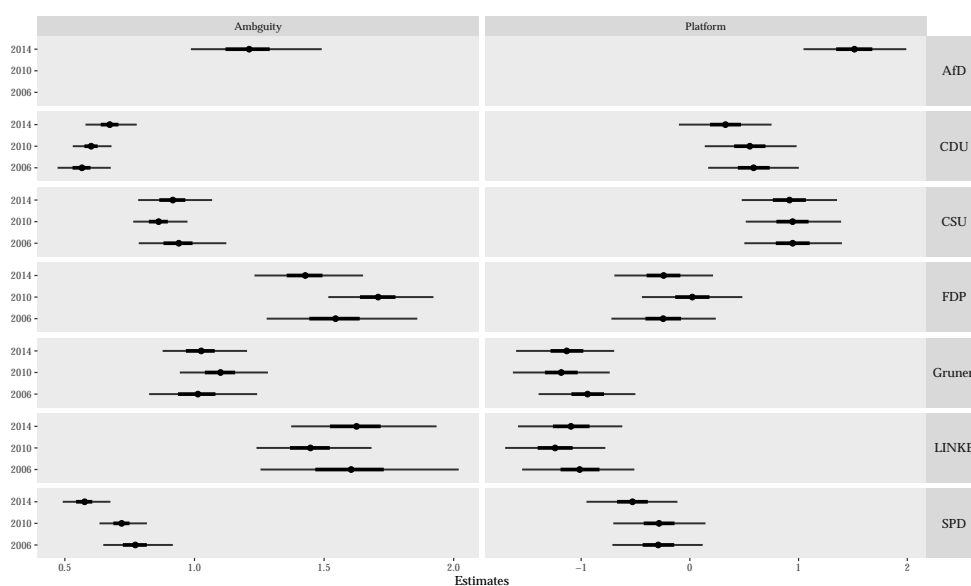


Figure 3: Party platform and ambiguity estimates for Germany 2006, 2010 and 2014. The thick intervals represent the 50% credible intervals, the thin lines indicate the 95% credible intervals. The dots show the mean posterior draw.

(CDU, CSU, and SPD) and four minor competitors – FDP, GRÜNE, DIE LINKE and AFD.

The experts' issue placements for the 2014 wave are depicted in Figure 2. The placements tend to cluster around a common mean on most issues for the catch-all parties, while the smaller parties show more variation on some of the issues. For example, the perceived position of DIE LINKE on immigration issues varies considerably, as does the placement on religious principles for the FDP, or the Green party on law and order. Yet, small party placements are reasonably precise on single issues. For instance, there is little disagreement among experts with regard to the placement of DIE LINKE on issues like redistribution and taxation or for immigration policies in case of the Greens. For the AFD, there are clear positions on immigration policies, but strong disagreement on religious principles and redistribution. The clearest pattern can be observed for the CDU, where the perceived positions scatter closely around a common mean. Similar distributions emerge for the SPD with little disagreement overall. Most issues reflect the latent ideological preference of the parties, such that for example DIE LINKE generally holds more economic interventionist positions than the FDP. Only the "Regional" and "Urban/rural" issues do not appear to discriminate well between the parties.

The non-systematic results are echoed when running the statistical model introduced above. The 95% credible intervals from the posterior distribution of the ambiguity parameters for the three time points are provided in the left panel of Figure 3. The Figure shows that the estimated ambiguity is larger for the small competitors GRÜNE, FDP, DIE LINKE and AfD than for the catch-all parties CDU, CSU, and SPD. For instance, the FDP exhibits more than twice the level of ambiguity relative to the SPD and the CDU. What is more, the estimates appear relatively stable over time.

The right panels of Figure 3 provide the associated estimates for the latent position parameters. The order of the parameter values is in line with *a priori* notions of the German party systems. Specifically, the model discriminates well between the right-wing competitors – CDU, CSU, and AfD – and their left-wing counterparts SPD, GRÜNE, and DIE LINKE. As is common when employing a one-dimensional latent scale, the position estimate for the economically liberal FDP is in the center of the resulting space.

PARTY AMBIGUITY IN 24 EUROPEAN PARTY SYSTEMS

The ambiguity estimates for all 24 countries in the 2014 wave of the expert survey are presented in Figure 4.¹² The Figure reveals a substantial amount of variation in most systems. Consider Belgium, where the nationalist Vlaams Belang exhibits the most ambiguous platform. Likewise, the Dutch right-wing and Eurosceptic Party for Freedom (PVV) stands out; similarly UKIP in Britain, the French Front National (FN), the Sweden Democrats (SD), the Danish People's Party (DF), and the Golden Dawn (XA) in Greece. But not only right-wing parties generate uncertainty regarding their issue stances – small left-wing and centrist parties frequently do so as well. For instance, the Lega Nord (LN) in Italy, the Communist Party of Bohemia and Moravia (KSCM) in the Czech Republic, the People's Party for Freedom and Democracy (VVD) and the Socialist Party (SP) in the Netherlands, or the newly founded NEOS in Austria all exhibit comparatively large parameter estimates. Overall, these unsystematic findings echo the observations in the previous section that smaller parties tend to be subject to higher degrees of ambiguity, as they generate more uncertainty regarding their

¹²The estimates for the 2006 and 2010 waves are presented in Figures 7 and 8 in Appendix C. Figures 9, 10, and 11 provide the associated platform parameters.

