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# Compulsory Voting, Inequality, and Quality of the Vote: The Impact of Compulsory Voting on Accountability and Proximity Voting

## Abstract

Democratic elections imply that the electorate holds incumbents accountable for past performance, and that voters select the party that is closest to their own political preferences. Previous research shows both elements require political sophistication. A number of countries throughout the world have a system of compulsory voting, and this legal obligation boosts levels of voter turnout. Under such rules, citizens with low levels of sophistication in particular are thought to turn out to vote in higher numbers. Is it the case that the quality of the vote is reduced when these less-sophisticated voters are compelled to vote? This article investigates this claim by examining the effect of compulsory voting on accountability and proximity voting. The results show that compulsory voting reduces stratification based on knowledge and level of education, and proximity voting, but it does not have an effect on economic accountability. The article concludes with some suggestions on how systems of compulsory voting might mitigate the strength of political sophistication in determining the quality of the vote decision process.

**Keywords:** Compulsory Voting, Political sophistication, Electoral Accountability, Proximity Voting, CSES

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## Introduction

Is high voter turnout a good thing for representative democracy? During the past decades, this apparently very simple question has led to heated debates within the field of electoral research. The answer to the question, of course, has huge political and social consequences. If high turnout levels improve electoral representation, it is a straightforward suggestion to take any measure possible to ensure high voter turnout, including the introduction of compulsory voting (Lijphart 1997). If high turnout levels would not matter all that much, the current trend toward declining levels of voter turnout should not necessarily be seen as problematic (Hooghe 2014). On the one hand, some scholars emphasize the fact that high voter turnout serves as a political equalizer (Avery 2015). If a very large proportion of the electorate turns out to vote, the possibilities for inequality or distortion of the electoral signal are mathematically strongly reduced. Other scholars, however, are more concerned about the quality of the vote. Their main fear is that if citizens are forced to vote, this obligation might lead to a superficial boost in voter turnout as those that are least interested in politics turn out to vote. In that case, it is assumed, these 'forced' voters will either cast blank or invalid votes (Mackerras and McAllister 1999) or vote in a rather random manner (Selb and Lachat 2009), thus eroding the representative function of elections. The main idea in the debate is, therefore, that we are confronted with a trade-off between high turnout and equality on the one hand, and quality of the vote on the other (Rosema 2007). However, very few studies, thus far, have investigated whether the concerns of equality and quality are mutually exclusive.

Liberal democracies, then, appear to be confronted with a conundrum resulting from this debate. Either they focus on the quantity of the vote (i.e., high turnout), or they focus on the quality of the vote, (i.e. having knowledgeable voters). What is missing in the current debate, however, is a clear conceptualization of what is the "quality of the vote". Routinely, this concept is operationalized as the ideological distance between voters and their preferred party, although this

concept has also been contested in the literature (Lau and Redlawsk 2006). From the theory on representative politics we know that there are two vote-choice mechanisms that allow the realization of representation through elections. On the one hand, it is thought of foremost importance that voters use elections to hold incumbents accountable for the policy they have pursued. Being held accountable by the voters, and the possibility of being thrown out of office, is a powerful incentive for politicians to deliver on their electoral promises (Przeworski *et al.* 1999). On the other hand, scholars have stressed that it is important that voters vote prospectively, casting a vote for the political party that is ideologically closest to their own preferences (Campbell *et al.* 1960; Lewis-Beck *et al.* 2008). By doing so, voters give a policy mandate to parties. While such mandates could be given with respect to a multitude of issues, ideology serves as an efficient shortcut for estimating issue positions (Downs 1957; Rosema 2007). If we take the argument of representational quality seriously, both mechanisms could contribute to a well-functioning electoral democracy. In this article we therefore include both mechanisms, a step that has not yet been taken by earlier research on compulsory voting. It falls outside the scope of the current article to assess the relative importance of both mechanisms. As our ambition is mainly empirical, we considered it as safe option to test both the mechanism of proximity voting and the occurrence of accountability voting, so the results of our analysis should be relevant for both theoretical approaches. Furthermore, we introduce solid comparative empirical material to this discussion that thus far has been conducted to a large extent on normative grounds (Brennan and Hill 2014). If systems of compulsory voting indeed erode the mechanisms of accountability and proximity voting, the only obvious conclusion should be that this legal obligation does not contribute to the overall quality of the electoral process.

Compulsory voting is an interesting phenomenon for our theoretical endeavor to understand the interplay between institutional rules and individual voter motivations (see the guest editors in

their introduction to this special issue). We know from previous research that political sophistication and ideological preferences have a strong effect on the voting decisions taken by citizens (Bartels 1996; De Vries and Giger 2014). As a result, citizens with low levels of political knowledge, or without strong convictions, have few incentives to find the party that best fits their preferences. In the context of compulsory voting, however, the 'natural' default option of not voting at all is closed off, with as a potential consequence that this group will cast a rather random vote, that does not contribute to the quality of electoral representation. If the 'forced' voters lack interest, knowledge, and sophistication and if political sophistication is a precondition for accountability and proximity, forcing non-sophisticated voters to cast a vote is inherently problematic. Imposing or removing a system of compulsory voting, therefore, can have a direct effect on the individual decision to turn out to vote or not (Singh 2015; Irwin 1974). As emphasized in the introduction to this special issue, this implies that voters take into account a set of country-specific decision rules into their own vote choice decision. As the least sophisticated are forced to vote, it becomes all the more relevant to know how successful this group will be in identifying the party that fits their evaluation and their preferences. We use data from all four modules of the Comparative Study of Electoral Systems (CSES) project and from the 2014 PartiRep Belgian Election Study to investigate these claims. Our analyses cover up to 113 elections in 44 countries between 1996 and 2015, including representative samples from multiple countries with some form of compulsory voting.[1]

**Compulsory voting**

Several democratic systems have introduced compulsory voting (Birch 2009; Malkopoulou 2015). This decision was often motivated by a concern to protect newly enfranchised groups of the population from any effort to inhibit them from using their democratic rights. Especially in

predominantly Catholic countries, compulsory voting was also meant to send a signal that 'good' citizens with a sense of civic duty should vote. The adoption of compulsory voting proved to be effective in increasing turnout. The staggered implementation of compulsory voting in Australian provinces, for example, increased turnout by about 24 percentage points (Fowler 2013). Comparative studies show compulsory voting increases turnout, on average, by about 5 to 10 percentage points (Blais and Dobrzynska 1998). In countries like Belgium and Australia where the obligation is strictly enforced, turnout rates remain above 90% (Hooghe and Pelleriaux 1998). In a country like Paraguay, on the other hand, most citizens are aware of the fact that this rule is no longer enforced and voter turnout only reached 68% in the latest elections. Compulsory voting can also alter the political system in other ways. Jensen and Spoon (2011), for example, find compulsory voting increases the effective number of parties and increases the range of ideological positions in government.

As the 20th century progressed, however, upholding this legal obligation became increasingly difficult, as new age cohorts questioned the right of the state to impose such a legal obligation. The abolition of compulsory voting in the Netherlands in 1970, Chile in 2012 and the more gradual process of abolishing compulsory voting in Austria are examples of states abandoning compulsory voting, with as a result marked decreases in turnout in each country (Irwin 1974; Miller and Dassonneville forthcoming; Navia and del Pozo 2012; Ferwerda 2014) and increased stratification in the voting population (Irwin 1974).

This drives home the message that, despite all the obvious practical difficulties, compulsory voting still boosts voter turnout. It is, however, important to include information on the degree to which voter turnout is enforced. In this study, therefore, we will include information on the extent to which compulsory voting is actually enforced.

The observation that compulsory voting has a powerful effect on voter turnout has received new attention, as liberal democracies are experiencing a rapid decline in voter turnout since the 1980s (Hooghe 2014; Gray and Caul 2000). Various efforts have been undertaken to counter this trend, but none appear to match the effect of compulsory voting to increase turnout. Postal and internet voting only seem to have a limited effect on turnout (Gerber *et al.* 2013; Alvarez *et al.* 2009). Proposals to introduce systems of compulsory voting, on the other hand, are often met with the counterargument that states should not impose the legal obligation to cast a vote, as this is a decision that should be taken in an autonomous manner by the individual citizen (Hill 2006).

In the empirical debate about compulsory voting, the arguments are straightforward. Supporters of compulsory voting argue that the system increases turnout and reduces socio-economic inequalities. If compulsory voting is strictly enforced, it is associated with turnout levels in the range of 90 percent of the electorate, leaving very little leeway for any distortion of the electoral signal. Most of the available empirical research shows that electoral inequalities are weaker in systems of compulsory voting, as those with lower levels of education or, in general, a lower socio-economic status will be compelled to vote (Gallego 2010; Irwin 1974; Jaitman 2013; Singh 2011; 2015; Henn and Oldfield forthcoming).

It also has to be noted, however, that not all empirical research confirms this expectation. Older age groups, for example, react more strongly to having a system of compulsory voting (Quintelier *et al.* 2011). A survey of British 18-year olds revealed nonvoters would be more likely to vote under a compulsory voting regime, however compulsory voting may also produce a sense of resentment toward democratic politics in Britain (Henn and Oldfield forthcoming). An analysis of turnout in Brazil has furthermore shown that the higher educated are more easily targeted by administrative sanctions, thus widening the turnout gap between high- and low-educated citizens (Cepaluni and Hildalgo 2016). Comparative survey data from the Latinobarometer demonstrates

that compulsory voting leads to higher dissatisfaction with democracy in this region because anti-democratic voters are compelled to appear at the polls (Singh forthcoming). We, therefore, begin our analyses by assessing whether compulsory voting is associated with lower levels of electoral inequality.

Given that most research finds compulsory voting to increase turnout among low sophisticated and low involved citizens, the obvious argument against compulsory voting is that it might contribute to quantity, but that simultaneously it erodes the quality of the vote, and that it therefore does not contribute to democratic representation (Jakee and Sun 2006). Selb and Lachat (2009) show that especially the less interested and low knowledgeable will be compelled to vote when they are obliged to. Because of their lack of political sophistication, this group of voters is less successful in correctly identifying the political party that is best able to represent their own preferences. The authors conclude that compulsory voting reduces the accuracy of the electoral signal.

A counter-argument to such accounts might be, however, that compulsory voting could increase political sophistication. If citizens are forced to vote, they receive an incentive to acquire more political information so that they are able to cast a meaningful vote. Most studies, however, do not find evidence for the claim that compulsory voting increases levels of political sophistication (Carreras 2016; Quintelier *et al.* 2011). Sheppard (2015), by contrast, has found political knowledge is somewhat elevated under compulsory voting rules.

From this review of the literature, it becomes evident that it is too early to conclude that compulsory reduces the quality of the vote. First, Sheppard's work (2015) hints at a potential positive impact of compulsory voting. In addition, the Selb and Lachat (2009) study remained limited to a single country, and they only considered the proximity function of elections. Accountability, i.e., holding incumbents accountable for what they have done, however, is equally

important, and therefore we will investigate both these functions of elections in a comparative research design. Given the repeated finding that compulsory voting reduces inequalities based on education level and political knowledge, and taking into account that these indicators of sophistication are essential in order to cast an informed vote, our working hypothesis is that the mechanisms of accountability and proximity voting will be weaker in countries with compulsory voting.

The ambition of the current article is not to contribute to the theoretical or normative debate. Rather, we want to investigate whether compulsory voting contributes to the professed goals of representative democracy. We do not consider high turnout as a goal by itself. Rather we investigate to what extent it contributes to accountability and representation.

**Accountability and proximity voting**

Citizens casting a vote can be motivated by retrospective and prospective considerations. First, voting retrospectively and holding incumbents accountable for their performance is a mechanism that contributes to democratic representation. The fear of being punished for bad performance incentivizes incumbents to govern in the best interests of their voters (Przeworski *et al.* 1999). Although theoretically the accountability mechanism should be at play in various policy domains, most of the available research focuses on economic voting as an important form of accountability (Lewis-Beck and Stegmaier 2013). Economic considerations tend to be important for most voters and, furthermore, incumbents are often held responsible for the state of the economy (Dassonneville and Lewis-Beck, 2017; Duch and Stevenson 2008). With regard to other policy domains, it has been shown that voters take into account the past performance of the incumbents when casting a vote as well (de Vries and Giger 2014). In this analysis, we follow the lead of Van der Brug et al. (2007), who suggested that this kind of evaluation should be based on objective

economic indicators, as subjective evaluations most likely are biased by the political preferences of the voter.

