

**More choice or more exclusive? Party system polarization and the distribution of party preferences**

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## **Abstract**

The scope of this paper is twofold: Substantively, the aim is to show how contextual variations can shape the individual dispersion of preferences across parties, influencing the electoral competitiveness and, eventually, the potential for a change in polity. More specifically, the spotlight will be put on the level of ideological polarization of the party system at the time of the electoral campaign. In fact, according to previous findings, the effects of polarization may be fairly contrasting. On the one hand, it is expected to broaden the space of the political supply, and therefore to improve the level of representation. On the other hand, when it passes a certain critical level, polarization is expected to become a constraint for individuals, making their party preferences more exclusive. This would reduce the quality of competition, and bring to a situation of artificial stability. Methodologically, I propose a new way to use propensity to vote (PTV) scores which takes account of the distribution of parties on the left-right space. To test my hypotheses I use survey data from the voter study conducted in the occasion of the European Parliament elections in 2009. The findings suggest that the effects of polarization are less straightforward than previous findings would imply. This has implications on the quality of party competition and, eventually, on the quality of democratic representation.

## Introduction

To be effective, democracy requires an alternance between incumbents and oppositions in leading the polity. This concept is based on the assumptions of an actual competition between the parties and a response of the electorate. However, the extent to which citizens are subject to competition is nothing but variable: they may be willing to support the same party at every election, or they may be open to change. They may consider supporting only the parties standing on a side of a certain issue dimension, or they may not care about the placement. This attitude is suspected to vary according to several factors, including the kind of party competition itself.

The scope of this paper is to show how contextual variations can shape the individual dispersion of preferences across parties, influencing the electoral competitiveness and, eventually, the potential for a change in polity. More specifically, the spotlight will be put on the level of polarization of the party system at the time of the electoral campaign. According to the literature, the expected effects are rather contrasting. On the one hand, party system polarization is supposed to provide voters with a bigger range of choice, and therefore to increase their possibility to find the best solution according to their preferences (Dalton 2008, Wessels & Schmitt 2008) On the other hand, polarization is supposed to provide party competition with a bigger component of ideological conflict, and therefore to narrow down voters' choice to a more specific policy area (Sartori 1976, Pardos-Prado & Dinas 2010).

These effects also lead to different implications: as an indicator of the level of differentiation of the political supply, polarization is supposed to influence the electoral participation and the quality of representation. However, if expressing a preference means to stand on a side of a political conflict, polarization may prevent voters from changing their preferences, bringing to an artificial stability of the electoral outcomes, and decreasing the quality of democratic representation.

In this paper I make two contributions, one substantive and one methodological. The first contribution is to inspect the effect of polarization on the distribution of citizens' preferences on the left-right space in twenty-seven European countries. In the empirical part I test the two contrasting hypotheses regarding the effects of polarization that I derive from the theoretical expectations built on the literature. To do this I use survey data from the voter study conducted in the occasion of the European Parliament elections in 2009<sup>1</sup>. The second contribution of my paper is to propose a new way to use the propensity to vote (Ptv) scores to model individual preferences – a method which fits better with the kind of research question that I address on this paper, but which may be used for many other purposes.

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1 EES (2009), European Parliament Election Study 2009, Voter Study, Advance Release, 16/04/2010, ([www.piredeu.eu](http://www.piredeu.eu)).

In the fourth part I describe the operationalization of the dependent variable, and try to address the problems deriving from that. The general expectation of this study is that polarization does not have a univocal effect on shaping the individual preferences. The findings suggest that the effects of polarization are indeed less straightforward than previous findings would imply.

### **Stability, change, and context and competition**

The early literature about electoral processes in Western European societies used to describe a situation of great stability. From the 1960s the theory of the *social cleavages* was the most important paradigm to explain both the party competition and the election results in those countries. Party systems were organized in a way which resembled the structure of divisions that ran across the societies from the birth of the national States (Lipset & Rokkan 1967). Given this form of representation, their electoral support by the social groups to which they referred was taken for granted (Mair & Mudde 1998). This made election results in West European countries fairly stable over time.