Party Ambiguity

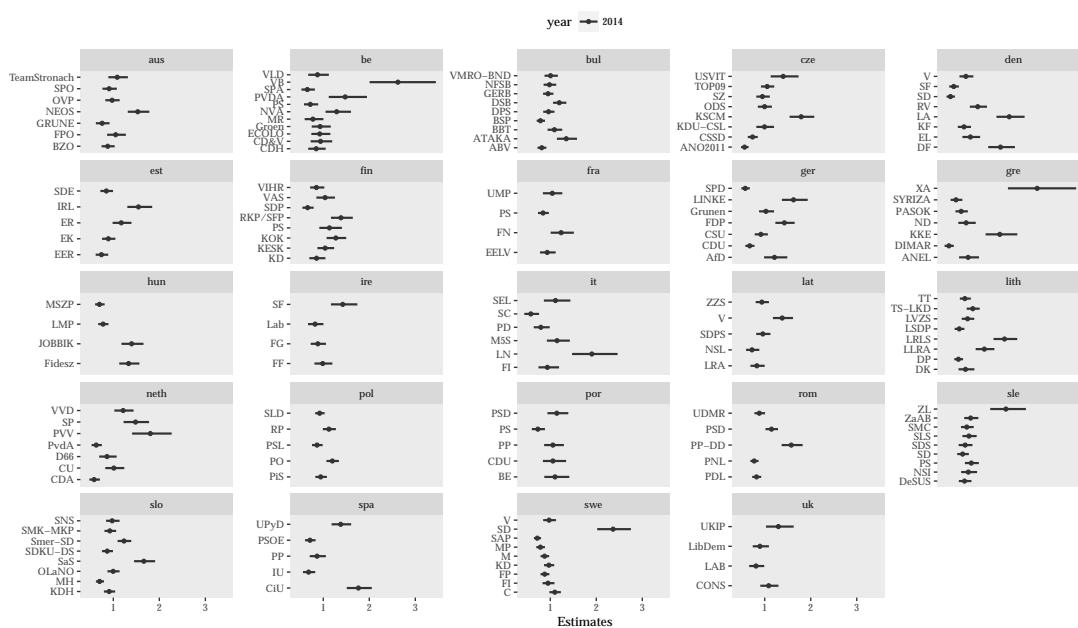


Figure 4: Party ambiguity in 24 European party systems estimated from the Chapel Hill expert survey, wave 2014. The figure displays the mean estimates and the 95% credible intervals.

positions on issues that are not at the core of their platform (cf. Meyer and Wagner, 2013).

COMPARISON WITH PREVIOUS MEASURES

After a brief discussion of the specific parties that are prone to ambiguous position perceptions, we now turn to a comparison of the model results with previous measures of perceived ambiguity. The disagreement of observers regarding the party placement on a general left-right scale – either in the form of the standard deviation or other disagreement measures (e.g., Van Der Eijk, 2001) – has most commonly been employed in studies on party ambiguity (e.g., Campbell, 1983*b,a*; Somer-Topcu, 2015). Figure 5 underscores that the revealed disagreement on such a latent dimension is fairly remote from a measure of ambiguity that is more closely tied to political perceptions. Both the standard deviation and the disagreement measure proposed by Van Der Eijk (2001) barely correlates with the model results.

This finding suggests that disagreement patterns on a single left-right dimension do not reflect uncertainty regarding party positions on individual issues. We have

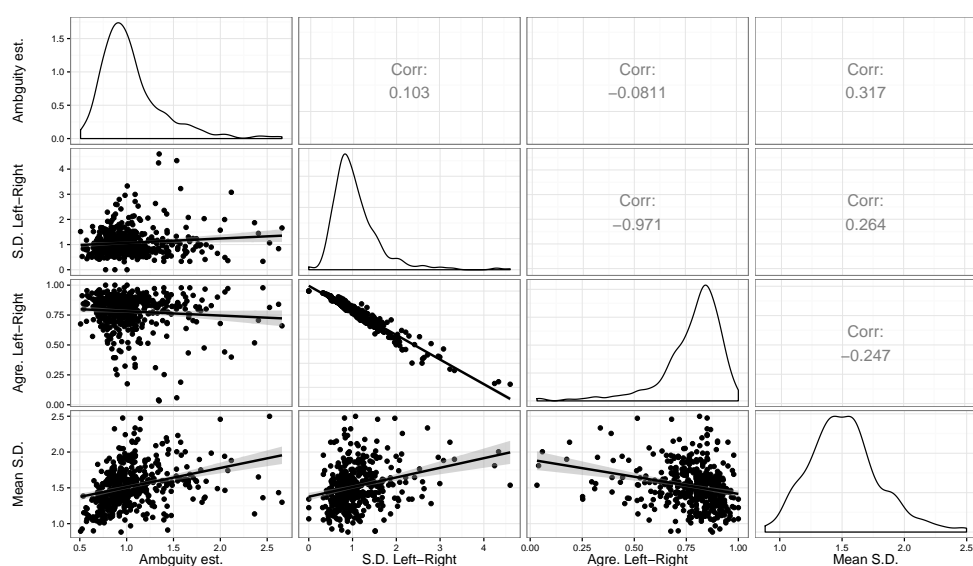


Figure 5: *Correlation of the comprehensive party ambiguity measure with previous measures. The first row/column contains the proposed measure; the second row/column the standard deviation on the general left-right dimension; the third row/column the agreement score proposed by Van Der Eijk (2001); the fourth row/column the mean standard deviation on the issue scales.*

suggested that this observation stems from the fact that it is not obvious how placements on a latent scale link with ambiguous preferences on specific issues. Indeed, when comparing our measure to the average standard deviation across the issue-specific scales, the relationship is somewhat stronger. Our model thus partially picks up the average standard deviation across issues. But this is not the only systematic that feeds into the measure. Recall that the comprehensive measure of ambiguity not only reflects the uncertainty of the issue-specific placements, but also the degree to which these positions are inconsistent in terms of the latent scale. Whereas the proposed model accounts for this component (cf. section III), averaging the standard deviations does not. In addition, due to the truncated scales, the standard deviations might systematically underestimate the variance for parties with extreme policy stances.