Second, voters assess to what extent they agree with the objectives of the parties and candidates that compete in the elections (Przeworski *et al.* 1999; Rosema 2007; Lau and Redlawsk 2006). The idea of voters choosing proximate parties originates in the work of Downs (1957) and a large number of studies developing spatial models of voting behavior have substantiated the relevance of ideological distance in explaining vote choices (Jessee 2012; Joesten and Stone 2014). According to the theoretical literature on representation, a proximity voting mechanism is essential for ensuring that elected representatives represent the interests of the citizens (Thomassen and van Ham 2014). In principle, proximity rules could relate to positions on a large number of different policy issues. Ideology, however, can be considered as an informative summary of parties' and voters' positions on different issues (Rosema, 2007). Therefore, the left-right dimension can be considered a 'super-issue' (van der Eijk *et al.* 2005). Following previous comparative proximity voting research, we focus on proximity voting in terms of a left-right dimension.

Accountability and proximity voting are expected to contribute to democratic representation. Both mechanisms require that citizens are sufficiently knowledgeable about politics. Although this threshold can, to some extent, be overcome by relying on cognitive short-cuts, such as partisanship (Lau and Redlawsk 2006), previous research has shown that both mechanisms are stronger among the highly politically sophisticated. Political experts engage in accountability and proximity voting at a higher level than their less sophisticated peers (Joesten and Stone 2014; Singh and Roy 2014). If compulsory voting rules force the low knowledgeable voters to vote, it is straightforward to expect that compulsory voting will weaken proximity and accountability mechanisms in the vote choice.

This review of the literature leads to three hypotheses that will guide us through the empirical analysis.

H1. Compulsory voting reduces education- and knowledge-based stratification of voter turnout.

H2. Compulsory voting reduces the strength of economic accountability voting.

H3. Compulsory voting reduces ideologically congruent voting.

**Data and Methods**

For testing our hypotheses, we make use of the data from the Comparative Study of Electoral Systems (CSES). This project, which now consists of four modules (1996-2016), combines data from a large number of national election studies that all include a common set of questions. Furthermore, for each of these election samples fieldwork was done shortly after a national election, which further increases the validity of the measurements and which is a major advantage compared to previous work relying on non-electoral surveys (Nevitte *et al.* 2002). The CSES project covers elections worldwide, but we restrict the analyses to free and fair elections according to Freedom House.[2] We add to information from the PartiRep 2014 Belgian election study, as Belgium is one of the few countries in the world with a strictly enforced system of compulsory voting.[3]

In this article, we are interested in disentangling the impact of compulsory voting on individuals' probability to vote and on their vote choice. How we operationalize compulsory voting is, therefore, of foremost importance. As we already referred to, there is substantial variation in forms of compulsory voting and in the extent to which mandatory voting is enforced. We take such differences into account in our coding of compulsory voting. We adopt the categorization between weakly- and strictly-enforced compulsory voting provided by the Institute for Democracy and Electoral Assistance (IDEA). Our compulsory voting variable can take three values: 0 if voting is

voluntary; 1 if voting is compulsory but weakly enforced; and 2 if voting is compulsory and strictly enforced. Table 1 provides an overview of the number of elections included in each category and includes an overview of the countries that are included in the compulsory-voting categories as well. As can be seen from this overview, we can include a fair number of elections that were held under strictly enforced compulsory voting rules. For weakly enforced compulsory voting, however, the number of elections and – more importantly – the number of countries included is extremely limited. As a result, estimates of analyses in which the two categories are coded by means of separate dummies are highly unreliable (results available from the authors). We therefore treat the compulsory-voting indicator, which runs from 0 to 2, as a continuous indicator. Note, furthermore, that an alternative operationalization, distinguishing between strictly enforced compulsory voting and any other option (either weakly enforced compulsory voting or voluntary voting) leads to essentially the same conclusions as the results reported in this manuscript (results available from the authors). In Switzerland, voting is mandatory in Schaffhausen. For the period under analyses, it is important to know that there were also forms of compulsory voting in Obwalden until 2012 and in the canton of St. Gallen until 2009. Voting is voluntary in all other cantons. For reasons of consistency, we excluded the limited number of Swiss respondents for whom voting was mandatory and code Switzerland as a voluntary voting country.

TABLE 1.
NUMBER OF ELECTIONS (AND COUNTRIES) INCLUDED IN THE ANALYSES, BY COMPULSORY VOTING RULES

| Analysis | No CV | Weak CV | Strict CV | Total |
|---|---|---|---|---|
| Turnout (Table 2) | 88 (35) | 10 (3)<br>Greece, Mexico, Thailand | 15 (6)<br>Australia, Belgium, Brazil, Chile, Peru, Turkey | 113 (44) |
| Accountability (Table 3) | 86 (32) | 8 (2)<br>Greece, Mexico | 13 (7)<br>Australia, Belgium, Brazil, Chile, Peru, Turkey, Uruguay | 107 (41) |
| Proximity (Table 4) | 81 (32) | 9 (2)<br>Greece, Mexico | 11 (5)<br>Australia, Belgium, Brazil, Peru, Turkey | 101 (39) |

We first examine the individual-level determinants of turnout. For these analyses, we use respondents' self-reported turnout, which takes the form of a dichotomous variable (coded 1 if a voter reported she voted and 0 if she reports abstaining). Self-reported turnout tends to overestimate turnout rates. Katosh and Traugott (1981) however, suggest that relying on self-reported turnout is not associated with any systematic bias in the results of a statistical analysis. In explaining differences in turnout, we focus on the impact of education and political knowledge. For education, we distinguish respondents with a college degree from those without a degree. Political knowledge is measured by summing the correct answers on three (in CSES modules 1, 2 and 3), four (in CSES module 4) or 5 (in the Belgian PartiRep 2014 survey) factual knowledge questions and rescaling this sum to a 0 to 1-variable. Respondents' sum of correct answers was subsequently divided by the mean level of correct answers in their election sample. As such, the measure becomes an indicator of how knowledgeable a respondent is compared to other respondents in his/her country (Dassonneville and Dejaeghere 2014; Singh and Thornton 2013).[4] To ascertain that the estimated

effects of education and political knowledge are not spurious effects, we control for some important correlates of turnout. First, we control for the socio-demographic variables gender, age and income, which are all consistently found to affect individuals' probability of turning out to vote (Smets and van Ham 2013). Furthermore, we include a measure of feeling close to a party, because partisans are known to turn out to vote at higher rates (Smets and van Ham 2013). We also control citizens' sense of political efficacy[5], which is correlated to turnout and our main independent variables of interest, education and political knowledge (Banducci and Karp 2009). In addition, our interest in the impact of a contextual-level variable – compulsory voting – and the more limited number of observations at the contextual level, requires good controls for other systemic differences between countries. We thus control for the effective number of parties, the least-squares index of disproportionality, and the ideological polarization[6] of the party system, which have all been shown to be important contextual-level predictors of electoral participation (Geys 2006).

Next, we investigate how compulsory voting rules affect the quality of the vote choices. First, we examine the moderating impact of mandatory voting on accountability voting. For doing so, we explain the probability of voting for the lead party. Following Kayser and Peress (2012), we operationalize the lead party as the party of the chief executive (i.e. the prime minister in parliamentary systems and the president in presidential systems) and estimate its position in a left-right policy space using the mean position assigned to the party by all respondents. Previous research has shown that such mean placements correlate well with other approaches to operationalizing parties' positions, such as expert-placements (Dalton and McAllister 2015). By focusing on the lead party only, and not on all parties in the governing coalition, we rely on previous work, showing that the attribution of responsibility is directed towards the most clearly identifiable governing party – and less so to junior coalition partners (Whitten and Powell 1993), which would be in line with previous work on economic voting (Duch and Stevenson 2008).

We incorporate indicators of government performance to assess whether accountability mechanisms are weakened under compulsory voting. We first investigate the presence of accountability mechanisms by estimating the impact of objective economic indicators on voting for the lead party. We expect the probability of voting for the lead party to be higher under better economic circumstances. We incorporate GDP growth (compared to the previous year) and the change in unemployment rates compared to the previous year into our models, as these variables are the most regularly used indicators in this line of research (Lewis-Beck and Stegmaier 2013).[7] Information for both indicators comes from the World Bank and was measured annually. To take into account differences in the timing of the election (i.e., elections in January versus elections in December), we used information from the election year as well as the year before and constructed a weighted indicator.[8] For examining whether accountability mechanisms are weakened under compulsory voting, we include terms interacting our indicator of compulsory voting and each of the objective economic indicators.

In a final set of analyses, we assess the impact of compulsory voting rules on the quality of the vote choice with regard to ideological proximity. For measuring the ideological position of parties, we make use of the mean placement, on a 0 to 10 left-right scale, of all respondents in an election sample.[9] We first estimate the probability that a voter chooses the ideologically most proximate party, and the effect of compulsory voting rules on this probability. Subsequently, we investigate in more detail what determines the ideological distance between a voter and the party she chooses, and whether compulsory voting rules have a significant impact on this distance.

For explaining the vote choice (either voting for the lead party or for the most proximate party), we take into account a rich literature that argues that socio-demographic characteristics affect the vote choice and we control for respondents' gender, age and their level of education. Furthermore, we take into account the impact of partisanship by including a dummy variable, identifying voters

who feel close to the lead party (when explaining voting for the lead party) or a dummy distinguishing partisans from non-partisans (when focusing on proximity voting). The models explaining voting for the lead party additionally include a measure of the ideological distance to the lead party – which takes into account that voters generally choose ideologically proximate parties (Jessee 2012). The models explaining proximity voting include, besides the socio-demographic and partisanship, a control for political knowledge – because more knowledgeable voters tend to vote for more proximate parties (Joesten and Stone 2014). In addition, we include a measure of the ideological extremeness of a voter, because voters who place themselves at the extremes on a left-right-scale are less likely to find an ideological party they would consider voting for. For identifying the impact of compulsory voting rules in our fairly limited set of countries, it is of foremost importance that we control for other systemic differences between countries. Therefore, all vote choice models include a series of contextual-level controls (we include the effective number of parties, the least squares index of disproportionality and a measure of polarization).

The data have a nested structure, with individual respondents nested in election-years and election-years nested in countries. We present a series of mixed models where intercepts and slopes are allowed to vary between elections (Hox 2010) to assess the impact (and, separately, the moderating effect) of contextual-level variables on individual behavior.[10] When explaining turnout, voting for the lead party as well as when explaining voting for the proximate party, we present the results of mixed logistic regression models. For modeling the ideological distance to the party voted for, we present the results of a mixed linear model. We also verify whether the results are robust to taking into account overdispersion in this dependent variable (see Appendix B). Given the limited number of compulsory voting countries in our dataset, we verify the impact of influential cases on the results from the mixed models (see Appendix D).

**Results**

We first investigate whether, in line with most previous studies, we can confirm that inequalities in voting are reduced when turnout is mandatory (Singh 2015). These analyses of the impact of education- and political knowledge-based stratification serve as a test for the argument made by advocates of compulsory voting that the better-educated and more knowledgeable turn out to vote under a voluntary voting regime.

In Model 1, we only include the main effects (Table 2). We are mainly interested in the effect of compulsory voting laws on the probability of a respondent turning out to vote. Not surprisingly, the effect is positive and significant, confirming that citizens living in countries where voting is mandatory are more likely to vote. Furthermore, it can be confirmed that both educational attainment and political knowledge serve as a stratification mechanism between who turns out to vote and who does not.

