UNEQUAL DEMOCRACIES

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Elections as a source of political inequality. Party supply and spatial voting in Europe.

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ABSTRACT:

For a number of Western democracies, it has been observed that the preferences of poor and rich citizens are unequally represented in political institutions and outcomes. Yet, the causes of this phenomenon are still under debate. We focus on the role of elections in this process, by disentangling biases towards different income groups that stem from the party system and from voters' behaviour. Our aim is to uncover whether elections as selection mechanisms contribute to unequal representation by analysing factors of the supply and demand side of the electoral process. On the supply side, we focus on the congruence of parties' policy offers and voters' preference distributions. This shapes citizens' possibilities to express their policy preferences. On the demand side, we are interested in the extent to which citizens from different income groups take their preferences into consideration in their vote decisions. The empirical analysis relies on the European Social Survey and the Chapel Hill Expert Survey and covers thirteen Western European countries. Our results indicate, first, that the economic and cultural preferences of poor and rich citizens differ significantly, and second, that party systems in the countries under investigation represent the lowest income groups the worst, and the middle income groups the best. This makes it difficult for citizens at both the lower and the higher end of the income distribution to voice their preferences in elections. Additionally, we show that low income citizens tend to take policy less into consideration when making an electoral choice than richer citizens. Thus, while the rich make up for their misrepresentation by the party system by taking policy more into account in their voting behaviour, the electoral stage poses another obstacle for the poor to overcome the representation bias. In sum, while on the supply side the disadvantage in representation is already imbalanced for very poor and very rich, demand side factors turn the pattern into an even more asymmetric misrepresentation of the poor only at the electoral stage.

Introduction

A broadly accepted normative feature of representative democracy is that the actions taken by representatives should not go against the will of the majority of citizens (Pitkin 1964, Rehfeld 2010). The congruence between citizens' preferences and their representatives' actions is expected to come about through elections which create selection and accountability mechanisms (Manin et al. 2009). However, citizens can hardly be considered as a bloc and, within the citizenry, different groups have conflicting interests and hold, on average, different policy positions.

One of the troubling findings of the recent empirical literature on the way representative democracy works, is that wealthy citizens hold positions that are generally closer to those of their representatives (Rosset, Giger & Bernauer 2013, Lesscheave 2017, Schakel and Hakhverdian 2018, Rosset and Stecker 2019), have more influence on their representatives' voting behaviour (Bartels 2008) and ultimately on policy (Gilens 2005, 2012; Schakel 2019, Elsässer et al. 2017, Persson et al. 2017). In other words, the preferences of richer citizens are better channelled into political institutions and public policy than the preferences of poor citizens.

While the phenomenon of unequal representation has been documented in a number of western democracies, its roots are still debated. The literature has notably identified differential turnout (see e.g. Peters and Ensinck 2014), descriptive representation of income groups (see e.g. Carnes and Lupu 2015), disproportional influence of interest groups (Gilens and Page 2014), and party finance (Flavin 2015, Rosset 2016) as potential explanations for a representation bias. However, except for differential turnout, there has been little interest in the role of elections in the process leading to unequal representation.

Following a "one citizen, one vote" principle and allowing a free competition between different political platforms, elections are hardly perceived as a potential source of inequality. Indeed, elections provide one of the main incentives for elites to be responsive to the whole citizenry and research shows that responsiveness to the preferences of various income groups is less unequal in election years (Gilens 2012). We argue, however, that despite their egalitarian principle, elections might not offer an even playing field for all citizens to express their preferences. This has to do, on the one hand, with the structure of party systems and, on the other, with the cues used by voters when making an electoral choice. In an era when political competition can be characterized as two-dimensional (Kriesi et al. 2006), some corners of the policy space are simply not covered by parties, thus creating a supply gap for citizens holding specific preference configurations. For those citizens, among which there is an over-representation of poor citizens, it is impossible to choose a party that represents them on both dimensions simultaneously. Those citizens are cross-pressured in their vote choice and, if they decide to turnout nevertheless, will be obliged to weigh the importance of each of these dimensions and express only part of their preferences in their vote choice. In addition, voting based on policy might systematically vary across income groups. This could be a result of an under-representation by the party system, which obliges a higher share of poor citizens to choose parties based on non-policy considerations, or simply because different groups vote according to different cues or lack the political knowledge that is required to vote based on policy preferences.

Our aim is thus to analyse how both the supply side and the demand side contribute to potential systematic inequalities in the way elections translate the policy preferences of different income groups into representative bodies. The question we aim to answer is to what extent the bias in representation stems from a bias in the parties' policy positions, and to what extent it stems from systematic differences in the voting behaviour between rich and poor citizens. Bias on the supply side

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occurs, for example, if parties' policy proposals are systematically less congruent with the preferences of poorer citizens. Bias on the demand side occurs, e.g. if poor citizens are less driven by policy preferences in their vote decisions. Of course, both mechanisms might be simultaneously at work, and presumably reinforce each other.

Throughout this paper and in line with the existing literature on unequal representation (see e.g. Bartels 2008, Giger et al. 2012), we conceive of poor and rich not as those earning more or less than a pre-specified threshold, but rely on a specific share of individuals placed at the bottom or the top of the income distribution. Thus, when talking of "the poor" vs. "the rich" we think of social groups of the exact same size, referring to the lowest 30 percent of the income distribution versus the highest 30 percent of the income distribution. This also comes with normative implications. Based on a one citizen one vote paradigm, political influence and representation of political views of social groups should also be roughly proportional to group size. Based on our conceptual approach chosen here, both groups are significantly large and socially important that their preferences should be reflected both in party systems and in election outcomes.

Analysing these questions allows shedding light on the extent to which voters from different income groups are able to voice their preferences. Both, bias in the party system and/or the fact that poor voters take their policy preferences less into consideration when making a vote choice could contribute to explaining representational inequalities. We base our study on data from the European Social Survey and the Chapel Hill Expert Survey. Our results for 13 West European countries identify mechanisms on both the party system (supply) and the voters' side (demand). In the next section we lay out our theoretical argument, followed by a section on data and operationalisation. Section 4 presents the empirical results and the last section concludes.

Theory

Recent studies show that West European party systems are characterized by competition on two policy dimensions, addressing economic and a cultural policy, respectively (see e.g. Kriesi et al 2012). The economic dimension refers to the involvement of the state in the economy and runs from an interventionist to a laissez-faire end. The cultural dimension is characterized by a cleavage between universalistic and progressive values on the one, and more particularistic and traditional values on the other extreme point (see e.g. Bornschier 2010). Citizens' policy preferences can be described by ideal points within this two-dimensional policy space. That is the basic setup we embed our analyses in.

The congruence of party systems and voter preferences

In order to assess the congruence of parties and voters within the policy space, we are first interested in the distribution of policy preferences by income. Although empirical research shows that citizens' preferences on both dimensions are quite independent from one another (see e.g. Thomassen 2012, Neundorf 2011, Rosset et al. 2016), implying that citizens hold any possible combination of policy preferences, there are reasons to assume systematic differences in the structures of policy preferences when considering voters by income groups.

A self-interested model of policy preferences on economic issues predicts that citizens with lower market incomes have more to gain from state intervention in the economy than richer citizens. Therefore, they will hold on average more left policy preferences. Of course, economic self-interest is not the only driving force for economic preferences, e.g. other factors such as insurance motives (Cusack et al. 2006) or expectations about the future (Bénabou and Ok 2001) have to be considered. Yet income is a very stable predictor of economic preferences. On average, low income citizens

support redistribution, the welfare state and more generally the intervention of the state in the economy much more than their richer counterparts.