However, in the last decades scholarship has been detecting some significant changes. The importance of social characteristics in explaining party preferences weakened (Franklin et al. 1992, Kriesi 1998). The increasing level of education and the spread of the mass-media improved the ability of the individuals to make their own decisions without relying on the cues provided by social or political groups (Dalton 1984). The change of material conditions dropped salience from economic-based divisions and put emphasis on new value-oriented political cleavages (Inglehart 1977, 1984). Yet the most recent comparative studies of elections conclude that, rather than a monotonous process, electoral change is strongly embedded in the context in which political actors and citizens interact. This increased the interest in context as a *mediator* for the effect of the determinants of preferences on voters' behavior (Thomassen 2005a, Klingemann 2009, Dalton & Anderson 2011).

In this framework, polarization as a property of the party system was found to be fairly important (Thomassen 2005b). However its effect on electoral behavior seem to be all but unambiguous. Alvarez & Nagler (2004) state that citizens will perceive an issue as more salient the more parties are polarized on it, and therefore weight it more in their calculus of voting. This was found to be particularly true regarding the left-right attitudes (Lachat 2008) and their relationship with class voting (van der Eijk et al. 2005, Dalton 2008). On the other hand, polarization can also have the undesired effect of overemphasize the conflictual aspects of political divisions, and therefore to establish more extremist voting patterns (Sartori 1976, Pardos-Prado & Dinas 2010, but see also Powell 1987). In such a

perspective, it can work as a constraint for voters and hinder the potential for electoral change (Kroh et al. 2007).

All in all, there are two apparently contrasting expectations regarding the effect of a party system's polarization on the electorate. The first is built on a perspective which sees polarization as a process of differentiation between parties and helps voters in the recognition and the evaluation of the policy differences within the political supply. According to this perspective the voters will have a more clear idea about the range of policy alternatives over a given dimension, and they will be helped finding the one which is closer to their own preferences. The second expectation is built on a perspective which considers polarization as a tendency of parties to overemphasize their differences, up to involve a symbolic component. According to Sartori: "When one finds a large ideological space, it follows that the polity contains parties that disagree not only on policies but also, and more importantly, on principles and fundamentals" (Sartori 1976, 137). In this perspective polarization is not expected to help voters finding the alternative which better fits with their own views, but rather it should make them consider the other alternatives as totally unappealing. This would reduce the competitiveness of a polity, bringing it back to to a situation of "artificial" stability.

However, these two expectations may also not contradict each other. Every kind of political competition is expected to have a certain degree of symbolism, as in every ideological identity there is a more or less big policy component (see LaPalombara 1966). Therefore, we may expect polarization to have a constraining effect on voters preferences only when it passes a certain critical level. But where is this level? In the next part of the paper I expose my empirical expectations derived from these insights and describe the procedure to test them.

## **Hypotheses**

As reported above, it has been shown that polarization has generally a positive effect on turnout since it provides voters with a wide range of choice. On the left-right space, this means that voters whose preferences are further from the center will be able to reach a party which better satisfies their needs. On the other side of the coin, a wider range may also mean a broader supply for all the voters, including the ones placed next to the center. If the party competition does not aim to outbid the rivals, a wider range of choice implies that the voters will consider all the possibilities before choosing the one which maximizes their utility. Therefore, I expect that up to a certain degree, voters in more polarized systems have a distribution of preferences that is more disperse on the left-right space. This would

mean that the way in which they evaluate parties is more *inclusive*, i.e. their support for a party, whatever it is, will not exclude the possibility to support another party. On the other hand, some scholars have been underlying the potential negative effects of polarization on voters. This is not only given by the policy distance, but rather by an excessive emphasis on the symbolic and identitarian component of ideology. According to this perspective, ideology should work as a constraint for voters, making the way in which they evaluate parties more *exclusive*. The combination of these two expectations leads to my main hypothesis:

*H1: Polarization will have a curvilinear bell-shaped effect on the dispersion of voters' preferences on the left-right.*

There are other two aspects which may confirm my expectations, and they both regard individual characteristics. In fact, although polarization is a property of the political system, single individuals may have a different perception of the party competition. This may be given by their social environment, by the kind of media from which they get their information, and also by the party they choose to support. If individuals tend to see party support as something that is mutually exclusive, they will perceive parties as more distant than what they really are. This leads to my second hypothesis:

*H2: The more the single individuals perceive the system as more polarized than how it really is, the less their preference distribution on the left-right will be dispersed.*