AMBIGUITY AND PARTY CHARACTERISTICS

Having tentatively suggested some associations between the ambiguity estimates and party characteristics in section IV.1, we now turn to a more systematic assessment of factors that might be related to ambiguous party perceptions. We will consider the

Table 1: *Predictors of party ambiguity*

(Intercept)	1.65*
	(0.13)
log(Vote share)	-0.03
	(0.02)
Government participation	-0.07*
	(0.03)
Left-right position	-0.27*
	(0.04)
Left-right position (squared)	0.03*
	(0.00)
Party family: Conservatives	0.01
	(0.08)
Party family: Christian-Democratic	0.08
	(0.08)
Party family: Socialist	-0.06
	(0.08)
Party family: Liberal	0.20*
	(0.08)
Party family: Green	-0.07
	(0.09)
Party family: Radical Right	0.29*
	(0.09)
Party family: Radical Left	-0.07
	(0.10)
Party family: Regionalist	0.31*
	(0.09)
Party family: Confessional	0.06
	(0.14)
Party family: Agrarian/Center	0.20*
	(0.10)
<i>N</i>	464
<i>R</i> ²	0.38
adj. <i>R</i> ²	0.36
Resid. sd	0.27

Standard errors in parentheses.

Reference category for Party family: No party family.

* indicates significance at $p < 0.05$

factors *party size*, *party family*, *left-right orientation*, and *government participation* as four potential determinants that are likely to guide public party perceptions. Larger parties, as well as parties with a governing mandate are awarded more media attention, such that its policy preferences should be more widely and more clearly known among

observers (Hopmann, Vreese and Albæk, 2011; Hopmann et al., 2012; Tresch, 2009). Party family and left-right orientation are included as fringe and niche competitors are likely to be perceived clearly on some issue dimensions, while creating substantial uncertainty among observers regarding their preferences on issues that are not at the core of their program. As an indicator of parties' left-right orientation, we employ the mean left-right placement in the Chapel Hill expert survey. As a proxy for party size, we include parties' logged vote share.

Table 1 provides the results from a regression analysis with the ambiguity parameters as the dependent variable.¹³ Although the parameter for party size points in the expected direction – larger party tend to generate less ambiguity among observers –, the effect is not statistically different from zero. Likewise, governing parties are plausibly estimated to be less ambiguous than their opposition counterparts. Echoing the unsystematic observations from section IV.2, we find that parties in the radical right family are among the parties with the most ambiguous policy stances. Similarly, regionalist and agrarian parties tend to be at the top end of the scale, which is in line with their niche status, such that observers might not be aware of their preferences on policies that are not at the core of their brand.¹⁴ Finally, and in line with expectations, we find a reasonably strong association between parties' left-right stances and their perceived positional ambiguity. Figure 6 provides the predicted values for a governing party in the Conservative party family with a mean vote share across a range of values in the left-right scale. We find that centrist parties are considerably less ambiguous than extreme parties – above and beyond a control for party family.

V. CONCLUSION

Informed vote choices presuppose an awareness of voters with the preference profiles of parties. Recent research has questioned whether this condition is met in the real world. Party positions are frequently subject to substantial degrees of ambiguity, creating electoral uncertainty. Given the importance of clear policy stances for the

¹³The model does not contain country-fixed effects. The substantive interpretation remains unchanged in a model variant that incorporates country-fixed effects.

¹⁴A somewhat surprising deviation from the generally plausible patterns are the parameter estimates for Liberal parties, that tend to generate more ambiguity among observers than expected. It is difficult to speculate about this empirical regularity without a more thorough analysis of Liberal party profiles in contemporary European party systems.

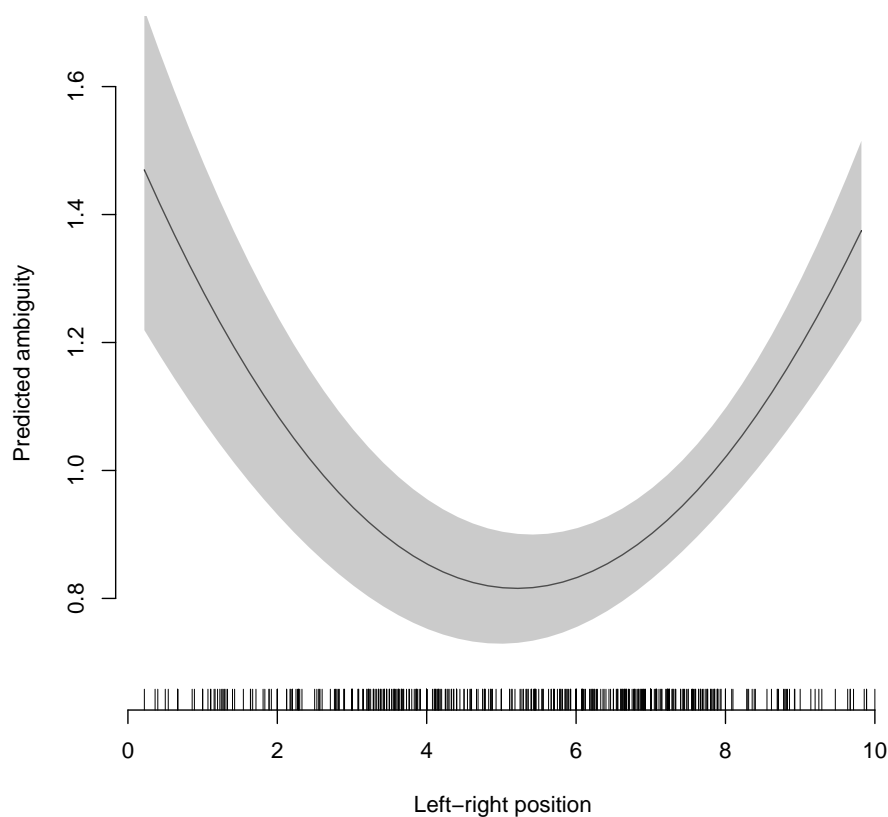


Figure 6: *The Figure provides the predicted levels of ambiguity for a governing party in the Conservative party family with a mean vote share across a range of values in the left-right scale. The gray area provides the 95% confidence interval. The ticks on the x-axis represent the empirical values in the left-right scale.*

performance of electoral institutions, a number of contributions have investigated the conditions and consequences of ambiguous policy profiles. We have argued in this study that previous measures of party ambiguity do not do justice to the complexities of political perceptions. As party perceptions on latent ideological scales are an aggregate indicator of issue-specific messages, a general measure of ambiguity should reflect the relationship between issue perceptions and latent party positions. To this end, we have introduced a novel model of party ambiguity that applies an Item Response framework, while extending the common set-up with party-specific ambiguity parameters. This allows estimating the comprehensive party ambiguity based on specific issue perceptions. Importantly, such a model incorporates both

principal mechanisms that lead to ambiguous party perceptions – non-positions and inconsistent positions.

