

## **Electoral competition and issue voting: The effects of polarization and party characteristics on the voting decision process**

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### **Abstract**

This paper suggests that spatial voting (i.e., the impact of voter-party distances on party utilities) varies in strength between contexts and parties. It should be stronger in more polarized party systems, as well as for larger or more extreme parties. This study relies on a new voting choice model, which allows the impact of voter-party issue distances to vary between both parties and districts. These hypotheses are tested based on data from the 2011 Swiss national elections. The results confirm that spatial voting is stronger in polarized party systems. They further show that spatial factors play a larger role in the evaluation of extreme parties than of center parties, and that party extremity moderates the strength of the polarization effect.

**Keywords:** spatial model; issue polarization; party extremity; party size

## **1. Introduction**

In recent years, scholars have paid increasing attention to the influence of context-level factors on the voting decision process. Several studies have revealed that the factors that explain party evaluations and voting choice may vary across electoral contexts (Clark and Leiter 2014; Kroh 2009; Lachat 2008; Pardos-Prado 2012; Singh 2010). The relative importance of different voting choice determinants, such as issue preferences, leader evaluations, or party identification, may vary across countries and elections. For instance, some institutional characteristics may incite voters to attach more importance to substantive factors, such as parties' issue positions. Understanding this variation in the determinants of voting choice is important, as it has substantial implications for electoral competition and for the representation process. It means for instance that the degree to which the mandate conferred to winning parties is based on policy preferences or other substantive factors varies between electoral contexts.

This paper focuses on variation in the strength of issue voting. In line with spatial models of voting choice (Downs 1957; Merrill and Grofman 1999), I expect the relative positions of citizens and parties on various political issues to be important explanatory factors in the voting decision process. In the literature on contextual effects, the strength of issue voting has been related to various institutional and contextual factors, such as the degree of proportionality of the electoral system, the fragmentation and polarization of the party system, or the dimensionality of the political space. Several arguments have been suggested to explain the impact of such context level factors on the voting decision process. A central idea is that ideological or issue voting is easier in some contexts than in others (Kroh 2009; Singh 2010). Voting on the basis of issues requires a certain level of information about the positions of parties. This information is usually easier to get when electoral competition is more intense. For instance, a higher level of party system polarization should incite parties to emphasize more strongly their issue positions (Alvarez and Nagler 2004; Lachat 2008). In other words,

the costs required by issue voting are lower under some circumstances. Contextual level factors may also increase voters' motivation to invest more cognitive resources in their voting decision, that is, they may increase citizens' willingness to bear the costs of spatial voting. This can again be illustrated with the example of party system polarization: When parties diverge strongly from one another, citizens may perceive the stakes of the elections to be higher and deem their own voting decision to be more important.

Following on this recent scholarship, the present study considers how party system polarization reinforces the impact of issue preferences on voting choice. In addition, this analysis suggests that the strength of spatial voting also depends on party-level characteristics. The relation between voters' issue preferences and party utilities should be stronger for large parties than for small ones, and for extreme parties than for moderate ones. Furthermore, this paper suggests that the impact of polarization does not affect all parties to the same extent, but that it is conditional on party extremity. Central to this argument is a conception of the voting decision process that departs from a standard assumption of the spatial voting literature. The voting decision process is usually conceived as a direct comparison of parties based on a fixed set of issue criteria. In spatial models of voting choice, a citizen evaluates all parties based on the same set of issues (Enelow and Hinich 1984). This paper suggests instead that the importance of specific issues may vary when evaluating different parties. In other words, this paper suggests relaxing the assumption that the importance of issues in the formation of party utilities is the same for all parties. This modified approach of the voting decision process makes possible that party characteristics, such as size or extremity, moderate the impact of issue distances on party utilities.

These hypotheses about the role of contextual factors and party characteristics are tested with data from the 2011 Swiss federal elections. The main advantage of the Swiss case is the variation across electoral districts in the configuration of parties in competition, in an otherwise similar electoral context. This allows one to investigate the effect of party system

polarization and of party characteristics while avoiding many of the difficulties linked with cross-national comparative electoral research.

The next section offers an overview over the literature on contextual effects, and discusses how these effects may be conditional on party characteristics. Section 3 presents a new specification of the proximity model of party utilities, which allows for cross-party variation in the impact of issues. Section 4 introduces the data used and the operationalization of the variables. It is followed by the presentation of the models' results. The last section discusses the implication of the main findings.