The last expectation regards the position of the individual on the left-right space. Parties' polarization is indeed often associated with a bigger dispersion of the citizens on the left-right. This may be due to a tentative of parties to adapt to a polarized electorate or to a phenomenon of partisan conversion, i.e. the tendency of partisans to become more extreme in the ideological direction of the party that they support (see Levendusky 2009). If an individual's extreme position is lead by a tendency to *convert* to a party's ideology, we should expect her preferences to be more narrow on the left-right than for other individuals. This leads to my third hypothesis:

*H3: In polarized systems, the more an individuals are placed on the extremes of the left-right dimension, the less their preference distribution will be dispersed.*

If these hypotheses hold, it will mean that this model is able to catch both of the aspects of polarization, i.e. the width of the choice range and the level of ideological conflict. Before testing them, however, it is necessary to explain how I operationalized the concepts described so far.

### **Left-right polarization and its measurement**

Talking about polarization requires a brief recall of the concept of spatial competition, or, more generally, the spatial modeling of party competition. According to Downs (1957a) issues can be conceptualized as single-dimensional spaces on which both parties and voters have an ideal position. These positions are given by their preferences, and according to a spatial model, the more two actors (e.g. individuals, parties) are far from each other, the more their preferences are different.

Following a standard definition, the concept of polarization describes a situation in which the differences in preferences are accentuated, and therefore our actors move towards the extremes of the continuum. In this respect, the level of polarization of a party system describes the extent to which parties are spread on a issue dimension. Then, if voters are distributed homogeneously on this dimension, it follows that they will all have a party close enough to themselves to maximize their preference. Moreover, in Downs theory, such a tendency of parties to differentiate themselves from each other is expected to be more common in multi-party systems than in the two-party systems. In fact, as in a two-party system parties will tend to converge to the center to hunt for the median voter, in systems characterized by the presence of more parties they will rather try to accentuate their diversity (Downs 1957). This brings us back to the above definition of polarization. According to this expectation, an increasing number of parties should provide enough variation of choice to voters, and therefore maximize their possibility to choose according to their preferences and to turnout. However, it has been demonstrated that the number of parties is fairly independent from the level of polarization (Sani & Sartori 1978, 1983) and that it is the latter, rather than the former, which brings the expected effects on the turnout and the meaningfulness of voting choices (Dalton 2008, Wessels & Schmitt 2008). This leads to an empirical definition of polarization as the width of a range of choice. In other words, polarization is defined as the *distance* between parties on a given dimension.

In the literature we can find several ways to operationalize this concept in a way which can be comparable across countries. In one of the first attempts, Sani & Sartori (1983) propose three different measures: partisan overlap, ordinal similarity and the mean distance between every two groups of

voters. These measures are expected to capture both the policy distance on the left-right dimension and the level of homogeneity of parties' electorates in respect to the left-right self placement. However, these measures can work only on two-by-two comparisons, and therefore are unsuitable to describe the overall country level of polarization. In a similar fashion, other attempts involve the measure of the range between the two most extreme parties in a country (Ware 1996). However this method may bias our measurement of the true range of choice in the (likely) event of very extreme parties which are irrelevant at the systemic level. Again, Klingemann & Wessels (2002) measure the distance between every pair of parties and divide this by the total number of parties.

However, the most widespread way to operationalize polarization involves measuring the distance of every party from the policy center and weighting this measure for the party size – normally the number of seats held in Parliament or the share of valid votes at the time of the election. This measure can be used in its raw version (Hazan 1995), divided by the standard deviation of the voters' self-placement, in order to control for the ideological dispersion among the public (Alvarez & Nagler 2004) or it can be standardized in a way which constrains it from zero to one (van der Eijk et al. 2005). For this study I use the latter index, operationalized according to the following formula:

$$IP = \frac{\sum |LRm - LRpx| * EPx}{IPmax}$$

Where:

*IP* = ideological polarization;

*LRm* = the mean of the parties' placement on the left-right scale;

*LRpx* = the position of the party *x* on the left-right scale;

*EPpx* = the vote share of party *x* at the time of the election observed;

*IPmax* = maximum ideological polarization, i.e. two parties placed at the opposite poles of the continuum which have the 50% of the votes each.