In an application of the model to data for 24 European party systems from the Chapel Hill expert survey, we have provided evidence that, *inter alia*, governing status is negatively related to perceptions of ambiguity. This might suggest that perceptions of ambiguity are determined by the limited ability of parties to voice policy positions. As mass media only provide limited space for political content, party actors are constrained in their ability to communicate preferences. When parties can only send a limited number of position signals, this increases variation in the perceived ambiguity of their party position. The empirical result stands in contrast to the dominant theme in the literature which has treated ambiguous party positions as a conscious and strategic party effort to increase their electoral support.

To be sure, while the empirical observations in the present paper have provided evidence that involuntary ambiguity might be an underexplored part of the story, this does not preclude the possibility that additional effects of voluntary ambiguity might be observable. Future research should make use of the fact that our ambiguity model permits a flexible parametrization of the ambiguity term that allows for different covariates to be explored. For example, several studies have suggested that voter preferences determine the level of ambiguity in party positions (Campbell, 1983a; Jones, 2003; Glazer, 1990; Campbell, 1983b; Milita, Ryan and Simas, 2014). Future studies can easily incorporate voter preferences into the model, thus exploring more strategic determinants of ambiguity.

Beside substantive applications, there are several methodological issues that might be explored in future iterations of the model. First, it might be worthwhile to model missing expert placements, such that ambiguity does not only affect the variance of expert placements, but also the missingness. If an issue position is unclear, an expert could decide not to report a position at all. This could be added to the model by making missing entries a function of the ambiguity term. If the variance is above a certain threshold, experts are likely to report no party position. Two further topics that might be of some interest are party-specific issue saliences and two-dimensional policy spaces. Finally, future iterations of the model should aim to explicitly model the systematic

between-country variation to account for different baseline levels of party ambiguity that might even express themselves in the perceptions of the country experts.¹⁵

¹⁵A more systematic introduction to potential extensions of the model is provided in Appendix A.

REFERENCES

- Adams, James. 2001. *Party Competition and Responsible Party Government: A Theory of Spatial Competition Based Upon Insights from Behavioral Research*. Ann Arbor: University of Michigan Press.
- Aldrich, John H and Richard D McKelvey. 1977. "A Method of Scaling with Applications to the 1968 and 1972 Presidential Elections." *The American Political Science Review* 71(1):111–30.
- Alesina, Alberto. 1988. "Credibility and Policy Convergence in a Two-Party System with Rational Voters." *American Economic Review* 78(4):796–805.
- Alesina, Alberto F. and Richard T. Holden. 2008. "Ambiguity and Extremism in Elections." Working Paper 14143. Cambridge: National Bureau of Economic Research.
- Alvarez, R. Michael and Charles H. Franklin. 1994. "Uncertainty and Political Perceptions." *Journal of Politics* 56(3):671–88.
- Andrich, David. 1982. "An Extension of the Rasch Model for Ratings Providing Both Location and Dispersion Parameters." *Psychometrika* 47(1):105–13.
- Aragonès, Enriqueta and Andrew Postlewaite. 2002. "Ambiguity in Election Games." *Review of Economic Design* 7(3):233–55.
- Aragonès, Enriqueta and Zvika Neeman. 2000. "Strategic Ambiguity in Electoral Competition." *Journal of Theoretical Politics* 12(2):183–204.
- Bakker, Ryan, Catherine de Vries, Liesbet Hooghe, Seth Jolly, Gary Marks, Jonathan Polk, Jan Rovny, Marco Steenbergen and Milada Anna Vachudova. 2015. "Measuring Party Positions in Europe: The Chapel Hill Expert Survey Trend File, 1999-2010." *Party Politics* 21(1):143–52.
- Bartels, Larry M. 1986. "Issue Voting Under Uncertainty: An Empirical Test." *American Journal of Political Science* 30(4):709–28.
- Berinsky, Adam J. and Jeffrey B. Lewis. 2007. "An Estimate of Risk Aversion in the U.S. Electorate." *Quarterly Journal of Political Science* 2(2):139–54.

- Bernauer, Julian and Thomas Bräuninger. 2009. "Intra-Party Preference Heterogeneity and Faction Membership in the 15th German Bundestag: A Computational Text Analysis of Parliamentary Speeches." *German Politics* 18(3):385–402.
- Bräuninger, Thomas and Nathalie Giger. 2016. "Strategic Ambiguity of Party Positions in Multi-Party Competition." *Political Science Research and Methods* 5(3):1–22.
- Campbell, James E. 1983a. "Ambiguity in the Issue Positions of Presidential Candidates: A Causal Analysis." *American Journal of Political Science* 27(2):284–93.
- Campbell, James E. 1983b. "The Electoral Consequences of Issue Ambiguity: An Examination of the Presidential Candidates' Issue Positions from 1968 to 1980." *Political Behavior* 5(3):277–91.
- Carpenter, Bob, Andrew Gelman, Matt Hoffman, Daniel Lee, Ben Goodrich, Michael Betancourt, Michael A Brubaker, Jiqiang Guo, Peter Li and Allen Riddell. 2017. "Stan: A Probabilistic Programming Language." *Journal of Statistical Software* 76(1):1–32.
- Castles, Francis G. and Rudolf Wildenmann. 1986. *Visions and Realities of Party Government*. Berlin: de Gruyter.
- Chu, C. Y. Cyrus and Emerson M. S. Niou. 2005. "The Strategy of Ambiguity in Electoral Competition." *Academia Economic Papers* 33(3):279–302.
- Clinton, Joshua, Simon Jackman and Douglas Rivers. 2004. "The Statistical Analysis of Roll Call Data." *American Political Science* 98(2):1–16.
- Dellas, Harris and Vally Koubi. 1994. "Smoke Screen: A Theoretical Framework." *Public Choice* 78(3/4):351–58.
- Downs, Anthony. 1957. *An Economic Theory of Democracy*. Cambridge: Cambridge University Press.
- Enelow, James and Melvin J. Hinich. 1981. "A New Approach to Voter Uncertainty in the Downsian Spatial Model." *American Journal of Political Science* 25(3):483–93.
- Fox, J. 2010. *Bayesian Item Response Modeling: Theory and Applications*. New York: Springer Science & Business Media.