TABLE 2.
THE EFFECT OF COMPULSORY VOTING IN TURNOUT

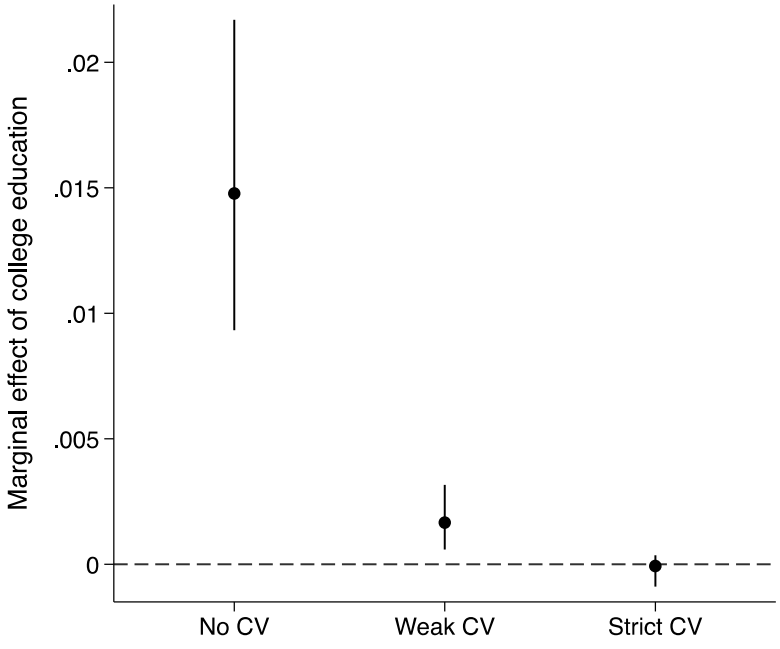
| | **Model 1** **b** **(s.e.)** | **Model 2** **b** **(s.e.)** | **Model 3** **b** **(s.e.)** |
|---|---|---|---|
| Female | 0.089*** | 0.085*** | 0.102*** |
| | (0.017) | (0.017) | (0.017) |
| Age | 0.021*** | 0.021*** | 0.021*** |
| | (0.001) | (0.001) | (0.001) |
| Income | 0.146*** | 0.149*** | 0.143*** |
| | (0.007) | (0.007) | (0.007) |
| College education | 0.363*** | 0.447*** | 0.348*** |
| | (0.026) | (0.051) | (0.026) |
| Political knowledge | 0.553*** | 0.553*** | 0.652*** |
| | (0.015) | (0.015) | (0.040) |
| Party ID | 0.969*** | 0.969*** | 0.961*** |
| | (0.019) | (0.019) | (0.019) |
| Political efficacy | 0.259*** | 0.260*** | 0.255*** |
| | (0.009) | (0.009) | (0.009) |
| ENEP | -0.061 | -0.069 | -0.070 |
| | (0.041) | (0.041) | (0.041) |
| Least squares index | -0.029 | -0.025 | -0.015 |
| | (0.021) | (0.021) | (0.017) |
| Polarization | -0.037 | -0.044 | -0.051 |
| | (0.037) | (0.037) | (0.037) |
| Compulsory voting (0-2) | 0.697*** | 0.741*** | 0.914*** |
| | (0.126) | (0.127) | (0.127) |
| CV x college education | | -0.228** | |
| | | (0.073) | |
| CV x political knowledge | | | -0.338*** |
| | | | (0.046) |
| Constant | -0.860** | -0.832** | -0.912** |
| | (0.281) | (0.281) | (0.283) |
| $\sigma^2_{\text{election-years}}$ | 0.736 | 0.738 | 0.750 |
| $\sigma^2_{\text{slope}}$ | | 0.144 | 0.483 |
| *N respondents* | 132,262 | 132,262 | 132,262 |
| *N election-years* | 113 | 113 | 113 |

*Notes:* Coefficients and standard errors (in parentheses) of random intercept and random slope logistic regression models explaining turnout. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

*Source:* CSES Modules 1, 2, 3 and 4.

In Model 2 we add an interaction between compulsory voting (measured on a scale from 0 to 2) and having a college degree. Doing so allows us to verify whether the educational stratification between voting and abstaining is reduced when voting is compulsory. As evident from the results, the interaction term is indeed negative and significant. To ease the interpretation of this interaction effect, however, we present the marginal effects of having a college degree on the probability of turning out to vote for different operationalizations of compulsory voting rules. As is clear from Figure 1, the marginal effect of having a college degree is significantly reduced when voting is weakly enforced, and even more strongly so in a context of strictly enforced compulsory voting. These results confirm that there is less stratification based on education when voting is compulsory.

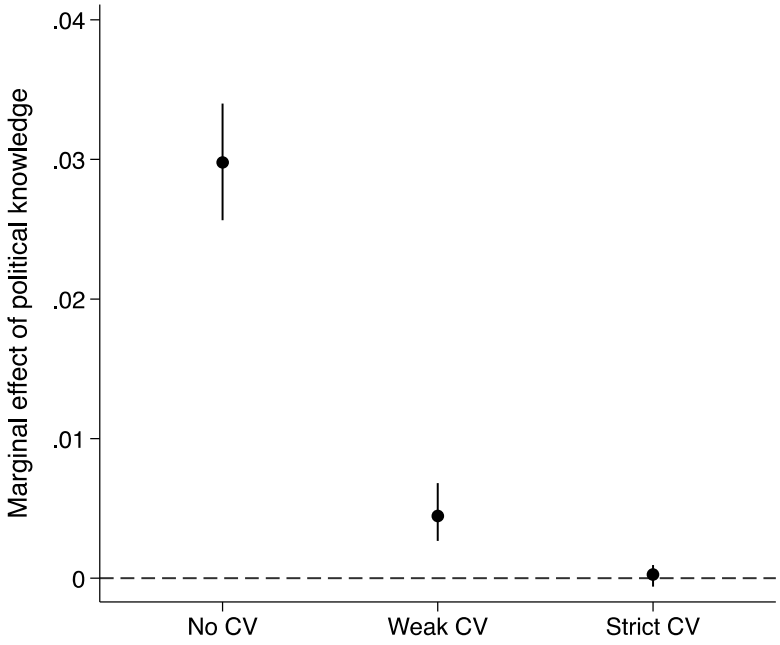
FIGURE 1.
THE EFFECT OF HAVING A COLLEGE DEGREE ON TURNING OUT TO VOTE, FOR VARYING COMPULSORY VOTING RULES




*Notes:* Marginal effect of having a college degree. Obtained from 10,000 simulated observations, using the estimates of Model 2 in Table 2. All other covariates set at the sample mean.

In a final model (Model 3 in Table 2), we add an interaction between compulsory voting and political knowledge, allowing us to verify whether knowledge-based stratifications in turnout are reduced under mandatory voting. In line with what we observe for educational attainment, the effect is negative and significant, suggesting that the effect of knowledge on turnout is reduced when citizens are compelled to vote. The marginal effects in Figure 2 further clarify this interaction effect. We observe a strong impact of political knowledge on the probability of turning out to vote when voting is voluntary; this impact is weaker in contexts where voting is mandatory.

FIGURE 2.
THE EFFECT OF POLITICAL KNOWLEDGE ON TURNING OUT TO VOTE, FOR VARYING COMPULSORY VOTING RULES




*Notes:* Marginal effect of political knowledge. Obtained from 10,000 simulated observations, using the estimates of Model 3 in Table 2. All other covariates set at the sample mean.

The analyses presented in Table 2 and Figures 1 and 2 support our first hypothesis. Compulsory voting rules significantly reduce education- and political knowledge-based stratification in turnout. This observation has led proponents of voluntary voting systems to claim that the votes that are cast under such rules are – on average – better informed votes, and therefore

higher quality votes (Brennan and Hill 2014; Selb and Lachat 2009). We empirically test the validity of this claim by means of analyses of the accountability and proximity-mechanisms guiding the vote choice.

For examining whether the accountability-function of elections is diluted when voting is mandatory, we examine in Table 3 what explains voting for the lead party. We expect the probability of voting for the lead party to be higher in a context of high levels of GDP growth and to be lower when unemployment rates increased more strongly. The results of Model 1 confirm that GDP growth rates are significantly and positively related to the probability of voting for the lead party. The effect is rather weak, and only significant at $p<0.05$, but in terms of the size it is in line with previous research on this relation (Kayser and Peress 2012). From the results of Model 3 it can be observed that changes in unemployment rates significantly affect the odds of voting for the lead party as well. A stronger increase in unemployment rates reduces the probability that voters vote for the lead party. We further note that the main effect of compulsory voting on choosing the lead party is significant in Model 1 but not in Model 3.

TABLE 3.
EXPLAINING VOTING FOR THE LEAD PARTY

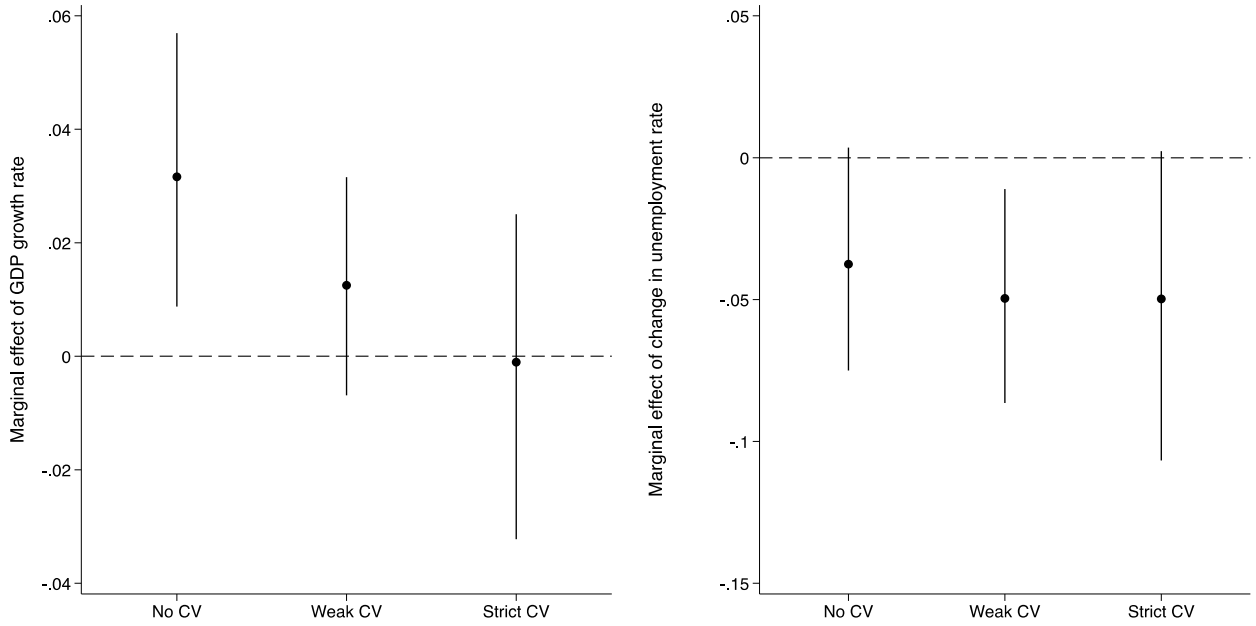
| | **Model 1** **b** **(s.e.)** | **Model 2** **b** **(s.e.)** | **Model 3** **b** **(s.e.)** | **Model 4** **b** **(s.e.)** |
|---|---|---|---|---|
| Female | 0.071*** | 0.071*** | 0.070*** | 0.070*** |
| | (0.016) | (0.016) | (0.016) | (0.016) |
| Age | 0.003*** | 0.003*** | 0.003*** | 0.003*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| College education | -0.158*** | -0.158*** | -0.161*** | -0.161*** |
| | (0.019) | (0.019) | (0.019) | (0.019) |
| Lead party ID | 3.738*** | 3.738*** | 3.740*** | 3.739*** |
| | (0.037) | (0.037) | (0.037) | (0.037) |
| Ideological distance to lead party | -0.497*** | -0.497*** | -0.501*** | -0.501*** |
| | (0.006) | (0.006) | (0.006) | (0.006) |
| ENEP | -0.174*** | -0.172*** | -0.162*** | -0.161*** |
| | (0.047) | (0.046) | (0.046) | (0.046) |
| Least squares index | 0.001 | 0.001 | 0.008 | 0.007 |
| | (0.019) | (0.019) | (0.018) | (0.018) |
| Polarization | 0.026 | 0.023 | 0.047 | 0.050 |
| | (0.034) | (0.034) | (0.034) | (0.034) |
| Compulsory voting (0-2) | -0.285* | -0.089 | -0.212 | -0.217 |
| | (0.118) | (0.201) | (0.115) | (0.114) |
| GDP growth rate | 0.081* | 0.104** | | |
| | (0.032) | (0.038) | | |
| Δ unemployment rate | | | -0.173* | -0.140 |
| | | | (0.072) | (0.078) |
| CV x GDP growth | | -0.052 | | |
| | | (0.044) | | |
| CV x Δ unemployment rate | | | | -0.103 |
| | | | | (0.102) |
| Constant | 0.336 | 0.282 | 0.338 | 0.330 |
| | (0.285) | (0.286) | (0.282) | (0.280) |
| $\sigma^2_{\text{election-years}}$ | 0.623 | 0.615 | 0.610 | 0.604 |
| *N respondents* | 108,651 | 108,651 | 108,335 | 108,335 |
| *N election-years* | 107 | 107 | 106 | 106 |

*Notes:* Coefficients and standard errors (in parentheses) of random intercept logistic regression models explaining voting for the lead party. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
*Source:* CSES Modules 1, 2, 3 and 4.

