

This is a postprint version of the article:

Bosch, A. and Orrriols, L. (2014) Ballot structure and satisfaction with democracy. *Journal of Elections, public opinion and parties*, 24 (4): 493-511

delivered to Taylor and Francis.

ABSTRACT

This paper analyzes the influence of ballot structure over satisfaction with democracy. In line with previous literature, we hypothesize that some ballot structures – such as preferential ballots – generate more satisfaction with democracy than closed ones. Yet, we expect these differences to be especially relevant among the more knowledgeable electorate, since any open ballot structure requires more sophisticated voters. Using CSES surveys, our results do not show a clear and parsimonious relation between ballot openness and satisfaction with democracy as some previous research seems to suggest. Our findings rather suggest that is preferential ballots and open lists the only ballot structures that generate more satisfaction than most of the remaining ballot structures. Yet, this relation is restricted only among the more knowledgeable electorate. The liberty of choice that ballot structure offers only concerns a reduced portion of the electorate, namely the more politically sophisticated one.

1. INTRODUCTION

Why is satisfaction with democracy higher in some countries than in others? Many researchers have tried to find contextual or institutional arrangements to account for the different levels of satisfaction with democracy across countries. Most of the attention in this field has been focused on the particular design of the electoral systems. Since electoral systems are relatively malleable arrangements, many have found in this institution the solution to improve citizens' satisfaction with democracy.

This article assesses the influence of the electoral system on satisfaction with democracy. However, following an incipient body of literature, we study the effects generated not by the whole electoral system but by one of its components: the ballot structure. We do not defend the idea that the ballot structure is the philosopher's stone which explains why some countries show a great satisfaction with their political system while others do not. We rather try to find out whether the ballot structure contributes in any measure –regardless its magnitude– to increase or reduce these levels of satisfaction with democracy.

Previous research has suggested the superiority of open ballots for various reasons, such as they give voters greater choice or they encourage MPs to act as intermediaries between citizens and politics. Our paper shows that ballot structure has a modest but statistically significant impact on satisfaction with democracy, but not in the line suggested by the alluded previous research. Contrary to Farrell and McAllister (2006), our results do not support the idea that there is a clear and parsimonious relationship between ballot openness and satisfaction with democracy.

In the following pages we aim to contribute to the existing literature in two ways. First, we posit what we consider to be a better statistical modelling as well as a better nominal operationalisation of the ballot structure. This nominal operationalisation –contrary to the ordinal one employed so far– helps us show that this effect is limited to some specific ballot structures and cannot be broadened –as previous research assumed– to the entire range. And secondly, we also want to show that the effect of ballot structure on satisfaction with democracy is restricted only to those voters with a higher level of political information. The beneficial effects of open ballots are mainly restricted to the more politically sophisticated electorate. Indeed, our results show that only the more knowledgeable voters seems to be concerned about the degree of choice that ballot structure offers the electorate.

2. THEORETICAL BACKGROUND

The political consequences of electoral systems is an old topic. Early studies such as Duverger (1954) and Rae (1967) studied the influence of the electoral system on the party system – a research structure that remained unchanged until Lijphart and Grofman (1984) and Taagepera and Shugart (1989). Lijphart (1994) varies the dependent variable: he claimed that proportional electoral systems engendered more satisfaction with democracy whereas Norris (1999) countered that majority systems would increase “accountability” and, thus, satisfaction with democracy.¹ Later, Farrell and McAllister (2006) also vary the independent variable: they substitute the electoral system as a whole for its specific “ballot structure”.

But, what do we mean by “ballot structure”? And also, what categories can this possibly take? Ballot structure is just one of the five elements that constitute an electoral system (electoral formula, district magnitude, ballot structure, legal threshold and apportionment) so it is not to be confused with the electoral system as a whole. It refers to the physical operation that the voter has to do in order to exercise suffrage: crossing the name of a candidate, choosing a list, ordering several names, and so on. This is why Farrell (2001: 6) refers to ballot structure with the simplified expression of “how voters cast their votes”. There have been several typologies which enumerate the possible categories of ballot structure. Rae (1967) differentiated ordinal and categorical ballots and Farrell (2001: 170) differentiated candidate-based ballots and party-based ones (see also interesting categorizations of ballot structure in Blais, 1988; Shugart, 2001; Bowler et al., 2005; Colomer, 2011: 9-11). Crossing these two dichotomies, several possible ballot structures have been envisaged (cf. Farrell, 2001: 170). The most common in the literature are the six following:

Personalized ballot, where the voter chooses the actual name/s of the candidate/s and there are no party lists. This ballot structure is used in electoral systems such as the first-past-the-post system (US, UK, Canada, India), or the two-round system (France), or the limited vote system (Gibraltar), or even the single-non-transferable-vote system (Japan previous to 1993).

Preferential ballot, where the voter rank-orders the individual candidates put forward by all parties. This ballot structure is used in electoral systems such as the alternative vote system (Australia) or the single-transferable-vote system (Ireland), and is not to be confused with ‘preference ballot’ –a name sometimes given to open lists.

Closed list, where the voter simply accepts a complete list of candidates put forward by a party, without altering it in any way. This ballot structure is used in some list PR systems (such as in Spain) but it may be used also in other electoral systems such as the party-block vote system.

Ordered list, where the voter chooses a list of candidates, but she may express special preference for one or several of the candidates, hence altering the order of the list. This is sometimes called ‘weak’ preference ballot (Karvonen 2004: 207). This ballot structure is used in some list PR systems (such as in Belgium).

Open list, where the voter may select only a candidate name and not necessarily an entire party list, but this vote for the candidate is also counted as a vote for the party list to which that candidate belongs. This is sometimes called ‘strong’ preference ballot. This ballot structure is used in some list PR systems (such as in Denmark or Finland), but also in other PR systems where actual lists hardly exist (such as in Swiss *panachage*).

And finally, a combination of two previous ballot structures: a personalized ballot together with a closed list, which we might call “personalized plus closed list”. This ballot structure is used in electoral systems such as the parallel system (Russia, Japan), and the mixed member proportional system (Germany, New Zealand).

It seems plausible that ballot structure affects citizens’ satisfaction with democracy because the ballot structure is the only element of the electoral system which the citizen experiences directly. In fact, it is quite surprising that ballot structure did not appear as an antecedent of citizens’ satisfaction with democracy until the appearance of Farrell and McAllister’s article. This groundbreaking article details three mechanisms by which ballot structure may influence citizens’ satisfaction with democracy².