However, on cultural issues the difference between income groups tend to go in the opposite direction: relatively poor citizens are on average more conservative on issues such as immigration, gender roles or morality issues. While economic status per se can hardly explain differences in preferences on these issues, it turns out that one of the main explanatory variables for progressive attitudes, education (see e.g. Van de Werfhorst and de Graaf 2004), is highly correlated with income. Therefore, low income groups tend to be more conservative than more affluent citizens.

In sum, when arranging the two axes of the policy space as illustrated in Figure 1, we expect poor voters' ideal points to be more likely located in the upper left corner, characterized by economically left and culturally conservative stances, and rich voters' ideal points more likely to be located in the bottom right corner of the policy space, which represents economically right and culturally progressive ideals. And indeed, the few studies that looked at the positioning of social groups on both dimensions simultaneously show that members of the working class (Oesch and Rennwald 2018) and relatively poor citizens (Steiner and Hillen 2019) tend to be over-represented in the culturally conservative and economically redistributive corner of the policy space.

Turning to the side of the party system, it turns out that West European party systems are systematically organized around a left-right dimension encompassing both economic and cultural issues (Bakker et al. 2012; Rovny and Edwards 2012). Although positions on economic issues are not perfectly aligned with positions on cultural issues, there is a strong correlation between the two, with parties in favour of the intervention of the state in the economy being on average more progressive on cultural issues (Bakker et al. 2012; Rovny and Edwards 2012). The empirically observed dispersion within West European party systems thus spans on the main diagonal of the two-dimensional policy space as depicted in Figure 1, with left, social democratic and green parties in the lower left quadrant, and conservative and right parties in the upper right quadrant[1]. A notable exception to the pattern is the "Benelux constellation", where liberal parties locate at the lower right corner of the policy space. This constellation is usually found in countries with a major Christian democratic conservative party, like Belgium, Germany, Austria, and Switzerland, where the right party camp is split into a clerical conservative party and a secular liberal party combining pro-market policies with progressive social and cultural policy stances (Laver and Hunt 1992). Yet liberal parties are also found e.g. in the UK (Liberal Democrats), Norway (Venstre), or in Spain (Ciudadanos).

Bringing our assumptions on party systems and voter distributions together, as illustrated in Figure 1, we expect congruence to be largest between parties and mid-income voters. While the progressive-right corner is at least in some countries inhabited by liberal parties, who meet the expected demand of the wealthier citizens, the poorest ones are expected to be located in an area that is largely uninhabited by the party system. In consequence, both left/progressive and right/conservative voters will have good chances to find a party in close proximity. Congruence is slightly worse for voters with right/progressive attitudes, since this corner of the policy space tends to be less crowded by parties, and not in all countries a viable liberal party exists. The preferences of voters with left/conservative attitudes are least well met by party systems. Combined with our arguments on the

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[1] That parties cluster on the main diagonal of the policy space has also been found theoretically, based on a formal model of party competition, although the reasons for this are not entirely clear (see e.g. Shikano 2008).

relation between income and policy preferences, this leads to both the lowest and the highest income groups being located farther away from the parties than the middle-income groups, since low income voters are more likely to hold extreme left and conservative ideals, and rich voters are more likely to hold extreme right and progressive ideals, than middle income voters. An observable implication of this pattern is that, on average, the distance to the closest party in the two-dimensional policy space is going to be largest for the poorest voters, slightly smaller for the richest voters, and smallest for voters with moderate income. This leads to our hypothesis on congruence of party systems and voter preferences:

H1: The policy preferences of the poor and of the rich are less well represented by the party systems than the preferences of voters with middle incomes, with the disadvantage being more severe for the poor.

Figure 1: Schematic illustration of our argument on the congruence of party systems and voter preferences by income
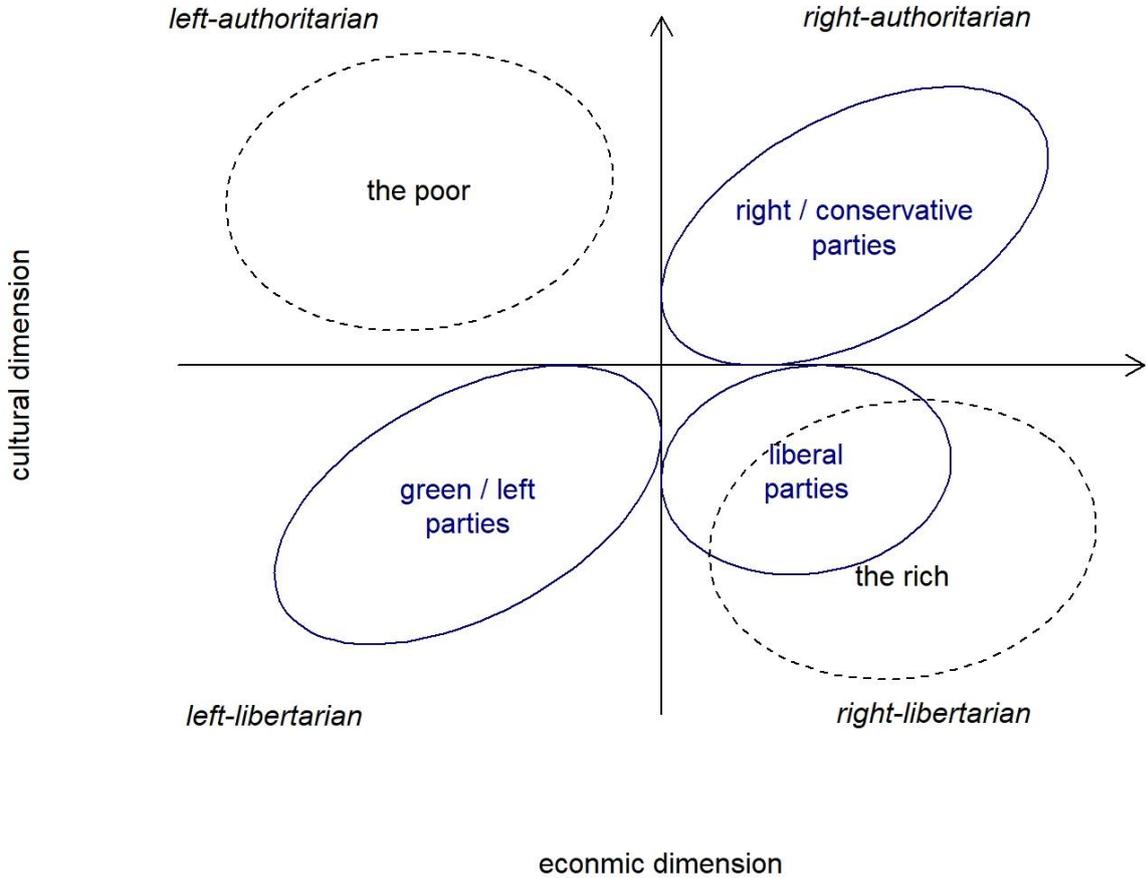
Policy voting by income

In sum, both poor and rich voters will be more likely located on the off-diagonal of the two-dimensional policy space. This incongruence makes it difficult for these voters to select a party that represents their preferences on both dimensions. They are more often located in a corner of the policy space which is left blank by the parties, i.e. the economically left and culturally conservative corner, and the economically right and culturally progressive corner. Therefore, they will face a more difficult vote decision, since they are likely torn between two parties from opposing camps, each representing their policy ideals closely on one policy area, but presenting opposing proposals in the other policy area. Much of the literature has focused on voters combining conservative stances on cultural issues with statist preferences regarding the role of the state in the economy, often labelled authoritarian-left (e.g. Lipset 1960) and found that they have a hard time finding a party representing them and are more likely to abstain (see e.g., Lefkofridi et al. 2014, Kurella and Rosset 2017, Kurella and Rosset 2018, Hillen and Steiner 2019). While the consequences of abstention with respect to policy representation are clear and severe, in the following we explicitly focus on those voters who decide to turn out to vote.