The results of Model 1 and Model 3 offer some indication that accountability-mechanisms affect the vote choice. Model 2 and Model 4 allow testing whether this accountability-mechanism is weakened under compulsory voting rules. To this end, we add an interaction term between compulsory voting and GDP growth in Model 2 and an interaction between compulsory voting rules and the change in unemployment rates in Model 4. The estimates in Model 2 offer no indication that compulsory voting rules significantly weaken the effect of GDP growth rates. Furthermore, the results in Model 4 give no indications of a significant interaction effect with changes in unemployment rates either. To gain insights in these interaction effects, however, we also plot in Figure 3 the marginal effect of GDP growth (left panel) and of the change in unemployment rate (right panel) on voting for the lead party. The plot shows a significant marginal effect of GDP growth on voting for the lead party in voluntary voting systems only. However, and importantly, the figure also shows no significant differences in the impact of GDP growth between the three categories of voting rules. For changes in unemployment rates as well, the plot clarifies that there are no significant differences in impact between the three forms of compulsory voting rules. The conclusion of our analyses of accountability mechanisms, thus, has to be that the extent to which voters hold incumbents accountable for the state of the economy does not vary significantly with different compulsory voting rules. We find no evidence confirming our second hypothesis. Accountability mechanisms are not weakened significantly when voting is mandatory, and when the low politically sophisticated are compelled to vote.

FIGURE 3.

THE EFFECT OF GDP GROWTH RATE AND Δ UNEMPLOYMENT RATE ON VOTING FOR THE LEAD PARTY, FOR VARYING COMPULSORY VOTING RULES




*Notes:* Marginal effect of a one unit increase in GDP growth rate (left panel) or Δ unemployment rate (right panel). Obtained from 10,000 simulated observations, using the estimates of Model 2 and Model 4 in Table 3. All other variables are set at the sample mean.

Next, we investigate whether the same holds for ideological proximity (Table 4). In a first model, we present the results of a mixed linear model explaining the ideological distance between a voter and the party she voted for. Female and older voters are significantly more distant from their party. Not surprisingly, being higher educated and being more knowledgeable reduce the ideological distance between voter and party. Additionally, it appears that being close to a party serves as a useful heuristic for choosing a proximate party, as the ideological distance to the party of choice is significantly smaller for those who feel close to a party. Finally, it can be observed that for voters who place themselves closer to the extremes of the left-right scale, the ideological distance to the party voted for is significantly larger. Looking at the effect of the macro-level variables, it can be observed that a more polarized party system significantly reduces the distance to the party of choice.[11] It thus seems that choosing a party in a system where parties are more

polarized, and thus also more clearly distinct ideologically, allows for closer connections on average between voters and the parties they choose (Lupu 2015). Finally, and most importantly, we observe a significant impact of compulsory voting rules on the ideological distance between a voter and her party. The effect is positive and significant, implying that voters in systems with mandatory voting are, on average, more ideologically distant from the party they end up choosing.

TABLE 4.
THE EFFECT OF COMPULSORY VOTING RULES ON PROXIMITY VOTING

| | **Model 1**<br>**Ideological distance to the party of choice**<br>**b**<br>**(s.e.)** | **Model 2**<br>**Choosing the most proximate party**<br>**b**<br>**(s.e.)** |
|---|---|---|
| Female | 0.044*** | -0.040** |
| | (0.007) | (0.014) |
| Age | 0.002*** | -0.000 |
| | (0.000) | (0.000) |
| College education | -0.162*** | 0.143*** |
| | (0.009) | (0.017) |
| Political knowledge | -0.131*** | 0.124*** |
| | (0.006) | (0.012) |
| Party ID | -0.227*** | 0.217*** |
| | (0.008) | (0.015) |
| Extremeness left-right placement | 0.340*** | 0.255*** |
| | (0.002) | (0.005) |
| ENEP | -0.031* | -0.115*** |
| | (0.014) | (0.026) |
| Least squares index | 0.010 | 0.025* |
| | (0.006) | (0.011) |
| Polarization | -0.049*** | 0.027 |
| | (0.011) | (0.020) |
| Compulsory voting (0-2) | 0.131*** | -0.152* |
| | (0.040) | (0.071) |
| Constant | 1.394*** | -1.185*** |
| | (0.086) | (0.154) |
| $\sigma^2_{\text{election-years}}$ | 0.058 | 0.186 |
| *N respondents* | 98,403 | 98,403 |
| *N election-years* | 101 | 101 |

*Notes:* Coefficients and standard errors (in parentheses) of random intercept linear regression model explaining the ideological distance to the party of choice (Model 1) and logistic regression model explaining voting for the most proximate party (Model 2). Election samples with less than 400 observations were excluded from the analyses. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

*Source:* CSES Modules 1, 2, 3 and 4.

The ideological distance between a voter and the party she chooses, however, is not determined only by the choices that a voter makes. To a large extent, whether or not a voter can vote for an ideologically proximate party depends on the options she has, and thus on the supply side. A more direct test of *voters'* capacities of choosing a party that matches well with their opinions hence consists of an analysis the extent to which they choose the most proximate party, given the options available. In Model 2 we estimate a mixed logit model examining the determinants of choosing the most ideologically proximate party. The results in Table 4 show that higher educated, more knowledgeable voters, voters with a party identification, as well as more extreme voters are more likely to vote for the party that is closest to them. It can further be noted that the probability of choosing the most proximate party is significantly reduced as there are more parties in a party system. Under this somewhat stricter test as well, we find indications that compulsory voting rules weaken proximity voting. That is, we find a negative and significant (at $p<0.05$) effect of compulsory voting rules on the probability of choosing the most proximate party. This estimated effect is somewhat uncertain, however. When constructing a measure of parties' left-right placement that is based on the position attributed to parties by respondents with a college degree only (cfr. Singh and Thornton 2013) and re-estimating this model, we find that this effect is still negative but falls short of statistical significance (full results can be consulted in Appendix A). Nevertheless, the fact that the estimate is consistently found to be negative, and the fact that it ties in with the results of Model 1 allow concluding that proximity voting appears to be weakened when citizens are compelled to turn out to vote.

**Conclusion**

With the current paper, our aim was to test the often repeated argument that systems of compulsory voting might be associated with higher turnout, but that exactly because they entice the least

knowledgeable citizens to vote, they have a detrimental effect on the quality of electoral representation.

First, our analyses confirm previous findings: systems of compulsory voting diminish stratification based on political knowledge or level of education, as is indicated by the negative interaction of compulsory voting and education on turnout.[12] Given the ongoing concerns about the representation of groups with a lower socio-economic status in the political decision making process (Schlozmann *et al.* 2012), this is an important finding as it confirms that government intervention can mitigate this form of stratification. This finding is in line with previous studies (Singh 2015), and it leads to an even sharper dilemma: if these less knowledgeable citizens turn out to vote, should we be worried about the quality of their electoral decision making process? It is indeed widely assumed that voters need these cognitive resources, both to make an adequate judgment about the past performance of politicians, and to identify the political party that is closest to their own ideological preference. Nevertheless, we observe that accountability mechanisms are equally strong in countries with a system of compulsory voting. Only for proximity voting are there indications of a negative impact of compulsory voting rules.

This apparent paradox could be solved in a number of ways. First, it might be assumed that given the obligation to vote, the least knowledgeable will be forced to pay at least some attention to the electoral campaign, as they know they will have to make a vote choice. Second, an alternative suggestion might be that maybe it does not require only a specific level political sophistication to arrive at a judgment about economic performance. Based on previous research, the most sophisticated are better equipped to assess the economic situation, but the margin of error apparently does not inhibit voters from arriving at the same conclusion of accountability. For proximity voting, we did find that the mechanism is weakened in a context of mandatory voting. Traditionally, retrospective voting is effectively considered a less demanding way of voting

compared to what spatial and proximity models of voting require (Key 1966). Consequently, when it comes to holding incumbents into account, compulsory voting rules do not imply a loss of strength of this mechanism. Proximity voting, which is a somewhat more challenging exercise, by contrast, is becoming a less effective vote choice determinant when compulsory voting rules are in place—and when the electorate overall is somewhat less informed.

In the theoretical literature on the role of elections, two main mechanisms are thought of as important in realizing democratic representation; accountability and proximity voting. Our results indicate that only one of those two mechanisms is weakened when citizens are compelled to vote, that is, when mandatory voting rules are in place. We do not wish to make claims about which of both mechanisms is the most important one, and that is a largely normative discussion. We do, however, wish to bring more nuance in the debate on the implications of compulsory voting rules. We know already from previous research that compulsory voting should not be considered as a panacea solution to give equal voice to everyone in the population. The counter-argument that compulsory voting would erode the representative function of elections, however, receives only mixed support here. While we can confirm that proximity voting is weakened under compulsory voting, the same does not hold for the mechanism of accountability. Previous work on the quality of the vote choice and on the impact of compulsory voting rules thereon, has not accounted for the importance of the accountability mechanism. Doing so, we show, makes for a somewhat more balanced view on the consequences of compelling (in particular low knowledgeable) citizens to turn out to vote. A number of over-time changes in voting behavior furthermore render accountability an increasingly important vote choice determinant. Left-right identifications are becoming less important vote choice factors among younger generations of voters (Walczak *et al.* 2012). In addition, it has been claimed that a trend towards dealignment implies performance evaluations are becoming increasingly important (Kayser and Wlezien 2011). If accountability

mechanisms are effectively becoming increasing important in determining the vote choices of citizens, the implication of our results is that differences in the 'quality' of the vote choice in compulsory and non-compulsory voting contexts respectively, is becoming increasingly less relevant.

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**Notes**

1 . Due to missing information on some of the variables, the sample sizes differ somewhat from one analysis to another. Full information on what samples are included in each of the analyses and reasons for non-inclusion are included in Appendix E of the online appendix.

2. We exclude cases where Freedom House rated political rights above 5 (on a 7-point scale where 7 indicates "few or no political rights because of severe government oppression"). This excludes Belarus in 2001 and 2008, Kyrgyzstan in 2005, Thailand in 2007, and Russia in 2004.

3. For a number of control variables, the question wording in the Belgian election study differed from the CSES-question format (e.g., income, efficacy, and political knowledge). For comparability, the scales of these variables were standardized so they match the metrics of the CSES questions. The Belgian 2014 elections are not included in the accountability-analysis, as the data did not allow operationalizing the direction of partisanship.

4. All knowledge items were closed-ended questions, and not answering a question was treated as an incorrect response. For CSES modules 1 to 3 holds that national survey teams were instructed to design knowledge questions that would be answered correctly by two-thirds, one-half and one-third of the respondents respectively. Surveys in module 4 of CSES by contrast included the same four – general – knowledge questions. Finally, the Belgian survey included five knowledge questions. We verified the robustness of the result when relying on a single standardized approach to measuring political knowledge, that is, the approach implemented in Modules 1 to 3 of CSES. The results of these additional analyses are available from the authors and lead to substantially the same conclusions.

5. Based on a standardized scale of the items 'who is in power makes a difference' and 'who people vote for makes a difference' for surveys where both items were included. When only one item was

included, the measure is based on a single question. For Belgium, the standardized scale of seven political efficacy questions was used.