## **2. Contextual determinants of spatial voting**

Several characteristics of the electoral context may reinforce citizens' incentives to vote on the basis of issues and ideology and may decrease the informational costs associated with it. A number of studies have made the hypothesis that voter-party distances, on specific issues or on a general left-right ideological dimension, have a stronger impact on party utilities in more polarized party systems (Alvarez and Nagler 2004; Ensley 2007; Kroh 2009; Lachat 2008, 2011; Singh 2010). A higher level of polarization means that citizens have clearer alternatives to choose from. It also creates stronger incentives for parties to emphasize the issues on which their position differs from those of their competitors. This should reinforce the salience of the corresponding issue dimensions in voters' minds, and make it easier for them to identify parties' positions. As a consequence, it is generally expected that a higher degree of polarization leads to a stronger impact of voter-party distances.

In addition to this effect of polarization, this paper suggests that it is necessary to take party characteristics into account. While polarization is expected to strengthen spatial voting, the consequences should not be the same for all parties. A higher level of polarization means that parties are, on average, more distant from one another. They are located further away from the center of gravity of the party system. But some parties will still take a centrist

position. That is, not all parties will contribute equally to the increased level of polarization. The higher level of issue competition in a polarized party system can be driven by just one or two parties. Hence, the expected effect of polarization, in terms of the accessibility of issue considerations, will not be distributed equally across parties. Voters may still find it difficult to evaluate center parties in terms of their issue positions. These considerations will be less salient in voters' memory than for extreme parties. Accordingly, I consider the extremity of parties' issue positions in addition to the level of polarization. Party extremity should have two effects. First, the relation between voter-party issue distances and party utilities should be stronger for extreme parties than for moderate parties. Citizens should find it easier to identify the issue positions of extreme parties, meaning that the costs of issue voting will be lower for such parties. Second, party extremity should moderate the polarization effect. The increased salience of issues and party positions in a polarized party system should influence the evaluation of extreme parties more strongly, which are those that contribute most directly to the increased level of polarization. In other words, while issues on which the party system is polarized are expected to have a larger effect on party utilities, this polarization effect should be even more pronounced for the parties that are more distant from the party system's center of gravity.

The second party characteristic which I take into consideration is party size. I expect the impact of spatial distances on party utilities to be stronger for large parties than for small parties. Larger parties are likely to be better known and to attract more coverage in the media. It should thus be easier for citizens to receive information about their positions. That is, the costs of evaluating parties on the basis of issues should be lower for the larger parties. Also, the relation between spatial distances and utility for small parties may be weakened by strategic voting. Both of these arguments mean that party utilities for small parties should be less strongly related to spatial factors.

To sum up, the arguments presented above lead to the following expectations. First, the impact of issue distances on party utilities should be stronger in more polarized party systems (Hypothesis 1). The impact of voter-party issue distances should also be stronger for parties that take a more extreme position (Hypothesis 2), and the reinforcement effect of polarization should be more pronounced for extreme parties (Hypothesis 3). Finally, I also expect utilities for larger parties to be more strongly related to issue distances (Hypothesis 4).

### **3. Spatial voting revisited**

The hypotheses presented in the previous section mean that spatial voting should be influenced by both party-level and context-level characteristics. The expectation that the impact of voter-party distances is conditional on party characteristic is unusual in the literature. It implies a different conception of the voting decision process and requires relaxing a central assumption usually made in the spatial modeling literature.

Spatial models conceive the voting decision process as a parallel evaluation of the parties in competition. Citizens compare parties on the basis of a given set of issues, in order to evaluate their electoral attractiveness. Not all citizens need to evaluate parties based on the same issues. Some may generally attach less importance to issue positions than to other party characteristics, and voters may differ in the specific issues on which they focus most strongly (Rivers 1988). Yet, for a given citizen, all parties are evaluated using the same vote function. In the words of Enelow and Hinich (1984, 3), voters “will compare the package offered by the candidate with that offered by his opponent(s) and vote for the candidate whose package is most favorably evaluated. Viewed in simplest spatial terms, the voter will cast his vote for the candidate ‘closest’ to him in a space that describes all the factors that are of concern to the voter.” This conception of the voting decision process implies that a given voter uses the exact same criteria to evaluate all parties in competition. Following this conception of the

voting decision process, issue preferences may not play a larger role in the evaluation of one party than in the evaluation of its competitors.

