

PREFERENTIAL VOTING RULES, DISTRICT MAGNITUDE AND THE EXPRESSION OF PREFERENCES ON THE BALLOT: A FIELD EXPERIMENT

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Abstract

This article analyses the predictors of preferential voting in flexible list systems, namely the importance of political sophistication, voting rules and district size for expressing preference votes. It does so by using the results of an experimental survey carried out in Portugal, an exit poll which was taken place on the legislative election day in 2015. Of the four indicators chosen to measure political sophistication, only political interest is a significant predictor of preferential voting. A ballot which presents no alternative to expressing a preferential vote systematically makes a difference, compared to an optional preferential ballot. District size makes a difference only when the voting rules are considered: when preferential voting is compulsory, the share of voters expressing preferences (vis-a-vis blank/null) increases to a significant degree in average-sized districts. Finally, political interest tends to lose its significance when the voting rules make the expression of preferences compulsory. The article therefore shows that preferential voting does not constitute an obstacle for those with less political sophistication to express a vote, especially when the voting rules make preferential voting compulsory.

Keywords: Preferential Voting, Voting Experiment, Electoral Behaviour

FIRST DRAFT: PLEASE DO NOT QUOTE WITHOUT THE AUTHOR'S PERMISSION

Introduction

Electoral systems for long have been at the centre of analysis when considering the importance of institutions for political behaviour (Duverger 1951, Rae 1967). Electoral systems are multifaceted arrangements, however, and there has been more research on the impact of the electoral formula be it on turnout or governmental stability, than on ballot structure (Blais and Carty 1990, Grofman and Lijphart 1984, Franklin 2004, Colomer 2016). Yet, there are substantial differences in ballot structure, among European countries and elsewhere (Ortega 2004, Renwich and Pilet 2016), and research has shown that it may have an impact on turnout, voting behavior election results, quality of representation and even satisfaction with democracy (Shugart 2001, Farrell and McAllister 2006, Pereira and Andrade Silva 2009, Bosch and Orriols 2014, Sanz 2015, Söderlund 2017, Riera and Bol 2017). Even when ballot structure is considered, and its effects are tested, it is sometimes difficult to isolate that factor from other features of the electoral system or the broader context in which elections take place.

In this article, we test how the *likelihood of expressing preference votes* varies according to the district magnitude, the type of (flexible) ballot on offer, and the degree of political sophistication, through a field experiment carried out during election day in 2015¹. There are reasons to believe that district magnitude is a relevant factor of preferential voting, namely by its impact both in terms of closeness between the candidates and the citizenry and on party magnitude (André, Wauters and Pilet 2012). However, these two arguments would lead to competing hypotheses about the relationship between district magnitude and preferential vote. In the first case, a positive relationship would be expected: more preferential votes in low magnitude districts, especially if low magnitude is a synonym of low population density (as it is in Portugal), because this will increase proximity between candidates and voters and raise awareness of the individual MP candidates. In the second case, a negative relationship would be expectable: low district magnitude results in low party magnitude (i.e. low number of seats that the party is believed to be able to win), which, in turn, may motivate

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the voter into thinking that voting for the party or for one of the two or three candidates does not make much of a difference and strategically choose the least cognitively demanding action (as well as demotivate candidates from adopting constituency-oriented stances and cultivate a personal reputation). André, Wauters and Pilet (2012), studying the factors of preferential voting in Belgium, report mixed evidence that supports both the relevance of proximity and party magnitude. There is also another reason why we could expect a negative association between district magnitude and prevalence of preferential voting: the number of choices may depress preferential voting as electors feel overwhelmed with the amount of choice (André and Depauw 2017).

The type of ballot structure is also an important variable. Indeed, whether voting for a candidate is optional or compulsory (in the sense that there is no formal way to just express support for a party) is believed to be the most relevant difference between flexible list systems (Nagtzaam and van Erkel 2016, Renwick and Pilet 2016). Shugart (2005) even considers that the flexible list systems in which the expression of preferences is made mandatory constitute a distinct sub-type, which he names *latent list* system. In spite of their importance, only a handful of studies have effectively compared the direct impact of these specific rules of the electoral arrangements on voting behaviour with mixed results. Renwick and Pilet (2016) compare countries where personalized vote is optional (Belgium, Czech Republic, Sweden) and compulsory (the Netherlands), and conclude that there is not a clear optional vs. compulsory pattern. A direct comparison of the aggregate percentage of preferential votes between countries and longitudinally is inconclusive: whereas Belgians tend to vote more preferentially than the Dutch, the Czechs and Swedes do so to a lesser extent (André, Wauters and Pilet 2012; Renwick and Pilet 2016).

Yet, an experiment carried out in the Netherlands and Belgium, by Nagtzaam and van Erkel (2016), which analysed the impact of different arrangements (not only compulsory vs. optional voting rules in flexible lists, but also the number of preferences voters are allowed to express) concluded that if expressing preferences is optional, less preferential votes will be cast. However, the fact that their experiment included measures of vote in an hypothetical election (although with the names of real-world politicians) raises concerns of external validity.