It is important to specify that the space the issue space that this study refers to is the left-right dimension. This choice requires to make an important assumption, that is, the one of the unidimensionality of the space of competition. Since Downs (1957) proposed his model of spatial competition, this assumption has been problematized in many ways (see Campell et al. 1960, Stokes



1963). However, there are three good reasons why in this case the use of the single left-right dimension should not represent a problem. First, following the insight of Sartori (1976, 334-342), we can easily assume that if we have a competition, it means that the competitors are playing on the same field, i.e. they are trying to appeal the same voters. Secondly, since the ideological space in European political dialectic is represented by the left-right dimension, abundant research shows that today such a space is a well-used rationalization amongst the most of the voters, and it summarizes parties placement on several issue dimensions (see Schmitt and van der Eijk 2009). Third, my dependent variable regards the distribution of the Ptv scores on the left-right space, therefore using the left-right polarization as an explanatory factor seems to be all but senseless. In other words, if in a certain country the left-right dimension does not count for the political competition, voters will not display a great variance in their preference distribution on such a dimension, and therefore the fit of the model will be untouched.

Another potentially problematic choice regards the measurement of parties' placement. For this study my choice was to use the positions of parties as they are perceived by the voters. In the 2009 wave of the European Election Study survey, each respondent was asked to place a given number of parties on two eleven-point scales, one regarding the left-right and another regarding the attitude towards European integration. With these data it is possible to get a party's placement as it is perceived by the electorate using a measure of central tendency. While this may cause concerns regarding whether this measure really tells something about the *true placement* of a party, it is also true that this is what we see from the perception of the electorate. Such a perception is supposed to be influenced by several factors, including the party platform (as measured by the Manifesto data). If those two measures result to be incongruent, this is supposed to imply a difference between what parties propose in terms of policies and what they communicate to the electorate (which is observed by using the survey data), rather than a problem with the measuring instrument.

Finally, for the means of this study I adopt two versions of the same measure of polarization. One, following the formula above, is expected to show the overall level of polarization of the country as it is perceived by the electorate. The other measure is obtained using the same formula for computing a different index for every single respondent. Although this would seem to be a way to put useless multicollinearity in the model, it is not. The Pearson's correlation between the two variables is  $R = 0.4$ . Moreover, the logic underlying this choice is driven by the theoretical expectation given by my second hypothesis. In the next part I will describe the concept and the operationalization of the dependent variable.

## The individual distribution of party preferences

Studies regarding party polarization and electoral behavior are mostly interested in the mediating effect of the context on the power of certain variables to explain party preference. To give some examples, this may be the effect of left-right placement on class voting (van der Eijk et al. 2005) or the effect of spatial considerations on party preferences (Lachat 2008, Pardos-Prado & Dinas 2010). The focus of this study is not on the single party preferences, but on the distribution of preferences across parties of every individual on the left-right space<sup>2</sup>.

This question requires a way to observe party preferences which is different from a single, dichotomous choice. More specifically, it requires that a question about the individual attitude towards a party is asked for every single party – or, at least, for the most important ones. Fortunately, survey research has been providing observations regarding non-ipsative rating scales for a long time<sup>3</sup>. The most common variables of this kind are the *feeling thermometers*, made popular by the American National Election Studies, the *like-dislike* scales measured in the CSES study, and the *propensity to vote* (PTV) scales, introduced in the early 1980s in the Dutch Parliament Election Studies and now asked in several countries in the European Election Studies. Although these variables may seem to measure the same construct, it has been demonstrated that they perform differently. According to van der Eijk & Marsh PTV scores are better predictors of the actual vote choice. This includes their performance in predicting second-best choices in contexts where more preferences are admitted (van der Eijk & Marsh 2007). This desirable property makes PTV scales fit to measure what, taking an economic perspective, is defined as *party utility*:

“Each citizen estimates the utility income from government action he expects each party would provide him if it were in power in the forthcoming election period, that is, he first estimates the utility in-come Party A would provide him, then the income Party B would provide, and so on. He votes for whatever party he believes would provide him with the highest utility income from government action.” (Downs 1957b)

Probably giving this appealing feature, although several empirical uses of PTVs have been proposed (see van der Eijk et al. 2006), the way in which such variables are normally analyzed is still mostly oriented to predict the single party preference. For this purpose, the data matrix is reshaped into a

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2 Needless to say, the same approach can be applied to any issue dimension on which we have data.