The “political efficacy mechanism” claims that some ballot structures offer voters a greater freedom to choose. These ballot structures may lead to a perception on the part of citizens that they have more say in the results of the election. Or put in other words, ballot structure has an effect on political efficacy. Therefore, Farrell and

McAllister (2006: 725) argue that ballot structure influences political efficacy which, in turn, influences satisfaction with democracy.³ The authors' position is that preferential ballots and open lists are the ballot structures that offer greater freedom to choose, followed by personalised ballots (either alone or combined with closed lists), then ordered lists, and finally closed lists (2006: 731). Pereira and Andrade (2009) also treat the question of how different ballot structures give more or less 'freedom of choice'. Following a more axiomatic rational choice approach, the authors rank the ballot structures according to (a) the available set of candidates or parties to choose from, and (b) the number of relevant candidates chosen by the voter in her ballot.⁴ According to these two dimensions, preferential ballots (named here 'rank ballot') and open lists remain at the top, but now followed by ordered lists (named here 'preference ballot'). The personalised ballot (without primaries) now joins the closed lists at the bottom of the ranking. Although not being their object of study, Pereira and Andrade guess their 'freedom of choice' index should maintain some relationship to voter satisfaction. However, they explicitly warn that "it does not follow that greater citizens' freedom of choice is always beneficial" (2009: 109).

The "intermediary role mechanism" argues that some ballot structures might encourage MPs to act as intermediaries between citizens and politics. As re-election depends on their personal performance, MPs would develop closer links with citizens (Lawson, 1980; Mitchell, 2000; Römmele et al., 2005) and would pay attention to personal relations –even if only as a means to personal vote chasing. Some authors have articulated this idea through the concept of "reputation" (Curtice & Shively, 2009: 173), whereas others preferred the looser "representative role" of MPs (Farrell & McAllister, 2006: 725-727; Ames, 1995). Carey and Shugart (1995: 418-419) even use both concepts. Authors disagree, though, on what are those "fruitful" ballot structures. According to Curtice and Shively (2009: 172-174) those would be personalized ballots ("single member plurality" in their terminology) because it is the only ballot structure with which a representative's re-election depends on her personal performance. However, Margetts (2011: 41-46) disputes that personalized ballots have played this role in Britain. In addition, Carey and Shugart (1995: 418-9) and Farrell and McAllister (2006: 727) argue that personalized ballots are clearly poorer than open lists and preferential ballots. On their part, closed lists are often depicted as the worst ballots –though not always. In fact, some authors (see Curtice & Shively, 2009: 176) claim that closed lists may promote the intermediary role of MPs, since parties will be interested in including on their lists those candidates who have a reputation for performing this role.

The “accommodative politics mechanism” maintains that some ballot structures “encourage a politics of accommodation”. Preferential voting would be one of those because –there– every candidate is interested in being acceptable to rival voters in order to collect their second preferences (Farrell & McAllister, 2006: 726) and because party competition focuses on valence –rather than position– issues (Marsh, 2011: 149). This, in turn, promotes moderation, stability and –eventually– satisfaction with democracy. This mainstream position does not go unchallenged. Lijphart (1999) stresses that closed lists could perform this role since lists play an essential role in consensual democracies, which require MPs to stick to coalition deals and thus have no personal interest in defecting. And it could even be argued that preferential ballots and open lists stimulate intraparty competition and encourage independent positions, which do not promote precisely moderation and stability.

The three mechanisms described show that theoretical agreement on which ballot structures generate a higher satisfaction with democracy is far from conclusive. However, they offer some hints as to what level of satisfaction with democracy we can expect from each ballot structure:

Preferential ballots and open lists. There is ample agreement that these are the two ballot structures that offer more freedom to choose. We have also pointed out some disputes as to whether they are the two ballot structures that most encourage the intermediary role of MPs, but every part of the dispute places them high on the list. And finally, preferential ballots are supposed to be the ballot structure that most stimulate accommodative politics (in fact, they often constitute the ideal example) and open lists follow closely. Thus, we should expect these two ballot structures to generate the highest levels of satisfaction with democracy. In addition, we have identified no solid motives to expect great differences between them.

Ordered lists. This ballot structure offers an intermediate level of freedom to choose. Maybe Pereira and Andrade (2009) assess it somewhat more sympathetically than Farrell and McAllister (2006), but differences are not great. In addition, this ballot structure is only relatively prone to encouraging the intermediary role of MPs and not particularly prone to stimulating accommodative politics. Thus, we should expect this ballot structure to generate a rather low level of satisfaction with democracy.

Closed lists. Our review of the literature depicted closed lists as giving less freedom to choose, not encouraging the intermediary role of MPs and not stimulating accommodative politics. Thus, we should expect closed lists to

generate the lowest level of satisfaction with democracy. However, we already pointed out that some authors (e.g. Curtice & Shively, 2009, as well as Lijphart, 1999) diverged from this negative vision. This specific disagreement on the role of closed lists should be kept in mind when discussing the results.⁵

Personalised ballots (and personalized plus closed lists). The conventional image of personalized ballots suggests a relatively high freedom to choose, considerable reinforcement of the intermediary role of MPs and not much incentive for accommodative politics. Thus, we should expect this ballot structure to generate a relatively high level of satisfaction with democracy. However, our review of the literature also identified some discrepancies with these questions: Pereira and Andrade (2009) questioned its freedom of choice and Margetts (2011) questioned its reinforcement of the intermediary role of MPs. Again, these discrepancies should be kept in mind when discussing the results. A different question is how personalized ballots relate to the sixth one (personalized plus closed lists). It could be argued that the relevant features (both the freedom to choose and the reinforcement of the intermediary role of MPs) of this sixth ballot structure come from its personalized side. Thus, we should expect this ballot structure (personalized plus closed lists) to generate a level of satisfaction with democracy similar to the personalized ballot. Or at least, we have identified no motives to expect great differences between them.

3. HYPOTHESES

The theoretical antecedents reported in the previous section led us to build four specific hypotheses.

Hypothesis 1. We hypothesize that countries using open lists or preferential ballots should display a higher level of satisfaction with democracy than countries using closed lists. This hypothesis is built upon the three mechanisms detailed in the previous section. First, closed lists clearly offer less choice than open lists and preferential ballots, which should imply less political efficacy and less satisfaction with democracy⁶. Second, they could prevent the intermediary role of MPs, with the same consequences for satisfaction with democracy. And third, they would not stimulate accommodative politics as open lists and preferential ballots do, and so less satisfaction with democracy would be expected.