These contextual variables may not only impact on the propensity to vote for specific candidates, but also interact with individual characteristics associated with political sophistication. There are, however, few studies on this topic. In a comparative

study of six countries (Latvia and Switzerland, with open lists; Austria, Belgium, the Czech Republic and Sweden, with flexible lists), André and Depauw (2017) conclude that the differences between the informed and the uninformed about politics are observable only in contexts in which there is a smaller number of candidates (presumably in low magnitude districts); when this number is high, both will display low odds of casting preferential votes. Research showing that primacy effects (i.e., being placed first grants candidates higher proportions of the popular vote) tend to be stronger when voters know little about the electoral race and the candidates (Miller and Krosnick 1998) would also support the assumption that list or list-puller voting is the easiest way out for uninformed voters.

There is scarcely a systematic understanding on the contextual and individual factors of preferential voting in such contexts, and therefore this article aims at filling in that gap. Moreover, this article also aims to contribute to an every-growing field of experimental and quasi-experimental analysis of the impact of electoral systems and, in particular, voting rules (Laslier and van der Straeten 2008; Blais et al. 2011, 2012; van der Straeten, Laslier and Blais 2013; Blumenau et al. 2016), which can provide empirically robust and internally valid insights about the nature and magnitude of that impact. This article draws on an electoral experiment carried out in the 2015 legislative elections in Portugal which consisted in an exit poll with different ballot papers. For our experiment, electors from three districts of different magnitude were divided into three groups, and each group was presented with a distinct ballot: a closed-list ballot identical to the one used in the Portuguese legislative election; an ordered ballot, where the elector could either vote for the party label or choose one candidate; and an ordered ballot where the candidate had to vote for one candidate.

Our article is divided in the following four sections. First, the principal studies which have researched ballot structure and its consequences are briefly presented. Next, we formulate our hypotheses concerning how the likelihood of expressing preferences will vary with different rules in flexible preferential voting, the size of electoral districts, the political sophistication of electors and the interactions between these factors. In the third section, the methodology employed in the experiment, namely the protocol implemented as well as the characteristics of the participants citizens who had just exited the polling station and agreed to participate in an exit poll - are described. After that, the results of the statistical analysis carried out to test our hypotheses are

presented and discussed, and the paper ends with a few considerations on the main implications of the empirical patterns observed via this field experiment.

Why do Voters Cast Preferential Ballots in Flexible List Systems?

Most literature on preferential voting usually focuses on its incidence and effects (Marsh 1985, Karvonen 2004, Renwick and Pilet 2016) while neglecting its causes. However, whether we think that the effects of preferential voting are positive or negative in terms of how democracy works, we also need a systematic understanding of why people are more or less likely to express preferences for individual candidates (André and Depauw 2017).

Recently, André, Wauters and Pilet (2012) proposed three explanatory models of preferential voting in flexible-list systems. The first, the *resource model*, sees preferential voting as a sophisticated voting behaviour (see also Marsh 1985). This is so because party labels provide shortcuts from which the less informed citizens can infer information about issue positions and policy commitments of the candidates listed as a whole, whereas differentiation between candidates requires more time and effort. Therefore, in empirical terms, we should observe a positive relationship between expression of preferences and direct or proxy measures of political sophistication, such as age, education, political knowledge and political interest, as well as lower levels of preferential voting amongst women, working class and the unemployed (who are believed to display lower levels of political sophistication).

The second, entitled *proximity model*, posits that "a preference vote would be the sign of an intense and regular relation between voters and candidates they vote for" (André, Wauters and Pilet, 2012, p. 297). This means that empirical studies should find a positive relationship between expressing a preference vote and instances of direct (party or interest group membership, contact over casework, less densely populated contexts) or mediated contact (i.e. when party leaders or other elite members who benefit from media coverage, are on the list).

Lastly, André, Wauters and Pilet (2012) propose an *instrumental model*. It postulates that it is not rational for voters to express preferences when those preferences are highly unlikely to influence who is going to be elected, i.e. the order of intra-party seat allocation. Other than the existence and magnitude of quotas used in this process of allocation, *district magnitude* matters, since preferential votes become more decisive as

the number of seats a party wins in an electoral district grows. Since district magnitude is the key determinant of party magnitude, we could therefore expect that the levels of preferential voting will be higher in districts of higher magnitude, where they are more likely to make a difference.