6. The effective number of parties (ENEP), measured in votes, and the least squares index of disproportionality come from Gallagher's website or were updated by the authors. For mixed systems, calculations are based on the party list tier only. We implemented the formula used by Lupu (2015) to calculate polarization within CSES. The exact formula is $P = \sum_{j=1}^{n} \omega_j \left(p_j - \acute{p}\right)^2$, where ωj is the share of the vote received by party j, pj is the position of party j on the left-right scale, and $\acute{p}$is the average position of the parties.

7. In operationalizing these variable, we thus take into account change over the last year and not e.g., change over the full electoral cycle. This way of operationalizing the econmic indicators is in line with a rich literature that indicates that voters are myopic and consider especially the state of the economy in the most recent period when evaluating the performance of incumbents (Achen and Bartels, 2016; Wlezien, 2015).

8. Following the formula proposed by Bélanger and Gélineau (2010, 98): ρ=[ρ(t−1)*(12−σ(t))/12]+[ρ(t)*(σ(t)/12], where ρ is the annual economic indicator, σ is the election month and t is the election year.

9. We also verified whether results are robust to estimating parties position based on the assessment of highly educated respondents only. The results of these analyses are reported in Appendix A and are in line with the main results reported in the manuscript.

10. We opted for a two-level model, because in a number of countries only one election was included, which would invalidate a three-level design (Singh, 2015).

11. Descriptive statistics for these macro-level variables by country are included in Appendix C.

12. It should be noted here that in our analysis compulsory does not diminish this form of stratification because it strengthens levels of political knowledge. In a separate analysis, we did not observe any effect of compulsory voting on levels of political knowledge.

# APPENDIX

APPENDIX A.

PARTY POSITIONS OBTAINED FROM ASSESSMENT OF HIGHLY EDUCATED RESPONDENTS ONLY

TABLE 1.

EXPLAINING VOTING FOR THE LEAD PARTY

| | **Model 1** **b** **(s.e.)** | **Model 2** **b** **(s.e.)** | **Model 3** **b** **(s.e.)** | **Model 4** **b** **(s.e.)** |
|---|---|---|---|---|
| Female | 0.071*** | 0.071*** | 0.070*** | 0.070*** |
| | (0.016) | (0.016) | (0.016) | (0.016) |
| Age | 0.003*** | 0.003*** | 0.003*** | 0.003*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| College education | -0.160*** | -0.160*** | -0.163*** | -0.163*** |
| | (0.019) | (0.019) | (0.019) | (0.019) |
| Lead party ID | 3.721*** | 3.721*** | 3.723*** | 3.723*** |
| | (0.037) | (0.037) | (0.037) | (0.037) |
| Ideological distance to lead party | -0.509*** | -0.509*** | -0.514*** | -0.514*** |
| | (0.006) | (0.006) | (0.006) | (0.006) |
| ENEP | -0.181*** | -0.180*** | -0.169*** | -0.169*** |
| | (0.047) | (0.047) | (0.047) | (0.047) |
| Least squares index | 0.005 | 0.004 | 0.011 | 0.010 |
| | (0.019) | (0.019) | (0.018) | (0.018) |
| Polarization | 0.014 | 0.010 | 0.035 | 0.038 |
| | (0.034) | (0.034) | (0.034) | (0.034) |
| Compulsory voting (0-2) | -0.308** | -0.099 | -0.233* | -0.238* |
| | (0.119) | (0.202) | (0.116) | (0.115) |
| GDP growth rate | 0.083* | 0.108** | | |
| | (0.033) | (0.038) | | |
| Δ unemployment rate | | | -0.185* | -0.157* |
| | | | (0.072) | (0.079) |
| CV x GDP growth | | -0.056 | | |
| | | (0.044) | | |
| CV x Δ unemployment rate | | | | -0.088 |
| | | | | (0.102) |
| Constant | 0.450 | 0.392 | 0.459 | 0.453 |
| | (0.287) | (0.288) | (0.284) | (0.283) |
| $\sigma^2_{\text{election-years}}$ | 0.634 | 0.624 | 0.619 | 0.615 |
| *N respondents* | 108651 | 108651 | 108335 | 108335 |
| *N election-years* | 107 | 107 | 106 | 106 |

*Notes:* Coefficients and standard errors (in parentheses) of random intercept logistic regression models explaining voting for the lead party. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 2.

THE EFFECT OF COMPULSORY VOTING RULES ON PROXIMITY VOTING

| | **Model 1**<br>**Ideological distance to the party of choice**<br>**b**<br>**(s.e.)** | **Model 2**<br>**Choosing the most proximate party**<br>**b**<br>**(s.e.)** |
|---|---|---|
| Female | 0.040*** | -0.024 |
| | (0.008) | (0.015) |
| Age | 0.002*** | 0.000 |
| | (0.000) | (0.000) |
| College education | -0.202*** | 0.145*** |
| | (0.009) | (0.017) |
| Political knowledge | -0.158*** | 0.120*** |
| | (0.006) | (0.012) |
| Party ID | -0.254*** | 0.219*** |
| | (0.009) | (0.016) |
| Extremeness left-right placement | 0.270*** | 0.230*** |
| | (0.003) | (0.005) |
| ENEP | -0.025 | -0.099*** |
| | (0.016) | (0.027) |
| Least squares index | 0.010 | 0.008 |
| | (0.007) | (0.011) |
| Polarization | -0.054*** | 0.041 |
| | (0.013) | (0.021) |
| Compulsory voting (0-2) | 0.122** | -0.065 |
| | (0.044) | (0.075) |
| Constant | 1.627*** | -1.254*** |
| | (0.095) | (0.162) |
| $\sigma^2_{\text{election-years}}$ | 0.071 | 0.207 |
| *N observations* | 98,403 | 98,403 |
| *N election-years* | 101 | 101 |

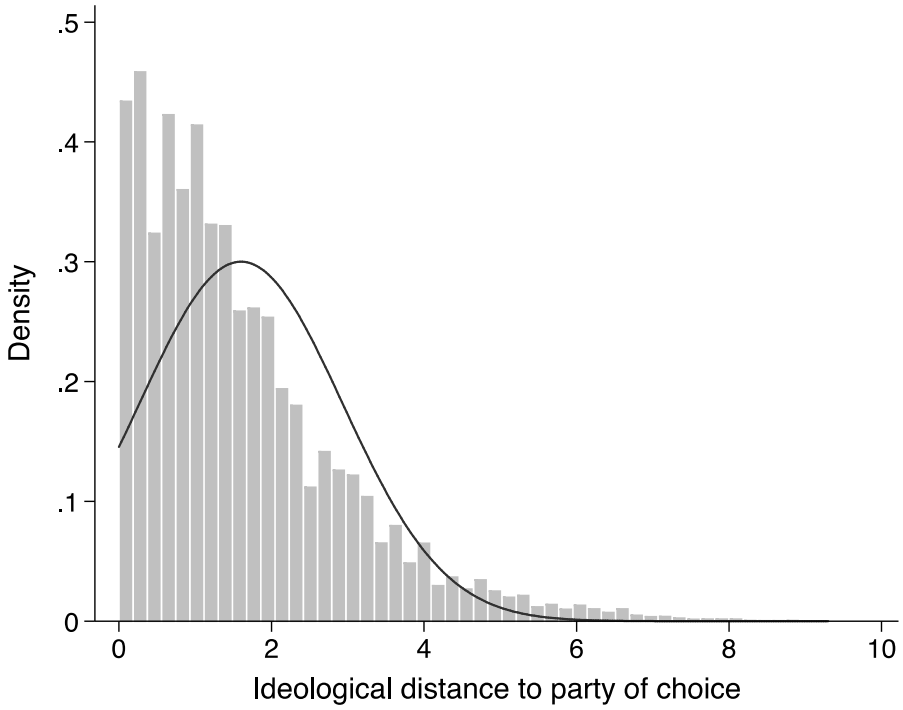
*Notes:* Coefficients and standard errors (in parentheses) of random intercept linear regression model explaining the ideological distance to the party of choice (Model 1) and logistic regression model explaining voting for the most proximate party (Model 2). Election samples with less than 400 observations were excluded from the analyses. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

*Source:* CSES Modules 1, 2, 3 and 4.

## APPENDIX B.
## EXPLAINING DISTANCE TO THE PARTY OF CHOICE – ACCOUNTING FOR OVERDISPERSION

The dependent variable for the analysis of the distance to the party vote for varies between 0 and 10, but most voters choose a party that is fairly close to them ideologically. As a result, the variable is not normally distributed. Figure 1 illustrates the extent to which there is overdispersion in the distance to the party of choice. The mean ideological distance is 1.60, with a standard deviation of 1.33. The variance of the variable is 1.77.

FIGURE 1.
DISTRIBUTION OF DISTANCE TO THE PARTY OF CHOICE




Given the non-normal distribution of the dependent variable, a linear specification might be inappropriate. Additionally, the distance variable is bound and cannot be smaller than zero (King, 1988). For taking these properties into account, assuming a poisson or negative binominal distribution are possible alternative modeling options. Given that the variance of the dependent variable (1.78) does not differ strongly from the mean value (1.60) we consider a poisson distribution an appropriate alternative. In Table 1 we verify whether the main results presented in our manuscript (Model 1 in Table 3) are sensitive to such an alternative model specification. Comparing the estimates of both modeling approaches clarifies that the results are substantively the same, both in terms of the direction as well as the significance of the estimated effects.

TABLE 1.
EXPLAINING THE DISTANCE TO THE PARTY VOTED FOR – MIXED POISSON MODEL

| | **Model 1**<br>**Ideological distance to the party of choice**<br>**b**<br>**(s.e.)** |
|---|---|
| Female | 0.022*** |
| | (0.005) |
| Age | 0.001*** |
| | (0.000) |
| College education | -0.093*** |
| | (0.006) |
| Political knowledge | -0.168*** |
| | (0.008) |
| Party ID | -0.134*** |
| | (0.005) |
| Extremeness left-right placement | 0.197*** |
| | (0.002) |
| ENEP | -0.014*** |
| | (0.003) |
| Least squares index | 0.009*** |
| | (0.001) |
| Polarization | -0.014*** |
| | (0.002) |
| Compulsory voting (0-2) | 0.074*** |
| | (0.006) |
| Constant | 0.162*** |
| | (0.020) |
| $\sigma^2_{\text{election-years}}$ | 0.031 |
| *N observations* | 98,403 |
| *N election-years* | 101 |

*Notes:* Unstandardized errors and standard errors (in parentheses) of random intercept poisson regression model explaining the ideological distance to the party of choice (Model 2). Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$.
*Source:* CSES Modules 1, 2, 3 and 4.

## References

King, Garry (1988). 'Statistical Models for Political Science Event Counts: Bias in Conventional Procedures and Evidence for the Exponential Poisson Regression Model', *American Journal of Political Science*, 32:3, 838–863.

APPENDIX C.

