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# Effective Number of Parties and Mass Political Behavior in Europe

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EFFECTIVE NUMBER OF PARTIES AND  
MASS POLITICAL BEHAVIOR  
IN EUROPE

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2015

## Dedication

*Im lżej się do czego rękę przykładą, tym delikatniejsze czucie.*

The hand of little employment hath the daintier sense.

“The Tragedy of Hamlet, Prince of Denmark” William Shakespeare

This thesis is dedicated to my wife, who herself is very devoted to me and who mobilizes me in pursuing excellence in every aspect of my life. Without her all of this would not be possible. I also dedicate this work to my mom, dad, as well as to my wonderful siblings, farther family, and friends, who never doubted in me and were, even though for the most part 7,000 miles away, all the time with me. The unconditional love and support you offered was the most important part to my success. Last, but definitely not least, I dedicate this thesis to Tony Kruszewski and his wife June, may she rest in peace, who triggered my El Paso’s educational journey and whose mentorship was (is, and will be) an outstanding experience. Love never fails.

EFFECTIVE NUMBER OF PARTIES AND  
MASS POLITICAL BEHAVIOR  
IN EUROPE

by

JAKUB PAWEL ZAJAKALA, B.A.

THESIS

Presented to the Faculty of the Graduate School of  
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## **Abstract**

Participation is perhaps the most essential component of democracy, as its humane facet, people, is indispensable for it to occur. However, some aspects of this phenomenon have been disregarded in the existing literature. A discernible decrease in the quality and quantity of democratic participation is deemed to endanger the representative capacity of democracy, and consequently, stability of parliamentary and presidential regimes. Using Prais-Winsten regression, the condition of democratic institutions, with an emphasis on the number of parties, is examined by looking at all the European democracies between 1946 and 2014. This thesis posits that the number of effective actors on the political scene affects both invalid vote rates and voter turnouts. As a result of an increase in the number of parties, the former is hypothesized to decrease; whereas the latter, to draw a downward opened parabolic function. Contrary to expectations, opposite correlations are found. Voters, even if turning out in low numbers, meticulously evaluate the representation that the system provides them with. Therefore, I find that some analyses that herald a near complete extinction of engaged voters are premature. Nonetheless, policy makers, especially those whose decisions impact the electoral systems, should pay attention to competitiveness and representativeness, which if handled properly, attract more voters.



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# Chapter 1: Introduction: Quality and Quantity of Democratic Participation

## 1.1 “WE THE PEOPLE”

Democracy is one of these hard to define concepts that are paradoxically universally understood across all the democratic nations. Many people subconsciously associate it with the set of values and characteristics that are correct for a rough concept, yet if asked about the precise definition, most of them get lost. The etymology of the term “democracy” begun in the ancient Greece, and consisted of two elements. First, *δῆμος* (*demos*, gr. people) meant the body of citizens of a city-state. Second, *κράτος* (*kratos*, gr. power), which in that context denoted a sovereign state. It is not coincidental that Greeks merged these two elements into a compound. The purpose was to signify the role that people, the citizens have in maintaining sovereignty of a country. However, Plato and Aristotle perceived democracy to be derogatory form of government, and they referred to democracy as a “mob rule.” Increasing populations and enhanced inclusiveness of the system prejudiced a plausibility to grant a direct impact on the democratic process to every enfranchised citizen. This has led to an emergence of delegation of *kratos* (power) from the *demos* (people) to their representatives. Later on, the delegates grouped together, forming political parties.

## 1.2 DEFINING EFFECTIVE NUMBER OF PARTIES

The concept that is used trough out this thesis as the main independent variable provides for an adjusted number of political parties in a country’s party system and relativizes the strength of parties in a parliament. The formula used to compute the effective number of parties comes from Laakso and Taagepera (1979):

$$N = \frac{1}{\sum_{i=1}^n \left(\frac{s_i}{p}\right)^2}$$

In the formula above,  $N$  stands for the effective number of legislative parties,  $s_i$  stands for the number of seats held by  $i$ -th party, and  $p$  for the total number of seats in a chamber. The effective

number of parties equals the actual number of parties only if all the parties in a parliament have an identical number of seats. In any other case, the effective number of parties is lower than the actual number of parties. The lowest value of the effective number of parties that can be found in the dataset is equal to 1.31 (in Albania, 1996) and the highest equals 10.87 (in Poland, 1991). The formula is not very sensitive to the existence of small parties in a chamber. However, the presence of many small parties in a chamber decreases the formula's capability of capturing the real effectiveness that each party has. For example, if a chamber has 300 seats, 280 of which are equally distributed among the two largest parties (A and B), whereas the remaining 20 seats are distributed among 8 other parties so that party C has 8 seats, party D has 5, party E has 2, and parties F through J have one seat each. Under these circumstances the effective number of parties equals 2.29, but the 8 small parties do not exert a power equal to what the effective number of parties indicates. Indeed, these small parties can only be considered influential if they enter coalition government with either party A or party B.

Why is it important to examine the effective number instead of the sheer parties' count? There are several answers to this question, yet I am focusing on two major points. First, we can conceive of political parties as forums clustering politicians that approach some policies similarly. A party attracts a certain group of voters that identify with the party's recommended policies. With respect to that, one might think that having more parties in a system, and consequently, a wider range of policy preferences available, encourages voters to participate. Yet, we can also hypothetically assume (but this is also observable empirically) that as the number of actors increases, the potential for policy input of each party decreases. I expect that small parties are not successful in encouraging the electorate with convergent preferences to cast a vote for them. Usually, small parties are also not very successful in achieving their political

goals. Hence, voters do not perceive them as an effort worthy option, and either vote strategically (for the lesser of two evils) or abstain from voting. Sheer counts of parties cannot assess the impact of parties on the policymaking process. Policies are the empirical, tangible, and visible confirmations of parties' effectiveness. Parties that are ineffective in terms of enacted legislations do not attract many voters, despite their presence in a legislature. Therefore, I decided to examine the effective number of parties instead of merely counting parties that exist in a legislature. The latter approach would distort this significant feature and the goal of each political party, which is to influence the politics and to exert the largest possible policy input.