3 In psychology the concept of 'ipsative' refers to a type of measurement where the choice set is presented as made by alternatives. When applied to rating scales, this concept implies that all the rating values given by the respondent have to sum up to one. The type of scale that I use to in this study is non-ipsative, although it will be standardized for modeling purposes.

stacked version, converting the cases from individuals to individual-party couples. This, in a logic derived from the conditional logit models (McFadden 1973), allows the researcher to model party preference including both characteristics of the decision maker and characteristics of the choice set, such as the party size or the distance between the respondent and the party.

However, the potential use of those variables is bigger. As described by Tillie (1995), once we relax the constraint of the single-party preference, we can get information regarding both the potential of an individual to switch her choice from a party to another and the potential of a party to get votes. This can give us information about the quality of party competition at the time of a given election, i.e. to what extent parties are able to mobilize their support (see Tillie 1995, van der Brug et al. 2005, van der Brug et al. 2007). In a similar mood is the approach adopted by Kroh et al. (2007) in their chapter about the potential of European Elections in driving the electoral change. Starting from a similar research question, they use the inverse of the PTV difference between the two most preferred parties (i.e. the two highest PTV scores) as an indicator of the potential to switch from a party to another. In this study they also find the polarization on both the left-right dimension and the European integration dimension to have a strong negative effect on the potential to change. This finding does not necessarily go against my expectations. In fact, the measure used by Kroh et al. does not take account of the position of the two alternatives on the left-right scale. However, before explaining the difference between the two models, it is necessary to describe how my dependent variable is computed.

In this paper I propose a way to derive information from the PTV scales taking into consideration the distribution of parties on the space. More specifically, I use individual PTV scores to observe how individual preferences are dispersed on the left-right space. This practice is driven from the nature of the substantive question, which is not oriented to predict the individual preference for a single party, whatever are the determinants, but rather to know to what extent individual preferences are inclusive or exclusive on the specific dimension taken into account.

Conceptually, the operationalization is straightforward. Suppose we have a dimension on which individuals can place the choice alternatives in an ordered fashion. Now suppose we ask those individuals how likely it is that they will choose for each one of the alternatives. If we combine those measures, we can observe how every individual's preference is distributed on the dimension we are interested in. This implies knowing an indicator for the *position* (the central tendency) and an index of *dispersion* (the standard deviation).

The first one is obtained calculating the mean of the parties' placement on the left-right weighted by the

PTV scores that the respondent assigns to them:

$$P = \frac{\sum_{i=1}^N PTV_i * LRP_i}{\sum_{i=1}^N PTV_i}$$

Where:

$P$  = the position of the central tendency;

$PTV_i$  = the PTV score given by the individual to party  $i$ ;

$LRP_i$  = the placement of party  $i$  on the left-right scale;

$N$  = the number of parties.

This formula is equivalent to the one for the expected value in a discrete distribution. This leads to the problem of the nature of PTVs as non-ipsative measures. In fact, when a respondent is asked to express her propensity to vote for a given party, she is not told that this preference would in any way influence the responses for the other parties. In other words, giving 10 to a party does not mean that the respondent will have to give 0 to all the others. This makes the PTV scores given to every party independent from each other. However, it is fairly plausible to assume that, at the individual level, all the PTVs come from the same distribution, i.e. the individual utility. If a respondent gives 10 to one party and 0 to all the others, it means that her utility is exhausted by a single party, within the range of choices that she is evaluating. It could be argued that there is a difference between a respondent who gives 7 and 8 and a respondent who gives 3 and 4 to the same parties, though in this way they will be treated as equivalent. For example, if those parties are the only two running for the election, the first respondent will be more likely to cast a vote, in general, than the second. However, the focus of this study is the dispersion of preference on a spatial dimension, and therefore in this particular case the two respondents can be treated as equivalent.

The second indicator, which is the one that will be used as dependent variable in my model, is an index of dispersion of the individual preference on the left-right space. It is computed in the same way as a standard deviation for a discrete distribution:

$$D = \sqrt{\sum_{i=1}^N (LRP_i - P)^2 * \frac{PTV_i}{\sum_{i=1}^N PTV_i}}$$

Where:

$P$  = the position of the central tendency;

$PTVi$  = the PTV score given by the individual to party  $i$ ;

$LRPi$  = the placement of party  $i$  on the left-right scale;

$N$  = the number of parties.