Hypothesis 2. We hypothesize that countries using open lists or preferential ballots should display a higher level of satisfaction with democracy than countries using personalized ballots. The theoretical foundation of this hypothesis based on the three alluded mechanisms goes as follows. First, personalized ballots offer clearly less choice than open lists and preferential ballots. This should imply less political efficacy and less satisfaction with democracy. Second, they do not encourage the intermediary role of MPs as much as open lists and preferential ballots do. This should reduce the level of satisfaction with democracy. And third, they do not stimulate accommodative politics, and so they restrict satisfaction with democracy.

Hypothesis 3. We hypothesize that countries using personalized ballots should display a higher level of satisfaction with democracy than countries using closed lists. The theoretical foundation of this hypothesis based on the alluded mechanisms is the following. First, personalized ballots offer more choice than closed lists. This should imply more political efficacy and more satisfaction with democracy. Second, personalized ballots should encourage the intermediary role of MPs more than closed lists. This should increase the level of satisfaction with democracy.

Hypothesis 4. We hypothesize that countries using ordered lists should display an intermediate level of satisfaction with democracy, falling between countries using open lists and countries using closed lists. The literature reviewed in Section 2 typically describes ordered lists only as an intermediate category between open lists and closed lists. This implies that the only hypothesis we can infer about satisfaction with democracy engendered by ordered lists is the one above.

As we explain in the next section, we treat ballot structure as a categorical variable in order to avoid making assumptions about the linearity of the relation. Although our hypotheses have some expectations about the rank position of the different ballot structures, we do not assume that each unit change has the same effect on satisfaction with democracy. In other words, we do not believe there are uniform differences between each ballot structure: for instance, we expect open lists and preferential ballots to be significantly superior to the remaining categories, but we do not have clear expectations about the differences between ordered list and personalized vote.

The above four hypotheses assumed that the effects of ballot structure on satisfaction with democracy are uniform for all citizens. The academic literature has not yet hypothesized that these effects should be higher or lower among certain socio-demographic or attitudinal groups. However, we posit that political knowledge is a key intervening variable. Knowledge is an important ingredient for casting an informed vote; when voters know the rules of the game they can have a more precise idea about the implications of one's vote. Without political knowledge voters are less prepared to choose the party or candidate that best represents their political preferences. As Delli Carpini and Keeter 1996 suggest: "in the absence of adequate information neither passion nor reason is likely to lead to decisions that reflect the real interests of the public." Yet, some ballot structures require higher levels of knowledge and skill than others. As such, it would seem sensible to assume that the "political efficacy" and the "intermediary role" mechanisms are going to be especially valued by politically sophisticated voters, whereas for non-politically sophisticated ones the complexity of the ballots may be more of a nuisance than an asset. Thus, we came up with a fifth hypothesis.

Hypothesis 5. We hypothesize that the effects of ballot structure on satisfaction with democracy will be restricted to those voters with a higher level of political information.

4. DATA AND METHODS

In order to test our hypotheses, we use the three waves of the CSES project that cover 106 elections around the world from 1996 to 2011. However, due to the availability of information on the dependent and independent variables used in our study, the sample is reduced to 85 elections.⁷ The survey includes many of the necessary individual-level variables to test our hypotheses.

Dependent variable. Our dependent variable is a 4 point scale that measures satisfaction with democracy. The survey item is the following: "On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the way democracy works in [country]?" Some authors have questioned the validity of the measure because it rather captures evaluations of system outputs (i.e. Cannache et al., 2001; but see Fuchs, 1993). That said, it is the best indicator available in comparative political surveys and has been the standard dependent variable in previous similar research.

Independent variables. Our main independent variable is ballot structure. Previous studies such as Farrell and McAllister (2006) have measured the effect of ballot structure openness by creating an ordinal index based on Carey and Shugart's work (1995). Their index takes the lowest value in closed lists and higher values in personalized ballots, open lists and, at the top, preferential ballots. Other similar indexes have been developed (see Pereira & Andrade, 2009). Farrell and McAllister's strategy is based on the rather strong assumption of linearity in the relation between ballot structure and satisfaction with democracy.⁸ Yet, ballot structure has a categorical nature with no clear natural ordering and with an unknown distance between the categories. Due to these reservations, in this article we do not treat ballot structure as a continuous variable. By using a categorical measure, we avoid making a priori assumptions about the ordering of the categories and the linearity of the relation (see also Curtice & Shively, 2009). Note that—even if the categorical indicator of ballot structure contains six categories—our statistical analysis uses just four values: since in the previous section we hypothesized that preferential ballots would behave in a rather similar way to open lists, we collapsed these two categories; likewise, since in the previous section we hypothesized that personalized ballots would behave in a rather similar way to personalized ballots plus closed lists, we also collapsed these two categories. Moreover, using fewer categories also allows us to avoid having a small number of observations at the contextual level.⁹

The main individual-level independent variable (which will act as an interactive variable) is political information. We need this variable to study the fifth hypothesis about the interactive effect between political sophistication and ballot structure. Although the literature has provided different ways of measuring political sophistication, factual knowledge is for many researchers the best alternative among the available proxies in most surveys (Zaller 1992, Delli Carpini and Keeter 1996). Other measures such as subjective assessments of respondents' political interest or level of education are problematic: the former is affected by social desirability bias and the latter is only a determinant of political knowledge, which, even in some instances, is only moderately correlated with political sophistication (Luskin 1990, Zaller 1992).

Following previous research, we built an index using the three items of factual political knowledge.¹⁰ The CSES survey includes three different questions regarding factual knowledge of issues related to domestic and foreign politics which vary across countries. These items are dichotomous and take value 1 when the answer is correct and 0 otherwise. We have created an index with these variables which scores 1 when respondents had no correct answer and scores 4 when all answers were correct.

Unfortunately, the CSES political knowledge items are far from perfect. In particular, some researchers have raised some reservations about the comparability of the items across countries. The CSES instructed research teams of different countries to formulate the three items in ascending difficulty: questions must be formulated in a way that they produce about 1/3, 1/2 and 2/3 correct answers respectively (Grönlund and Milner 2006). The aim was to homogenize item difficulty across countries and, therefore, enhance comparability. However, political information questions are not standardized and vary across countries, which certainly reduces the possibility of cross-country comparisons. Despite its imperfections, there are no better alternatives to CSES data. The European Election Study (EES) solves the CSES problem by asking the exact same questions in all countries. Unfortunately, using EES data would reduce the number of countries included in our study and, more importantly, the variability of our main independent variable.