A test of the isolated and combined effects of these three models in Belgium (under an optional preferential voting system) shows that the evidence tends to support the three models, even if only political interest and age are resources that actually make a difference (André, Wauters and Pilet 2012). The resource model also receives support from other studies. For instance, van der Kolk (2003), focusing on four countries with very distinct systems in place (Denmark, Germany, the Netherlands, Norway) finds that education and political interest foster the expression of preferences, but reports mixed results regarding the role of party attachments, gender or age. In turn, in the Netherlands, Andeweg and van Holsteyn (2011) find that women tend to cast preferential votes more than men and that there is a negative association between age and preferential voting (with youngsters expressing preferences more often). These patterns are actually the opposite of what we would expect according to the resource model. However, the authors also find a positive association with education, political interest, internal political efficacy and political knowledge (which backs up an understanding of preferential voting as knowledgeable and sophisticated voting). A replication of their analysis using data from the 2012 Dutch Election study confirms the relevance of education (Hoedemakers 2014). Lastly, a study focusing on six countries with open or flexible lists and optional preferential voting also shows that political knowledge and education foster preferential voting, although the role of political sophistication will be stronger in some contexts than in others (André and Depauw 2017). In turn, the instrumental model receives support from a recent study that uses the existence and magnitude of thresholds required for a candidate to be directly elected as a contextual condition, and shows that the effectiveness of the preferential vote (lower/no thresholds) leads to more preferential votes being cast (André and Depauw 2017).

The three models discussed above focus above all on the individual characteristics of voters, but also recognize the importance of the context, namely of specificities of the electoral designs such as district magnitude, for preferential voting. Given this brief literature review we can now turn to the article's hypotheses.

Goal and Hypotheses

Given the ideal setting which our data provide in terms of providing evidence of preference voting when all else is equal except ballot structure and district magnitude, our goal is to test different indicators of political sophistication, the way in which district magnitude affects preferential voting; whether making preferential voting optional matters, and how these two contextual variables interact with the levels of political sophistication of voters. Given the extant literature, our first hypothesis concerns district magnitude: Considering the previous studies, and notwithstanding some contradictory evidence, we posit that:

Hypothesis 1: Higher district magnitudes will lead to higher levels of preferential voting.

Concerning the direct effect of voting rules we argue that the inexistence of formal alternatives to the preferential vote will lead to higher percentages of voters casting preferential votes in compulsory than in optional systems. In order to compare non-preferential voting in compulsory and optional systems we assume that in compulsory systems voting for the list-puller (the first candidate on the list) or blank or invalid voting is a non-preferential vote (Andeweg and van Holsteyn 2011; Hoedemakers 2014; Renwick and Pilet 2016; but see also Nagtzaam and van Erkel 2016 for a critique of these assumptions). Therefore, we posit that,

Hypothesis 2: The expression of preferences for individual candidates will be less common when voting rules make preferential voting optional instead of compulsory.

As regards political sophistication, we expect higher levels of education (which grants voters resources to better analyse the political events and actors) and greater interest in politics to be predictors of preferential voting:

Hypothesis 3: Education and interest in politics will have a positive impact on the likelihood of expressing preferences in the ballot

Other than explore the dynamics between voting rules and district magnitude our aim in this paper is to see whether the context moderates the role of political sophistication on the likelihood of expressing preferences. Following André and Depauw (2017) we expect the role of political sophistication to be stronger in districts of high magnitude, in which the number of choices could be overwhelming for inattentive voters (for instance, in Lisbon the number of candidates was above 700, whereas in Beja the number was close to 50). In what regards the moderating impact of the voting rules, we believe that political sophistication will matter more if the rules make preferential voting merely optional. In this case, uninterested electors will give their vote to the party list, and the politically engaged will be more likely to express a preference for a specific candidate. In turn, in compulsory systems, we believe that the amount of sophistication needed to understand that voting for the first candidate is a way of escaping the obligation to express preferences and to be able to pick specific candidates are equivalent, and therefore no strong effects of political sophistication should be observed. Therefore,

Hypothesis 4: The expression of preferences for individual candidates will be more likely impacted by voters' levels of education and interest in politics in districts of high magnitude.

Hypothesis 5: Preferential voting will be a function of political sophistication only when the system does not make it mandatory.

Data and Methods

We now characterise the experiment carried out and the methods employed in the analysis. Before we do so, it is necessary to recall the main characteristics of the Portuguese electoral and party system. Elections in Portugal are held by D'Hondt formula in one-tier electoral systems with closed party lists. The 20 districts in Portugal range from 2 to 47 seats, thus making Portuguese democracy one of four countries with the highest district magnitude variation (Lago and Lobo, 2014). Concerning the party system, in the first legislative elections, which took place in 1975, four parties emerged which still constitute the core of the Portuguese party system (Lobo, 2001). Namely, the Communist Party (Partido Comunista, PCP) and Socialist Party (Partido Socialista, PS) on the Left, as well as the centre-right Social Democrat Party (Partido Social

Democrata, PSD), and the conservative Social Democratic Centre (Centro Democrático Social, CDS), on the Right. To these four parties, a fifth must be added, the Left Bloc (Bloco de Esquerda, BE), which since 1999 has consolidated its presence in Parliament, and can be ideologically placed on the extreme-left of the left-right scale (Lisi 2015). Portugal can be seen as a relatively stable party system: in 2011 and 2015 the number of effective parliamentary parties was respectively 2.93 and 2.71 (Lobo, Pinto, Magalhães, 2015).