In a Downsian perspective, this distribution should look like a normal distribution with the mean placed on the same position where the respondent places herself. However, since PTVs are measured independently from the parties' placement on the left-right, the preferences can be driven also by considerations which are different from the purely spatial ones. For example, let us consider an individual placed on position 1 on the left-right scale who is evaluating two parties, one (A) placed on position 2 and one (B) placed on position 4. Suppose that the most recent polls state party A to have the 3% of the vote share and party B the 15%. Then our voter may consider voting party A for spatial reasons, and party B for maximizing the possibility to have her preference represented. Then, her distribution of preference among A and B would be more disperse than in the case that A has the 15% and B the 3% of the share.

One important thing to underline at this point is that, to determine the left-right placement of parties, I used the mean value of all the respondent in a country. This choice is driven by the necessity to control for the individual range of the parties' placement. In fact, the index is constructed combining two measures, and therefore it is expected to vary according to two things: the width of the perceived range between the parties and the actual distribution of the PTVs. Using the parties' mean placement, this range is held constant, and all the variation expected comes from the PTV distribution<sup>4</sup>.

To give an example, Figure 1 shows the PTV distribution of two respondents on the left-right space with four parties. The vertical gray lines show where the parties are placed. On the Y-axis there are the values of the PTVs. The propensity to vote of Respondent 1 is 10 for the first party and 0 for all the others. The propensity to vote of Respondent 2 for the four parties is (from left to right) 10, 7, 6 and 4. The position of the central tendency of the distribution of Respondent 1 is 2, and the dispersion 0, while for Respondent 2 the position of the central tendency is 4.44 and the dispersion is 2.42.

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4 It may be interesting to find a way to measure whether the difference between the individual perceived placement and the mean placement for every party has an effect on the dispersion.

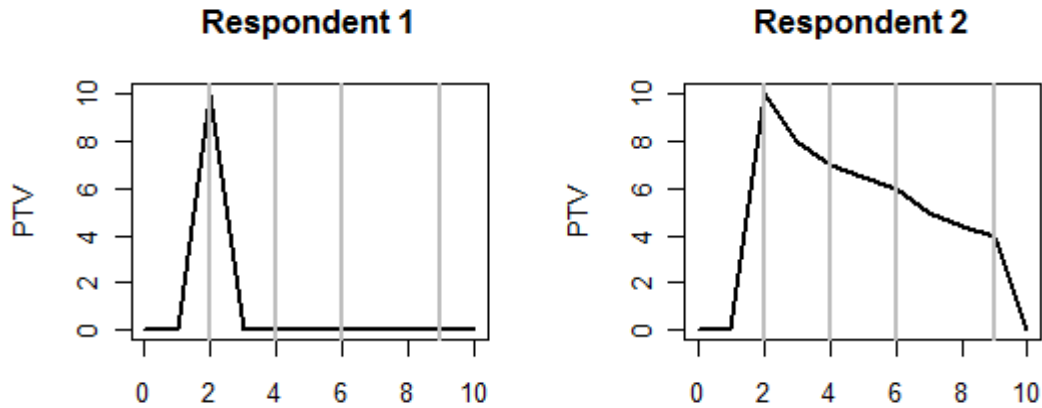


Figure 1: Examples of PTV distributions

As we can see from the picture, the most favorite party of the two individuals is the same, but while for Respondent 1 such a preference is exclusive (she is willing to support only the most leftist party), for Respondent 2 the pattern is more inclusive (there are no parties with zero PTV). Of course Respondent 1 is an extreme case of exclusiveness; nevertheless, it is an attitude that in practice is not so rare.

Figure 2 shows a simple histogram with the distribution of the new variable. There are two modes in it, one on the zero and one slightly after the one. While the more central mode is very close to the mean value (1.21), the one on the zero looks rather strange. From a fast inspection of the data, however, it results clear that it consists in all the individuals who gave the highest PTV to one party and zero to all the others, like the Respondent 1 in the example above. All together those observations consist in about the 10% of the sample (2428 cases over 24634 total observations where the index of dispersion could be measured).

Considering their frequency of the zeros and their distance from the median of the distribution, it may be argued that those cases should be modeled separately from the rest of the sample. However, the number of zeros varies a lot from one country to another. This may suggest that they are influenced by the same context-specific characteristics that influence the dispersion of the PTV distribution for all the other cases. However, in my analyses I run two models, one including the cases with zero dispersion and one excluding them. If the two models differ significantly in the estimated coefficients, this may mean that the zeros play a role which will be worth of further investigation.