### **1.3 DEFINING DEPENDENT VARIABLES**

In this thesis the term 'invalid vote' is defined as the one that has been excluded from the count by the electoral commission officials because of improper indication of a candidate (or party), or lack of such indication.<sup>1</sup> The variable ranges from 0.05 percent to 14 percent. The percentage of invalid votes is one of the least studied subjects in political science. It can due to two major issues. First, it is impossible to estimate voters' intentions when they invalidate their ballot. Second, some analysts disregard invalid votes as a factor of secondary importance to the electoral outcomes. In this thesis, I look at democratic regimes only, but still some objections related to the reason why some votes were invalidated may arise. Percentages of invalid votes are, in some cases, driven up by manipulation. Newly emerged democracies are the most susceptible to this technique, yet one might also observe it in well-established democracies. I exclude non-democratic regimes from the analysis, hoping that democracy shall not experience disturbing manipulation. It is important to acknowledge that the source of invalid votes (which can be either a voter or a state) is not implemented the models investigating the relationship

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<sup>1</sup> The definition is derived from the Administration and Cost of Elections, Electoral Knowledge Network website. Online resource was retrieved March 29, 2015 from [aceproject.org](http://aceproject.org/ace-en/topics/vc/onePage) web site: <http://aceproject.org/ace-en/topics/vc/onePage>

between the effective number of parties and the percentage of invalid votes. Comparative studies have, however, a limited capacity to control for such intangible factors, and only an experimental study can attempt to find out the intentions of voters. Moreover, such a study can move the “blame” for invalid voting away from the voters, and shift it towards the institutional end. This thesis, being a comparative study, cannot encompass both ends to the fullest extent.

Voter turnout is defined as the percentage of those who cast a vote (both valid and invalid) among all the eligible voters in a particular country in parliamentary elections to a lower chamber in cases where the parliament is bicameral, and the only chamber where it has a unicameral form. Voter turnout rates, just like percentages of invalid votes, differ greatly depending on a voter’s will to participate and institutional setting. In non-compulsory systems, voter turnout ranges from 32.37 percent in the 2008 Lithuanian election to 97.16 percent in the 1996 Maltese election, with a mean of 76.52 percent.

#### **1.4 THEY THE PARTIES: PURPOSE AND SIGNIFICANCE OF THE THESIS**

Parties, despite George Washington and John Adams’s warnings and anxieties to the U.S., inevitably shape today’s politics in every democracy around the world. This thesis investigates how the number of parties in a country’s political system influence several crucial characteristics of mass political behavior. It sheds light on issues that have been overlooked by scholars. The analysis of mass political behavior is usually less focused on institutions and more on the characteristics of individuals or groups. By looking at the impact that institutions have on these individuals and groups, this thesis merges both ends (with the obvious limitations stemming from the data and the comparative character of this thesis) of the democratic participation (being eligible to stand for election and being eligible to vote). After all, individuals influence institutions and institutions influence individuals. This reciprocity has been disregarded



in the existing literature, yet it is out of any doubts that it sets up the political landscape across the globe.

This thesis is primarily focused on the impact that parliamentary institutions have on mass political behavior in Europe. Two factors represent mass political behavior in this thesis. The first, voter turnout, measures the quantity of democratic participation, whereas the second, the percentage of invalid votes, is related to the qualitative aspect of that form of government. Elections burdened with high rates of invalid votes lower the quality of democracy. Nowadays, it is being debated whether countries previously deemed democratic can be considered as such, before the enactment of the universal suffrage, since significant parts of population were excluded from participation and deprived of representation. Even if some analysts agree on naming countries with this problem democratic, they usually remark that the quality of this form of government was decreased under such circumstances. Voters that cast invalid votes are *de facto* excluded from the participation too, which ultimately lowers the quality of democracy. The over-time fluctuations of functions of the two indicators of mass political behavior scrutinized in the next two chapters are shown in figure 1.1. A quick glance at the figure reveals that the trends of these functions testify against the strength of democratic systems over time in attracting many dedicated voters. In fact, one can make the opposite conclusion.

Since 1946 the average voter turnout in Europe fell about 20 percentage points. This straightforwardly means that less voters turn out on an election day now than in the past, and that the quantity of electoral participation has shrunk significantly. Another observation is an increased levels of invalid voting, which increases by nearly 30 percent between 1946 and 2014. This consideration remarks a steep decrease in the quality of democratic participation. Altogether, this simple investigation sheds light on the overall picture of the decrease in the

quality and quantity of mass political behavior. Why eligible voters stopped turning out in elections in large numbers that one could observe 70 years ago? Does the cause lie in citizens' themselves, as they do not care anymore about the politics and the right to vote is not sufficient? Maybe institutions are no longer attractive and less effective than nearly three quarters of a century ago?