As an implication of the preceding theoretical considerations, we argue that voters at both ends of the income distribution will face a more difficult choice situation, i.e. the poor who more likely hold authoritarian-left ideals, but also the rich who more likely hold progressive-right ideals. How does this affect their voting behaviour? It is likely that citizens whose policy preferences are not well represented by the party system will use alternative heuristics like leadership competence or sympathy in their vote choice and be less driven by their policy preferences in their vote decisions. However, we argue that the extent at which voters rely on such alternative cues in their voting behaviour further differs by income. More concretely, we assume that rich and poor handle the situation differently, because they possess different traits to solve the difficult choice situation. Most studies reveal that relatively poor citizens are on average less interested and knowledgeable about politics than the rich (see e.g. Bartels 2008). Yet proximity voting requires a high degree of political sophistication (MacDonalds et al. 1995, but also Joesten and Stone 2014). Being aware of the policy offers of the parties is a precondition to cast an informed choice based on the logic of spatial voting. If the poor tend to possess low levels of political information, interest and knowledge, they are less likely to make an informed policy choice. If additionally, their immediate proximity in the policy space is only sparsely inhabited by parties, a random choice or a choice based on non-policy consideration like party competence of sympathy is less likely to produce a "correct" choice in terms of choosing a party that represents them on policy grounds. Rich voters, on the other hand, who might also be trapped in a situation of policy cross-pressures based on the configuration of the party system, will do better because they possess the preconditions to cast an informed choice and thus ensure that their policy preferences are at least partly represented by their chosen party.

This forms the key of our argument, which is that the poor vote less based on policy considerations than the rich.

H2: The poor take policy considerations less into account in their voting behaviour than the rich.

This is for two reasons. First, the mismatch of their own ideal points and the policy structure of the party systems makes it even more difficult to find and choose a proximate party, and second, they tend to possess less skills that are necessary to cast an informed choice based on policy. While the first point also applies to the very rich, they differ on the second. In sum, we expect the unequal representation of policy preferences of rich and poor to translate into an asymmetric inequality at the electoral stage to the detriment of the poor, but not the rich.

Note that H1 and H2 might possibly reinforce each other. If the poor take policy less into consideration in their voting behaviour (H2), this might explain why parties do not try to meet the policy demand of poor citizens (H1). Our ability to disentangle the causal effects of either direction are limited, of course. Still, we argue that the endeavour is worth it, since the empirical results are important to understanding the consequences of unequal representation. For example, especially if poor voters are facing a constrained choice set, it is important to know whether they put more or less emphasis on one or the other dimension than rich voters when they make an electoral decision. This could have major consequences for overall representation. For instance, if most rich citizens vote based on their economic preferences and chose right parties and most poor citizens vote based on their cultural preferences and chose right parties as well, the composition of elected bodies would not reflect the overall pattern of policy preferences regarding economic issues within the citizenry. Therefore, it is important to explore both the extent to which different groups of citizens vote based on their preferences and which set of preferences these groups take into consideration in order to understand potential biases in electoral outcomes. Also, our findings might serve as starting points for normative discussions on elections as selection mechanisms.

Data and Operationalization

We draw on data from the European Social Survey (ESS) Round 8 (2016) to locate voters in 13 national policy spaces. The countries that we consider in our analyses are Austria, Belgium, Switzerland, Germany, Spain, Finland, France, Great Britain, Italy, the Netherlands, Norway, Portugal and Sweden. In order to measure respondents' policy preferences on economic and cultural issues, we conduct a principal component analysis on eight issue items, four of which are assumed to tap the economic respectively cultural policy dimension. These eight items ask for the respondents' opinion on whether it should be the government's responsibility to provide for (1) a good standard of living for the old, (2) a good standard of living for the unemployed, (3) child care services for working parents, and (4) whether the government should decrease income differences. The respondents are further asked for their opinion regarding (5) the freedom of homosexuals, (6) the immigration of people with different ethnic background, (7) the cultural impact of immigration, and their opinion on (8) gender mainstreaming. We assume to detect two dimensions in most European contexts, which is an economic left-right dimension, on which pro-welfare state policies oppose pro-market policies; and a cultural policy dimension on which libertarian stances oppose authoritarian stances regarding law and order, moral conflicts, and immigration issues. We are well aware that the salience of either of these concrete issues differs over national contexts. Therefore, we conduct the principal component analysis separately for each country. The empirical results support our expectation in all cases. The first set of items loads on the first component that explains most of the variance in all countries, and the second set of variables jointly loads on a second component. We interpret the first component as the latent economic dimension, and the second component as the latent cultural dimension. We then calculate the factor scores for each respondent to estimate her preferences on the latent policy dimensions.[2]

To get parties' positions in the two-dimensional policy space we rely on data from the Chapel Hill Expert Survey (CHES) from 2014. Concretely, we use the economic left-right scale and the GAL-TAN (libertarian/postmaterialist – traditional/authoritarian) scale for their location on the economic and cultural dimension respectively. Since the experts take the national context into account, we are

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[2] As a robustness check we did all the following analyses relying on one concrete policy issue question (gincdif and imueclt) as a measure of the respondents economic and cultural policy ideal point respectively, and match this with a corresponding concrete issue item for party positions of the Chapel Hill Expert Survey. The results lead to the same substantive conclusions and are reported in the Appendix (Figures A1-A3 and Table A5).

confident that the two scales in the expert survey fit our measure of respondents' preferences on the latent dimensions on the substantive level. Still, our latent dimension and the expert placements are on different scales. To solve this problem, we rescale the expert placement scale in two steps. First, we transform the original expert placements on the 11-point scale z_{CHES} by a stretching parameter

$$p = \frac{11}{P_{2.5}, -P_{97.5}}$$

using the 2.5th and the 97.5th percentile P of the respondents' ideal points (factor scores) as the reference points. Then we obtain the party placements on the same bandwidth by the following transformation

$$z' = \frac{z_{CHES}}{p}$$

This first step accounts for the different bandwidths of the scales, by assuming that experts would use the bandwidth between the 2.5th and 97.5th voter ideal points as the reference points for the width of the 11-point scale in their party evaluation. Thus, the transformation takes the national context into account and the resulting positions z' are proportional to the bandwidth of the respondents' factor scores. Still we lack anchoring points on the two scales to calibrate the party configurations. To obtain those, we perform a second step in the transformation, by calculating the mean deviation of *J* party positions z'_j and the mean ideal points of the corresponding party's electorate, $\bar{x}_j$. We use this as the scale specific location parameter, that tells how far to shift the complete party system to the left or right on the specific dimension:

$$z_{rescaled} = z' - \frac{1}{J}\sum_{j=1}^{J}(z'_j - \bar{x}_j)$$

This shifts the stretched expert scale, without changing the party configuration on a substantive level. The transformation is conducted for each policy dimension within each country separately.