- Franklin, Charles H. 1991. "Eschewing Obfuscation? Campaigns and the Perception of US Senate Incumbents." *American Political Science Review* 85(4):1193–214.
- Gabel, Matthew and Kenneth Scheve. 2007. "Mixed Messages: Party Dissent and Mass Opinion on European Integration." *European Union Politics* 8(1):37–59.
- Glazer, Amihai. 1990. "The Strategy of Candidate Ambiguity." *American Political Science Review* 84(1):237–41.
- Grofman, Bernard. 2004. "Downs and Two-Party Convergence." *Annual Review of Political Science* 7:25–46.
- Hare, Christopher, David A Armstrong, Ryan Bakker, Royce Carroll and Keith T Poole. 2014. "Using Bayesian Aldrich-McKelvey Scaling to Study Citizens' Ideological Preferences and Perceptions." *American Journal of Political Science* 59(3):759–75.
- Hayes, Tom, Chad Murphy, Martin Johnson and Shaun Bowler. 2008. "Strategies of Ambiguity: Modeling Rhetoric in Primary Election Campaigns." Paper presented at the Annual Meeting of the Southwestern Political Science Association. Las Vegas, March 12–15.
- Hoffman, Matthew D and Andrew Gelman. 2014. "The No-U-turn Sampler: Adaptively Setting Path Lengths in Hamiltonian Monte Carlo." *Journal of Machine Learning Research* 15(1):1593–623.
- Hopmann, David N., Christian Elmelund-Præstekær, Rens Vliegthart, Claes H. de Vreese and Erik Albæk. 2012. "Party Media Agenda-Setting: How Parties Influence Election News Coverage." *Party Politics* 18(2):173–91.
- Hopmann, David Nicolas, Claes H. de Vreese and Erik Albæk. 2011. "Incumbency Bonus in Election News Coverage Explained: The Logics of Political Power and the Media Market." *Journal of Communication* 61(2):264–82.
- Jensen, Thomas. 2009. "Projection Effects and Strategic Ambiguity in Electoral Competition." *Public Choice* 141(1):213–32.
- Jessee, Stephen A. 2009. "Spatial Voting in the 2004 Presidential Election." *American Political Science Review* 103(1):59–81.

- Jones, David R. 2003. "Position Taking and Position Avoidance in the U.S. Senate." *Journal of Politics* 65(3):851–63.
- Jones, David R. and Monika L. McDermott. 2004. "The Responsible Party Government Model in House and Senate Elections." *American Journal of Political Science* 48(1):1–12.
- Kam, Christopher J. 2009. *Party Discipline and Parliamentary Government*. Cambridge: Cambridge University Press.
- Laslier, Jean-François. 2006. "Ambiguity in Electoral Competition." *Economics of Governance* 7(2):195–210.
- Lauderdale, Benjamin E. 2010. "Unpredictable Voters in Ideal Point Estimation." *Political Analysis* 18(2):151–71.
- Lo, James, Sven-Oliver Proksch and Jonathan B. Slapin. 2016. "Ideological Clarity in Multiparty Competition: A New Measure and Test Using Election Manifestos." *British Journal of Political Science* 46(3):591–610.
- Martin, Andrew D and Kevin M Quinn. 2002. "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953-1999." *Political Analysis* 10(2):134–53.
- McDermott, Monika L. 1998. "Race and Gender Cues in Low-Information Elections." *Political Research Quarterly* 51(4):895–918.
- McKelvey, Richard D. 1980. "Ambiguity in Spatial Models of Policy Formation." *Public Choice* 35(4):385–402.
- Meyer, Thomas M. and Bernhard Miller. 2015. "The Niche Party Concept and Its Measurement." *Party Politics* 21(2):259–71.
- Meyer, Thomas M. and Markus Wagner. 2013. "Mainstream or Niche? Vote-Seeking Incentives and the Programmatic Strategies of Political Parties." *Comparative Political Studies* 46(10):1246–72.
- Milita, Kerri, John Barry Ryan and Elizabeth N. Simas. 2014. "Nothing to Hide, Nowhere to Run, or Nothing to Lose: Candidate Position-Taking in Congressional Elections." *Political Behavior* 36(2):427–49.