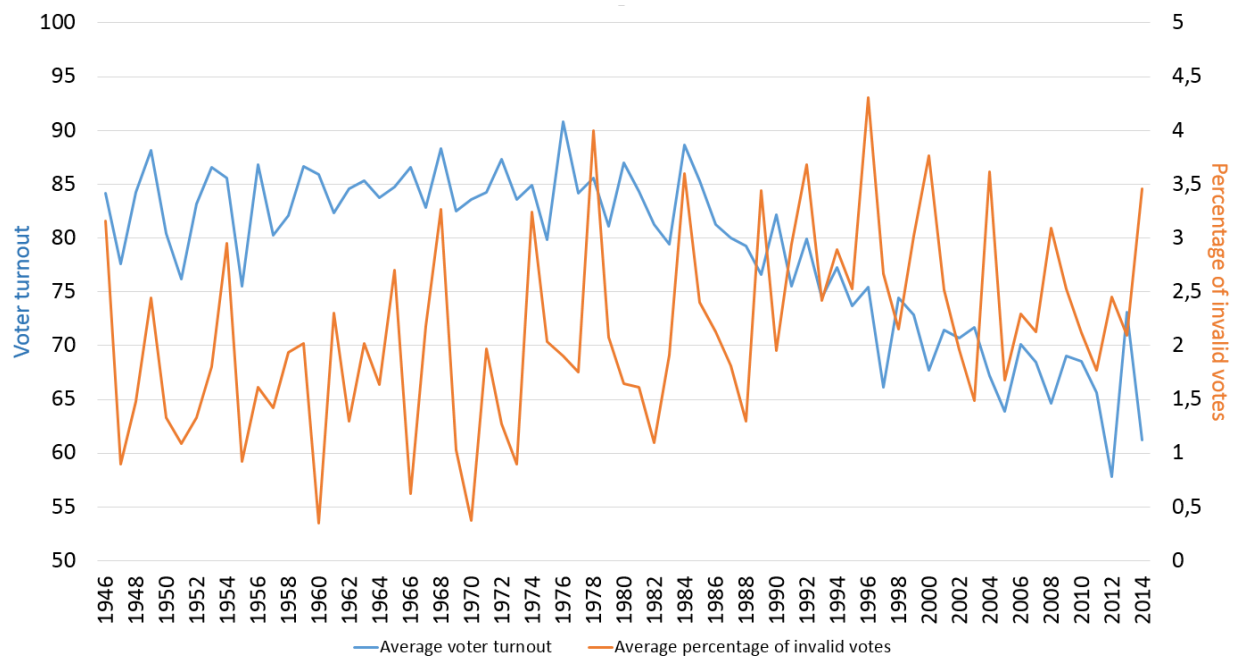


Figure 1.1: Average voter turnout and percentage of invalid votes in Europe by year with trend lines.

Low turnout rates are serious problem in many modern democracies. Accompanied by high levels of invalid voting, it should be alarming to everybody living in democracies, especially politicians that want to maintain democratic stability in a country. If these trends do not change, within the next 100-150 years, European democracies will lose its most important element, demos, thanks to which it could be singled out from other regimes. Without

participation, the democratic system would make no sense, and *nokratos* or *nocracy*<sup>2</sup> (do not confuse it with anocracy) will take its place, leading to an unprecedented event in democracy. Namely, an electoral decision-making will be handed over to a minuscule portion of all eligible voters.

Even in today's electoral politics, some elections have turnouts reaching single digits. For example, several types of local elections in the U.S. have experienced extremely low participation rates. In elections to the European Parliament, some states observe turnouts below 20 percent, though the average is still above 40 percent (which is considered to be a success). Needless to say, the notion of representativeness of the electoral outcomes of such races is far less than appropriate.

It is important to explore the causes of such trends in order to reverse them. These symptoms can be a result of at least two problems. According to the first one, voters miscomprehend the democratic values and lack the skills necessary to participate in the system successfully, whereas the second reason places an emphasis on the problem with the institutions and political actors. In the light of an increasing literacy as well as notable social and economic development, the former reason can be dismissed. The latter is, however, more appealing and will be scrutinized in this thesis.

Eligible voters, who feel deprived of representation, are likely to abstain from the process that leads to such a deprivation. This thesis is very important from democratic (especially as far as *demos* is considered) point of view, since it tries to appraise factors that make this form of

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<sup>2</sup> Nocracy (*nokratos*) is a hypothetical form of government with very weak legitimacy. The term *nocracy* comes from English "no" (a negative response) and Greek "kratos" (power). As opposed to *democracy*, where the legitimacy comes from *demos* (people), nocracy does not have the source of power (or only a small fraction of the aggregate of citizens supports the winner of an election), and therefore the citizens of a state become voiceless in terms of electoral and representation-related rights.

government apparently unfair for some constituents. It also indicates areas, where representation in democracy can be easily improved.

I look at the representation from the legislative perspective, and build upon the number of political parties. Parties were created to facilitate delegation of power from voters that, due to a huge diversity of interests, pursue recurrently excluding items from within the wide spectrum of policy-preferences. The fascinating concept of the effective number of parties has never been analyzed so thoroughly in the past. How does it influence turnout rates? Does it capture different nuances within the group that turns out to vote? To what extent does the number of actors on the political scene affect the political participation? Next chapters seek answers to these and other questions.

## **1.5 OUTLINE OF THE THESIS**

This thesis consists of four chapters, two of which contain the original research on the number of parties' role in determining mass political behavior. The first chapter starts the analysis by introducing the major variables and emphasizing their importance to democracy. The second chapter approaches the topic from the perspective of invalid votes, whereas the third chapter analyzes voter turnout. Both factors are examined with two separate models. Chapters 2 and 3 proceed in the following manner. After a short introduction, they take us to the review of the literature on these topics that are very crucial to democratic participation and provision of fairness through democratic institutions. Afterwards, the models, research designs, and methods are elaborated. Then, results produced by these models are explained and the discussion closes with conclusions on the findings.

In chapter 4, this thesis is wrapped up in the form of conclusions on the influence of the effective number of legislative parties on mass political behavior in Europe, as well as

suggesting several new venues for scholastic deliberations emerging from the concepts reconnoitered herein. This procedure is meant to clarify the knowledge gained by the research presented in this thesis in terms of mass political behavior. Moreover, the conclusions on this thesis shall contribute to the discussion on how the notion of representation affects democratic processes.

## **Chapter 2: Spoiled Elections: Number of Parties and Invalid Votes**

### **2.1 INTRODUCTION**

In this chapter, the thesis focuses on a rarely investigated consequences of the effective number of political parties on mass political behavior. The model investigated in this chapter seeks to find a clarification to the hypothesis that predicts that with an increase in the effective number of parties, the percentage of invalid votes should decrease.

At first sight, invalid and spoiled votes in parliamentary elections cannot “nourish” the parliament, just as the spoiled food cannot nourish a body, as it is not tolerated by our digestive system. This is very likely the most widely used reason behind neglecting the study of this fascinating phenomenon. The John of Salisbury’s theory of representation compares nations to human organism, making this sentence even more vivid. Following the John of Salisbury’s metaphor, one can think of the consequences of feeding self with spoiled food. Does providing body politic with invalid and spoiled votes result in as severe consequences as poisoning our human bodies with a spoiled food? What motivates voters to make their vote to be invalid?