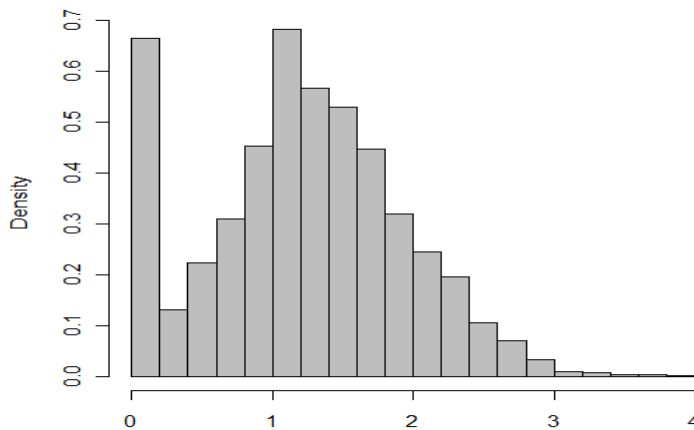


Figure 2: Distribution of the Index of Dispersion

If I run a simple empty model with the index of dispersion by country, it displays that a fairly high proportion of the variance occurs between countries. The Intraclass Correlation Coefficient is 0.28, meaning that more than a quarter of the variance is explained by the context. This justifies the use of a multilevel hierarchical model with country fixed effects.

### Model specification and results

To investigate the effect of polarization on the level of dispersion of the individual utility on the left-right I use a hierarchical model with fixed and random effects. The individual-level variables for which I derive fixed effects are the age, the gender (a dummy for females), the level of education, the level of political information, the level of political interest and the party identification. This category of variables includes some socio-demographics (age and gender) and some variables which may have an effect on my dependent variable, since they involve the ability of the individuals to process information and the way in which they relate with politics.

The variable regarding the education is a harmonized cross-country comparable recode of the country specific levels of education, which is provided in the dataset<sup>5</sup>. The level of political information has been obtained summing the number of correct answers to seven questions asked in every country, four about the European Union and three about the national politics. The level of political interest is a recode of a variable which asks how much the respondent is interested in politics in general, and goes from low interest to high interest. The variable regarding the party identification has been recoded in a

<sup>5</sup> For more information visit: [http://www.unesco.org/education/information/nfsunesco/doc/isced\\_1997.htm](http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm)

way that is similar to Enyedi & Todosijevic (2009). In the EES dataset there are four questions regarding the party identification: one asking which party the respondent feels close to (1) and, in case of affirmative answer, a further question asking for the strength of the feeling (2) with three categories ('Very close', 'Fairly close' and 'Merely a sympathizer'). In case the respondent says 'no', another question asks whether she feels at least closer to a party than to all the others (3) and, in case of affirmative answer, which party she feels close to (4). My index of party identification goes from 0 to 4: the category 0 includes those who answered 'no' to the questions (1) and (3) plus all the combinations of negative answers and non responses between the two questions; the category 1 includes those who have answered 'yes' to the question (3) and answered 'no' or did not respond to question (1); the categories 2, 3 and 4 are the three categories of question (2), reversed in order to go from the lowest to the highest level of party identification.

The country-level variables included in the model are the index of polarization calculated with the formula above, its squared version (to account for the curvilinear effect), the number of parties for which the placement and the PTV was asked and the party range of every country – the distance between the two most extreme parties for which the placement was asked. This last variable serves to control for the different range between countries, in order to compare the PTV distributions across context.

Finally, I put the individual level perceived polarization centered on the overall country polarization, the level of extremity of the individual self-placement on the left-right (since the scale goes from 0 to 10 this is calculated as  $LRSP - 5$ ) and the interaction of the left-right extremity with polarization. Given the interaction effect, the slope of the left-right extremity is let free to vary between countries (random coefficient).