Individual-level control variables. We included the standard socio-demographic control variables: age (and age squared to account for nonlinear effects), gender (leaving male as the base category), education (as originally coded), household income (by quintiles), and labour situation (unemployed vs. other situation). These are the socio-demographic control variables that have generally been considered in the literature on this topic, but we shall show that not all studies find that socio-demographic variables have significant effects on satisfaction with democracy (i.e. Anderson & Guillory, 1997; Listhaug et al., 2009). We also include a variable that measures whether individuals voted for the party that won the elections. It is a well-settled conclusion in the literature that satisfaction with democracy is partly affected by electoral outcomes: individuals tend to be more satisfied with the way democracy works when it produces the electoral outcomes that they prefer (Anderson & Guillory, 1997; Nadeau & Blais, 1993; Blais & Gélinau, 2007; Singh, Lago & Blais, 2011). Our control variable takes value 1 when the individual voted for the winning party and value 0 otherwise.

System-specific control variables. First, we include two economic related variables: GDP per capita (in \$ at PPP) and GDP growth in the year previous to the election, using IMF data. These are standard control variables in the literature on satisfaction with democracy, which have consistently found that both the economic level as well as the economic situation are two important factors (see Norris, 1999; Listhaug et al., 2009; Curtice & Shively, 2009). The inclusion of GDP is particularly important for our purposes since it is correlated with ballot structure.

The danger is that the potential differences found between these types of ballots may turn out to be spurious if we do not take the economic factors into account.

The second system-specific control variable is proportionality. There has been prolific debate in the literature about whether proportionality goes together with higher evaluations of democracy. Some authors find evidence in that line (i.e. Lijphart, 1999) others do not (i.e. Aarts & Thomassen, 2008; Norris, 1999). Thus, the importance of proportionality is still an open question that requires more research. We use the Gallagher index of disproportionality.¹¹ Ballot structure is correlated with proportionality (i.e. personalized ballots are more present in less proportional systems), and thus we need to control for this in order to avoid potential spurious relations.¹²

Finally, we also include some other system-specific control variables that the literature has considered as important factors in accounting for support for democracy: the age of the democratic system (i.e. Aarts & Thomassen, 2008), the size of the legislative assembly and the number of adult citizens per MP (i.e. Farrell & McAllister, 2006; Curtice & Shively, 2009).

Statistical methods. Since we combine individual and national level variables, we use the multilevel regression technique. Thus, the estimates reported in the empirical part are based on multilevel linear regression models (with random slope). With this procedure we try to avoid some of the methodological problems of Farrell and McAllister's (2006) work, the major previous research on this issue. These authors do not take into consideration the multilevel structure of their data and their results are based in OLS linear regression estimations.¹³ However, ignoring the contextual layer of the data leads to the violation of the assumption that observations are independent, and this produces lower estimated standard errors, thus increasing the probability of Type I errors (see Steenbergen & Jones, 2002). Indeed, the estimates of OLS in these types of data produce unbiased coefficients but smaller sample variance, which generates spurious significance tests.

5. RESULTS

Since we believe that Farrell and McAllister's work is so far the major contribution in this field, the first step of the empirical section is to replicate their models and study whether their conclusions still hold once we include the three waves of the CSES project and take into consideration the concerns just expressed in the

methodological section. Farrell and McAllister found that ballot structure (as measured by their continuous intra-party index) had an influence on individuals' satisfaction with democracy. Yet, the magnitude of this effect was substantially reduced once the authors included the control variables, in particular GDP. With no control variables (or with only the individual-level variables) the coefficient was about 0.16, but it dropped to 0.04 once relevant country-level characteristics were included such as GDP and years of democratic experience (2006: 736). This meant that most of the initial effect of the ballot structure was really capturing some country differences. Despite this, the ballot structure indicator remained statistically significant at $p < 0.01$.

In Table 1 we estimate the results by using two different statistical techniques: we first use the OLS linear regression, like Farrell and McAllister (2006) did in their article, and we then use the multilevel regression technique, which allows us to fit random effects and account for the hierarchical structure of the data. The models also include some extra control variables that we consider important (i.e. age squared and GDP growth, voting for the winning party, and political information), but their inclusion does not substantially change our conclusions.

<Table 1 about here>

The first model of the table (Model 1) shows our replication of the Farrell and McAllister model (using OLS estimations) for the three waves of the CSES. The results are very similar to those reported by them. The coefficient associated with their continuous ballot structure indicator is smaller in our models (it passes from 0.04 to 0.025), but it still keeps its statistical significance at the $p < 0.01$. Most control variables behave fairly similar to the Farrell and McAllister model. Although the coefficients vary, some variables such as GDP, democratic experience or disproportionality show the same expected sign and are significant at $p < 0.01$. Yet there are some differences: for instance, contrary to Farrell and McAllister's work, assembly size has a negative and significant effect; and voting age population per MP has a positive and significant effect on satisfaction with democracy. However, the coefficients are rather small.

That said, the overall results of our replication are fairly similar to those provided by Farrell and McAllister. In this sense, the effect of their ballot structure indicator is robust and does not vary once we incorporate the second

and third waves of the CSES. With OLS estimations we find that ballot openness generates higher satisfaction with democracy.

Yet, we already mentioned that using OLS in data with a multilayered structure tends to lead to significance tests with inflated type I errors (i.e. false rejection of the null hypothesis). As such, we need to replicate the models using the multilevel regression technique. Model 2 shows the effect of the Farrell and McAllister intraparty indicator with no control variables, and this effect turns out to be significant at $p < 0.01$. The inclusion of individual-level control variables (Model 3) does not seem to alter the results, but the country-level control variables (Model 4) halve the coefficient and reduce its level of significance to $p < 0.05$.

The results denote that the Farrell and McAllister indicator still plays a role when we use the appropriate statistical technique and increase the number of elections under analysis, but there are some differences worth mentioning. First, the magnitude of the coefficient is now somewhat smaller: Farrell and McAllister reported a final coefficient of 0.04 in their full model, whereas now it is 0.02. Secondly, and more importantly, the level of significance is now weaker: Farrell and McAllister reported a final level of significance of $p < 0.01$ in their full model, whereas now it is $p < 0.05$. Overall, the effect of their intraparty indicator now seems to be weaker than what Farrell and McAllister found.