This chapter examines the possible outcomes that the effective number of parties has on invalid votes. Even though the scholarly literature seems to pay little attention to the phenomenon of the invalid votes, the English language offers many expressions to describe the occurrence of invalid votes: informal, rejected, or stray, just to enumerate several possibilities. For the sake of lucidity, in this thesis I refer to invalid votes as such. Furthermore, scholars investigating the topic often look at specific subfields of invalid votes that include void, null, and spoiled ballots. The term was comprehensively defined in the previous chapter.

The correlation between the *effective* number of parties and invalid votes has not yet been investigated by any other scholar. Neither was the topic of invalid votes explored in the vast

literature on political behavior. Therefore, it offers a new, uncharted territory in which to delve. This chapter aims to fill this gap.

Voters cast invalid votes for multiple reasons, yet two seem the most relevant. First, a citizen deliberately casts an invalid vote as protest against the menu of parties presented to him or her. In other words, the citizen does not feel comfortable or satisfied with the selection of options that is available to him or her. Second, a citizen did not understand the procedure of voting or invalidated his or her vote by mistake. Since in most (if not all) European countries the procedure of casting a vote is clearly explained on the first page of a ballot paper (instructions page or paragraph<sup>3</sup>), I assume that the ability to read should exclude or at least minimize this second reason from our considerations. Chapter 2 proceeds as follows: literature review, theory and hypotheses, research design and methods, results, and conclusions.

## **2.2 SYSTEMATIC EXPLORATION OF INVALID VOTES: APPROACHES, COMPLICATIONS, AND OEUVRES**

As mentioned above, the topic of invalid votes is not studied in-depth, in contrast to voter turnout that attracts vast majority of scholars interested in mass political behavior. Additionally, only handful of scholarly works include European examples into the analysis. Most scholars are interested in discovering the links between invalid votes and the political systems. These studies include into the analysis an electoral component that most obviously results in greatest number of invalid ballots – compulsory voting. In this part of literature, Latin America and Australia definitely dominate academic deliberations on spoiled and invalid votes. However, existing literature focuses on very important aspects, causes, and implications of invalid voting.

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<sup>3</sup> In a paper-based balloting, instructions pertaining to the voting method and technique are included at the top or at the bottom of the first page of a balloting paper. For example: “You have only one vote that can be given to one candidate only. Please mark the X in the checkbox next to a candidate you wish to vote for. Ballots that have more than one checkboxes crossed with X as well as blank ballots will be rejected by the electoral commission and invalid.”

One of the earliest works to examine invalid votes considers drawbacks of Hare quota under proportional representation systems (Mott 1926). Interestingly, Mott's observation confirms "little attention paid to the number of ballots rejected" (p. 874) even by organizations reporting the results of elections. Percentage of invalid votes in an election is affected by multiple socio-political elements. Among the factors enumerated by a large number of scholars one can distinguish between individual, procedural (technical), and political components. In the first group, the emphasis is put on the literacy of voters, their intelligence, and political sophistication. The second group encompasses such factors as education about voting procedures,<sup>4</sup> experience with a particular voting system<sup>5</sup> and its characteristics. Polarization of society and visibility of political competition to the citizens dominate within the literature focusing on the political components (Mott 1926; Stiefbold 1965; Stewart 2006; McAllister and Makkai 1993; Ugglä 2008; Power and Garand 2007; Power and Roberts 1995; Irvin 1974).

Many articles on invalid votes examine and elaborate on the causes or determinants of invalid voting. McAllister and Makkai (1993) consider how the factors influencing high rates of invalidated votes in Australia could be avoided in (at that time) newly emerging democracies in Eastern Europe. Mandatory participation, in most cases, increases overall percentage of invalid ballot papers. The detailed introduction of specific characteristics of the invalid votes variable is to come in one of the following sections, yet a brief "scaling" is perhaps useful at this point. Out of all 485 parliamentary elections in Europe that took place between 1946 and 2014, only 88 (roughly 18 percent) were held under the compulsory voting system. However, a vast majority of

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<sup>4</sup> Education becomes especially important in emerging democracies (in Europe such a role would be assigned to post-communist countries early after the collapse of communist regimes), which did not have experience with complex ballots before. Moreover in the post-communist states, even voters who were exposed to voting procedures before, did not pay much attention to the process, yet tried to avoid the consequences related to abstention.

<sup>5</sup> This factor can be expressed for example as number of years that voters in a particular country have been exposed to democratic system and democratic electoral rules.



these cases happened shortly after the Second World War and countries that used to demand their citizens to take part in elections no longer do this nowadays.<sup>6</sup>

McAllister and Makkai (1993) state that invalid voting is much more frequent in compulsory settings for two major reasons. “First, if a deliberate act of political protest is intended, refusing to vote is easier, more direct in aim, and considerably more public. Second, in first-past-the-post electoral systems, such as Britain’s... the potential for accidentally spoiling the ballot paper is limited” (p. 24). Their first observation seems to be an inaccurate oversimplification of reality. Non-voters are frequently perceived as politically indifferent ignoramuses, who, as long as their nondecision<sup>7</sup> does not endanger the legitimacy of elected officials, do not deserve much consideration. This is palpable in both scholarly and practical dimensions (Ragsdale and Rusk 1993; Connelly and Field 1944; Bennett and Resnick 1990; Bartels 1996). Some conclusions about the non-voters went further, equalizing the political views of voters and non-voters and anticipating that results would remain unaffected if non-voters were to vote in elections (Bennett and Resnick 1990; Wolfinger 1980).

As stated above, most articles on invalid voting are peculiarly concerned with the invalid votes in compulsory systems such as Australia and Latin America. Countries with compulsory voting, in my opinion, are less suitable for investigating this topic, especially, if a technique of filling out a ballot is considered difficult or troublesome. If compulsion is matched up with

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<sup>6</sup> For example Netherlands used compulsion between 1917 and 1967, Austria – 1949 and 1990, Greece (where it was not effectively enforced) – 1926 and 2000, Italy – 1945 and 1993. In Switzerland mandatory voting was gradually less and less enforced, and finally 25 out of 26 cantons abolished it in 1974. Today only one canton (Schaffhausen) pushes for the compulsory voting. However, this canton has population of about 79,000 people (2013), whereas Switzerland counts about 8,100,000 people (2013), which results in less than 1 percent of the overall population being subjected to compulsion. Therefore, according to the operationalization of compulsion to vote adopted herein (explained in the research design section) Switzerland as a country abandoned compulsory voting around 1959 parliamentary election.