The Experiment

On 4 October 2015, election day in Portugal, an exit poll survey of 936 voters took place. The experiment was conducted in three constituencies: one large (Lisbon, which elects 47 deputies), one medium-sized (Braga, which elects 19 deputies) and one small (Beja, which elects 3 deputies). In each electoral district, 312 voters participated in the experiment. Voters were approached and randomly assigned to one of three experimental conditions: they were either invited to use the official ballot used during the 2015 legislative election (the control group), a ballot offering the possibility to vote for *either a party or a candidate* (the optional preference voting condition), or a ballot *only offering the option* of voting for a candidate (the compulsory preference voting condition). For the purposes of this paper, we will use only the data gathered in these two last experimental conditions. Since 104 voters participated in each condition in the three districts, the number of participants in this study is of 624.

Participants in the compulsory and optional preferential voting conditions received a ballot with the party lists of each of the 15 or 16 parties running in the district. The number of candidates in each party list matched the number of seats at stake in each constituency. This ballot is different from that commonly used in Portugal, which merely presents the names and symbols of the political parties. The lists were headed by the name and symbol of the political party and order of the candidates on the list was the one decided by the parties; that is, voters were asked to express preferences on actual MP candidates by looking at their names ordered in the way their parties decided to place them. The ballots were A3 sheets of paper, with a landscape layout, and the lists occupied one face of this sheet in the case of Beja and Braga and two faces in the case of Lisbon. The layout was not very different from the used in Dutch general elections. The only difference between the ballots used in the optional and compulsory

conditions was that in the former there was also a square next to the name and symbol of each party, which participants could use if they preferred to support the party as a whole.

The ballots were accompanied by instructions. In the compulsory condition, the instructions were: "This ballot has a different than usual format. Please read the following instructions carefully before casting your vote! Please vote by placing one X next to the name of your preferred candidate. The lists included here are the lists of candidates standing for election for each party in this constituency. With this ballot paper you can vote for your preferred candidate by placing a cross (X) in the space next to the candidate's name. You can only express one vote, by placing one cross (X) against your preferred candidate. If you make more than one cross (X) your vote will be spoiled." In turn, participants in the optional condition were given very similar instructions, different only in key aspects (in italics): "This ballot has a different than usual format. Please read the following instructions carefully before casting your vote! Please vote by placing one X next to the name of your preferred *party or candidate*. With this ballot paper *you can vote either for your preferred party (by placing a cross (X) in the box next to the party symbol), or for your preferred candidate (by placing a cross (X) in the space next to the candidate's name)*. The lists included here *are the lists of parties and candidates* standing for election in this constituency. You can only express one vote, by placing one cross (X) *against either your preferred party or your preferred candidate*. If you make more than one cross (X) your vote will be spoiled."

After casting their ballots, the participants were asked to fill in a short questionnaire, aimed at getting information about their socio-demographic characteristics (gender, age, education, marital status, professional status, religiosity, union membership, political party/group membership)², key political attitudes (political interest, ideology)³ and preferred modes of exposure to political information.⁴ The

² Gender is measured here as a dummy variable in which 1 stands for "male". Age is a continuous variable measuring the age of participants on election day. Education is an ordinal variable with 7 points, ranging from 1 (no schooling) to 7 (university degree completed). Marital status is a nominal variable differentiating between those who were married or cohabiting, widowed, divorced/separated or single on election day. Professional status is also a nominal variable distinguish those with a full time job, a part-time job, housepersons, students, retired, or in other situation). Religiosity is measured here by a 4-point scale in which 1 stands for "not religious at all" and 4 means "very religious". Lastly, both union and political party/group membership are dummy variables, in which a 1 means that the participant is unionised/ a political party or group member.

³ Political interest is measured by a 4-point scale in which 1 means "not interested at all" and 4 means "very interested". Ideology is measured through an 11-point scale in which 0 stands for "left" and 10 for "right". The mid-point of this scale is 5.

information about political characteristics was asked for separately from the ballot, so as to give respondents freedom to vote, but the two sheets of paper were then kept together.

The compulsory preferential rule we adopt in this experiment is very similar to that of the Netherlands. Interestingly enough, the Dutch system does not exacerbate the incentives for candidates to cultivate personal votes, since the leaders still present and order the ballots (which may, of course, be disturbed by voters), votes are pooled and voters cast only one single vote below the party level, being therefore similar to the Portuguese system in what regards incentives to cultivate personal votes: the Netherlands are ninth in terms of the thirteen combinations of systemic incentives to pursue personal votes (Carey and Shugart 1995; Andeweg and van Holsteyn 2011). In turn, the optional system we test here is very similar to the one at place in Belgium, being the main difference the fact that, in our experiment, voters were allowed either to simply endorse a party list or select just one candidate (in Belgium voters may vote for the party or express preferences for one or several candidates; André, Wauters and Pilet 2012).

Participants

As said above, 936 voters in the 2015 Portuguese legislative elections participated in this experiment, and the data on 624 of them (those who were allocated either to the compulsory or the optional preference voting conditions) is used in this article.