The next step of our analysis is to abandon the assumption of a linear relationship posited by Farrell and McAllister and treat ballot structure as a categorical variable. The models of Table 2 precisely try to disentangle the effect of ballot structure on satisfaction with democracy using our categorical variable of ballot structure. In Model 5 we estimate the effect with no control variables. The results are partly compatible with our expectations. Preferential ballots and open lists, which are the base category in our models, are associated with higher satisfaction with democracy compared to all remaining ballot structures. The differences are statistically significant at the $p < 0.01$ level. Although not displayed in Table 2, Model 5 also indicates that ordered lists generate more satisfaction with democracy than closed lists ($p < 0.05$) and that all remaining pairwise comparisons are not statistically significant. Therefore, the estimates seem to refute our third hypothesis: despite the fact that some argue that personalized ballots offer more choice and encourage the intermediary role of MPs more than closed lists, countries using the former do not display a significantly higher level of satisfaction with

democracy than countries using the latter. On the other hand, the estimates corroborate our first, second and fourth hypotheses.

<Table 2 about here>

These results do not substantially change once we include the individual-level control variables. The conclusions of Model 6 are fairly similar to the previous model: preferential and open lists are associated with higher satisfaction with democracy compared with the remaining categories. Yet, the inclusion of the country-level variables reduces the effects of ballot structure (Model 7). The coefficients associated with personalized ballots and with ordered lists become smaller, although the differences are still significant. But more importantly, this new model fails to find relevant differences between preferential ballots and open lists on the one hand, and closed lists on the other. Even if these were the two opposite extremes of Farrell and McAllister's scale, our estimates suggest that they both generate the same level of satisfaction with democracy. This does not seem to confirm the expectations of the literature: that there is no clear linear relation between the openness of the ballot structure and satisfaction with democracy. Preferential ballots and open lists generate more satisfaction only compared to personalized ballots and to ordered lists but there are no differences at all compared to closed lists. Figure 1 shows that the remaining pairwise comparisons do not generate significant differences.

<Figure 1 about here>

In sum, we have not found evidence to support our first and third hypotheses: closed lists do not generate less satisfaction than preferential ballots and open lists, or than personalized ballots. The great differences between ballot structures found in Model 5 turned out to be solely due to the effect of other country characteristics – specifically, GDP and democratic experience. Still, we have found evidence to support our second hypothesis – and to some extent, our fourth– even after including the individual- and country-level control variables. Our results clearly indicate that there is a non-linear effect between satisfaction with democracy and the openness of the ballot structure. It is not true that ballots that incorporate more open features generate more satisfaction with democracy. Instead, the two extremes generate the same level of satisfaction.

So far, not all our hypotheses have been confirmed and the data rather show a counterintuitive picture. Yet, we still need to test our fifth hypothesis about the importance of political sophistication. We claim that some of the arguments posited in the literature to explain the superiority of preferential voting is that they offer voters greater choice when voting. However, it is plausible that this freedom will be particularly important for the satisfaction of those with greater political information, who are more likely to have knowledge about the different individual candidates on the party lists.

We test this fifth hypothesis in our last model of Table 2 (Model 8). The results are quite compatible with our expectations. Indeed, the three interaction terms between ballot structure and political information are negative and statistically significant. This means that preferential ballots and open lists generate more satisfaction vis-à-vis all other categories as voters' political information increases. In fact, ballot structure seems to be irrelevant among the less informed electorate. Its effect on satisfaction with democracy only emerges among those with greater political information.¹⁴

Figure 2 shows the predicted values of satisfaction with democracy for different levels of political information (using Model 8 estimates). Among individuals with low levels of information, open ballots do not generate more satisfaction than the remaining ballot structures. Yet, open ballot becomes the category that generates more satisfaction with democracy once we focus on those with high levels of information. In sum, the figure shows that differences between the four types of ballot structure are conditioned by individuals' levels of political information.

<Figure 2 about here>

Concerns about how much degree of choice the system should offer the electorate to decide on the actual names of their candidates is restricted to the politically aware electorate. Besides, the coefficient of closed lists, although non-significant, is positive, which points to the opposite direction of the conventional hypothesis. At the end of the day, it might even be plausible that the uninformed electorate prefer easier decisions such as choosing political parties (and not candidates) and delegating to them the responsibility of choosing the most competent candidates.

Despite not being the main objective of this article, our regression models test some tangential hypotheses posited in the literature. First, our results are fully compatible with the widespread idea that individuals who vote for the winning party tend to be more satisfied with democracy. Also, like previous studies on this topic our results show that GDP (both the level and the growth during the previous year) and years of democratic experience also have a significant positive effect. The level of proportionality generated by the electoral system has no relevant impact. Hence, our results are in the line with those reported by other previous research such as Aarts and Thomassen (2008) or Norris (1999) and opposed to Lijphart (1999). Finally, neither the size of the legislative assembly nor the number of citizens per representative follow the expectations in the literature (Farrell & McAllister, 2006), since neither seems to be relevant in explaining the level of satisfaction with democracy.

6. CONCLUSIONS

This paper has studied the influence of ballot structure on how citizens assess democracy. Previous research has suggested that ballots that give voters more freedom of choice tend to increase satisfaction with how democracy works. Our results suggest that ballot structure does indeed have an impact, but not in the line suggested by previous research. Contrary to Farrell and McAllister (2006), we do not find a clear linear relation between the level of ballot openness and satisfaction with democracy. Yet, our results do not indicate that ballot structure is irrelevant. In fact, we find that it produces three different effects.

First, preferential ballots and open lists do generate more satisfaction than both personalized ballots and also ordered lists. This seems to support the standard perspective about the desirability of more open ballots because it gives voters greater choice and promotes the intermediate role of candidates and accommodative politics. But, contrary to this perspective, we do not find relevant differences between the two extremes of ballot openness: preferential ballots and open lists on the one hand, and closed lists on the other. Our evidence points to a different direction than that found in Farrell and McAllister (2006). Overall, we do not find a clear and parsimonious relationship between ballot openness and satisfaction with democracy as some previous research seems to suggest. Our findings rather suggest that such a relationship is non-linear.

Secondly, ballot structure is only a relevant factor among the more politically sophisticated electorate. Indeed, only those with greater levels of political information seem to be concerned about the ballot structure they use when voting. Our findings also indicate that the more knowledgeable the voter is, the greater the satisfaction preferential ballots generate vis-à-vis most remaining ballots. The liberty of choice that ballot structure offers only concerns a reduced portion of the electorate, namely the more politically sophisticated.

The conclusions of previous studies may encourage the temptation to increase the legitimacy of democratic regimes through establishing more open ballot structures. Our results do not support this perspective. Clearly, some types of ballot structure promote more satisfaction with democracy than others, but this concern is only restricted to a small portion of the total population: the most politically sophisticated citizens. Ironically enough, this is the electorate that already shows higher levels of satisfaction.