<sup>7</sup> Nondecision is a concept introduced by Bachrach and Baratz’s in their 1970 book “Power and Poverty”. According to the authors, failure to make a decision has certain consequences, just as making a decision does. In this light, abstaining from voting is just as important as voting in terms of its impact on the electoral outcomes and is also a result of decision (to abstain from voting).

convoluted procedures, such factors as malice, discontentment, protest against compulsion, illiteracy, or lack of sophistication come to the fore. Under voluntary setting ignorant or illiterate voters stay home (Young and Hill 2009; Nurmi 1983; Bartholdi and Orlin 1991; Norris 2004). Problems arise when citizens who are not forced to show up do so just to cast an invalid vote purposefully. Even small percentages of invalid voting in a simple and voluntary system should be alarming to establishment, whereas higher rates could possibly endanger validity of democratic institutions in that country. The low rates of invalid voting signal lack of education in electoral procedures among voters, and the extremely high rates may be caused by a vast discontent with party system itself or by a manipulation (eliminating votes cast for the opposition).

High effective numbers of parties have been found negatively correlated with overall participation, which the literature explains in terms of the perceived capability of lower numbers of parties to cooperate and form a majority government (Blais and Dobrzynska 1998). However, it has not yet been investigated how the effective number of parties influences a specific aspect of participation – invalid votes.

Power and Roberts (1995) assess the percentage of invalid votes to be increasing alongside the number of parties (though not effective). In their investigation, the variable denoting the number of congressional parties<sup>8</sup> was statistically significant at the 0.05 level in only one of the three models analyzed. Power and Roberts's conclusion pertains to the Brazilian upper chamber, leaving the results for lower chamber unclear. Therefore, this chapter tries to

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<sup>8</sup> Power and Roberts analyze both chambers of the Brazilian National Congress separately. However, they use the same variable of congressional parties in the analysis of both chambers. The number of parties in the National Congress is operationalized as a proxy measure “for the supply of candidates and the unpredictability associated with open-list PR in Brazil.” (p. 808). Therefore, the variable does not serve the purposes of gauging how many parties exist in a specific chamber (there can be and are differences in the number of parties between lower and upper chamber, e.g. after the most recent 2014 general election 15 political groups is found in the Senate, whereas 21 in the Chamber of Deputies), but rather has a purpose of indicating an incredible, yet changing multiparty system in Brazil, where for some time only 2 parties were allowed.

capture a clearer and more comprehensive picture of lower chamber size in affecting the percentage of invalid votes, building upon, *inter alia*, Power and Roberts's modeling strategy.<sup>9</sup>

McAllister and Makkai (1993) find that in the Australian case the compulsion in conjunction with a great number of immigrants is what causes many votes to be invalidated. More specifically, immigrants who are not proficient in English, but are forced to cast votes, "have contributed significantly to the high levels of informal voting" (p. 35). Insofar as Europe is concerned, immigrants in the majority of countries with compulsory voting constitute a minuscule fraction of the population, whereas countries with higher rates of immigration do not use compulsory voting, which minimizes the causal factors (either language difficulties or compulsory voting) of the largest problem signaled by McAllister and Makkai. McAllister and Makkai call for the simplicity and transparency of electoral systems and methods. They found that complexity can be especially troublesome for invalid voting in multi-ethnic societies with a large number of new immigrants.

Incapacity to handle difficult voting procedures under compulsory voting by specific groups of people has been further elaborated and advanced by Young and Hill (2009). They develop a measure of social and political exclusion depicted as the percentage of invalid votes. , The authors claim that casting an invalid ballot, especially by voters that are impoverished, not proficient in English, and not well-educated, puts them into certain "inordinate electoral disadvantage" (p. 64). Effective disenfranchisement, as Young and Hill name the phenomenon, may have significant impact on electoral outcomes, and, based on the Scrutiny of Australian Acts and Regulations Committee of the Victorian Parliament (2005), can even alter the composition

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<sup>9</sup> Power and Roberts's model includes the following variables: electorate as percentage of overall population, number of parties in congress (see the footnote above), percentage of illiterate voters, percentage of population living in urban areas, percentage of females in economically active population, electoral manipulation, national GDP growth per year, and inflation rate.

of government (cited in Young and Hill, p. 70). The percentage of absentees is portrayed as “a function of lack of interest and ignorance” (p. 70). Demanding participation from everyone results in providing ultimate power to these uninterested, alienated, and politically incompetent people. Lastly, the overly complex voting procedure in conjunction with compulsory voting inevitably increases the percentage of informal voting.

In yet another article by Hill and Young (2007), the authors explain that even in compulsory voting systems invalid votes are due to factors other than the mere fact of compulsion – “according to some commentators, compulsory voting ‘causes’ a rise in informal votes due to protest against the compulsion... But such assertions are rarely, if ever, supported by sustained argument or evidence” (p. 515). They notice a huge danger for democratic institutions in the act of unintentional informal voting, which, as developed in their subsequent article, leaves some voters genuinely willing to take part in an election aside from the political influences. This alone could testify how important the investigations of the invalid voting really is. They find, however, that in Australia only about 15 percent of the invalidated ballots could be regarded, with a large plausibility, as a result of intentional informal vote casting. Yet, the data they base their judgement on, as well as the method of interpreting specific formal failures visible on the ballots as either intentional or unintentional vote grants more confusion and, ultimately, leads to rejection of too many ballots (about 25 percent of all voided) as “extremely difficult to ascertain motive or intention” of a voter. Such a huge margin of error is unacceptable in ascertaining the influence of any factor, and therefore, the Hill and Young (2007) study’s scholarly contribution is limited.

More accurate interpretation instruments are used by Stiefbold (1965), who analyzes the early West German elections and brings up the matter of deceptiveness of relying on voter

turnout while assessing the overall quality of democracy. As he notices, the West German case illustrates that the large number of voters that appeared over the voting urn cast invalid votes due to reasons other than technical difficulties or political ignorance. Despite optimistic appraisal of the quality of German democracy by “most observers of German electoral politics” (p. 392), Stiefbold stipulates that “the West German variant of industrial mass society” (p. 392) is underdeveloped in terms of political interest, involvement, and integration.