This sample is composed of 51.4 per cent of women, and the mean age of the participants is 49 (with a standard deviation of 17), with 23 per cent being between 18 and 34 years old and 20 per cent being older than 65. The participants were also diverse in terms of educational profile, with 21.3 per cent holding an university diploma and 18.3 per cent having merely completed the elementary schooling. The majority of participants rely on television for information on politics or current affairs (70.4 per cent), and 36.1 per cent claim to be not religious are all or not very religious. The sample is almost evenly composed of full-time employees (52.3 per cent) and people with other professional situations. Only 7.4 per cent are union members and 11.4 per cent claim to be part of political parties or groups. Self-reported levels of political

⁴ A nominal variable distinguishing between those who privilege the television, the newspapers, the radio, social networks such as Facebook and Twitter or none of these media.

interest are, on average, above the mid-point of the scale (2.7, with a standard deviation of .9), which is not surprising considering that participants are actual voters, people who turned out to vote on a sunny Sunday. In terms of ideology, the average is of 4.79 (with a standard deviation of 2.5) on a scale from 0 (left) to 10 (right). Comparison of the official election results in the three constituencies and the choices made by the respondents using the official ballot paper in the October 2015 election also confirms, *grosso modo*, the representative nature of the sample in terms of party choice (Lobo, Santana-Pereira and Gaspar 2015).

Taken as a whole, the groups of participants in the two main experimental conditions (optional vs. compulsory) are equivalent.⁵ However, due to the different characteristics of the Lisbon, Braga and Beja areas, the groups of participants in the three districts are different in terms of educational attainment (being, on average, more educated in Lisbon than in Beja; $F(2,623)= 4.564$; $p < .05$), religiosity (being more religious in Braga than in Beja, and more religious in Beja than in Lisbon; $F(2,623) = 16.120$; $p < .001$), political party or group membership (more common in Lisbon than elsewhere; $F(2,623)= 5.094$; $p < .01$), and ideology (with participants in Braga being, on average, more right-wing than those of Lisbon and Beja; $F(2,618) = 12.448$; $p < .001$). Therefore, in the data analysis reported in the following section, these variables will be controlled for via their insertion in regression models. Table 1 below presents the results of the preferential voting across districts, comparing both optional and compulsory ballots.

Table 1. Percentage of Preferential Votes Cast by District and Condition

	Beja	Braga	Lisbon	All
Optional	12.5	9.6	26.9	16.4
Compulsory	23.1	51.9	17.3	30.8
All	17.8	30.8	22.1	23.6

⁵ There are no statistically significant differences in terms of gender ($t(622)= -1.201$; $p > .05$), age ($t(622)= .026$; $p > .05$), educational attainment ($t(622)=-.499$; $p > .05$), interest in politics ($t(622)= -.819$; $p > .05$), religiosity ($t(622) = -.041$; $p > .05$), ideology ($t(617)=-.364$; $p > .05$), marital status ($\chi^2 = 3.118$; $p > .05$), preferred media for political information ($\chi^2 = 3.753$; $p > .05$), employment status ($\chi^2 = 9.738$; $p > .05$), union membership ($t(622) = -.612$; $p > .05$) or party/political group membership ($t(622) = -.1268$; $p > .05$).

Results

In order to test our hypotheses regarding the main effects of political interest, education, age, gender, district magnitude and voting rules, we computed a logistic regression model on the likelihood of casting a preference vote, having as predictors district magnitude (a three-point variable), the voting rules (a dummy variable), gender, age, education and political interest. We also inserted as controls religiosity, union membership and political party/group membership (as proxies or actual measures of involvement in associative work; see André, Wauters and Pilet 2016) and ideology.⁶ The results, displayed in Table 2 (Model 1), show that most of the individual level variables are not key predictors of the likelihood of casting a preferential vote. Other than the control variable ideology⁷, the exception is political interest, with those who are not interested in politics at all being less likely to vote for individual candidates than those who display higher levels of interest about what happens in the world of politics. Education seems not to have any impact on the likelihood of voting for individual candidates. The results also show that the impact of political interest is modest: the uninterested are 28 per cent likely of expressing preferences, in contrast with those who are very interested in politics: 38 per cent. Gender and age seem not to have an impact on the likelihood of expressing preferences in the ballot: men are just slightly more likely of expressing preferences than women (predicted probabilities of 31 and 26 per cent, respectively), and there is no distinct pattern in terms of age. In short, we find partial and modest empirical support for our hypothesis 1 and no support for hypothesis 2.

The regression reported on Table 2, Model 1, also allow us to assess our hypothesis regarding the impacts of district magnitude and voting rules. In what regards this latter variable, it seems that its impact is significant and follows the expected direction: on average, participants in the optional conditions were only 22 per cent likely of expressing preferences, as compared to 35 per cent in the compulsory

⁶ The evidence regarding the role of ideology is, however, both scarce and mixed. Hoedemakers (2014) reports a small but significant effect of ideology, with left-wing voters being more likely to select candidates other than the list puller. While feeble, this result is interesting because it neither corroborates the irrelevance of ideology in terms of the level on which you allocate your vote (Andeweg and van Holsteyn 2011) nor literature hypothesizing higher levels of preferential voting from right-wing voters linked to a trend from candidates linked to more right-wing parties carry out more personalized campaigns than the left-wing ones (e.g. Giebler and Wessels 2013, Karlsen and Skogerbø 2015).