DESCRIPTIVE STATISTICS OF MACRO-LEVEL INDICATORS BY ELECTION-YEAR SAMPLE

| Election | Ideological distance | Most proximate (%) | Compulsory voting | ENEP | Least squares index | Polarization |
|---|---|---|---|---|---|---|
| Germany 2013 | 1.24 | 21.12 | 0 | 4.81 | 7.83 | 2.69 |
| Germany 2009 | 1.24 | 30.05 | 0 | 5.58 | 3.4 | 3.32 |
| Spain 2008 | 1.24 | 38.38 | 0 | 2.79 | 4.49 | 5.94 |
| Norway 2001 | 1.25 | 36.03 | 0 | 6.18 | 3.31 | 3.62 |
| Norway 2013 | 1.25 | 36.2 | 0 | 4.87 | 2.56 | 5.52 |
| Netherlands 2002 | 1.26 | 26.1 | 0 | 6.04 | .88 | 3.44 |
| Netherlands 1998 | 1.27 | 26.1 | 0 | 5.15 | 1.28 | 2.07 |
| Sweden 2014 | 1.27 | 21.74 | 0 | 5.41 | 2.64 | 4.78 |
| Norway 2009 | 1.28 | 36.82 | 0 | 4.55 | 3.01 | 5.59 |
| Netherlands 2006 | 1.3 | 19.23 | 0 | 5.8 | 1.03 | 3.51 |
| Iceland 2007 | 1.31 | 48.37 | 0 | 4.06 | 3.49 | 4.78 |
| Finland 2003 | 1.31 | 28.05 | 0 | 5.65 | 3.16 | 2.07 |
| Iceland 2013 | 1.31 | 36.53 | 0 | 5.83 | 6.23 | 4.35 |
| Czech Republic 2010 | 1.31 | 41.98 | 0 | 6.75 | 8.76 | 6.51 |
| Norway 2005 | 1.31 | 25.71 | 0 | 5.11 | 2.67 | 5.06 |
| Sweden 2006 | 1.31 | 17.81 | 0 | 4.66 | 3.02 | 5.44 |
| Czech Republic 2002 | 1.32 | 60.98 | 0 | 4.82 | 5.73 | 8.04 |
| Norway 1997 | 1.32 | 34.51 | 0 | 4.94 | 3.44 | 2.98 |
| Australia 1996 | 1.33 | 17.79 | 2 | 3.21 | 10.97 | 1.1 |
| Spain 2004 | 1.34 | 41.51 | 0 | 3 | 4.25 | 5.25 |
| Spain 2000 | 1.37 | 43.45 | 0 | 3.12 | 6.1 | 3.14 |
| Czech Republic 2006 | 1.37 | 55.91 | 0 | 3.91 | 5.72 | 8.61 |
| Denmark 2007 | 1.38 | 22.94 | 0 | 5.41 | .72 | 4.07 |
| Finland 2007 | 1.39 | 27.67 | 0 | 5.88 | 3.2 | 3.32 |
| Finland 2011 | 1.4 | 24.3 | 0 | 6.47 | 2.95 | 2.99 |
| New Zealand 2008 | 1.4 | 20 | 0 | 3.07 | 3.84 | 2.95 |
| Belgium (Flanders ) 2014 | 1.41 | 15.56 | 2 | 5.05 | 5.05 | 1.89 |
| Iceland 2009 | 1.41 | 33.55 | 0 | 4.55 | 2.58 | 4.37 |
| New Zealand 1996 | 1.42 | 23.82 | 0 | 4.27 | 3.43 | 3.68 |
| Canada 2008 | 1.43 | 35.97 | 0 | 3.87 | 10.09 | 2.57 |
| Great Britain 2005 | 1.43 | 41.94 | 0 | 3.59 | 16.73 | 1.33 |
| Sweden 2002 | 1.44 | 35.48 | 0 | 4.51 | 1.52 | 5.26 |
| Czech Republic 1996 | 1.44 | 41.07 | 0 | 5.33 | 5.55 | 7.47 |
| Switzerland 2011 | 1.44 | 34.64 | 0 | 6.35 | 3.76 | 4.22 |
| Czech Republic 2013 | 1.44 | 37.48 | 0 | 7.61 | 6.12 | 6.06 |
| Sweden 1998 | 1.44 | 46.33 | 0 | 4.55 | .97 | 6.76 |
| Netherlands 2010 | 1.45 | 22.86 | 0 | 6.97 | .81 | 4.15 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Switzerland 1999 | 1.45 | 31.8 | 0 | 5.87 | 3.17 | 2.59 |
| Portugal 2002 | 1.45 | 42.9 | 0 | 3.03 | 4.64 | 5.61 |
| Canada 1997 | 1.45 | 33.23 | 0 | 4.09 | 13.26 | .983 |
| Canada 2004 | 1.46 | 39.84 | 0 | 3.78 | 9.81 | 1.25 |
| Switzerland 2007 | 1.47 | 29.86 | 0 | 5.61 | 2.56 | 4.07 |
| New Zealand 2002 | 1.47 | 22.22 | 0 | 4.17 | 2.37 | 2.35 |
| Germany 1998 | 1.47 | 27.51 | 0 | 3.78 | 3.15 | 1.7 |
| France 2007 | 1.47 | 39.91 | 0 | 4.32 | 13.58 | 6.19 |
| New Zealand 2011 | 1.48 | 27.56 | 0 | 3.15 | 2.38 | 4.13 |
| Belgium (Flanders) 1999 | 1.48 | 18.89 | 2 | 10.28 | 2.99 | 1.37 |
| Taiwan 2001 | 1.48 | 19.19 | 0 | 3.57 | 4.12 | .328 |
| Bulgaria 2014 | 1.48 | 35.15 | 0 | 5.77 | 2.52 | 5.77 |
| Canada 2011 | 1.49 | 30.12 | 0 | 3.43 | 12.42 | 3.15 |
| Australia 2007 | 1.49 | 50.19 | 2 | 3.03 | 10.27 | 1.56 |
| Australia 2004 | 1.51 | 32.84 | 2 | 3.17 | 8.6 | 2.04 |
| Germany 2005 | 1.51 | 27.71 | 0 | 4.46 | 2.16 | 2.49 |
| Switzerland 2003 | 1.52 | 39.26 | 0 | 5.44 | 2.47 | 4.32 |
| Greece 2009 | 1.52 | 43.9 | 1 | 3.16 | 7.29 | 3.84 |
| Great Britain 1997 | 1.53 | 54.32 | 0 | 3.22 | 16.51 | 1.94 |
| Israel 2003 | 1.53 | 25.23 | 0 | 7.05 | 2.53 | 3.92 |
| Germany 2002 | 1.56 | 26.3 | 0 | 4.09 | 4.61 | 2.92 |
| Austria 2013 | 1.58 | 17.12 | 0 | 5.15 | 3.31 | 2.08 |
| Portugal 2009 | 1.59 | 48.34 | 0 | 3.83 | 5.63 | 2.94 |
| Australia 2013 | 1.6 | 47.22 | 2 | 4.26 | 9.54 | 1.9 |
| Israel 2013 | 1.6 | 29.11 | 0 | 8.68 | 3.09 | 1.61 |
| Greece 2012 | 1.6 | 26.65 | 1 | 8.95 | 12.88 | 5.39 |
| Hong Kong 1998 | 1.61 | 24.94 | 0 | 3.75 | 6.63 | .617 |
| Belgium (Wallonia) 2014 | 1.63 | 16.19 | 2 | 5.05 | 8.49 | 1.72 |
| Portugal 2005 | 1.65 | 43.71 | 0 | 3.13 | 5.75 | 3.16 |
| Hungary 1998 | 1.65 | 28.04 | 0 | 5.18 | 10.88 | 3.16 |
| Ireland 2002 | 1.65 | 29.67 | 0 | 4.13 | 6.62 | 1.68 |
| Turkey 2015 | 1.66 | 35.7 | 2 | 3.13 | 3.65 | 9.82 |
| Portugal 2015 | 1.69 | 44.87 | 0 | 2.89 | 3.59 | 6.98 |
| Estonia 2011 | 1.69 | 29.36 | 0 | 4.78 | 5.09 | 4.36 |
| Israel 2006 | 1.72 | 32.24 | 0 | 8.98 | 2.49 | 1.26 |
| Spain 1996 | 1.73 | 30.33 | 0 | 3.21 | 5.36 | 4.22 |
| Mexico 2015 | 1.77 | 33.67 | 1 | 4.14 | 5.65 | 3.29 |
| Slovenia 2011 | 1.77 | 27.47 | 0 | 5.57 | 3.64 | 3.96 |
| United States 2004 | 1.78 | 55.66 | 0 | 2.18 | 2.99 | 1.81 |
| Slovakia 2010 | 1.78 | 37.06 | 0 | 5.53 | 7.46 | 3.95 |
| Poland 1997 | 1.78 | 45.99 | 0 | 4.59 | 10.63 | 6.87 |
| South Korea 2008 | 1.81 | 23.4 | 0 | 4.28 | 5.13 | 3 |
| Poland 2007 | 1.81 | 38.33 | 0 | 3.32 | 4.67 | 3.17 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Croatia 2007 | 1.84 | 21.14 | 0 | 4.23 | 7.58 | 5.73 |
| South Korea 2004 | 1.85 | 24.91 | 0 | 3.36 | 12.11 | 3.21 |
| Poland 2005 | 1.87 | 32.87 | 0 | 5.86 | 6.97 | 4.5 |
| Poland 2001 | 1.88 | 32.91 | 0 | 4.5 | 6.33 | 8.44 |
| Hungary 2002 | 1.89 | 41.09 | 0 | 2.94 | 8.2 | 11 |
| Austria 2008 | 1.91 | 14.01 | 0 | 4.79 | 2.92 | 3.91 |
| Mexico 2009 | 1.96 | 29.72 | 1 | 3.77 | 10.46 | 4.45 |
| Poland | 1.97 | 45.01 | 0 | 10.46 | 30.21 | 11.8 |
| Poland 2011 | 1.99 | 33.74 | 0 | 3.74 | 5.95 | 2.92 |
| Peru 2011 | 2.03 | 22.96 | 2 | 5.71 | 10.23 | 1.69 |
| United States 2008 | 2.1 | 59.47 | 0 | 2.09 | 4.01 | .047 |
| Mexico 2006 | 2.14 | 76.21 | 1 | 3.42 | 6.34 | 2.98 |
| Peru 2006 | 2.15 | 25.76 | 2 | 7.31 | 13.95 | .75 |
| Mexico 2012 | 2.16 | 31.84 | 1 | 3.16 | 6.87 | 3.28 |
| United States 2012 | 2.19 | 57.2 | 0 | 2.13 | 4.79 | .084 |
| Serbia 2012 | 2.27 | 33.43 | 0 | 6.32 | 6.53 | .335 |
| South Africa 2009 | 2.32 | 49.81 | 0 | 2.13 | .3 | 4.49 |
| Brazil 2002 | 2.8 | 20.5 | 2 | 9.28 | 3.07 | .78 |
| Mexico 2000 | 2.8 | 36.34 | 1 | 3 | 6.7 | 3.49 |
| Mexico 1997 | 2.81 | 26.77 | 1 | 3.42 | 6.77 | 1.51 |
| Mexico 2003 | 2.91 | 33.42 | 1 | 3.19 | 4.74 | 2.04 |

*Notes:* Descriptive statistics for estimation sample of Model 1 in Table 3 in the main manuscript. N = 98,403.
*Source:* CSES Modules 1, 2, 3 and 4.

## APPENDIX D.
## SENSITIVITY TO INFLUENTIAL CASES (ELECTION-SAMPLES)

The main variables of interest in our analyses are upper-level variables (i.e., compulsory voting and economic indicators), which are based on a relatively low number of observations (elections). When interpreting the results of our analyses, we have to be aware of the fact that estimates of these analyses are sensitive to influential cases. To detect influential cases and their impact on the result, we follow the advice by van der Meer et al. (2010). We first perform diagnostic tests, calculating Cook's D and DFBETAS and subsequently estimate the models with additional election-dummies for the most influential cases we identified.

The Cook's D statistic is a measure of the influence of one case (for our analyses, an election) on all level-2 estimates. DFBETAS offer a measure of the influence of one case on different estimates separately. We focus here on the DFBETAS for the estimates of interest; the interaction between compulsory voting and GDP growth in the accountability analyses and compulsory voting in the proximity analyses. The results reported here confirm that the direction and significance level of these indicators is robust to excluding the three most influential election-samples (either overall, or with respect to their impact on the coefficients of interest).