This standard assumption of spatial models appears to be too restrictive. The hypotheses discussed in the previous section postulate that the impact of voter-party distances on party utilities varies between parties. In terms of the underlying model of voting choice, this means that when citizens think about a given party and evaluate its electoral attractiveness, they do not necessarily do this in a comparative fashion. Some of the factors that influence the perceived electoral attractiveness of a party may be specific to that party. For instance, issue considerations should be more salient for large parties than for small parties. This difference should be reflected in the determinants of party utilities. Similarly, a party that takes an extreme position on a given issue should be more strongly associated with that issue in voters' minds (Iyengar 1990; Krosnick 1988). This should for example be the case for a right-wing populist party, such as the Swiss People's Party, on the issue of immigration. The party's relatively extreme position immigration policy should reinforce the accessibility of voters' preference on the corresponding issue, leading to a larger impact on the electoral utility of that party. In other words, the model suggested here does not constrain all parties to be evaluated on the exact same set of criteria, but allows voters to evaluate the attractiveness of parties separately from one another. The decision which party to vote for, of course, is the product of a direct comparison, with citizens supporting the party for which their expected utility is highest. But in the process of forming party utilities, citizens may be influenced by party-specific factors, giving more weight to issue considerations for some parties than for others.

In order to estimate how the strength of issue voting is influenced by party characteristics and polarization, I start from a proximity model of voting choice, which includes both issue distances and party identification. With  $K$  issue dimensions, the utility of citizen  $i$  ( $i = 1, \dots, n$ ) for party  $j$  ( $j = 1, \dots, J$ ) can be defined as:

$$y_{ij} = \alpha_j + \sum_k \beta_{jkz} \cdot |x_{ik} - p_{ijk}| + \gamma_{1j}pid_i + \gamma_{2j}pid_{own_{ij}} + \varepsilon_{ij}. \quad (1)$$

In equation 1,  $x_{ik}$  is the position of citizen  $i$  on issue dimension  $k$ ,  $p_{ijk}$  is the position of party  $j$  on that issue dimension as perceived by citizen  $i$ ,  $\alpha_j$  is a party-specific constant,  $\beta_{jkz}$  captures the strength of the impact of issue dimension  $k$  on the voter's utility,  $pid_i$  and  $pid_{own_{ij}}$  are dummy variables that code party identification and  $\gamma_{1j}$  and  $\gamma_{2j}$  their respective effects, and  $\varepsilon_{ij}$  is a random error term. This specification of the proximity model differs on three important points from a standard specification (e.g., Adams, Merrill, and Grofman 2005, 17). The most important difference is that the impact of individual-level characteristics, issue distances and party identification, is allowed to vary across parties and districts (that is, the beta and gamma parameters are indexed by party  $j$  and district  $z$ ). This is a necessary change in order to test the hypotheses presented above. Second, contrary to the most frequent specification of the proximity model, equation 1 relies on linear voter-party distances, rather than squared distances. This is in line with recent research showing that a linear loss function tends to outperform a quadratic one (Grynaviski and Corrigan 2006; Singh 2014).<sup>1</sup> Third, party identification is coded using two dummy variables, not one. The reason for this is that we are dealing with a party utility model. That is, observations do not correspond to individuals, but to respondent-by-party combinations. Party utilities are measured separately for each party in competition. With respect to party identification, three types of respondent-by-party combinations can be distinguished:

- A party identifier's utility for his or her traditionally preferred party,
- A party identifier's utility for another party, and
- A nonidentifier's utility for any party.

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<sup>1</sup> The models will however also be replicated using squared voter-party distances, and the corresponding findings will be discussed in the results section.

Distinguishing among these three situations requires two party identification dummies (Lachat 2008). The variable  $pid_i$  is a dummy that distinguishes between party identifiers (value 1) and non-identifiers (value 0). The dummy  $pid\ own_{ij}$ , in contrast, takes the value 1 for the utility of a party identifier's traditionally preferred party, and the value 0 otherwise. Note that the model will also be replicated while omitting party identification.