1. See also Rose (1992) and Castles (1994). Lijphart (1999) Anderson & Guillory (1997) and Brockington (2003) are on the proportional side; while Aarts & Thomassen (2008) Castles (1994) and Listhaug et al. (2009) are on the majoritarian side.

2. This list only refers to mechanisms linking ballot structure with satisfaction with democracy. The consequences of other elements of the electoral system, as well as other antecedents of satisfaction with democracy, are deliberately ignored here.

3. Notice such a process is observable even in turnout data: Carey and Enten (2011: 90-95) shows how some openness in the ballots (such as primaries) increases turnout.

4. Two caveats should be noted. First, they also compute a third element (the information the voter receives about the chosen candidate), but we shall not take this into account since the authors do not derive this information from the ballot structure –which is our subject. Second, they do not exactly rank the ballot structures, but country specific electoral systems.

5. Incidentally, these sorts of disagreements would not be addressable with the traditional ordinal operationalization of ballot structure.

6. This sentence clearly suggests an additional hypothesis (let's call it 'hypothesis 1b') where 'political efficacy' would act as an intervening variable. Unluckily, CSES does not have a question on political efficacy, so hypothesis 1b would not be testable with the data we have to use.

7. The elections included are the following: Albania (2005), Australia (1996, 2004, 2007), Austria (2008), Belgium (1999), Brazil (2002), Canada (1997, 2004), Switzerland (1999, 2003, 2007), Chile (2005), Czech Republic (1996, 2002, 2006), Germany (1998, 2002, 2005, 2009), Spain (1996, 2000, 2004), Finland (2003, 2007), France (2002, 2007), UK (1997, 2005), Hong Kong (1998, 2000, 2004, 2008), Croatia (2007), Hungary (1998, 2002), Ireland (2002, 2007), Iceland (2007, 2009), Israel (1996, 2003, 2006), Italy (2006), Japan (1996, 2004, 2007), Korea (2004, 2008), Mexico (1997, 2000, 2003, 2006, 2009), Netherlands (1998, 2002, 2006), Norway (1997, 2001, 2005), New Zealand (1996, 2002, 2008), Peru (2006), Poland (1997, 2001, 2005, 2007), Portugal (2002, 2005, 2009), Romania (1996, 2004), Russia (2004), Slovenia (2004), Sweden (1998, 2002, 2006), Thailand (2007), Taiwan (1996, 2001, 2004), Ukraine (1998), USA (1996, 2004). Most dropped cases are due to the political knowledge variable, which is essential to test one of our hypotheses. Yet, when not necessary, the exclusion of this variable (and thus the substantial increase of countries and elections in our sample) does not substantially change the conclusions reached in this article.

8. However, note that in the original article which set up the topic, Shugart (2001: 176) did not have a linear relationship in mind. Quite the contrary, he termed the two extremes of the intraparty continuum as 'hyperpersonalistic' and 'hypercentralised', thus illustrating that he presumed both extremes would eventually generate negative effects.

9. We have classified the countries into the four ballot structures as follows: Open lists and preferential ballots (Finland, Switzerland, Australia, Ireland), ordered list (Brazil, Belgium, Netherlands, Norway, Poland, Sweden, Czech Republic), personalised ballot and personalised ballot plus closed list (New Zealand, UK, Taiwan, Germany, Japan, Canada, USA, Hungary, South Korea, Ukraine, France, Hong Kong), closed list (Portugal, Mexico, Spain, Israel, Rumania).

10. Some examples of previous comparative studies using CSES three-items political knowledge are: Birch 2010, Singh and Thornton 2012, Tóka 2009.

11. Formally, the Gallagher index (often called Least squared index) is: $Lsq = \sqrt{1/2 \sum_{i=1}^n (s_i - v_i)^2}$, where s_i is the percentage of seats of party i and v_i the vote share of party i . Higher values indicate greater disproportionality.

12. Our data show a correlation between ballot structure and our measure of proportionality. Although this correlation is not dramatic (0.36), we estimate the Variance Inflation Factor (VIF) in order to test the presence of multicollinearity in our models. All VIF scores are below 2.05 (including ballot structure and proportionality), which indicates that there is no evidence of multicollinearity.

13. To be fair, the authors already acknowledged the multilevel structure of the data (Farrell and McAllister, 2006: footnote 13, 746-747) but they argued that the limited number of elections prevented them from using a multilevel analysis. After three waves of CSES elections, we are in a privileged position to solve the problem.

14. Our conclusions remain essentially the same if we use education as a proxy of political sophistication. This alternative model shows no significant differences among individuals with primary (or incomplete primary) education, but the effect of open ballot on satisfaction with democracy emerges among those with a university degree. Although we do not consider education as a good proxy of political sophistication, this alternative specification helps to make our results more robust. This model is not reported in the table but it is available upon request.

REFERENCES

- Ames, B. (1995) Electoral strategy under open-list proportional representation. *American Journal of Political Science*, 39, pp. 406–33.
- Anderson, C. and Guillory, C. (1997) Political institutions and satisfaction with democracy: A cross-national analysis of consensus and majoritarian systems. *American Political Science Review*, 91, pp. 66–81.
- Aarts, K. and Thomassen, J. (2008) Satisfaction with democracy: Do institutions matter? *Electoral Studies*, 27, pp. 5-18.
- Birch, S. (2010) Perceptions of Electoral Fairness and Voter Turnout. *Comparative Political Studies*, 43, pp.1601-1622
- Blais, A. (1988) The classification of electoral systems. *European Journal of Political Research*, 16, pp. 99-110.
- Blais, A. and Gélinau, F. (2007) Winning, losing and satisfaction with democracy. *Political Studies*, 55, pp. 425-441.
- Bowler, S., Farrell, D. and Pettitt, R. (2005) Expert opinion on electoral systems: So which electoral system is 'best'? *Journal of Elections, Public Opinion & Parties*, 15, pp. 3-19.
- Brockington, D. (2003) Familiarity breeds contentment: contextual and individual determinants of democratic satisfaction in 34 democracies. *Paper for the Midwestern PSA meeting*. Chicago, Ill, April 3-6.
- Cannache, D., Mondak, J.J. and Seligson, M.A. (2001) Meaning and measurement in crossnational research on satisfaction with democracy. *Public Opinion Quarterly*, 65, pp. 506–28.
- Carey, J. and Shugart, M. (1995) Incentives to cultivate a personal vote: A rank ordering of electoral formulas. *Electoral Studies*, 14, pp. 417-439.