⁷ We find predicted probabilities of preferential voting of 10.1 per cent for the extreme left-wing voters, 21 per cent for those placed at the centre of the spectrum and of 30 per cent for the extreme right-wing participants.

conditions. That is, regardless of the broader context and voter characteristics, compulsory preference voting rules (i.e. the inexistence of a formal possibility of not voting for individual candidates) does produce more actual preferential votes being cast, when compared to optional voting.⁸ Hypothesis 4 is, therefore, confirmed.

Table 2: Parameter estimates for the predictors of the probability of expressing preferences in the ballots (logistic regressions)

	Model 1	Model 2	Model 3	Model 4
Intercept	-3.420 (.75)	-4.308 (.84)	-4.334 (.90)	-2.240 (1.09)
District	.089 (.50)	.532* (.21)	.073 (.13)	-.503 (.43)
Compulsory (1 = yes)	.84*** (.20)	2.347*** (.60)	2.223** (.76)	.863*** (.21)
Gender (1=male)	.287 (.21)	.265 (.21)	.283 (.21)	.292 (.21)
Age	-.011 (.01)	-.011 (.01)	-.011 (.01)	-.011 (.01)
Education	.046 (.08)	.047 (.08)	.047 (.08)	.052 (.08)
Interest in Politics	.284* (.13)	.262* (.13)	.596** (.21)	-.174 (.34)
Religiosity	.025 (.12)	.027 (.12)	.043 (.12)	.038 (.12)
Union Membership (1=yes)	-.355 (.40)	-.358 (.40)	-.344 (.40)	-.355 (.40)
Political party/ group membership (1=yes)	.428 (.32)	.471 (.32)	.421 (.32)	.398 (.32)
Ideological self-placement	.174*** (.04)	.177*** (.04)	.170*** (.04)	.177*** (.04)
Compulsory*District		-.721*** (.26)		
Compulsory* Interest			-.486 (.25)	
District*Interest				.215 (.15)
Nagelkerke R2	13.5	15.2	14.3	14.0
N	619	619	619	619

Notes: The dependent variable is a dummy in which the value 1 identifies the participants who expressed preferences in the ballot. Values are unstandardized coefficients with standard errors under brackets. Significance: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

⁸ The results of a t-test, performed under the assumption that the groups of participants in the optional and mandatory conditions are equivalent, support the conclusions of the analysis of predicted probabilities holding the other variables constant, but report a stronger impact of this factor: on average, 16.4 per cent of the participants in the optional conditions voted for a specific candidate, while in the compulsory conditions taken as a whole this value is almost two times higher (30.7 per cent; differences are statistically significant: $t(622) = -4.301$; $p < .001$).

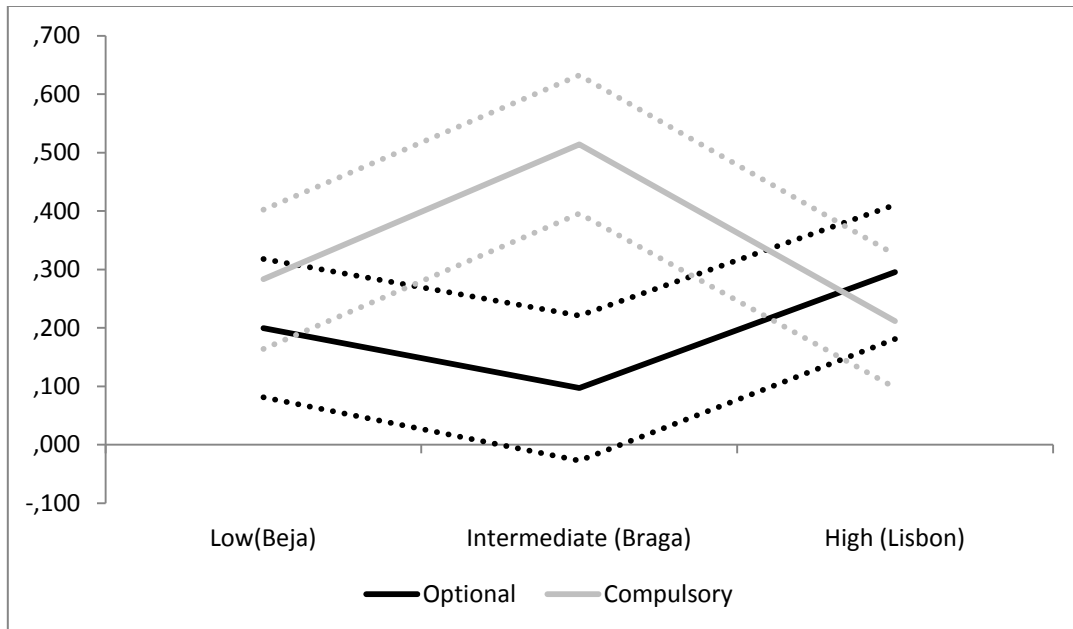
In turn, the coefficient for district magnitude does not reach statistical significance. The predicted probabilities actually point to the fact that preferential voting could be more likely in a district of relatively high magnitude such as Braga (32 per cent) than in low and high magnitude districts (26/27 per cent). We decided to further explore the role of district magnitude and see whether its effect depends on the voting rules used in this field experiment, by adding an interaction term of these variables to the regression model, which turns out to be statistically significant (Table 1, Model 2).