- Page, Benjamin I. 1976. "The Theory of Political Ambiguity." *American Political Science Review* 70(3):742–52.
- Page, Benjamin I. 1978. *Choices and Echoes in Presidential Elections: Rational Man and Electoral Democracy*. Chicago: University of Chicago Press.
- Petrocik, John R. 1996. "Issue Ownership in Presidential Elections, with a 1980 Case Study." *American Journal of Political Science* 40(3):825–50.
- Poole, Keith T. 1998. "Recovering a Basic Space from a Set of Issue Scales." *American Journal of Political Science* 42(3):954–93.
- Quinn, Kevin M. 2004. "Bayesian Factor Analysis for Mixed Ordinal and Continuous Responses." *Political Analysis* 12(4):338–53.
- Ranney, Austin. 1954. *The Doctrine of Responsible Party Government: Its Origins and Present State*. Urbana: University of Illinois Press.
- Rovny, Jan. 2012. "Who Emphasizes and Who Blurs? Party Strategies in Multidimensional Competition." *European Union Politics* 13(2):269–92.
- Rozenas, Arturas. 2013. Inferring Ideological Ambiguity from Survey Data. In *Advances in Political Economy: Institutions, Modelling and Empirical Analysis*, ed. Norman Schofield, Gonzalo Caballero and Daniel Kselman. Berlin: Springer pp. 369–82.
- Samejima, Fumiko. 1969. "Estimation of Latent Ability Using a Response Pattern of Graded Scores." *Psychometrika Monographs*, 34.
- Schofield, Norman. 2007. "The Mean Voter Theorem: Necessary and Sufficient Conditions for Convergent Equilibrium." *Review of Economic Studies* 74(3):965–80.
- Shepsle, Kenneth A. 1972. "The Strategy of Ambiguity: Uncertainty and Electoral Competition." *American Political Science Review* 66(2):555–68.
- Sigelman, Lee and H. Buell Jr. Emmett. 2004. "Avoidance or Engagement? Issue Convergence in U.S. Presidential Campaigns, 1960-2000." *American Journal of Political Science* 48(4):650–61.

- Somer-Topcu, Zeynep. 2015. "Everything to Everyone: The Electoral Consequences of the Broad-Appeal Strategy in Europe." *American Journal of Political Science* 59(4):841–54.
- Stokes, Donald E. 1963. "Spatial Models of Party Competition." *American Political Science Review* 57(2):368–77.
- Tresch, Anke. 2009. "Politicians in the Media: Determinants of Legislators' Presence and Prominence in Swiss Newspapers." *International Journal of Press/Politics* 14(1):67–90.
- Van Der Eijk, Cees. 2001. "Measuring Agreement in Ordered Rating Scales." *Quality and Quantity* 35(3):325–41.
- Vavreck, Lynn. 2001. "The Reasoning Voter Meets the Strategic Candidate Signals and Specificity in Campaign Advertising." *American Politics Research* 29(5):507–29.
- Wagner, Markus. 2012. "Defining and Measuring Niche Parties." *Party Politics* 18(6):845–64.

A. EXTENSIONS OF THE STATISTICAL MODEL

MISSING VALUES

It is possible to extend the model to explicitly incorporate missing issue placements as a source of ambiguity (Rozenas, 2013). Define missing placements on issue j for party k by observer i as $m_{ijk} = 1$ and non-missing values as $m_{ijk} = 0$. A simple model for default values as a function of the ambiguity term η_k can be written as:

$$m_{ijk} = \Phi [a_j + b_j \eta_k]. \quad (7)$$

where a_j and b_j are item-specific parameters that capture the relationship between ambiguity and the probability that an observer does not place a party on a particular item. Using appropriate prior distributions, this model can be jointly estimated with the placement model.

OBSERVER-SPECIFIC DEVIATIONS FROM THE ITEM PARAMETERS

Observers might employ different models of the latent space, potentially causing disagreement in parties' issue placements. This would increase the standard deviations, potentially affecting the ambiguity estimates. An Aldrich-McKelvey scaling (Aldrich and McKelvey, 1977) can be integrated into the model to partially address this issue. In this model variant, the difficulty and discrimination parameters are observer-specific:

$$y_{ijk}^* = \alpha_{ij} + \beta_{ij} x_k + \epsilon_{ijk}. \quad (8)$$

One way to model the individual deviations is to use an additive and a multiplicative process for the item parameters. For example, the difficulty parameters can be defined as the sum of the item- and observer-specific deviations $\alpha_{ij} = \alpha_i + \alpha_j$ and the discrimination parameters as their product $\beta_{ij} = \beta_i * \beta_j$. This allows for an observer-specific understanding of the latent space metric. Observers might employ a different center, or place all parties either to the right or to the left on all issues. In addition, perceptions of the latent scale might differ between observers. Platform variability might cause more

placement variability for some observers than for others. Using the same transformations for the observer parameters as used for the item parameters – product for the discrimination and sum constraint for the difficulty parameters –, helps to identify the model.

MULTIPLE LATENT DIMENSIONS

The statistical model can be extended to include d latent dimensions. For this extension, both \mathbf{x}_k and the item-specific discrimination parameter β_j are defined as vectors in \mathbb{R}^d that enter the latent issue position as follows:

$$y_{ijk}^* = \alpha_j + \mathbf{x}_k' \beta_j + \epsilon_{ijk}. \quad (9)$$

The observable mechanism remains unchanged. The extensions described above can be combined with this one.

B. QUESTIONS CHAPEL HILL

Issue	Question wording (position on...)	Lowest category (strongly...)	Highest category (strongly...)
Spend vs Tax	improving public services vs. reducing taxes	favors improving public services	favors reducing taxes
Deregulation	deregulation	opposes deregulation of markets	supports deregulation of markets
Redistribution	redistribution of wealth from the rich to the poor	favors redistribution	opposes redistribution
Civlib Laworder	civil liberties vs. law and order	promotes civil liberties	supports tough measures to fight crime
Sociallifestyle	social lifestyle (e.g. homosexuality)	supports liberal policies	opposes liberal policies
Religious Principle	role of religious principles in politics	opposes religious principles in politics	supports religious principles in politics
Immigrate Policy	immigration policy	opposes tough policy	favors tough policy
Multiculturalism	integration of immigrants and asylum seekers	favors multiculturalism	favors assimilation
Urban Rural	urban vs. rural interests	supports urban interests	supports rural interests
Regions	political decentralization to regions/localities	favors political decentralization	opposes political decentralization
Ethnic Minorities	ethnic minorities	supports more rights for ethnic minorities	opposes more rights for ethnic minorities

Table 2: *Question wordings for the policy scales in the Chapel Hill expert survey (waves 2006, 2010, and 2014).*