TABLE 1.
DIAGNOSTIC STATISTICS – TURNOUT (INTERACTION CV X POLITICAL KNOWLEDGE)

| **Election** | **Cook's D** | **DFBETA** |
|---|---|---|
| Albania 2005 | 0.673 | |
| Poland 2005 | 0.438 | |
| Mexico 2012 | 0.357 | |
| Mexico 2012 | | -1.556 |
| Brazil 2011 | | 1.100 |
| Poland 2005 | | 0.780 |

*Notes:* Diagnostic statistics via mltcooksd-ado in Stata (Möhring and Schmidt, 2013). Cases with highest values for each of the diagnostic statistics are reported.
*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 2.
DIAGNOSTIC STATISTICS – TURNOUT (INTERACTION CV X COLLEGE EDUCATION)

| **Election** | **Cook's D** | **DFBETA** |
|---|---|---|
| Albania 2005 | 0.646 | |
| Mexico 2012 | 0.368 | |
| Poland 2005 | 0.339 | |
| Greece 2012 | | 0.896 |
| Brazil 2002 | | 0.613 |
| Peru 2011 | | -0.600 |

*Notes:* Diagnostic statistics via mltcooksd-ado in Stata (Möhring and Schmidt, 2013). Cases with highest values for each of the diagnostic statistics are reported.
*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 3.
EXPLAINING TURNOUT – CONTROLLING FOR THE IMPACT OF OUTLIERS

| | **Model 1** **b** **(s.e.)** | **Model 2** **b** **(s.e.)** | **Model 3** **b** **(s.e.)** | **Model 4** **b** **(s.e.)** |
|---|---|---|---|---|
| Female | 0.103*** | 0.103*** | 0.085*** | 0.085*** |
| | (0.017) | (0.017) | (0.017) | (0.017) |
| Age | 0.021*** | 0.021*** | 0.021*** | 0.021*** |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| Political knowledge | 0.727*** | 0.726*** | 0.553*** | 0.553*** |
| | (0.040) | (0.040) | (0.015) | (0.015) |
| College education | 0.347*** | 0.347*** | 0.447*** | 0.447*** |
| | (0.026) | (0.026) | (0.051) | (0.051) |
| Income | 0.143*** | 0.143*** | 0.149*** | 0.149*** |
| | (0.007) | (0.007) | (0.007) | (0.007) |
| Political efficacy | 0.255*** | 0.255*** | 0.260*** | 0.260*** |
| | (0.009) | (0.009) | (0.009) | (0.009) |
| Party ID | 0.961*** | 0.961*** | 0.969*** | 0.969*** |
| | (0.019) | (0.019) | (0.019) | (0.019) |
| ENEP | -0.133** | -0.062 | -0.129** | -0.056 |
| | (0.045) | (0.043) | (0.043) | (0.042) |
| Least squares index | -0.083** | -0.023 | -0.075** | -0.026 |
| | (0.025) | (0.021) | (0.024) | (0.021) |
| Polarization | -0.089* | -0.041 | -0.083* | -0.044 |
| | (0.038) | (0.039) | (0.037) | (0.037) |
| Compulsory voting (0-2) | 1.014*** | 0.923*** | 0.815*** | 0.773*** |
| | (0.129) | (0.135) | (0.123) | (0.131) |
| CV x political knowledge | -0.283*** | -0.283*** | | |
| | (0.055) | (0.055) | | |
| CV x college education | | | -0.227** | -0.228** |
| | | | (0.073) | (0.073) |
| Constant | -0.176 | -0.962*** | -0.161 | -0.889** |
| | (0.343) | (0.292) | (0.331) | (0.286) |
| $\sigma^2_{\text{election-years}}$ | 0.677 | 0.773 | 0.648 | 0.723 |
| $\sigma^2_{\text{slope}}$ | 0.105 | 0.103 | 0.145 | 0.145 |
| *N respondents* | 132,262 | 132,262 | 132,262 | 132,262 |
| *N election-years* | 113 | 113 | 113 | 113 |

*Note:* Unstandardized errors and standard errors (in parentheses) of random intercept logistic regression models explaining turnout. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Model 1 includes election dummies for Albania 2005, Poland 2005 and Mexico 2012. Model 2 includes election dummies for Mexico 2012, Brazil 2011 and Poland 2005. Model 3 includes election dummies for Albania 2005, Poland 2005 and Mexico 2012. Model 4 includes election dummies for Greece 2012, Brazil 2002 and Peru 2011.
*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 4.

DIAGNOSTIC STATISTICS – VOTING FOR THE LEAD PARTY (FOCUS ON GDP)

| **Election** | **Cook's D** | **DFBETA** |
|---|---|---|
| Sweden 2014 | 0.995 | |
| Mexico 1997 | 0.285 | |
| New Zealand 1996 | 0.242 | |
| Chile 2009 | | 1.190 |
| Peru 2011 | | -0.824 |
| Peru 2006 | | -0.527 |

*Notes:* Diagnostic statistics via mltcooksd-ado in Stata (Möhring and Schmidt, 2013). Cases with highest values for each of the diagnostic statistics are reported.

*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 5.

DIAGNOSTIC STATISTICS – VOTING FOR THE LEAD PARTY (FOCUS ON UNEMPLOYMENT)

| **Election** | **Cook's D** | **DFBETA** |
|---|---|---|
| Sweden 2014 | 0.989 | |
| Mexico 1997 | 0.292 | |
| Brazil 2002 | 0.248 | |
| Chile 2009 | | -0.786 |
| Brazil 2002 | | 0.759 |
| Poland 2007 | | -0.467 |
| Critical value | 0.037 | 0.193 |

*Notes:* Diagnostic statistics via mltcooksd-ado in Stata (Möhring and Schmidt, 2013). Cases with highest values for each of the diagnostic statistics are reported.

*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 6.
VOTING FOR THE LEAD PARTY – CONTROLLING FOR THE IMPACT OF OUTLIERS

| | **Model 1**<br>**b**<br>**(s.e.)** | **Model 2**<br>**b**<br>**(s.e.)** | **Model 3**<br>**b**<br>**(s.e.)** | **Model 4**<br>**b**<br>**(s.e.)** |
|---|---|---|---|---|
| Female | 0.071*** | 0.071*** | 0.070*** | 0.070*** |
| | (0.016) | (0.016) | (0.016) | (0.016) |
| Age | 0.003*** | 0.003*** | 0.003*** | 0.003*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| College education | -0.158*** | -0.158*** | -0.161*** | -0.161*** |
| | (0.019) | (0.019) | (0.019) | (0.019) |
| Lead party ID | 3.738*** | 3.736*** | 3.740*** | 3.740*** |
| | (0.037) | (0.037) | (0.037) | (0.037) |
| Ideological distance to lead party | -0.497*** | -0.497*** | -0.501*** | -0.501*** |
| | (0.006) | (0.006) | (0.006) | (0.006) |
| GDP growth rate | 0.101** | 0.101** | | |
| | (0.038) | (0.035) | | |
| ENEP | -0.169*** | -0.150*** | -0.195*** | -0.207*** |
| | (0.046) | (0.044) | (0.047) | (0.046) |
| Least squares index | 0.000 | 0.010 | 0.010 | 0.011 |
| | (0.019) | (0.017) | (0.018) | (0.017) |
| Polarization | 0.026 | 0.014 | 0.064 | 0.059 |
| | (0.034) | (0.033) | (0.033) | (0.032) |
| Compulsory voting (0-2) | -0.093 | -0.014 | -0.316** | -0.309* |
| | (0.200) | (0.227) | (0.116) | (0.130) |
| CV x GDP growth | -0.052 | -0.021 | | |
| | (0.044) | (0.052) | | |
| Δ unemployment rate | | | -0.133 | -0.213** |
| | | | (0.076) | (0.081) |
| CV x Δ unemployment rate | | | -0.171 | -0.111 |
| | | | (0.102) | (0.158) |
| Constant | 0.269 | 0.168 | 0.428 | 0.506 |
| | (0.286) | (0.267) | (0.275) | (0.270) |
| $\sigma^2_{\text{election-years}}$ | 0.610 | 0.525 | 0.561 | 0.537 |
| *N respondents* | 108,651 | 108,651 | 108,335 | 108,335 |
| *N election-years* | 107 | 107 | 106 | 106 |

*Notes:* Unstandardized errors and standard errors (in parentheses) of random intercept logistic regression models explaining voting for the lead party. Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Model 1 includes election dummies for Sweden 2014, Mexico 1997 and New Zealand 1996. Model 2 includes election dummies for Chile 2009, Peru 2011 and Peru 2006. Model 3 includes election dummies for Sweden 2014, Mexico 1997 and Brazil 2002. Model 4 includes election dummies for Chile 2009, Brazil 2002 and Poland 2007.
*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 7.

DIAGNOSTIC STATISTICS – DISTANCE TO THE PARTY VOTED FOR

| Election | Cook's D | DFBETA |
|---|---|---|
| Mexico 1997 | 1.454 | |
| Peru 2006 | 0.873 | |
| Hungary 2002 | 0.840 | |
| Brazil 2002 | | 0.817 |
| Australia 1996 | | -0.489 |
| Belgium (Flanders) 2014 | | -0.400 |

*Notes:* Diagnostic statistics via mltcooksd-ado in Stata (Möhring and Schmidt, 2013). Cases with highest values for each of the diagnostic statistics are reported.

*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 8.

DIAGNOSTIC STATISTICS – VOTING FOR THE CLOSEST PARTY

| Election | Cook's D | DFBETA |
|---|---|---|
| Portugal 2005 | 1.121 | |
| New Zealand 1996 | 0.504 | |
| Switzerland 2011 | 0.437 | |
| Australia 2007 | | 0.483 |
| Australia 2013 | | 0.402 |
| Australia 1996 | | -0.361 |

*Notes:* Diagnostic statistics via mltcooksd-ado in Stata (Möhring and Schmidt, 2013). Cases with highest values for each of the diagnostic statistics are reported.

*Source:* CSES Modules 1, 2, 3 and 4.

TABLE 9.
VOTING FOR THE CLOSEST PARTY – CONTROLLING FOR THE IMPACT OF OUTLIERS

| | **Model 1 Ideological distance to the party of choice b (s.e.)** | **Model 2 Ideological distance to the party of choice b (s.e.)** | **Model 3 Choosing the most proximate party b (s.e.)** | **Model 4 Choosing the most proximate party b (s.e.)** |
|---|---|---|---|---|
| Female | 0.044*** | 0.044*** | -0.040** | -0.040** |
| | (0.007) | (0.007) | (0.014) | (0.014) |
| Age | 0.002*** | 0.002*** | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| College education | -0.162*** | -0.162*** | 0.144*** | 0.143*** |
| | (0.009) | (0.009) | (0.017) | (0.017) |
| Political knowledge | -0.131*** | -0.132*** | 0.124*** | 0.124*** |
| | (0.006) | (0.006) | (0.012) | (0.012) |
| Party ID | -0.227*** | -0.227*** | 0.217*** | 0.217*** |
| | (0.008) | (0.008) | (0.015) | (0.015) |
| Extremeness left-right placement | 0.340*** | 0.340*** | 0.255*** | 0.255*** |
| | (0.002) | (0.002) | (0.005) | (0.005) |
| ENEP | -0.025 | -0.046*** | -0.116*** | -0.110*** |
| | (0.013) | (0.013) | (0.026) | (0.025) |
| Least squares index | 0.008 | 0.012* | 0.024* | 0.024* |
| | (0.005) | (0.005) | (0.010) | (0.010) |
| Polarization | -0.054*** | -0.048*** | 0.027 | 0.028 |
| | (0.011) | (0.010) | (0.020) | (0.019) |
| Compulsory voting (0-2) | 0.112** | 0.134*** | -0.151* | -0.199** |
| | (0.037) | (0.039) | (0.070) | (0.074) |
| Constant | 1.382*** | 1.446*** | -1.181*** | -1.203*** |
| | (0.080) | (0.078) | (0.154) | (0.148) |
| $\sigma^2_{\text{election-years}}$ | 0.048 | 0.046 | 0.182 | 0.167 |
| *N respondents* | 98,403 | 98,403 | 98,403 | 98,403 |
| *N election-years* | 101 | 101 | 101 | 101 |

*Notes:* Unstandardized errors and standard errors (in parentheses) of random intercept (Models 1 and 2) and random intercept logistic regression models (Models 3 and 4) explaining the ideological distance to the party of choice (Models 1 and 2) or voting for the closest party (Models 3 and 4). Election samples with less than 400 observations were excluded from the analyses. Voters living in Swiss cantons where voting was compulsory (weak or strictly enforced) as well were excluded from the analyses. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Model 1 includes election dummies for Mexico 1997, Peru 2006 and Hungary 2002. Model 2 includes election dummies for Brazil 2002, Australia 1996 and Belgium (Flanders) 2014. Model 3 includes election dummies for Portugal 2005, New Zealand 1996 and Switzerland 2011. Model 4 includes election dummies for Australia 2007, Australia 2013 and Australia 1996.

*Source:* CSES Modules 1, 2, 3 and 4.

**References**

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## APPENDIX E.