A quick glance at election statistics reveals that all the democratic elections after the Second World War in West Germany up to 1961 were characterized by extremely high voter turnout of at least 78 percent, reaching nearly 88 percent in the 1961. High turnout rates were accompanied by evidently increasing percentages of invalid votes that varied between 5.1 percent and 6.1 percent, taking into account both votes of the single-ballot two-vote system present at the time in West Germany.<sup>10</sup> The analysis also considers individual characteristics such as age, sex, and type of the community of the voter, as well as the political identification. Based on these factors, Stiefbold enumerates four main causes of invalid voting. The most important is protest, with which this thesis is the most concerned. Thereafter he puts ignorance of voting techniques, cross-pressures, and apathy (pp. 396-397). Cross-pressures and apathy are also qualified as crucial in this study. Voters’ ignorance of the electoral system produces invalid votes indeed, yet it is most discernible among individuals who are imperfectly integrated into a country’s political system. These individuals “are more concerned with their personal [obstacles] than with public affairs” (p. 406).

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<sup>10</sup> Voter turnout rates and the percentage of invalid votes are both primarily based on the IDEA dataset used in the compilation of the dataset utilized in this thesis. Data on the percentage of invalid ballots available in the IDEA is different than the ones used in the Stiefbold’s (1965) article. The IDEA dataset provides the highest percentage of invalidated ballots while casting either first or second vote (which varied from 3.1 percent to 4 percent), whereas Stiefbold took into consideration voiding “either vote or both votes” by the same voter, ultimately producing higher indices. Given this limitation and the completeness of the data provided by IDEA, as opposed to the case-selective character of Stiefbold’s study, this thesis uses the IDEA’s operationalization of the invalid votes.

Finally, Stiefbold divides voters who cast invalid votes into two broad categories. The first group consists of apathetic voters, who cast invalid votes out of negligence, ignorance, or cross-pressures. The second group, comprises the politically informed part of population. For the latter, invalidating ballots is considered as a protest against a constriction of political choice. Stiefbold concludes that the perception of alienation by the political system and deprivation of adequate selection are essential factors that trigger the readiness of the sophisticated voters to cast invalid votes. Importantly, he assesses that percentage of void ballots can be employed as a “barometer of civic discontent” (p. 407).

Therefore, an act of casting an invalid ballot can be explained as a conscious and well thought-out decision related to the extent of choice provided to voters. Ugglä (2008) has found this form of expression of civic discontent is often more legitimate and telling than stating and advocating for an explanation stemming from social difficulties or procedural complexities. In most countries, especially European countries, electoral rules and voting techniques are adequate to the literacy of the average citizen of a particular country. Literacy in this chapter is understood, as will be explained in the following section, as an ability to read and write.

However, many scholars have shown that capability to read and write is not sufficient to comprehend and make an educated decision about complex issues such as politics and voting. Therefore, scholars introduced a comprehension-based literacy index. Furthermore, some institutions lobby for a semantical change of the word “literacy” to encompass also the ability to understand and process what one actually reads as far as separate words and whole passages are concerned. OECD in its Program for the International Assessment of Adult Competencies (PIAAC) coined term “literacy proficiency,” addressing the problems associated with the regular

literacy. Literacy proficiency is measured on five different levels of comprehension, where the first one indicates an ability to complete simple tasks (OECD 2013).

Many developed countries contend with loss of literacy due to such factors as abundant use of new technologies in dealing with everyday errands. The United Kingdom, Ireland, and the United States have the largest proportions of adults scoring at this level. Similarly, large population of these countries scores below the first level (OECD, p. 92).<sup>11</sup> Irish NGO National Adult Literacy Agency pointed out that even across Europe, a large number of people still have hard time mentally processing words they hear or read. For example, in Ireland about one sixth of society between the ages of 16 and 65 has problems of the aforementioned nature (NALA 2012).

Irish legislators made an effort to meet citizen's needs and put pictures of politicians right next to their name. The UK electoral commission has adopted the same tactic. In other countries outside of the OECD with lower literacy rates, have more means of supporting illiterate voters with such instruments as graphical symbols and logos representing, in some cases, even the agenda of a particular party or candidate. Amidst this group one can identify Afghanistan, Egypt, Angola, Guinea-Bissau, and South Africa. These struggles are important in avoiding accidental invalidation of ballots.

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<sup>11</sup> Following the definition mentioned on pp. 68-92 of the OECD publication:

“**Level 5** is the highest proficiency level on the literacy scale. Adults reaching this level can perform tasks that involve searching for and integrating information across multiple, dense texts; constructing syntheses of similar and contrasting ideas or points of view, or evaluating evidence and arguments. They can apply and evaluate logical and conceptual models, and evaluate the reliability of evidentiary sources and select key information. They are aware of subtle, rhetorical cues and are able to make high-level inferences or use specialized background knowledge.”

“**At Level 1**, adults can complete tasks in which the goal is explicitly stated and for which the necessary operations are performed in a single and familiar environment. They can solve problems in the context of technology-rich environments whose solutions involve a relatively small number of steps, the use of a restricted range of operators, and a limited amount of monitoring across a large number of actions.”

“**Below Level 1**, adults can complete tasks in which the goal is explicitly stated and for which the necessary operations are performed in a single and familiar environment. They can solve problems whose solutions involve a relatively small number of steps, the use of a restricted range of operators, and a limited amount of monitoring across a large number of actions.” The residual definitions can be found in the OECD report.

Based on these technical improvements and adapting proper tools in certain social contexts, casting an invalid ballot is considered as a deliberate “choice that escapes the political establishment” (Uggla 2008, p. 1160) and leans towards signals options of which they feel deprived. Uggla shows that the nature of electoral competition has a higher leverage over the percentage of voters voiding their ballots than “levels of inability or social marginality in the electorate” (p. 1161). Furthermore, he concludes that “such [invalid] voting is a conscious act related to the political choices available through the election” (p. 1161).