Central for this paper's hypotheses is how the impact of voter-party issue distances (captured by the parameters beta) varies across parties and contexts. The parameters  $\beta_{jkz}$  are a function of the characteristics of parties and of the electoral context. With  $j$  denoting parties,  $k$  denoting issues, and  $z$  denoting electoral districts, the corresponding context-level model can be specified as

$$\beta_{jkz} = \delta_0 + \delta_1 Polarization_{kz} + \delta_2 Extremity_{jkz} + \delta_3 Polarization_{kz} \cdot Extremity_{jkz} + \delta_4 Size_{jz} + u_{jk} \quad (2)$$

Note that the hierarchical structure of the data is relatively complex. Party size varies across districts and parties; polarization varies across districts and issues, and extremity varies across districts, parties, and issues. As a simplification, all of these characteristics will be assumed to be measured at the same level, that is, to be characteristics of party-by-issue-by-district combinations. This means that the model to be estimated is considered to be only a two-level model, with individuals at the lower level and all contextual characteristics in a single upper level. This model is estimated with a two-step strategy (Achen 2005; Lewis and Linzer 2005): First, the individual-level model is estimated separately for each party and electoral district with ordinary least-squares regressions. Then the resulting beta coefficients for all issues, parties, and districts are pooled and used as the dependent variables of a feasible generalized

least squares (FGLS) regression, following the procedure suggested by Lewis and Linzer (2005, 351f.).<sup>2</sup>

#### **4. Data and operationalization**

The hypotheses about the impact of context-level and party-level characteristics will be tested in the Swiss case, relying on data from a post electoral survey conducted at the occasion of the 2011 federal elections.<sup>3</sup> The cantons, that is, the regional units of the Swiss federal state, form the 26 electoral districts for these elections. These districts offer strong variation in terms of party system polarization. Cantonal party sections may differ from one another in their issue positions and the strength of parties greatly varies across electoral districts.

The dependent variable is a voter's utility for a given political party. These utilities are measured by a battery of question on "probabilities of future vote" (van der Eijk *et al.* 2006). Respondents were asked how likely it is that they "will ever vote" for each of a series of parties. Respondents answered using an 11-point scale ranging from "very unlikely" to "very likely" (coded from 0 to 1 for the present analyses). Party utilities were measured for 9 parties: the Green Party (GPS), the Social Democratic Party (SPS), the Green Liberal Party (GLP), the Christian Democratic Party (CVP), the Conservative Democratic Party (BDP), the Liberal Party (FDP), the Swiss People's Party (SVP), the Lega (only in the canton of Ticino), and the Geneva Citizens' Movement (MCG, only in the canton of Geneva).<sup>4</sup>

Voter's issue preferences and their perception of parties' positions were measured on two issues: A question on whether Switzerland should join the European Union or stay out of it, and a question on increasing or decreasing taxes on high income. These issues correspond

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<sup>2</sup> The way in which the model is specified means that the effect of party identification can also vary across parties and electoral districts. However, as this variation is not the object of the present paper, I will not comment on the corresponding results.

<sup>3</sup> The data are available from the Swiss foundation for research in social sciences, <http://www2.unil.ch/selects/>.

<sup>4</sup> Descriptive statistics for all variables are presented in Table A1 in the appendix.

clearly to the two main dimensions that structure the Swiss political space (Kriesi and Trechsel 2008). For both issues, citizens were asked to position themselves on a five-point scale. Citizens were also asked to locate the nine parties mentioned above, using the same scale. Party identification, is based on a question asking respondents whether they “feel close” to a political party. As mentioned above, this information is coded using two dummy variables: one dummy distinguishes between party identifiers and non-identifiers, while the second dummy indicates to which party identifiers feel close.

Three context-level or party-level variables are included in the analysis: issue polarization, party extremity, and party size. Polarization is measured separately for each issue and district. It is based on the degree of dispersion of the corresponding party positions, summarized using a standard deviation, weighting for party sizes (Taylor and Herman 1971):

$$Polarization_{kz} = \sum_j v_{jz} (p_{jkz} - \overline{p_{kz}})^2 . \quad (3)$$

In equation 3,  $v_{jz}$  is the vote share of party  $j$  in canton  $z$ ,  $p_{jkz}$  is the position of party  $j$  on issue  $k$  in district  $z$ , and  $\overline{p_{kz}}$  is the weighted average party position on this dimension, that is:

$$\overline{p_{kz}} = \sum_j v_{jz} p_{jkz} . \quad (4)$$

Computing this index requires information on parties’ vote shares, which are also including as a separate variable in the empirical models. These vote shares are based on the official results of the 2011 election.<sup>5</sup> Party positions are aggregated from individual level perceptions, computing the average perceived party position in a given canton. For this, only respondents

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<sup>5</sup> The vote shares of the nine parties considered for the analysis are rescaled in each canton so that they sum to 1.

in the upper third of the distribution of political sophistication are taken into account.<sup>6</sup> The last context-level variable is party extremity. It is computed as the absolute distance between a party's position on a given issue and the corresponding weighted average position, as defined in equation 4.