The predicted probabilities displayed in Figure 1 shed light on the interaction between these two variables: it seems that the relationship between district magnitude and probability to cast preferential votes is U-shaped when the voting rules make the expression of preferences merely optional. In this case, the likelihood of expressing preferences is higher in low (20.0 per cent) and high (29.6 per cent) magnitude districts than in the intermediate one (9.7 per cent). In fact, these results can be read in light of what André, Wauters and Pilet (2016) find in their study of preferential voting in Belgium, where an optional system is in place. On the one hand, in contexts such as Beja, in which the density of population is low, the proximity model would posit somewhat higher patterns of preferential voting than in more densely populated contexts such as Braga or Lisbon. But in Lisbon this sense of proximity is fostered by the media: while it is unlikely in such a densely populated setting to meet the candidates in person, several candidates running in Lisbon are party leaders or key political party elite members, benefiting from media attention that is usually granted to candidates running in other districts, such as Braga.

However, the probability of casting preferential votes assumes an inverted U shape when the voting rules do not allow participants to give their vote to a party list (Figure 1). In this context, the likelihood of expressing preferences is higher in Braga (51.4 per cent) than in Lisbon (21.2 per cent) or Beja (28.3 per cent). In Beja this figure may be explained by the rationale under the instrumental model (voting for candidates other than the list puller may not make much sense in a context in which most parties will, if lucky, display a party magnitude of 1, i.e., elect just one MP, and, therefore, the most feasible candidate is likely to be the list puller). In turn, in Lisbon, most list-pullers are party leaders, which means that the likelihood of voting for candidates other than them may be hindered by a trend towards first-level personalized voting. That is, voters

may think: "if I have no alternative but vote for a candidate, I might as well just vote for the leader of my party".

Figure 1: Predicted probability of preferential voting according to voting rules and district magnitude (with confidence intervals in dotted lines)



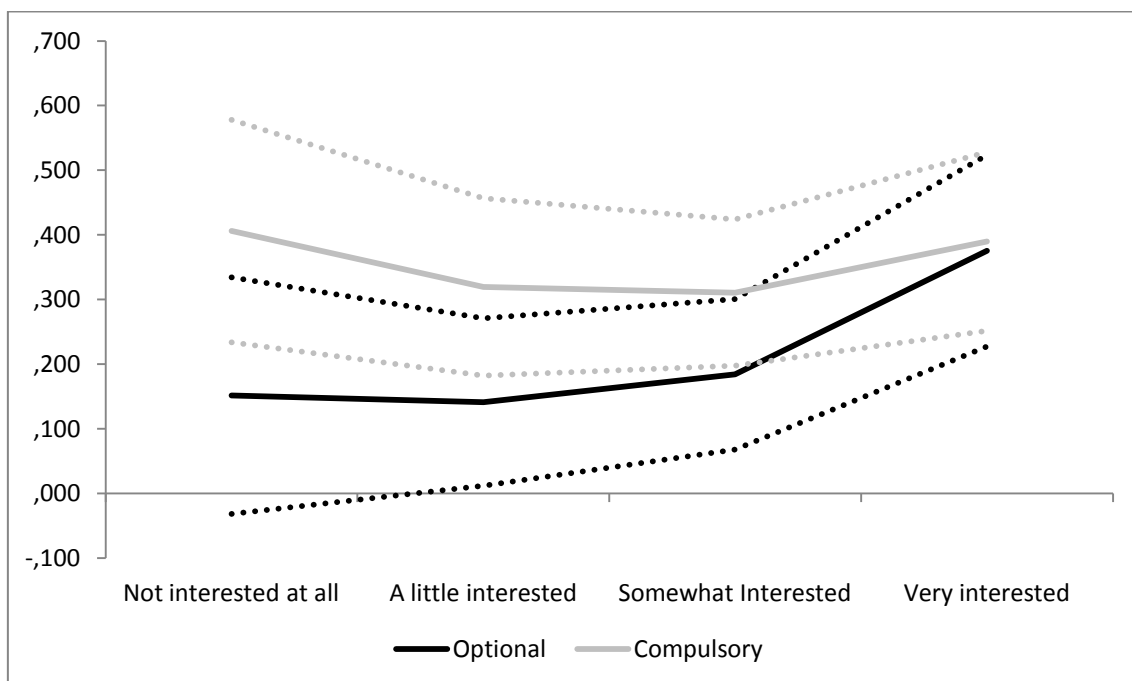
A second interesting finding from the data displayed in Figure 1 is that it seems that voting rules only make a difference when the number of seats at stake is neither very low (Beja) nor very high (Lisbon), but just above average (Braga).