Uggla (2008) tests four different models, yet only two are relevant for this thesis. One of them is called the “political model”, and the second the “polity model” (pp. 1152-1155). In the former the author finds that the largest party seat share and its dominance increase the percentage of invalid votes. In the latter, he discovers that the restriction of political rights increases the occurrence of invalid votes. In the two residual models, where Uggla examines voter incompetence and social marginalization, no factor was found to be statistically significant. Consequently, the hypothesis about the protest nature of invalidating ballots is vital, yet it still deserves more research. Uggla prompts a clear and narrow selection as being conducive to reducing invalid ballots, encouraging electoral policy makers to include clarity and accountability on their agenda. Moreover, the author discerns often-disregarded political logic in the act of casting an invalid vote urging for more scholar considerations on this topic.

Power and Garand’s (2007) article studies Latin American elections with regards to invalid voting. Within the handful of studies exploring invalid ballots, many of them contain the part describing the potential reasons for the lack of academic and practical interest in this phenomenon. Why, then, do most studies on voter behavior omit this fruitful venue? Power and Garand discern three possible reasons. First, research on electoral behavior focuses on countries



with low levels of invalid voting or on countries, which do not (or did not until recently) report this statistic, like the U.S. (Hirczy 1994; Power and Garand 2007). Second, political analysts are primarily concerned with behaviors influencing the allocation of political power, following Duverger's definition of political party as a group of people that set "their primary goal as the conquest of power or a share in its exercise" (Duverger 1972, pp. 1-2). From this perspective, invalid votes deceptively seem to be irrelevant for the political process, therefore, discouraging political scientists from investigating the topic. The last reason stems from apparent complications related to the empirical interpretation of voters' intentions behind spoiling their ballots.

Power and Garand's analysis and approach, due to the similarities with this chapter in the modeling strategy they adapted, deserves more in-depth scrutiny. Their study aims at testing the existing theoretical approaches explained in the next section that can be put into three categories: "the institutional approach, the socioeconomic approach, and the political-protest or regime-level approach" in 18 Latin American countries (p. 434). This factor distinguishes that study from this one, which looks at two of these approaches – the institutional approach, and the political-protest approach. Not that the third attitude does not matter, but it is to some extent obvious that voters in small towns with lower economic and educational opportunities are more vulnerable to misunderstanding of voting techniques or, if forced to use them by compulsory voting, less likely to put any effort into voting at all.

In explaining the complexity of invalid voting, Power and Garand (2007) use the following independent variables: personal vote, district magnitude, electoral disproportionality, number of chambers, compulsory voting, urbanization level, literacy rate, GDP per capita, income inequality, change in GDP per capita, revolutionary violence, founding election, level of

democracy, and change in the level of democracy. This selection makes their model very similar to the one tested herein, with one substantive modification, that in this thesis the effective number of legislative parties is of primary importance. Importantly, the authors consider factors unique for the Latin American states (e.g. revolutionary violence). Power and Garand's model encompasses 80 elections that took place between 1980 and 2000. Intriguingly, they find support for all of the hypotheses tested, despite relatively small sample size.

Compulsory voting systems contend with inevitably higher percentages of informal votes. However, Power and Roberts (1995) question a huge contribution of compulsory voting to the high rates of invalid voting. They find that it is not a compulsion itself, but rather compulsion in conjunction with other factors, such as difficult voting procedures, or low literacy rates (p. 818).

Australia is the most studied example, yet the Brazilian case also provides insights that are to a great extent convergent with the ones depicted above. Brazilian elections prior to 1962 serve as an explanation of why this study does not look at elections in undemocratic and anocratic systems. In this intriguing system of voting,

voters arriving at the polls were besieged by candidates distributing ballots which they had printed and completed themselves. Voters had only to place these 'private' ballots into an official envelope provided by the election authorities. Under this system, spoiled ballots due to voter error were less likely to occur (though blank votes were still possible by depositing an empty envelope in the ballot box) (Power and Roberts 1995, pp. 816-817; see also Power 1991).

As explained by Power and Roberts (1995), the system was undemocratic, since wealthier parties and candidates could possibly invalidate ballots of the less influential candidates in a very informal manner.<sup>12</sup> Another danger, somehow similar to modern campaigns in developed countries, was that candidates with less capital could not afford printing as many ballots as their influential opponents.

A majority of scholars highlight the need to figure out and implement a solution to parcel out the boundaries of intentional and unintentional invalid voting. Lack of such measures and data reveal how obscure the topic remains.

## **2.3 THEORY**

Based on the existing literature, one can identify, three theoretical explanations about why invalid votes occur. The institutional theory on invalid and spoiled votes explains the phenomenon by such factors as institutional design, desirability and parsimony of voting procedure, and obligating citizens to participation (Powell 1986; Jackman 1987; Jackman and Miller 1995; Perez-Linan 2001; Kostadinova 2003). Power and Garand (2007) enumerate several elements that stem directly from the institutional theory. Among others they firstly mention mandatory voting, where invalid ballots are cast in the place of abstaining from voting under voluntary conditions. Secondly, they indicate electoral disproportionality, which encourages voters to cast invalid votes as a protest against this situation. Thirdly, Power and Garand point out large district magnitudes combined with a personalized voting system, which discourage individuals opposing the mental burden placed on them by demanding to memorize characteristics of multiple candidates (p. 434).

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<sup>12</sup> Power and Roberts (1995) explain an unintentional spoiling a correctly competed ballot providing an example in one of the footnotes. Political bosses were placing attractive women with large amount of lipstick on their lips to “greet” voters willing to cast the vote in a following way, ““Are you going to vote for [her patron’s political enemy]?” If the answer was ‘yes’, the woman would exclaim, ‘Great, me too! Let me give your ballot a kiss for good luck!’” (footnote on p. 817).

The second theory, which is often called socioeconomic, finds its fundamentals in social structure and economic standing of individuals and all communities (Power and Garand 2007; McAllister and Makkai 1993; Powell 1986). According to this approach, invalid voting is influenced by illiteracy and a lack of political sophistication on the part of the voters.

The third and last theory approaches invalid and spoiled votes from the standpoint of political discontent of voters behaving in such a manner. The political-protest theory reflects a broad category of causes for invalid voting, which includes voter's rejection of incumbents and some parts or all of the political or institutional system (Power and Garand 2007; Power and Roberts 1995). These theories are complementary and the existence and validity of one of them does not preclude the others.