Since our aim is to contrast the preference structure and voting behavior by income, we further need to construct an indicator for the income groups. The ESS provides an item on the household's net income[3], which uses income categories based on the national income distribution. Respondents were given response categories corresponding to the income brackets of household income deciles in each country. In order to consider household size, we need to transform this variable. For the individuals in the first nine income categories, we assigned an income that corresponds to the midpoint of the income band in question. The income attributed to the top band, which has no upper bound, was extrapolated based on the mid-income of individuals located in the previous category and the frequency of individuals located in the previous categories.[4] The household income assigned in this manner has been divided by the square root of the number of household members to obtain an income measure that is weighted by household size. Based on the distribution of this income variable weighted by household size, we group respondents into income deciles or terciles for the various analyses. Given that the sample we analyze includes only those who answered all the questions regarding policy preferences, the share of respondents for each income deciles is not exactly 10%.

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[3] The ESS, like most surveys in social surveys, measure income at the household level. Assuming that income is shared between individuals within a household, it is a better indicator of standard of living than personal income.

[4] This procedure is described in Hout (2004) who applies it to GSS data. It has also been widely used with ESS data.

However, it comes close to that share in all countries and there is no sign of a systematic misrepresentation of one or the other income group in our sample (see appendix A1).
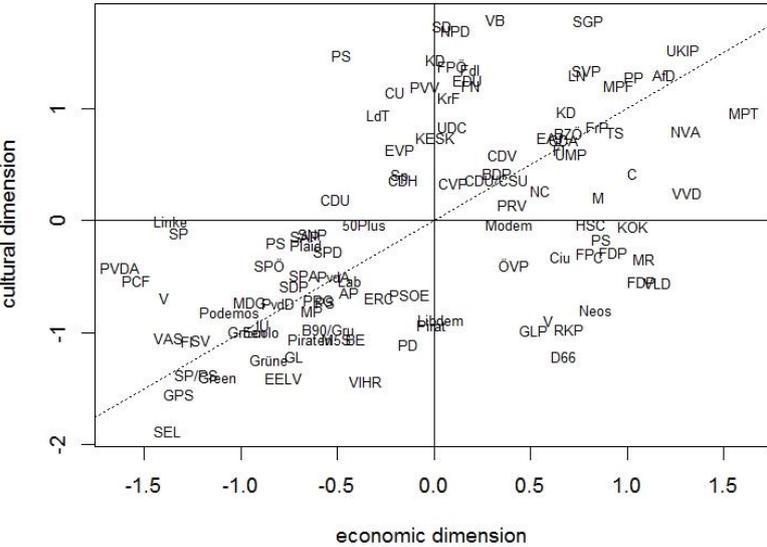
Results

Main assumptions

We first present empirical tests of our main assumptions. We start with an analysis of the relation between policy preferences and income. We estimate multilevel regression models of economic and cultural preferences on the pooled data set, including random intercepts for countries. In order to allow for non-linear effects, we include the income decile in absolute and squared terms in the regression model. Figure 2 plots the predictions based on both models. Both assumptions hold, with higher income voters holding more right preferences on the economic scale, and higher income voters holding more progressive/libertarian preferences on the cultural dimension.

Figure 2: Marginal effects of income deciles on economic and cultural preferences based on multilevel regression models
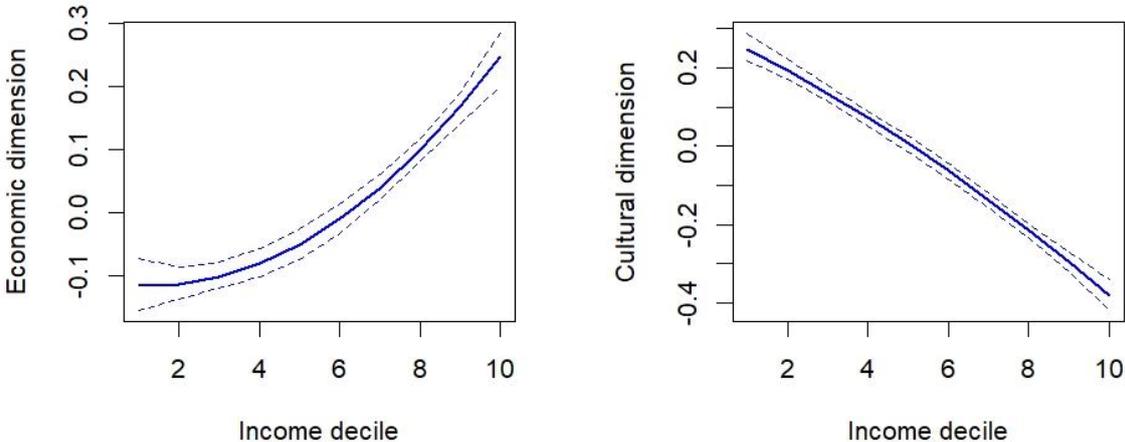
Turning to the side of the party systems, we assume parties to be located on the main diagonal with the few exceptions of liberal parties. Indeed, we find party positions to be positively correlated on both dimensions as shown in Figure 3. The graph plots the positions of all parties that receive 5 percent of national votes in the countries under investigation. We rely on the rescaled party positions that we get based on the Chapel Hill Expert Survey data 2014. Rescaling ensures that the party positions can be interpreted with respect to the respective national context, such that the origin of the coordinate system always refers to the mean voter within the respective country. The plot corresponds to the empirical pattern that has already been reported elsewhere, with parties mainly locating close to the main diagonal, and especially the upper left quadrant being only sparsely occupied.

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Figure 3: Party positions in 13 national policy spaces based on data from ESS 2016 and Chapel Hill 2014

In Table 3 we regress party positions on the economic left-right dimension on the positions on the cultural (GAL-TAN) scale, including country dummies. It reports the results of the corresponding regression models for the rescaled, and for the original expert survey data. The last column reports the results of a weighted regression, where the parties enter with weights based on the electoral size (vote shares) in the regression. All results support our assumption. There is a strong positive relationship between parties' placement on both policy scales. The more to the right a party is located on the economic dimension, the more it is located to the conservative end on the cultural dimension. The relation is even strengthened if considering party size, which assumes that competition for votes is strongest near the main diagonal.

Table 1: Regression model of economic left-right positions of parties based on CHES 2014, N=71

	Rescaled positions		Original CHES positions		Original CHES positions, weighted by vote shares	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Intercept	-0.08	0.32	3.03**	1.04	1.70	0.95
Position on cultural dimension	0.61***	0.10	0.47***	0.11	0.56***	0.10
Country dummies	Yes		Yes		Yes	
Adjusted R^2	0.20		0.13		0.24	

Our second hypotheses rests on the assumption that low income voters are less politically sophisticated, a claim we want to test here empirically before moving to hypotheses testing. In Table 3, we present descriptive results on the relation of income and political skills as a precondition to vote on policy grounds. As proxies for political sophistication we focus on four survey items: (1) political interest, (2) time of political news consumption, (3) confidence in own ability to participate in politics and (4) valid answers to the survey question asking for the left-right placement. The reason for choosing the last item is that placing oneself on the ideological left-right scale requires knowledge of and familiarity with the left-right concept in the first place. Thus, all four items are proxies for different aspects of political sophistication. For all four dependent variables there is a statistically

significant effect of income, such that a higher value of the income deciles is associated with higher levels on the respective proxy for political sophistication.