Carey, J and Enten, H. (2011) Primary elections, in: J.M. Colomer (ed.) *Personal Representation: The Neglected Dimension of Electoral Systems* (Essex: ECPR Press) pp. 81-98.

Castles, F.G. (1994) The policy consequences of proportional representation: A sceptical commentary. *Political Science*, 46, pp. 161-171.

Colomer, J.M. (ed.) (2011) *Personal Representation: The Neglected Dimension of Electoral Systems* (Essex: ECPR Press).

Curtice, J. and Shively, W.P. (2009) 'Who represents us best? One member or many?' in: H.D. Klingemann (ed.) *The Comparative Study of Electoral Systems* (Oxford: Oxford University Press) pp. 171-192.

Delli Carpini, M. X. and Keeter S. (1996) *What Americans Know About Politics and Why it Matters*. (New Haven: Yale University Press).

Duverger, M. (1954) *Political Parties: Their Organization and Activity in the Modern State* (London: Methuen).

Farrell, D. (2001) *Electoral systems* (London: Macmillan Palgrave).

Farrell, D. and McAllister, I. (2006) Voter satisfaction and electoral systems: Does preferential voting in candidate-centred systems make a difference? *European Journal of Political Research*, 45, pp. 723-749.

Fuchs, D. (1993) Trends of political support, in: D. Berg-Schlosser and R. Rytlewski, (eds) *Political Culture in Germany* (New York: St. Martin's) pp. 232-268.

Grönlund, K. and Milner, H. (2006) The Determinants of Political Knowledge in Comparative Perspective. *Scandinavian Political Studies*, 29, pp. 386-406.

Karvonen, L. (2004) Preferential Voting: Incidence and Effects. *International Political Science Review*, 25, 203-226.

Lawson, K. (ed.) (1980) *Political parties and linkage: A comparative perspective* (New Haven: Yale University Press).

Lijphart, A. (1994) *Electoral systems and party systems: A study of twenty-seven democracies, 1945–1990* (New York: Oxford University Press).

Lijphart, A. (1999) *Patterns of democracy: Government forms and performance in thirty-six countries* (New Haven: Yale University Press).

Lijphart, A. and Grofman, B. (1984) *Choosing an electoral system* (New York: Praeger).

Listhaug, O., Aardal, B. and Ellis, I.O. (2009) Institutional variation and political support: an analysis of CSES data from 29 countries, in: H.D. Klingemann, (ed.) *The Comparative Study of Electoral Systems* (Oxford: Oxford University Press) pp. 311-332.

Luskin, R. C (1990) Explaining political sophistication. *Political Behavior*, 12, pp. 331-361.

Margetts, H. (2011) Single seat, in: J.M. Colomer (ed.) *Personal Representation: The Neglected Dimension of Electoral Systems* (Essex: ECPR Press) pp. 37-54.

Marsh, M. (2011) Ordinal rank, in: J.M. Colomer (ed.) *Personal Representation: The Neglected Dimension of Electoral Systems* (Essex: ECPR Press) pp. 135-152.

Mitchell, P. (2000) Voters and their representatives: Electoral institutions and delegation in parliamentary democracies. *European Journal of Political Research*, 37, pp. 335-51.

Nadeau, R. and Blais, A. (1993) Explaining Election Outcomes in Canada: Economy and Politics. *Canadian Journal of Political Science*, 26, pp. 775-790.

Norris, P. (1999) *Critical citizens: Global support for democratic governance* (Oxford: Oxford University Press).

Pereira, P.T. and Andrade Silva, J. (2009) Citizens' freedom to choose representatives: Ballot structure, proportionality and "fragmented" parliaments. *Electoral Studies*, 28, pp. 101-10.

Rae, D.W. (1967) *The political consequences of electoral laws* (New Haven: Yale University Press).

Römmele, A., Farrell, D. and Ignazi, P. (eds) (2005) *Political parties and political systems: The concept of linkage revisited* (Westport: Greenwood/Praeger).

Rose, R. (1992) *What are the economic consequences of PR?* (London: Electoral Reform Society).

Shugart, M. (2001) Electoral 'efficiency' and the move to mixed-member systems. *Electoral Studies*, 20, pp. 173-193.

Singh, S., Lago, I. and Blais, A. (2011) Winning and competitiveness as determinants of political support. *Social Science Quarterly*, 92, pp. 695-709.

Singh, S. and Thornton, J. (2012). Compulsory voting and the dynamics of partisan identification. *European Journal of Political Research*, 52, pp. 188-211.

Steenbergen, R. M. and Jones, B.S. (2002) Modeling Multilevel Data Structures. *American Journal of Political Science*, 46, pp. 218-237.

Taagepera, R. and Shugart, M. (1989) *Seats and votes: The effects and determinants of electoral systems* (New Haven: Yale University Press).

Tóka, G. (2009) Expressive Versus Instrumental Motivation of Turnout, Partisanship, and Political Learning, in:
H-D. Klingemann, (ed.) *The Comparative Study of Electoral Systems*. (Oxford: Oxford University Press) pp.
269-288.

Zaller, J. R. (1992) *The Nature and Origins of Mass Opinions*. (Cambridge: Cambridge University Press).

Table 1 – A replication of Farrell and McAllister (2006)

	OLS Regression	Multilevel regression		
	MODEL 1	MODEL 2	MODEL 3	MODEL 4
Ballot structure indicator (intra-party dimension)	0.025** (0.001)	0.048** (0.015)	0.046** (0.013)	0.024* (0.011)
<u>Individual-level control variables</u>				
Age	-0.008** (0.001)		-0.008** (0.001)	-0.008** (0.001)
Age (squared)	0.000** (0.000)		0.000** (0.000)	0.000** (0.000)
Gender	-0.032** (0.005)		-0.02** (0.005)	-0.02** (0.006)
Education	0.002 (0.001)		0.004** (0.002)	0.004** (0.002)
Unemployed	-0.147** (0.010)		-0.097** (0.011)	-0.097** (0.014)
Income	0.036** (0.002)		0.03** (0.002)	0.03** (0.002)
Political information			-0.03** (0.002)	-0.031** (0.003)
Party voted won elections	0.183** (0.005)		0.179** (0.005)	0.179** (0.007)
<u>Country-level control variables</u>				
Gallagher index	-0.004** (0.000)			-0.002 (0.003)
Years of democratic experience	0.004** (0.000)			0.004** (0.001)
Adults per MP	0.000** (0.000)			-0.000 (0.000)
Assembly Size	-0.000** (0.000)			0.000 (0.000)
GDP (PPP in \$)	0.000** (0.000)			0.000** (0.000)
GDP growth	0.039** (0.001)			0.053** (0.012)
Constant	2.105** (0.021)	2.596** (0.066)	2.367** (0.58)	-1.946** (0.094)
Observations	121903	134623	103054	103054
Number of elections		85	85	85