Given the fact that political interest is the only measure of sophistication with an impact on the likelihood of preferential voting, our analysis is, from now onwards, focused on the political interest interaction with both voting rules and district magnitude.⁹ Models 3 and 4 on Table 1 present the results of two regression models in which these interaction terms were included. The interaction between political interest and district magnitude is highly insignificant (Model 3), while the interaction term with

⁹ For the sake of completeness, we also computed models with interaction terms between, on the one hand, voting rules or district magnitude, and, on the other, alternative indicators of political sophistication (gender, age, education), to rule out the possibility that the absence of main effects of those variables was due to their impact being diametrically opposite in different contexts and, therefore, evened out when the context is not accounted for by means of interaction terms. None of the interaction terms between voting rules and gender, age or education were statistically significant. In the case of the interactions between district and these variables, only the term regarding gender was significant: women are slightly more likely than men of casting preferential votes in the low magnitude district of Beja but less likely to do so in the two other districts.

voting rules is not statistically significant with a confidence interval of 95%, but significant if an interval of 94.5% would be chosen, which lead us to decide to analyse it in detail. This interaction is further explored on Figure 2, which plots predicted probabilities of preferential voting according to levels of interest in politics and the voting rules underlying the ballot use to cast the vote, controlling for the other factors. What we see is that a positive (but modest) association between levels of political interest and preferential voting is observed only when the rules make the expression of preferences optional: in this context, voters are more likely to vote for individual candidates if they are more interested in what happens in the realm of politics. However, political interest seems not to be a key feature of preferential voting when there is no formal alternative to cast a vote for a candidate. Regardless of their political awareness, participants in these conditions were equally (un)likely to vote for candidates other than the list puller. While vote rulings seem not to matter in terms of probability to cast preferential votes for those who are very interested in politics, in the case of the uninterested the fact that there is a formal way of voting without having to choose amongst candidates tends to lower (although not in a statistically significant way) their odds of expressing preferences. In short, Hypothesis 6 seems to receive empirical support from this analysis.

Figure 2: Predicted probability of preferential voting according to voting rules and levels of interest in politics (with confidence intervals in dotted lines)



Conclusion

In this article we use the results of an electoral experiment carried out in the 2015 legislative elections in Portugal to further our understanding about flexible list voting. The experimental study – using actual voters on election day - is an ideal ground to test our hypotheses, and enables the study of the impact of the varying electoral system characteristics on voting behaviour, holding everything else constant which is very rare in existing studies of preferential voting.

Providing an answer to these questions will help us to understand in which conditions preferential voting can be a mechanism that furthers choice for the electorate. Given this overall goal, the focus was on testing the importance of political sophistication for preferential voting, as well as contextual measures such as district magnitude and ballot structure (compulsory or optional preferential voting). We also explored whether political sophistication matters for the expression of preferences in the context of the voting rules and amount of choices available.

The analysis shows that neither age, nor gender, nor education make a difference for casting a preferential vote, which is encouraging from the perspective of its introduction. Only political interest emerges as a significant predictor of preference voting, in our multivariate model of analysis. Concerning the two different voting rules, optional and compulsory preferences, having the latter makes a significant difference. District magnitude does not seem to make a difference, but further exploration of the interaction of this variable in interaction with type of ballot employed shows that it is significant. Expression of preference votes follows a u-shaped curve for voters using optional voting, whereas it follows an n-shaped curve for voters using compulsory voting. Indeed, it is the mid-size district – Braga - where voting rules make a difference, with a substantial increase in the number of voters expressing a preference vote when the ballot has compulsory preferential voting.

Finally, the analysis of the interaction between political interest and the two contextual variables do not show any significance. If we loosen the criteria of significance slightly we see that in the interaction between political interest and voting rules, there is a positive (but modest) association between levels of political interest and preferential voting in the optional preferential voting context, political interest seems to make no difference if preference voting is compulsory.

Taken together, these results suggest that preferential voting is not dependent on political sophistication, with the exception of political interest. District size does not seem to matter for likelihood of expressing preferences, especially in very small and very large constituencies. It does make a difference in average size districts, with compulsory voting rules in those constituencies increasing the number of preferential votes. The compulsory ballot is significantly conducive of preferential voting and in addition it dilutes the importance that political interest may have in determining preferential voting. The results therefore do not suggest that preferential voting discriminates against those who are less sophisticated, especially if the ballot presented is one of compulsory preferential voting. *Ceteris Paribus*, it makes a significant case for the adoption of compulsory voting, such as in the Netherlands, rather than the optional system, such as exists in Belgium.

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