**Table 3: Results of regression models of proxies for political sophistication**

	Model 1 Political interest (Scale 1 very interested to 4 not interested)		Model 2 Log of political news consumption in minutes		Model 3 Confidence in ability to participate in politics (Scale 1 to 5)		Model 4 Valid answer on left-right self placement	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Income deciles	-0.06***	0.00	0.03***	0.00	0.07***	0.00	0.14***	0.01
Country dummies	yes		yes		yes		yes	
Adjusted R^2	0.10		0.04		0.12		0.11	

Test of Hypothesis 1: The congruence of party systems and voters

To assess the congruence between party systems and voter preferences, we calculate the distance to the closest party in the two-dimensional policy space[5] for each respondent. We do this separately for the economic and cultural policy dimensions, and finally using city block distances to determine the closest party in the Euclidean two-dimensional policy space. We use each of these three measures as dependent variable in a multilevel regression model, including income deciles as explanatory variable and random intercepts for countries. In order to allow for a non-linear effect, we also include the square income decile in the regression model. The results are reported in Table A2. Figure 4 shows the predicted distances on the economic dimension (a), the cultural dimension (b), and the city block distance in the two-dimensional policy space (c). It shows that on the economic dimension, income is weakly associated with distance to the closes party, with the lower income groups being better represented than the higher income groups, and the median income group being best represented. Yet the confidence interval is quite large, so the relation is rather weak. On cultural policies, the pattern is reversed, and now the effect is clearly significant. Members of the lowest income groups have to travel farthest to the closest party; thus, they are least well represented by the party system. The predicted distance decreases monotonically with increasing income. What counts in the end, however, is the combined distance in the policy space, since it is of no worth if there is a very close match on either dimension, that is located at far distance on the other dimension. The third panel (c) of Figure 4 shows the predicted city block distance to the closest party, and here we find the postulated pattern: The lowest income groups are least well represented by the party system. Citizens whose views are best represented by the party system belong to the sixth- and seventh-income deciles thus above the median. However, the predicted distance increases again for members of the eighth-, ninth- and tenth-income decile. Yet, their disadvantage is much less severe, being overall still located closer to the parties' supply than members of the three lowest income deciles. The relationship can be described as an asymmetrical U-shape. The U shape is what we would expect if parties were competing for the median voter. However, the asymmetry already suggests a slight inequality in the representation comparing the representation of very poor and very rich income groups.

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[5] We rely on city block distances, although the result wouldn't change substantially when using squared or simple Euclidean distances instead.

Figure 4: Predicted distance to closest party by income deciles based on multilevel regression models
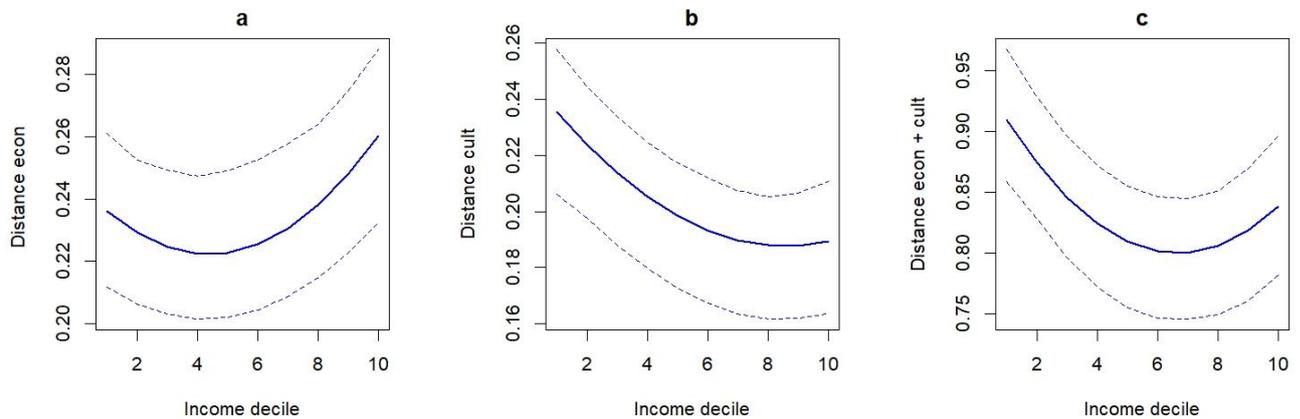
So far, our expectations are confirmed and the resulting pattern suggests that both poor and rich voters are more likely to be located on the off-diagonal of the policy space. Since the parties tend to be located on the main diagonal, and both the poor and rich are located at larger distance from the parties than the mid income groups, this will leave many of those voters in a situation where they are cross-pressured, since no party represents their policy views on both dimensions simultaneously. As a robustness check for the preceding analysis and the preliminary support for Hypothesis 1, we regress cross-pressured-ness on income deciles.

We differentiate between two forms of cross-pressures: weak and strong. All respondents for whom the closest party on the economic policy dimension is not identical to the closest party on the cultural dimension are weakly cross-pressured. This applies to 87% of the respondents, which might seem to be a quite large number. Yet at least for multiparty systems this should not be surprising, since there are multiple parties, i.e. potential coalition partners, who offer positions close to each other, and vary only weakly on either of the two dimensions. We assume cross-pressures to put voters in a disadvantageous situation only when the distance to either of the two dimension-wise close parties, is at the same time quite large on the other policy dimension, i.e. if the two respective closest parties are from two different political camps. We therefore conceptualize as strongly cross-pressured those voters, for whom party A is closer on the economic dimension, but some other party B is closer on the cultural dimension, and additionally, the distance between A and B on both policy dimensions exceeds the threshold of 1.2. We chose this value since it is about the distance between the first and third quartile of the voter ideal point distribution on either of both policy dimensions, so this represents a reasonably large distance to travel from one party to the other. In our sample, 18% of respondents are strongly cross-pressured based on this classification. The marginal effects plots in Figure 5 show that the relation between income and being cross-pressures is indeed U shaped. The results of the regression models are reported in Table A3. Both the lowest and the highest income decile are more likely to experience weak cross-pressures, as illustrated in the left panel. When it comes to strong cross-pressures, however, the relation is asymmetric with the lower income deciles at largest risk of being strongly cross-pressured. Here again, we detect an asymmetric inequality in the way party systems represents policy preferences of voters by income, with the poor being least well represented. We conceive of this finding as further support for Hypothesis 1.

Figure 5: Probability of being weakly (a) and strongly (b) cross-pressured as estimated by a logit model including income deciles, squared income deciles and country dummies
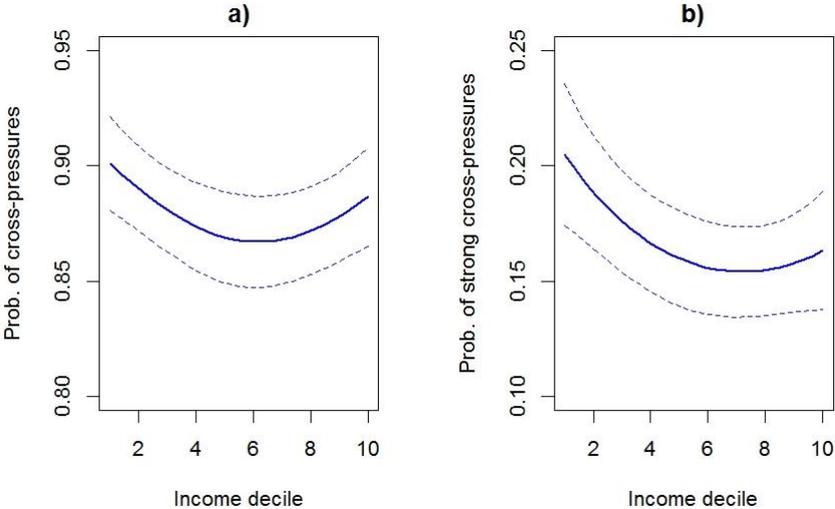
Test of Hypothesis 2: Voting behavior by income

So far, we have shown that the poor are disadvantaged by the policy supply of the party system. Yet, we found that the rich also suffer from slight disadvantages as compared to the mid-income groups. To empirically test whether the act of voting itself leads to additional bias in the way the policy preferences of the poor are translated in the election results, we analyze the extent of policy voting by income. Concretely, we are interested in the relative salience of policy considerations in the vote calculus of citizens of different income groups as compared to non-policy considerations like leader sympathy, assumed competence, or what is commonly termed candidate or party valence (Stokes 1992, Clark 2009, 2014). We are also interested in the relative salience of economic and cultural policy considerations in the vote calculus by income. To do so, we estimate conditional logit models of vote choice, including the distance between a respondent's ideal point and each party's position as the explanatory variable in the vote model. We further include choice specific (party) intercepts to control for non-policy related factors that influence voting behavior, like valence considerations. We estimate a mixed conditional logit on the pooled data set, modeling country and party specific intercept terms, and one spatial coefficient per dimension[6]. Furthermore, we include an interaction effect with income, measured once by dummy variables for income terciles[7] and, and once by income deciles as a metric variable.