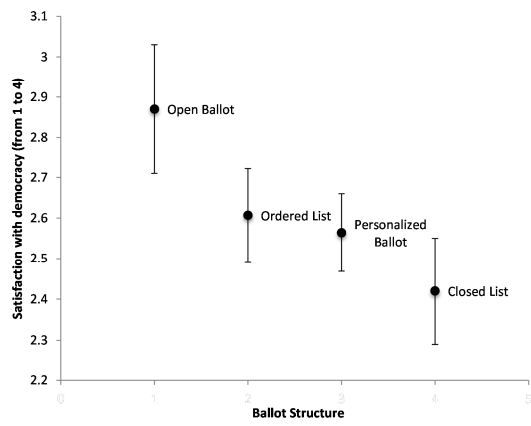
Notes: Ordinary least squares estimates (Models 1) and Maximum likelihood estimates in Models 2 to 4. Standard errors are in parenthesis. *Significant at 5%. **Significant at 1%. Base categories: Gender (male).

Table 2 – The effect of ballot structure on satisfaction with democracy

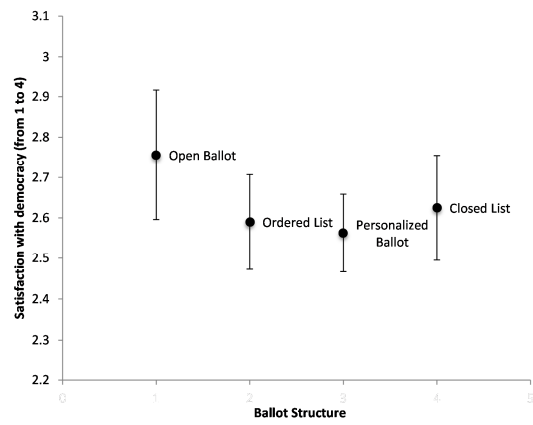
	MODEL 5	MODEL 6	MODEL 7	MODEL 8
Ordered lists	-0.265** (0.150)	-0.256** (0.085)	-0.166* (0.073)	-0.093 (0.074)
Personalized ballots (and personalized + closed lists)	-0.308** (0.139)	-0.304** (0.079)	-0.194** (0.079)	-0.095 (0.079)
Closed lists	-0.451** (0.152)	-0.445** (0.088)	-0.131 (0.113)	0.027 (0.086)
Ordered list ballot x Political Information				-0.025** (0.007)
Personalized ballot x Political Information				-0.034** (0.007)
Closed list ballot x Political Information				-0.036** (0.008)
<u>Individual-level control variables</u>				
Age		-0.008** (0.001)	-0.008** (0.001)	-0.008** (0.001)
Age (squared)		0.000** (0.000)	0.000** (0.000)	0.000** (0.000)
Gender		-0.020** (0.005)	-0.020** (0.005)	-0.020** (0.005)
Education		0.004** (0.002)	0.004** (0.002)	0.004** (0.002)
Unemployed		-0.097** (0.011)	-0.097** (0.011)	-0.097** (0.011)
Income		0.03** (0.002)	0.03** (0.002)	0.03** (0.002)
Political information		0.031** (0.002)	0.031** (0.002)	0.031** (0.002)
Party voted won elections		0.179** (0.005)	0.179** (0.005)	0.179** (0.005)
<u>Country-level control variables</u>				
Gallagher index			0.001 (0.004)	0.001 (0.004)
Years of democratic experience			0.004** (0.001)	0.004** (0.001)
Adults per MP			0.00 (0.000)	0.00 (0.000)
Assembly Size			0.00 (0.000)	0.00 (0.000)
GDP (PPP in \$)			0.000** (0.000)	0.000** (0.000)
GDP growth			0.053** (0.013)	0.053** (0.013)
Constant	2.872** (0.081)	2.975** (0.071)	2.271** (0.113)	2.041** (0.111)
Observations	134623	103054	103054	103054
Number of elections	85	85	85	85

Notes: Maximum likelihood estimates. Standard errors are in parenthesis. *Significant at 5%.

**Significant at 1%. Base categories: Ballot structure (preferential and open list ballot); Gender (male).



(1) With no control variables



(2) With control variables

Figure 1 – The effect of ballot structure on satisfaction with democracy
 Note: predicted values with the 95% confidence intervals

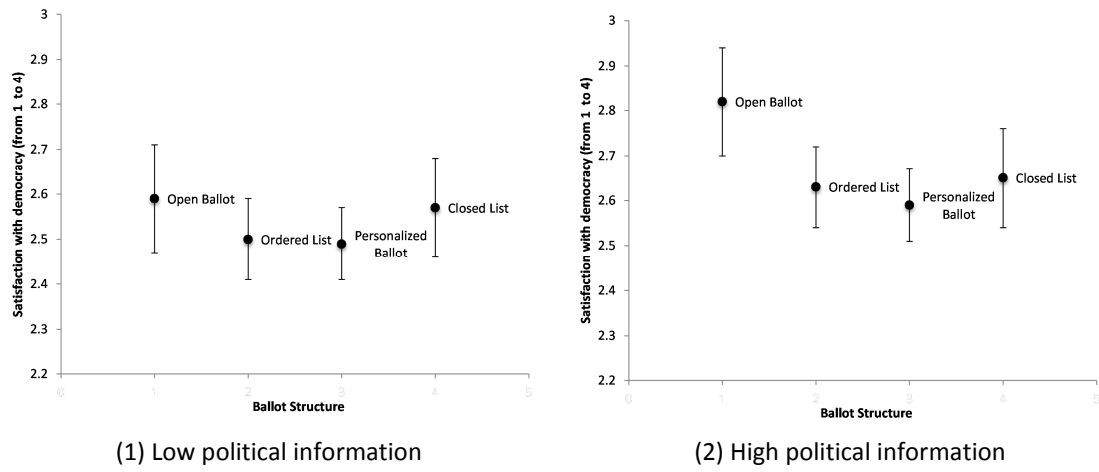


Figure 2 – Interactive effect of ballot structure and political information

Note: predicted values with the 95% confidence intervals