## 5. Results

Before turning to the test of the paper's hypotheses, I start by giving some information on the individual-level model. Table 1 presents the results of an individual-level model estimated at the national level, that is, ignoring the variation across electoral contexts and parties. This model was estimated by including a set of party dummies (using the Swiss People's Party SVP, the largest party, as the reference category), which are however not reported in the table.<sup>7</sup> The results are in line with the expectations from the spatial voting literature. On both issues, a larger voter-party distance leads to a lower utility for the corresponding party. As party utilities and issue distances are coded in the 0-1 range, the maximum effect of the distance on the EU and taxes issues is 24% and 17% of the range of the dependent variable.

Utilities also respond to party identification. For a non-identifier, the predicted utility for the SVP is 0.51 when the voter shares the same issue positions. For a respondent with a similar profile but who identifies with a competitor of the SVP, the predicted utility is 0.41 (the constant plus the coefficient of the party identifier dummy), while a SVP identifier has a predicted utility of 0.93 (the constant plus the coefficients of both party identification dummies).

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<sup>6</sup> Political sophistication is measured as an index of political knowledge. It is based on seven questions about the Swiss political system and Swiss politics.

<sup>7</sup> In this model, observations correspond to respondent-by-party combinations (what is sometimes called a "stacked dataset"). There are several observations for each respondent which may not be independent from one another. As a consequence, robust standard errors are computed, with observations being clustered by respondent. Furthermore, as the number of observations can vary between respondents (as some of them have not indicated an electoral utility for all parties), the observations are weighted by the inverse of the number of available observations for each respondent.

Table 1. Impact of issue distances and party identification on party utilities

	Coef.	Robust std. err.
EU distance	-0.24	0.01
Taxes distance	-0.17	0.01
Party identifier	-0.10	0.01
Party identifier: own party (Party dummies)	0.52	0.01
Constant	0.51	0.01
R <sup>2</sup>		0.31
N (respondents)		3'266
N (respondents × party)		16'966

*All reported coefficients are significant at the 0.1% level.*

*Note: Model estimated with OLS. Party dummies are omitted from the table.*

Central for this paper is to analyze how the effect of issue distances varies across parties and electoral contexts. To this end, I estimated the above model (without the party dummies) separately for each party and in each canton. The corresponding coefficients of issue distances are then pooled and used as the dependent variable of a FGLS regression at the context level (Table 2).

Table 2. Impact of context factors and party characteristics on the strength of issue voting. Coefficients (standard errors in parentheses) estimated using FGLS.

	Model 1	Model 2	Model 3
Polarization	-1.08** (0.38)	-0.95* (0.37)	-0.63 (0.76)
Extremity		-0.38*** (0.05)	-0.27 (0.24)
Polarization × extremity			-1.52 (3.12)
Size		-0.07 (0.06)	-0.05 (0.07)
Constant	-0.12*** (0.03)	-0.04 (0.03)	-0.06 (0.06)
R <sup>2</sup>	0.03	0.19	0.19
N	294	294	294

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Three versions of the model were estimated. The first one includes only issue polarization, and shows that this context level characteristic has the expected reinforcement effect: In contexts and for issues on which parties' positions diverge strongly from one another, issue

voting is stronger. This is in line with hypothesis 1 and with the findings of previous studies. The second model adds the party-level characteristics (size and extremity), but not the interaction term. Party size is not significantly related to the strength of spatial voting, contrary to hypothesis 4. However, when replicating this analysis without including party identification in the individual-level model, party size has a substantial impact (the corresponding results are presented in Table A2 in the appendix). In that alternative model, voter-party distances have a stronger impact on the electoral utilities of large parties than of small parties. While this finding is in line with hypothesis 4, it does not appear to be a genuine consequence of party size, but rather of differences in the number of people identifying with large and small parties. As a consequence, hypothesis 4 has to be rejected.