C. APPENDIX APPLICATION

AMBIGUITY ESTIMATES 2006 AND 2010

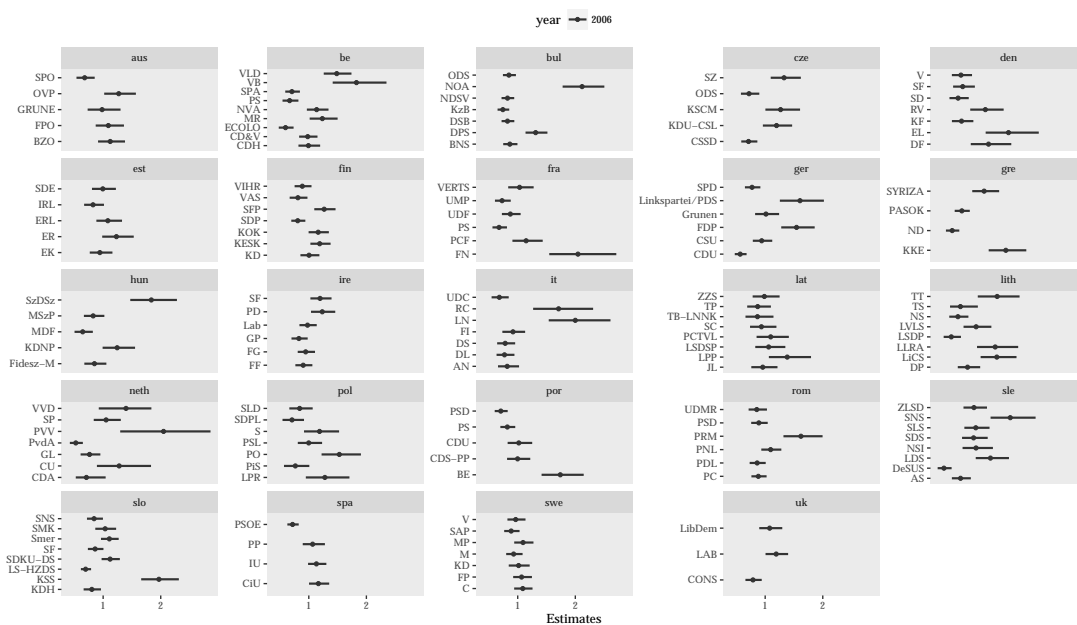


Figure 7: Party ambiguity in 24 European party systems estimated from the Chapel Hill expert survey, wave 2006. The figure displays the mean estimates and the 50% credible intervals.

Party Ambiguity

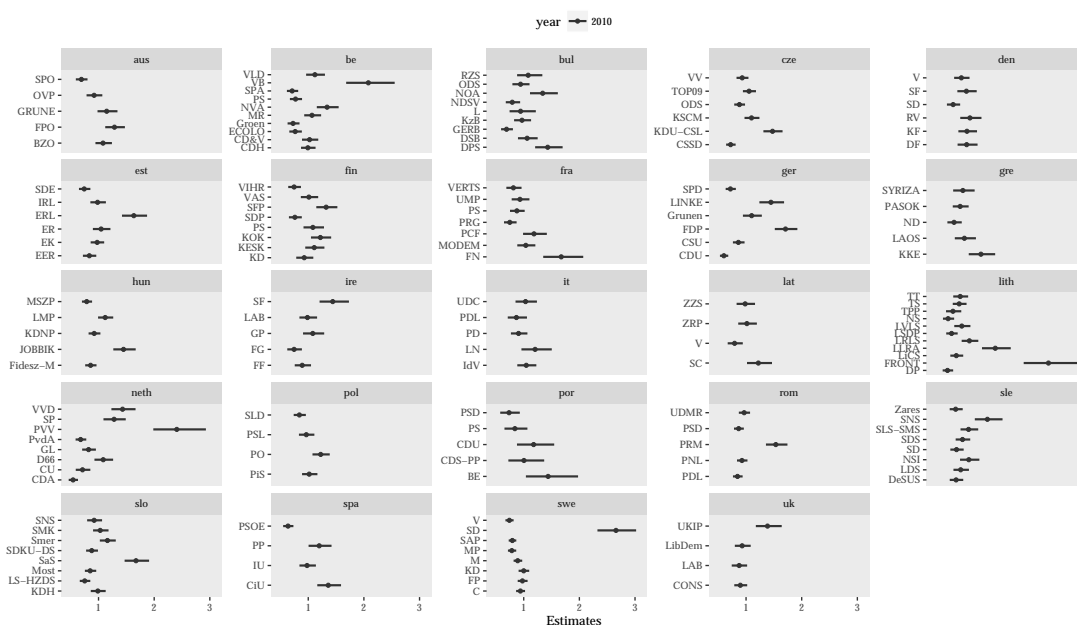


Figure 8: Party ambiguity in 24 European party systems estimated from the Chapel Hill expert survey, wave 2010. The figure displays the mean estimates and the 50% credible intervals.