Our substantive interest is in the extent of policy voting by income group. We interpret the spatial coefficients for each policy dimension as an indicator for the strength of policy voting as compared to other, random and systematic, party-specific but non-policy related factors like competence, sympathy and so on. To test whether the weight of policy considerations in the vote calculus differs with income, we interact the policy distance with income levels. Table 4 reports the results.

The results indicate that overall, the salience of economic policies is smaller for individual vote choices, than that of cultural policies. This is indicated by the smaller magnitude of the spatial

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[6] Concretely, we apply a mixed conditional logit model that allows for variation in choice sets and random intercepts, applying the mclogit function in R as described in Elff (2009).

[7] We include income terciles here to allow for U-shaped relation between policy voting and income. The alternative would be to include income deciles as metric variable plus the squared income deciles, and to interact both terms with the spatial coefficients. This seems unnecessarily complicated to us.

coefficient of distance on the economic dimension in Model 1. The interaction terms in Model 2 are all negative, yet, the interaction term is only significant on conventional statistical levels for the third income tercile on both dimensions. These interaction effects between income terciles and spatial coefficients can be interpreted as group-specific saliences. Thus, in Model 2, the main effect for economic and cultural policy distance are the saliences of each dimension for voters in the first income tercile. For the lowest income tercile, the salience of cultural policies (0.57) is larger than the salience of the economic dimension (0.39). The relative salience of cultural issues is (0.57/0.39) = 1.46. This finding is surprising, since the insight we gained in Figure 4 shows that poor citizens are better represented by the party system on economic than on cultural policy grounds. Thus, the poor not only vote less based on policy, they also rather vote based on that policy dimension on which they are worst represented. This strongly suggests that the act of voting works as an amplifier of the already existing unequal representation by the party system before voting takes place.

Table 4: Mixed conditional logit model of vote choice

	Model 1	Model 2	Model 3	Model 4
Distance on economic dimension	-0.43 *** (0.02)	-0.39 *** (0.03)	-0.33 *** (0.04)	-0.30 *** (0.04)
… x 2nd income Tercile		-0.02 (0.04)		
… x 3rd income Tercile		-0.09 * (0.04)		
… x income Deciles			-0.02 ** (0.01)	-0.02 ** (0.01)
… x strong cross-pressures				-0.18 *** (0.05)
Distance on cultural dimension	-0.61 *** (0.02)	-0.57 *** (0.03)	-0.54 *** (0.04)	-0.49 *** (0.04)
… x 2nd income Tercile		-0.02 (0.04)		
… x 3rd income Tercile		-0.11 ** (0.04)		
… x income Deciles			-0.01 * (0.01)	-0.02 ** (0.01)
… x strong cross-pressures				-0.08 (0.05)
Random intercepts:				
Var(Party per country)	1.03 (0.13)	1.03 (0.13)	1.23 (0.13)	1.25 (0.13)

Significance levels: *<0.5; **<0.1; ***<0.01

While voters in the second income tercile do not deviate significantly from that pattern, voters in the top tercile put more weight on both policy dimensions, indicated by the significant interaction terms. Yet, the relative salience of cultural vs. economic policies is quite similar: (68/48) = 1.42. Thus, the poor and the rich do not differ in the way they trade-off either policy dimension to the other in their vote calculus, but they differ insofar as the rich put overall more weight on policy considerations than on non-policy considerations. When including the whole range of income deciles as a metric variable, as done in Model 3, the estimated interaction term is statistically significant on the 5% level for both policy dimensions. Taken together, these results indicate that with increasing income, voters vote more based on policy considerations, than on valence terms. Put the other way around, the lower the income, the more weight voters put on non-policy related valence considerations, as postulated in Hypothesis 2.

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Finally, we want to shed light on the role of policy cross-pressures in the vote calculus. Is the lower policy orientation of poor voters at least partly due to their more difficult choice situation, in which they are more likely torn between parties from different camps? Or is this effect operating independent from the supply side? To test for this, we further include an interaction effect between policy distance and a dummy for strongly cross-pressured voters in Model 4. The results suggest that the weaker policy motivation of poor voters cannot be explained by their larger likelihood of facing strong cross-pressures. Contrary to that, the interaction terms even indicate that strongly cross-pressured voters put more weight on policy considerations in their vote choice, than on valence. Both interaction terms are negative and the one for economic policy is of significant magnitude. This suggests that voters facing cross-pressures rather rely on economic policy and choose a party that better represents them on this dimension. The interaction terms between policy distance and income deciles are robust to the introduction of the additional interaction effect, which indicates that there is no or only a weak moderating effect. In sum, the pattern of coefficients does not support the claim that poor voters are less policy oriented in their vote choice because they are more often facing more difficult choice situations. Gaps in parties' policy supply might therefore not explain the low policy orientation of poor voters.

Figure 6 allows to directly relate the results regarding voting behavior to unequal representation. Analogous to Figure 4, it shows the predicted distance to the party voted for by income decile, based on a multilevel regression model with income deciles, squared income deciles and random intercepts for countries. The results are reported in Table A4. The first panel shows the distance on the economic dimension, the second panel the distance eon the cultural policy dimension, and the third panel shows the city block distance in the two-dimensional policy space. In contrast to Figure 4, when it comes to vote choice, the lowest income deciles are worst represented, also regarding their economic preferences. This is a direct consequence of the poor first taking policy less into consideration when voting, and second putting relatively more emphasis on cultural policy in their vote calculus than on economic policy. For each dimension separately, as well as for the city block distance, the policy distance monotonically declines the further we move up on the income ladder. Concretely, the higher a citizen is in the income distribution, the lower her distance to the party selected. The trend weakens with income but is nevertheless very pronounced: richer citizens vote for parties that represent their views better than poor citizens. The magnitude of this gap is consequential. To give an example, citizens in the second income decile are predicted to be about 10% further away from the party they vote for than citizens in the eighth income decile. Thinking about overall representation by legislative bodies this gap at the selection stage already is likely to translate into a closer representation of the policy preferences of richer citizens in west European parliaments.

Comparing these results with Figure 4, which shows the distance to the closest party by income, it seems that only part of the representation gap between poor and rich can be explained by differential representation by the party system. It is true that the poor are less well represented by the party system, than the mid income groups, yet this also holds to some extend for the very rich. However, while these rich citizens in the eighth, ninth and tenth deciles make up their under-representation by the party system through their voting behavior, such that they are finally even better represented by their chosen parties than the mid-income groups, this is not the case for citizens in the lowest income deciles. These groups persist to be under-represented in terms of election outcome. There is already a supply-side inequality in terms of what policy combinations are on offer, but this inequality is amplified when looking at electoral choice. Importantly, this form of inequality is visible among those citizens who turn out and comes in addition to the already well

documented social gradient in political participation and its effect on substantive representation (e.g. Peters and Ensinck 2014).