Table 1 shows the result of this model including all the cases (Model 1) and excluding the cases with zero variance (Model 2). The AIC value from the first to the second model drops to a very big extent, sign that the fit is better in the case of the second model. This confirms that the cases with zero dispersion are fairly problematic and, maybe, they should be modeled differently. However, there are other differences between parties: the effect of education goes from being positive and significant to slightly negative and not significant. On the other side of the coin, the level of political interest becomes stronger and significant in the same direction, as well as the number of parties. This is probably the only coefficient that I would expect to be in the opposite direction. In fact, if the number of parties increases the voters have more possibilities to evaluate. Therefore this variable should have,



*ceteris paribus*, the same effect as a wider party range. However, this confirms at least the theory of Sani & Sartori (1983), according to which the number of parties is completely independent from the level of polarization.

	<i>Model 1</i>	<i>Model 2</i>
<i>Intercept</i>	0.483 (0.209) **	0.592 (0.184) ***
<i>Age</i>	-0.003 (0.000) ***	-0.002 (0.000) ***
<i>Gender</i>	-0.022 (0.009) **	-0.018 (0.008) **
<i>Education</i>	0.013 (0.004) ***	-0.004 (0.003)
<i>Political information</i>	-0.011 (0.003) ***	-0.018 (0.002) ***
<i>Political interest</i>	-0.002 (0.006)	-0.010 (0.005) **
<i>Party identification</i>	-0.074 (0.004) ***	-0.052 (0.003) ***
<i>Party range</i>	0.081 (0.027) ***	0.087 (0.024) ***
<i>N of parties</i>	-0.015 (0.011)	-0.027 (0.010) ***
<i>Polarization</i>	3.632 (1.227) ***	3.813 (1.078) ***
<i>Squared polarization</i>	-2.654 (1.473) *	-2.579 (1.291) **
<i>More polarization</i>	-0.294 (0.025) ***	-0.304 (0.022) ***
<i>L-R extremity</i>	0.070 (0.018) ***	0.049 (0.023) **
<i>L-R extremity * Polarization</i>	-0.368 (0.053) ***	-0.283 (0.069) ***
<i>N of cases</i>	20304	18508
<i>SD intercept</i>	0.117 (0.017)	0.109 (0.016)
<i>SD L-R extremity</i>	0.028 (0.005)	0.039 (0.006)
<i>Corr (SD intercept, SD L-R extremity)</i>	-0.050 (0.227)	-0.295 (0.197)
<i>SD residual</i>	0.624 (0.003)	0.513 (0.003)
<i>Akaike Information Criterion (AIC)</i>	38683.420	28017.770

Table 1: Predictors of PTV dispersion. S.E. in parentheses. \*\*\* =  $p < 0.01$ ; \*\* =  $p < 0.05$ ; \* =  $p < 0.1$

Table 1 shows that polarization has indeed a curvilinear bell-shaped effect on the individual PTV dispersion on the left-right. The effect of the squared polarization is not as strong and not as significant as the one of the raw variable (especially in Model 1, the one with all the cases) but it holds in both the models. The effect of the individual perception of polarization is negative and strongly significant in both the models, as expected by the theory. Moreover, the effect of the interaction between polarization

and left-right extremity is also negative and strongly significant. This can be considered as a sign of the presence of ideological conversion when the system is polarized. To sum up, all the three hypotheses can be confirmed. The effect of polarization is not as straightforward as expected by some previous finding, although its curvilinearity is not as robust as its positive effect.

## **Conclusions**

Does polarization help democratic representation? The findings displayed above seem to conduct to the more classical ambiguous answer: it depends. On the one hand, up to a certain level polarization can influence the way in which voters distribute their preferences on the left-right in a way that include more possible choices. This is supposed to be good for party competition: if parties can not take their support for granted, they will have to do a better job in representing citizens and being accountable. On the other hand, polarization can also imply a tentative of parties to constrain their supporters and make them less likely to shift their vote choice. This may lead the political scenery into what Sartori defines as a “polarized pluralism”: When one finds a large ideological space, it follows that the polity contains parties that disagree not only on policies but also, and more importantly, on principles and fundamentals” (Sartori 1976, 137). This is supposed to be bad for party competition or, more precisely, this is supposed to be an effort to reduce the level of competition into a situation of artificial stability. That polarization may have a curvilinear effect on the quality on democracy has been demonstrated recently by Schmitt & Freire (2010). However, with this study I demonstrate that polarization has an effect on the way in which voters distribute their preferences on the left-right. This leads to the need of further research to explain what does really change into party competition when polarization turns from making party choice inclusive to make them exclusive.

## **Appendix – Countries in EES 2009**

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, UK.

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