PLATFORM ESTIMATES

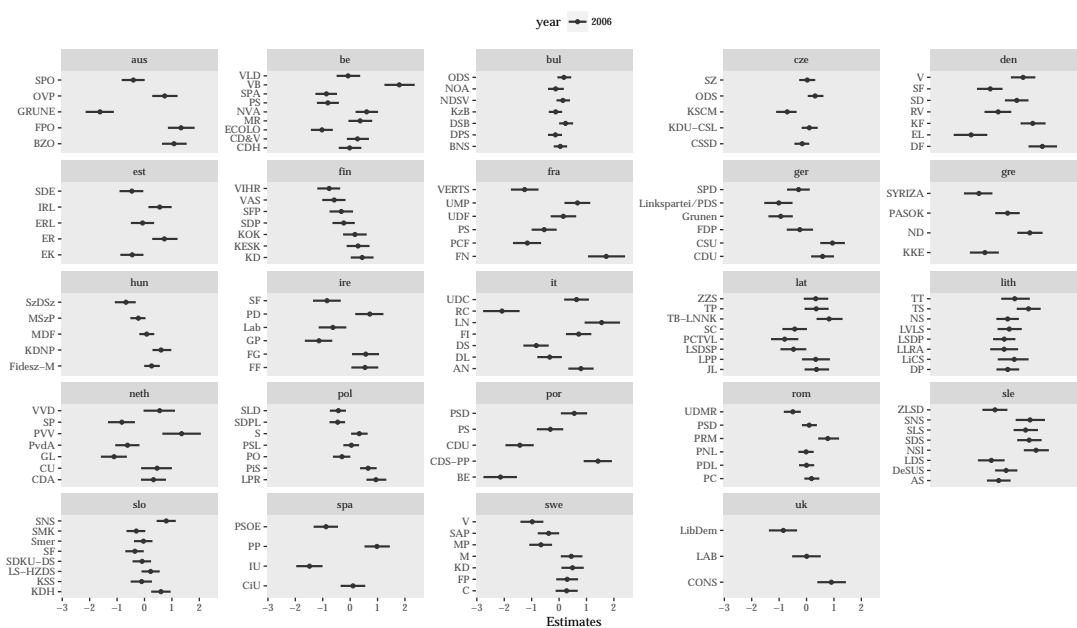


Figure 9: Party platforms in 24 European party systems estimated from the Chapel Hill expert survey, wave 2006. The figure displays the mean estimates and the 50% credible intervals.

Party Ambiguity

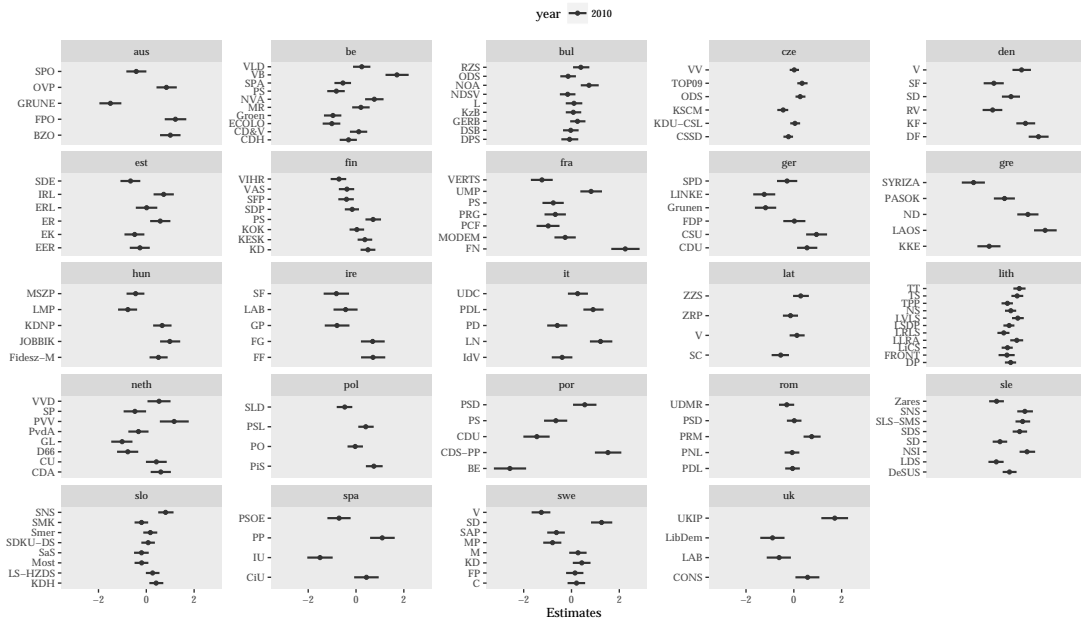


Figure 10: Party platforms in 24 European party systems estimated from the Chapel Hill expert survey, wave 2010. The figure displays the mean estimates and the 50% credible intervals.

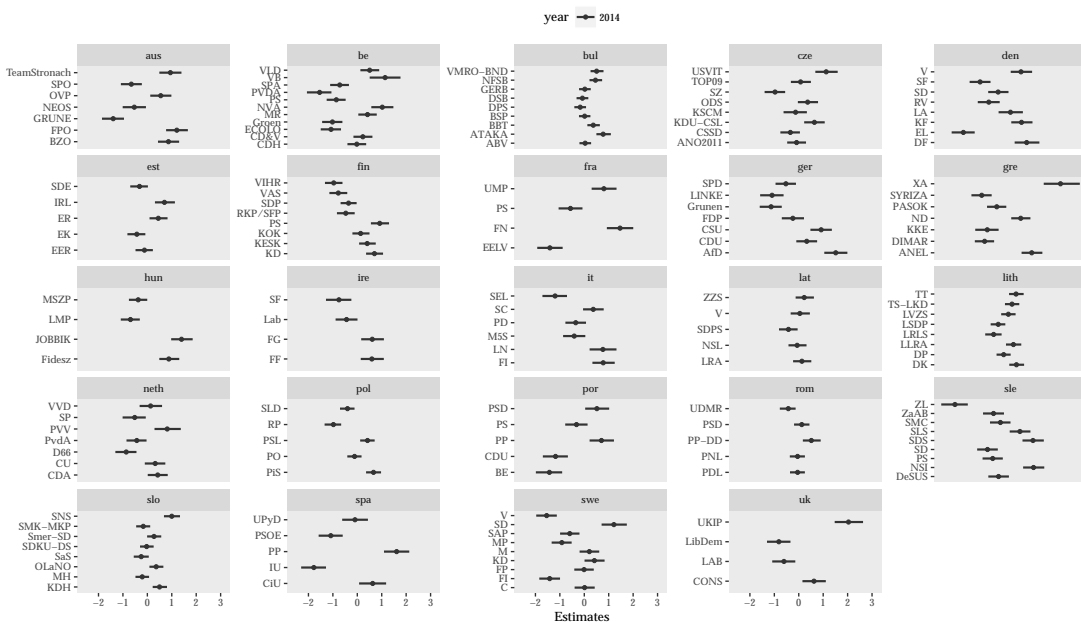


Figure 11: Party platforms in 24 European party systems estimated from the Chapel Hill expert survey, wave 2014. The figure displays the mean estimates and the 50% credible intervals.