Figure 6: Predicted distance to party voted for by income, based on multilevel regression models
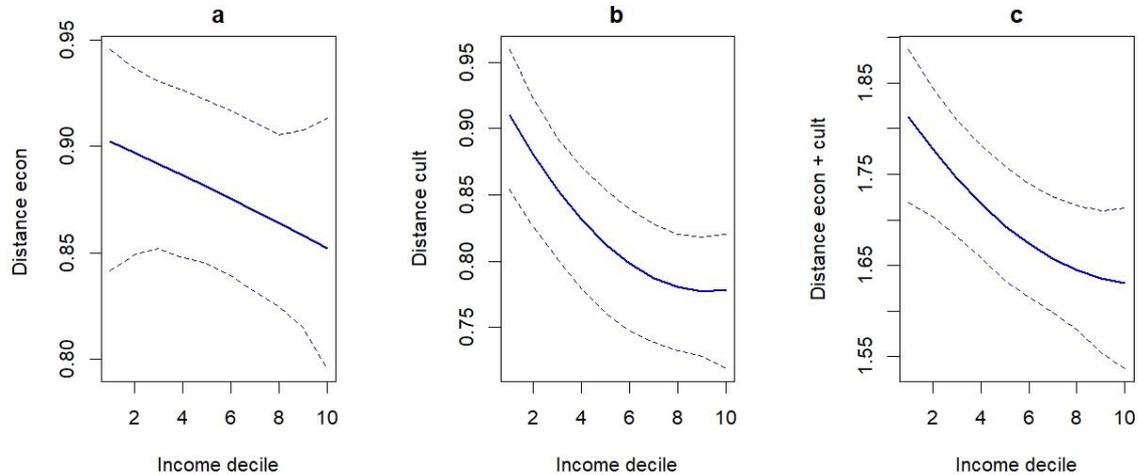
Conclusion

Unequal representation of income groups has been documented in a number of Western democracies, but its roots are still debated. Our contribution focuses on the role of elections in explaining this gap. In a context of electoral competition that is articulated around multiple dimensions, the structure of the party system is key in understanding whether citizens are presented with options that match their own preferences and whether they actually vote for parties that would enable them to channel these preferences into political institutions.

Our argument thus focuses on both the supply and demand sides of electoral competition and draws on spatial models of voting. On the supply side, we argue that one of the explanations for unequal representation lies in the mismatch between the structure of policy preferences among citizens and the structure of party systems. Based on existing literature, we assume that the location of ideal points in the two-dimensional policy space varies systematically with income. As a result, both the poor and the rich are more likely located in a corner of the policy space that is not well occupied by the parties, who tend to locate on the main diagonal, more closely addressing the preferences of the mid income groups. As a consequence, both poor and rich voters are more likely to face strong cross-pressures in their vote decisions. On the demand side, which addresses the voting behaviour of the citizens, we argue that poor voters tend to put less weight on policy preferences in their vote decisions, while the rich very well take their preferences into account when voting. The explanation of this result presumably lies in the combination of the scarce policy supply in their close proximity and a lower level of political sophistication among the poor. Both mechanisms contribute to unequal representation of poor voters in election outcomes.

Our empirical analyses based on data from the European Social Survey regarding citizens' preferences and Chapel Hill Expert Survey on party positions clearly support our arguments. We find a U-shaped relation between income and the closest party. In contrast to that, we find a linear negative relation between income and the distance towards the party voted for. Thus, rich citizens

are much more likely to have preferences that align with the elected representatives in the two-dimensional political space. We also report empirical evidence that poor citizens put less weight on policy considerations in their vote choice than rich voters. We could furthermore demonstrate that it is not the larger likelihood of facing a scarce choice set that makes poor voters rely on alternative, non-policy related heuristics in their vote choice. Rather, both effects operate independent from each other, and both manifest inequalities in the representation of policy preferences of poor and rich citizens.

These results thus show that the structure of party competition in Western Europe contributes to unequal representation. In other words, elections as a selection mechanism are associated with a bias. The pool of representatives that get elected are very likely to reflect the combined preferences of richer voters better and this happens even before these elected representatives might seek to be responsive to the population (or specific groups of the population). Since our study focuses on those citizens who do turn out, the bias that we document comes in addition to a potential bias coming from unequal levels of electoral participation across economically defined groups.

In Western Europe where party systems are organized around a left/progressive-right/conservative dimension there is a structural advantage for rich voters to express their preferences on different dimensions simultaneously. However, this feature may not be relevant in other contexts, as for instance Central and Eastern Europe where party systems are structured differently. Also, in future research it would be interesting to find out whether the documented gap has been stable or changing over time. This research agenda focusing on cross-country and cross-time variation could help understand under what conditions party systems represent the preferences of various groups in society and, by doing so, contribute to answering the puzzling question of why some parties seem to discount the structure of policy preferences of some of their potential voters.

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Appendix

Table A2: Sample sizes and distribution of income deciles

Country	N	Frequency of income deciles in percent									
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Austria	1279	12.2	12.6	6.8	14.1	10.2	4.6	16.1	7.8	8	7.7
Belgium	1614	10.1	12.7	8.1	9.3	13.4	7.6	10.1	11.7	8.6	8.6
Switzerland	1122	9.9	11.1	9.8	8.6	10.4	10.2	9.3	11.9	9.9	8.9
Germany	2281	10.8	9.2	9.8	12.7	7.2	12.3	11	7.5	12.5	7
Spain	1160	11.4	10.1	8.5	9.2	10.3	9.1	9.8	12.2	10.4	8.8
Finland	1604	13.7	6.8	9.4	10	14.7	7	9.4	14	5.4	9.7
France	1548	12	13.4	8.7	7.3	9.4	10.9	12.2	6.3	10	9.9
UK	1365	10	10	11.7	8.9	10.9	9.1	10.5	10.1	8.7	10
Italy	1276	14.6	8.9	7.8	9.6	11	7.7	11.1	11.3	10.4	7.7
Netherlands	1342	10	12.1	9.7	10	10.7	8.9	12.4	7.2	11.4	7.7
Norway	1327	10.3	11	8.5	12.3	7.8	11.4	9.8	9.8	9.2	9.9
Portugal	973	10.1	9.4	12	10.1	7.1	10.8	13.2	10.2	8	9.2
Sweden	1279	9.7	13.2	6.4	10.1	11.2	10.8	10.7	7.3	13.1	7.4

Table A2: Multilevel regression model on distance to closest party by income deciles

	Model 1 Distance to closest party on economic dimension		Model 2 Distance to closest party on cultural dimension		Model 3 City block distance to closest party in two-dimensional policy space	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Income deciles	-0.011***	0.00	-0.014***	0.00	-0.046***	0.01
(Income deciles)^2	0.001***	0.00	0.001***	0.00	0.003***	0.000
Var(Country intercepts)	0.002	0.04	0.002	0.045	0.006	0.080
N	12151		12151		12151	

Significance levels: *<0.5; **<0.1; ***<0.01

Table A3: Logistic regression model of weak and strong cross-pressuredness by income deciles

	Model 1 Weak cross-pressures		Model 2 Strong cross-pressures	
	Coef.	Std. Err.	Coef.	Std. Err.
Income deciles	-0.16**	0.05	-0.12**	0.04
(Income deciles)^2	0.01**	0.00	0.01*	0.00
Country dummies	Yes		Yes	
Pseudo R^2	0.02		0.01	
N	9956		9952	