Party extremity, in contrast, has a strong effect in Model 2. In line with hypothesis 2, the relation between voter-party distances and party utilities is stronger for parties that take more extreme positions. Including party-level characteristics weakens somewhat the polarization effect, which remains however strong and significant. The model's goodness-of-fit is much higher, revealing that party-level characteristics, or party extremity at least, are important. To get a better sense of the magnitude of the effect of polarization and party extremity, Figures 1 and 2 present the estimated impact of voter-party distances for various degrees of issue polarization and party extremity. Figure 1 shows how the model prediction (i.e., the predicted value of the beta coefficient in the individual-level model) varies with the degree of polarization, as well as the corresponding 90 per cent confidence interval. For that, the other variables were set at their average value (that is, a party of average size and with an average degree of extremity). Figure 2 shows the corresponding results when party extremity varies and when polarization is set at the average value.

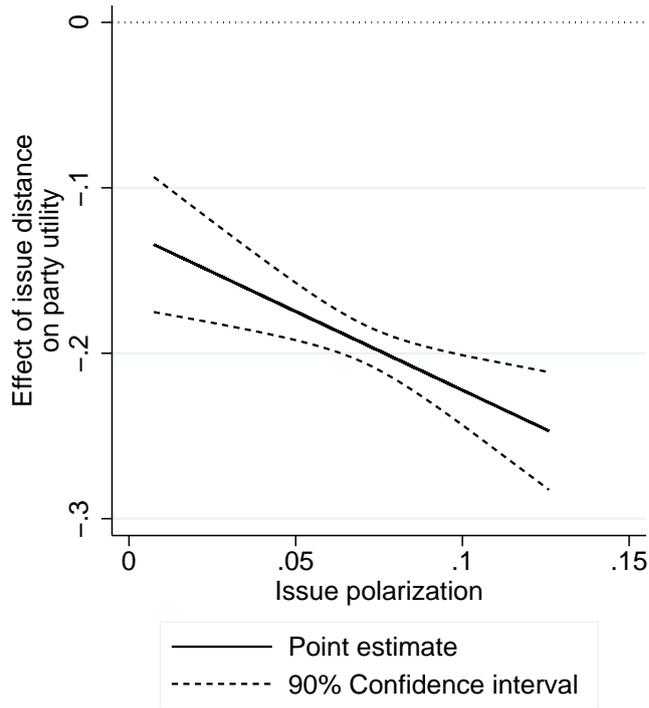


Figure 1. Impact of issue-distances on party utilities by issue polarization.

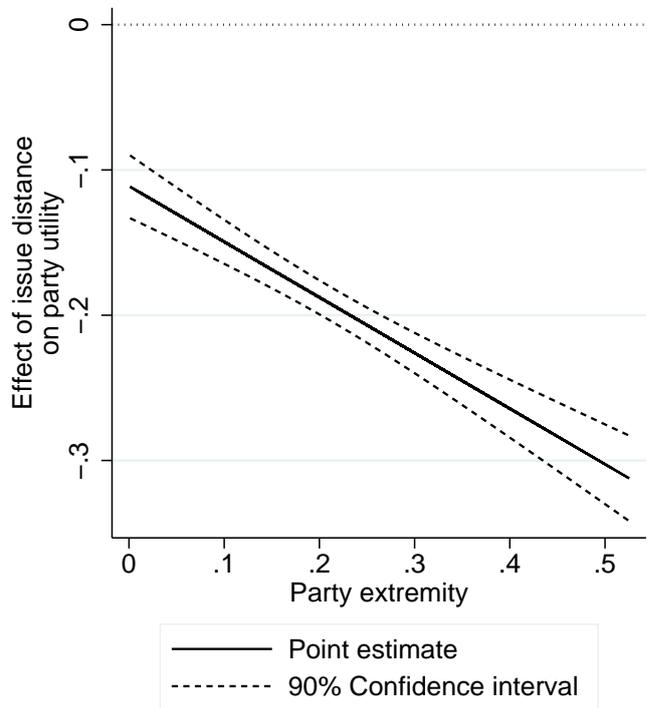


Figure 2. Impact of issue-distances on party utilities by party extremity.