## SAMPLES INCLUDED AND SAMPLES EXCLUDED FROM THE ANALYSES, AND REASONS FOR EXCLUSION

| **Mo-dule** | **Country** | **Year** | **Turnout** | **Accoun-tability** | **Proxi-mity** | **Reason(s) for exclusion** |
|---|---|---|---|---|---|---|
| 2 | Albania | 2005 | Yes | Yes | Yes | |
| 1 | Australia | 1996 | Yes | Yes | Yes | |
| 2 | Australia | 2004 | Yes | Yes | Yes | |
| 3 | Australia | 2007 | Yes | Yes | Yes | |
| 4 | Australia | 2013 | Yes | Yes | Yes | |
| 3 | Austria | 2008 | Yes | Yes | Yes | |
| 4 | Austria | 2013 | Yes | Yes | Yes | |
| 1 | Belarus | 2001 | No | No | No | Non-democratic (Freedom House) |
| 3 | Belarus | 2008 | No | No | No | Non-democratic (Freedom House) |
| 1 | Belgium-Flanders | 1999 | Yes | Yes | Yes | |
| 2 | Belgium-Flanders | 2003 | No | No | No | No left-right placement of parties, no income |
| na | Belgium-Flanders | 2014 | Yes | No | Yes | No lead party (WAL prime minister); No direction of party id |
| 1 | Belgium-Wallonia | 1999 | No | No | No | No party id; no lead party (FL prime minister) |
| 2 | Belgium-Wallonia | 2003 | No | No | No | No lead party; no left-right placement of parties, no income |
| na | Belgium-Wallonia | 2014 | Yes | No | Yes | No direction of party id |
| 2 | Brazil | 2002 | Yes | Yes | Yes | |
| 3 | Brazil | 2006 | Yes | No | No | Less than 400 observations |
| 3 | Brazil | 2010 | Yes | No | No | Less than 400 observations |
| 4 | Brazil | 2014 | Yes | No | No | Less than 400 observations |
| 2 | Bulgaria | 2001 | No | Yes | No | No political knowledge |
| 4 | Bulgaria | 2014 | Yes | Yes | Yes | |
| 1 | Canada | 1997 | Yes | Yes | Yes | |
| 2 | Canada | 2004 | Yes | Yes | Yes | |
| 3 | Canada | 2008 | Yes | Yes | Yes | |
| 4 | Canada | 2011 | Yes | Yes | Yes | |
| 1 | Chile | 1999 | No | No | No | Presidential election |
| 2 | Chile | 2005 | Yes | Yes | No | Less than 400 observations |
| 3 | Chile | 2009 | No | Yes | No | No political knowledge |
| 3 | Croatia | 2007 | Yes | Yes | Yes | |
| 1 | Czech Republic | 1996 | Yes | No | Yes | No information on GDP |
| 2 | Czech Republic | 2002 | Yes | Yes | Yes | |
| 3 | Czech Republic | 2006 | Yes | Yes | Yes | |
| 3 | Czech Republic | 2010 | Yes | Yes | Yes | |
| 4 | Czech Republic | 2013 | Yes | Yes | Yes | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Denmark | 1998 | No | Yes | No | No political knowledge |
| 2 | Denmark | 2001 | No | Yes | No | No political knowledge |
| 3 | Denmark | 2007 | Yes | Yes | Yes | |
| 3 | Estonia | 2011 | Yes | Yes | Yes | |
| 2 | Finland | 2003 | Yes | Yes | Yes | |
| 3 | Finland | 2007 | Yes | Yes | Yes | |
| 3 | Finland | 2011 | Yes | Yes | Yes | |
| 2 | France | 2002 | No | No | No | Presidential election |
| 3 | France | 2007 | Yes | Yes | Yes | |
| 4 | France | 2012 | No | No | No | Presidential election |
| 1 | Germany | 1998 | Yes | Yes | Yes | |
| 2 | Germany | 2002 | Yes | Yes | Yes | |
| 3 | Germany | 2005 | Yes | Yes | Yes | |
| 3 | Germany | 2009 | Yes | Yes | Yes | |
| 4 | Germany | 2013 | Yes | Yes | Yes | |
| 1 | Great Britain | 1997 | Yes | Yes | Yes | |
| 2 | Great Britain | 2005 | Yes | Yes | Yes | |
| 3 | Greece | 2009 | Yes | Yes | Yes | |
| 4 | Greece | 2012 | Yes | No | Yes | No lead party (caretaker government) |
| 1 | Hong Kong | 1998 | Yes | No | Yes | No information on lead party |
| 1 | Hong Kong | 2000 | Yes | No | No | Less than 400 observations |
| 2 | Hong Kong | 2004 | Yes | No | No | Less than 400 observations |
| 3 | Hong Kong | 2008 | Yes | No | No | Less than 400 observations |
| 1 | Hungary | 1998 | Yes | Yes | Yes | |
| 2 | Hungary | 2002 | Yes | Yes | Yes | |
| 1 | Iceland | 1999 | No | Yes | No | No political knowledge |
| 2 | Iceland | 2003 | No | Yes | No | No political knowledge |
| 3 | Iceland | 2007 | Yes | Yes | Yes | |
| 3 | Iceland | 2009 | Yes | Yes | Yes | |
| 4 | Iceland | 2013 | Yes | Yes | Yes | |
| 2 | Ireland | 2002 | Yes | Yes | Yes | |
| 3 | Ireland | 2007 | No | No | No | Coding error in college education variable |
| 4 | Ireland | 2011 | No | Yes | No | No political knowledge |
| 1 | Israel | 1996 | No | Yes | No | Less than 400 observations |
| 2 | Israel | 2003 | Yes | Yes | Yes | |
| 3 | Israel | 2006 | Yes | Yes | Yes | |
| 4 | Israel | 2013 | Yes | Yes | Yes | |
| 2 | Italy | 2006 | Yes | No | No | Less than 400 observations |
| 1 | Japan | 1996 | No | No | No | No political knowledge; no left-right self-placement |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | Japan | 2004 | No | No | No | No left-right self-placement; no information on lead party |
| 3 | Japan | 2007 | No | No | No | No left-right placement of parties |
| 4 | Japan | 2013 | No | No | No | No left-right placement of parties |
| 2 | Kyrgyzstan | 2005 | No | No | No | Non-democratic (Freedom House) |
| 3 | Latvia | 2010 | No | No | No | No income; no party id |
| 1 | Lithuania | 1997 | No | No | No | Presidential election |
| 1 | Mexico | 1997 | Yes | Yes | Yes | |
| 1 | Mexico | 2000 | Yes | Yes | Yes | |
| 2 | Mexico | 2003 | Yes | Yes | Yes | |
| 3 | Mexico | 2006 | Yes | Yes | Yes | |
| 3 | Mexico | 2009 | Yes | Yes | Yes | |
| 4 | Mexico | 2012 | Yes | Yes | Yes | |
| 4 | Mexico | 2015 | Yes | Yes | Yes | |
| 4 | Montenegro | 2012 | Yes | No | No | No info on unemployment; Less than 400 observations |
| 1 | Netherlands | 1998 | Yes | Yes | Yes | |
| 2 | Netherlands | 2002 | Yes | Yes | Yes | |
| 3 | Netherlands | 2006 | Yes | Yes | Yes | |
| 3 | Netherlands | 2010 | Yes | Yes | Yes | |
| 1 | New Zealand | 1996 | Yes | Yes | Yes | |
| 2 | New Zealand | 2002 | Yes | Yes | Yes | |
| 3 | New Zealand | 2008 | Yes | Yes | Yes | |
| 4 | New Zealand | 2011 | Yes | Yes | Yes | |
| 1 | Norway | 1997 | Yes | Yes | Yes | |
| 2 | Norway | 2001 | Yes | Yes | Yes | |
| 3 | Norway | 2005 | Yes | Yes | Yes | |
| 3 | Norway | 2009 | Yes | Yes | Yes | |
| 4 | Norway | 2013 | Yes | Yes | Yes | |
| 1 | Peru | 2000 | No | No | No | No vote choice; no age; no political knowledge |
| 1 | Peru | 2001 | No | No | No | No vote choice; no age; no political knowledge; no party id |
| 2 | Peru | 2006 | Yes | Yes | Yes | |
| 3 | Peru | 2011 | Yes | Yes | Yes | |
| 2 | Philippines | 2004 | No | No | No | Incomplete data |
| 3 | Philippines | 2010 | Yes | No | No | No vote choice |
| 1 | Poland | 1997 | Yes | Yes | Yes | |
| 2 | Poland | 2001 | Yes | Yes | Yes | |
| 3 | Poland | 2005 | Yes | Yes | Yes | |
| 3 | Poland | 2007 | Yes | Yes | Yes | |
| 4 | Poland | 2011 | Yes | Yes | Yes | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Portugal | 2002 | Yes | Yes | Yes | |
| 2 | Portugal | 2002 | No | No | No | Respondents already included (Module 1) |
| 2 | Portugal | 2005 | Yes | Yes | Yes | |
| 3 | Portugal | 2009 | Yes | Yes | Yes | |
| 4 | Portugal | 2015 | Yes | Yes | Yes | |
| 1 | Romania | 1996 | Yes | Yes | No | Less than 400 observations |
| 2 | Romania | 2004 | No | No | No | Less than 400 observations |
| 3 | Romania | 2009 | No | No | No | Presidential election |
| 2 | Russia | 2004 | No | No | No | Presidential election |
| 4 | Serbia | 2012 | Yes | Yes | Yes | |
| 3 | Slovakia | 2010 | Yes | Yes | Yes | |
| 1 | Slovenia | 1996 | No | Yes | No | No political knowledge |
| 2 | Slovenia | 2004 | Yes | No | No | Less than 400 observations |
| 3 | Slovenia | 2008 | No | Yes | No | No political knowledge |
| 4 | Slovenia | 2011 | Yes | Yes | Yes | |
| 3 | South Africa | 2009 | No | Yes | Yes | No income |
| 1 | South Korea | 2000 | No | No | No | No vote choice; no political knowledge |
| 2 | South Korea | 2004 | Yes | Yes | Yes | |
| 3 | South Korea | 2008 | Yes | Yes | Yes | |
| 4 | South Korea | 2012 | No | No | No | No income; no college education |
| 1 | Spain | 1996 | Yes | Yes | Yes | |
| 1 | Spain | 2000 | Yes | Yes | Yes | |
| 2 | Spain | 2004 | Yes | Yes | Yes | |
| 3 | Spain | 2008 | Yes | Yes | Yes | |
| 1 | Sweden | 1998 | Yes | Yes | Yes | |
| 2 | Sweden | 2002 | Yes | Yes | Yes | |
| 3 | Sweden | 2006 | Yes | Yes | Yes | |
| 4 | Sweden | 2014 | Yes | No | Yes | |
| 1 | Switzerland | 1999 | Yes | No | Yes | No lead party |
| 2 | Switzerland | 2003 | Yes | No | Yes | No lead party |
| 3 | Switzerland | 2007 | Yes | No | Yes | No lead party |
| 4 | Switzerland | 2011 | Yes | No | Yes | No lead party |
| 1 | Taiwan | 1996 | No | No | No | Presidential election |
| 2 | Taiwan | 2001 | Yes | Yes | Yes | |
| 2 | Taiwan | 2004 | No | No | No | Presidential election |
| 3 | Taiwan | 2008 | No | No | No | Presidential election |
| 4 | Taiwan | 2012 | No | No | No | No left-right self placement |
| 1 | Thailand | 2001 | No | No | No | No info on lead party; no political knowledge; no unemployment; no left-right self placement |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | Thailand | 2007 | No | No | No | Non-democratic (Freedom House) |
| 4 | Thailand | 2011 | Yes | No | No | No left-right self placement |
| 3 | Turkey | 2011 | No | Yes | No | No political knowledge |
| 4 | Turkey | 2015 | Yes | Yes | Yes | |
| 1 | Ukraine | 1998 | Yes | No | No | No info on lead party; less than 400 observations |
| 1 | United States | 1996 | No | No | No | No left-right placement of parties |
| 2 | United States | 2004 | Yes | Yes | Yes | |
| 3 | United States | 2008 | Yes | Yes | Yes | |
| 4 | United States | 2012 | Yes | Yes | Yes | |
| 3 | Uruguay | 2009 | No | Yes | No | No political knowledge |