Significance levels: *<0.5; **<0.1; ***<0.01

Table A4: Multilevel regression model on distance to party voted for by income deciles

	Model 1 Distance economic dimension		Model 2 Distance on cultural dimension		Model 3 City block distance in two-dimensional policy space	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Income deciles	-0.005	0.00	-0.036***	0.01	-0.041***	0.01
(Income deciles)^2	0.000	0.00	0.002***	0.00	0.002	0.00
Var(Country intercepts)	0.004	0.06	0.006	0.08	0.011	0.10
N	11909		11909		11909	

The following tables and figures show the results of the analyses with an alternative operationalization of voter ideal points and party positions. Instead of conducting a principal components analysis and using the resulting factor scores for voter ideal points, we now use the original responses to a survey item on the reduction of income differences (gincdif) to measure respondents' economic preferences, and a survey item asking for the opinion on the cultural value of immigration (imueclt) to measure respondents' cultural preferences. Accordingly, we use more specific questions to measure parties' policy positions from the Chapel Hill Expert Survey: the item REDISTRIBUTION asking whether a party is in favor of or opposed to redistribution from the rich to the poor, and MULTICULTURALISM asking whether a party favors or opposes multiculturalism. In order to match party positions with voter ideal points, we perform the same two-stage rescaling procedure as described in the text.

Figure A1 shows the results on the structure of voter preferences for the pooled dataset, and Figure A2 and A3 shows the predicted distance to the closest party and the party voted for, analogous to Figures 4 and 6 in the main text. Table A2 reports the results of the vote choice models. The results based on this operationalization are to be treated with more caution, since multiculturalism might not be that strongly related to the latent cultural policy dimension in each country at that time. This might for example explain why the coefficients on the cultural distance are less significant for explaining voting behavior as presented in Table A2. Since the results on the economic dimension are very similar to what we find based on our original operationalization, we are confident that our findings are robust to different operationalizations of voter ideal points and party positions.

Figure A1: Regression model of respondents' economic and cultural preferences
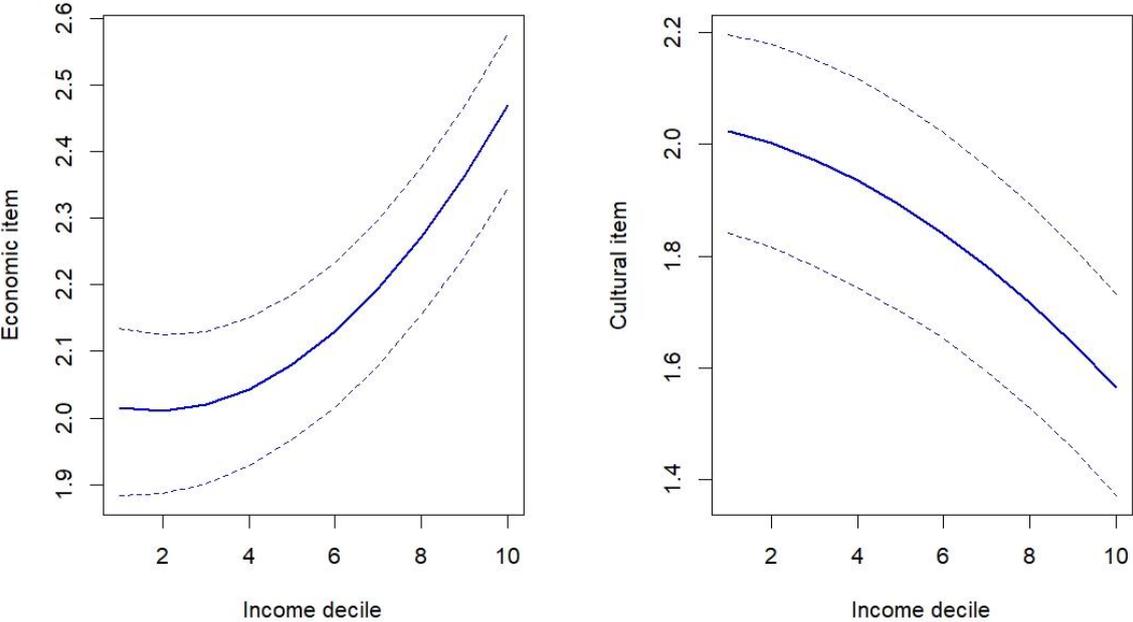

Figure A2: Predicted distance to closest party on economic item (a), cultural item (b), and city block distance for both items (c) based on multilevel regression model with random intercepts for countries
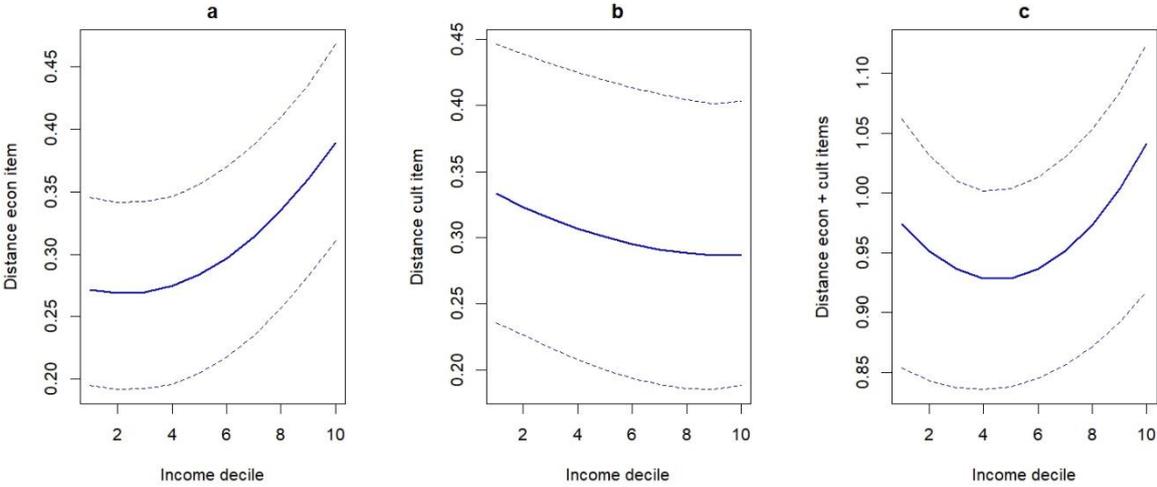

Table A5: Mixed conditional logit model of vote choice (with gincdif and imueclt)

	Model 1	Model 2	Model 3	Model 4
Distance on economic dimension	-0.58 *** (0.02)	-0.52 *** (0.04)	-0.45 *** (0.05)	-0.41 *** (0.05)
… x 2nd income Tercile		-0.02 (0.04)		
… x 3rd income Tercile		-0.13 * (0.05)		

… x income Deciles			-0.02 ** (0.01)	-0.02 ** (0.01)
… x strong cross-pressures				-0.15 * (0.07)
Distance on cultural dimension	-0.51 *** (0.02)	-0.51 *** (0.03)	-0.52 *** (0.03)	-0.49 *** (0.05)
… x 2nd income Tercile		0.01 (0.04)		
… x 3rd income Tercile		-0.02 (0.04)		
… x income Deciles			0.00 (0.01)	0.00 (0.01)
… x strong cross-pressures				-0.13 * (0.06)
Random intercepts:				
Var(Party per country)	1.10 (0.12)	1.10 (0.12)	1.10 (0.12)	1.14 (0.13)

Figure A3: Predicted distance to the party voted for on the economic item (a), the cultural item (b) and the combined city block distance (c), based on multilevel regression model including income deciles and random intercepts for countries