Both variables exert a large impact on the strength of issue voting. The maximum effect of party extremity is somewhat larger than that of polarization. Furthermore, as the distribution of party extremity (mean 0.21, std. dev. 0.13) is less concentrated than the distribution of polarization (mean 0.06, std. dev. 0.03), the effect of extremity is also substantively larger. These findings show that accounting for party characteristics in addition to party-system characteristics allow for a better explanation of the variation in the strength of issue voting.

The final step is to test whether the interaction effect between polarization and party extremity is justified. None of the coefficients in the corresponding model (Table 1, model 3) are significant. However, as we are dealing with interaction terms, single coefficients may not give all the relevant information (Brambor, Clark, and Golder 2005). Figure 3 illustrates these results in a more telling way. Similarly to Figure 1, it shows how the strength of spatial voting varies with the level of polarization. But it does so separately for centrist parties (left-hand panel) and extreme parties (right-hand panel), that is, parties with a degree of extremity corresponding to the average value minus or plus one standard deviation. For both types of parties, the impact of spatial distances on party utilities grows stronger with the level of polarization. But this reinforcement effect is more pronounced for extreme parties. This means that while a higher level of party system polarization incites citizens to rely more strongly on issues when evaluating parties, this effect is of a larger magnitude for the parties that contribute most directly to the increased level of polarization, as suggested by hypothesis 3.

Finally, it must be emphasized that the findings are similar when squared voter-party distances are used in the individual-level model, instead of linear distances (Appendix Table A3). With this alternative specification, the goodness-of-fit of the context-level model is weaker, but the observed effects of polarization, party size, and extremity, are similar. The only noticeable difference is that the interaction effect between polarization and party extremity is stronger, lending additional support to hypothesis 3.

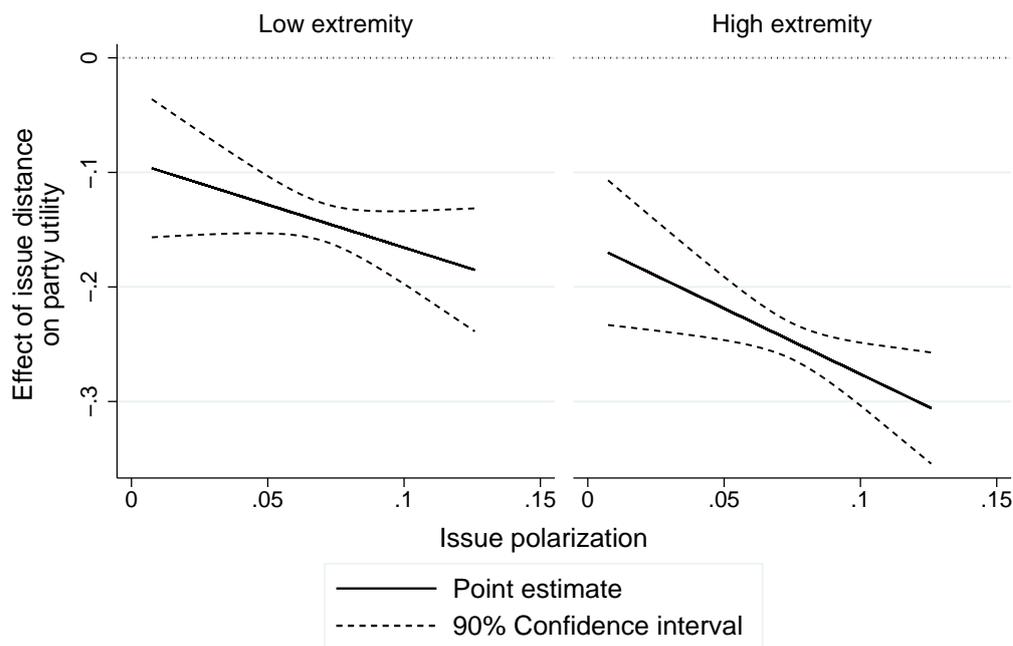


Figure 3. Impact of issue-distances on party utilities by issue polarization, for centrist parties and extreme parties.

## 6. Conclusion

Recent comparative research on the voting decision process has shown that the characteristics of the electoral context can influence how citizens make their voting decision. Several studies have highlighted effects of various aspects of electoral competition, such as party system polarization and fragmentation, electoral system disproportionality, or the dimensionality of the political space. In particular, it is now well established that a higher level of party system polarization leads citizens to attach more importance to the differences between parties' issue positions. Spatial factors, that is, the voter-party issue distances, stand in a stronger relation with party utilities in more polarized electoral contexts. This paper started from this polarization effect and suggested that the way in which parties are evaluated may not only differ across electoral contexts, but also between parties. The hypothesis that party characteristics may influence the determinants of party utilities goes against a central

assumption of spatial models of voting choices. These models usually postulate that a citizen has a fixed vote function on the basis of which all parties are evaluated in a comparative fashion. This study suggested instead an alternative specification of the proximity model of voting choice, in which the impact of spatial factors is allowed to vary between both districts and parties.

Based on this revised proximity model, this paper tested the impact of issue polarization, party extremity, and party size, in the case of the 2011 Swiss federal elections. In line with recent research, the results showed that issue voting is stronger in electoral districts with a more polarized party system. The relation between voter-party distances and party utilities was also stronger for extreme parties than for moderate parties. This result is particularly important as it shows that the traditional assumption of a fixed vote function is not supported in this empirical analysis. Furthermore, the results showed that party extremity conditions the effect of party system polarization. Polarization strengthens issue voting, but the magnitude of this effect is larger for more extreme parties. The second party characteristic included in the analysis was party size. The hypothesis that spatial voting should be stronger for large parties than for small parties was however not supported. The corresponding effect was observed in one of the model replications, but it disappeared when controlling for party identification.

The findings presented in this paper confirm the importance of taking context-level characteristics into account when modelling voting choice. But most importantly, they emphasize another source of variation, linked to the characteristics of parties. We already knew from previous research that the electoral context can incite citizens to give more weight to substantive considerations when evaluating the parties in competition. What the present study shows, is that party characteristics can also influence how party utilities are formed. The same citizen, in the same electoral context, will weight issue preferences differently when evaluating the electoral attractiveness of extreme parties rather than of moderate parties. Issue

considerations will play a larger role in the evaluation of extreme parties. This study investigated such differences between contexts and parties for a single explanatory factor of voting choice, namely issue distances. It is however possible that other determinants of party utilities vary in importance between parties. It could for instance be the case that the weaker impact of issue preferences for moderate parties is compensated by a larger impact of other voting choice determinants. This is however only a conjecture that cannot be answered based on the present analysis.

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## Appendix

Table A1. Summary statistics

	Mean	Std. dev.	Min.	Max.	N
<i>Individual-level variables</i>					
Party utility	0.44	0.33	0.00	1.00	16'966
EU distance	0.37	0.31	0.00	1.00	16'966
Taxes distance	0.37	0.30	0.00	1.00	16'966
Party identifier	0.45	0.50	0.00	1.00	16'966
Party id.: own party	0.07	0.26	0.00	1.00	16'966
<i>Context-level variables</i>					
Polarization	0.06	0.03	0.01	0.13	52
Size	0.17	0.14	0.01	0.76	147
Extremity	0.21	0.13	0.00	0.53	294

Table A2. Impact of context factors and party characteristics on the strength of issue voting. Replication of the models of Table 2, without including party identification in the individual-level models. Coefficients (standard errors in parentheses) estimated using FGLS.

	Model 1	Model 2	Model 3
Polarization	-1.16* (0.45)	-1.25** (0.42)	-0.99 (0.86)
Extremity		-0.51*** (0.06)	-0.42 (0.27)
Polarization × extremity			-1.22 (3.56)
Size		-0.23*** (0.07)	-0.22** (0.08)
Constant	-0.16*** (0.03)	-0.01 (0.04)	-0.03 (0.07)
R <sup>2</sup>	0.02	0.24	0.24
N	294	294	294

†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Table A3. Impact of context factors and party characteristics on the strength of issue voting. Replication of the models of Table 2, using squared voter-party distances to estimate individual-level parameters. Coefficients (standard errors in parentheses) estimated using FGLS.

	Model 1	Model 2	Model 3
Polarization	-1.13** (0.40)	-1.01* (0.41)	-0.42 (0.85)
Extremity		-0.28*** (0.06)	-0.07 (0.27)
Polarization × extremity			-2.74 (3.47)
Size		-0.05 (0.07)	-0.02 (0.08)
Constant	-0.14*** (0.03)	-0.07* (0.04)	-0.12 <sup>†</sup> (0.07)
R <sup>2</sup>	0.03	0.11	0.11
N	294	294	294

<sup>†</sup>  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$