This study builds upon the third theory that states that invalid votes are the result of political protest based on the alienation, rational choice, and representation theories. Voters that feel deprived of representation in the selection of parties, but want to participate in elections, cast invalid votes as protest against this situation. Pitkin (1967) notices that most theorists argue that representatives have to pursue their constituents' interests, while doing what they think "is best for those in [their] charge" (p.4). If representatives excessively divert from the will of their constituents, they are punished and are voted out of office. However, when the problem becomes more institutional in nature and a bulk of representatives does not pursue their constituents' interests, voters protest by casting invalid votes. Therefore, invalid votes are the result of alienation from the party system. As there is no party representing voters' interests, they are alienated from the electoral selection, and cast invalid votes. According to the rational choice theory, voters calculate the benefits and risks associated with casting invalid ballots. If it appears beneficial (for example they are alienated from the representatives and want to express their

discontent about that situation), they cast invalid votes. If the act is not benign (for example, one of the parties that oppose a voter's values is very likely to win an election), voters cast valid votes.

## **2.4 HYPOTHESIS**

I hypothesize that if voters have more *effective* parties to from which to choose, they are more likely to find a representative that resembles their interests and policy preferences. If this is the case, they are more likely to cast a valid vote, as opposed to a situation, where they would be given fewer possibilities. I assume that voters that appear at a balloting place have something to share; that some deeper ideas brought them there. As they spent their time and effort to come to the polling station, they most likely did that to achieve something, and not to waste their time by casting an invalid vote that will not have as great influence on the political decisions as a valid one. I posit that they use a voided ballot as a form of the protest against the lack of choice deserving their vote and that an increase in the number of effective (powerful, influential) options increases the odds of casting valid votes.

## **2.5 RESEARCH DESIGN AND METHODS**

I use selected data from several already existing datasets in my analysis. They are merged in a way that tailors them for the needs of the present study. The main datasets are Democratic Electoral Systems Dataset (DESD) by Bormann and Golder (2013), Quality of Government (Teorell, Dahlberg, Holmberg, Rothstein, Hartmann and Svensson 2015), and the Cross-National Time-Series Data Archive (CNTSDA) by Kenneth Wilson (2013). Additionally, I derive from the International Institute for Democracy and Electoral Assistance (IDEA) and World Bank Data, Constituency-Level Elections Archive (CLEA), ParlGov, Inter-Parliamentary Union's PARLINE database on national parliament. Some gaps in the observations in the datasets

mentioned above were filled using the Heritage Foundation data, OECD, UNESCO, Eurostat, Election Guide, The World Factbook, United Nations Demographic Yearbook, Theodora.com, and National Electoral Commissions' websites. The dataset used in this study focuses on 39 European countries at a national-level in parliamentary elections from 1946 to 2014. Therefore, the data have a panel form. The compiled dataset contains 485 observations. The complete list of the variables, their definitions, and sources are available in Appendix 1.

This chapter analyzes two models. Model 1 includes the compulsory voting systems, whereas model 2 considers only voluntary systems. I do so, because, as pointed out in the previous section, mandatory voting systems are susceptible to produce higher rates of invalid votes.

Because Europe underwent (and is still undergoing) significant border changes in the post-war period, for entities that experienced such a change I consider only the democratic elections held on territories governed under democratic regimes<sup>13</sup> or that ultimately resulted in a creation of democratic regime.<sup>14</sup>

The percentage of invalid votes is the dependent variable used in this study. The subject of invalid votes was elaborated on the previous pages, but is still important to emphasize that invalid vote is defined as one that has been excluded from the count by the electoral commission

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<sup>13</sup> For example, Germany, during the period between WWII and the fall of Berlin Wall was considered (at least) two different states, the German Democratic Republic, also referred to as East Germany that was governed by communist regime, and the Federal Republic of Germany, also known as West Germany which was held democratic. For that time only the results from West Germany are being considered.

<sup>14</sup> The 1989 Polish parliamentary election was held under the partially free conditions. Popular vote could decide only on allocating 35 percent of all the 460 seats, whereas the remaining 65 percent was allotted for the members of the Communist Party, which also had candidates running for the portion of the seats under the popular vote. Polls conducted before the election were explicit about the purported popularity of the Communist Party (which was, by the way, one of the decisive factors, why the communist regime agreed to hold election). The June 4, 1989 election turned out to be a complete victory of the Solidarity that won 99 out of 100 seats contested. Many citizens did not reveal their true preferences in public, even among the elites that were within or allied with the Communist Party. Due to the preference falsification, many of these 65 percent of candidates from the communist descent, who made it to the parliament "switched" to Solidarity once they saw how large support in people they had. This had led to the chain of events enabling Solidarity to appoint the first non-communist prime minister "behind" the Iron Curtain.

officials because of an improper indication of a candidate (or party), or lack of such indication. The variable has a percentage format and, theoretically, could vary from 0 to 100. In the dataset, the lowest rate of invalid votes equals 0.05 percent and occurred in the United Kingdom in 1950. On the other side of the spectrum, one finds the 1989 Polish election, when 14 percent of voters made their ballots invalid.<sup>15</sup> Both occurred under voluntary systems. The mean percentage of invalid votes across the time and area investigated herein equals 2.27 percent.

The main independent variable is the effective number of legislative parties on the lower-chamber seats level. I hypothesize that as the effective number of parties increases, the percentage of invalid votes decreases. The logic for this hypothesis lies in the presumption that in the act of voting citizens look for proper representation, and that this representation cannot emerge without a significant number of competitors that have large influence over the policy making process. I assume that if voters appear over the voting urn, a sufficiently large selection is provided and voting is not mandatory, they have a “story to tell”. The electoral story, however, cannot be told, if there is not enough actors (parties) on the political scene, who would represent the diversity of preferences one can identify in a population. Voters, who made an effort to come to the polls signal that they want to participate, yet, as hypothesized, if they do not find anybody deserving their attention on the among the candidates, they will invalidate their vote. As the review of the literature has shown, invalid voting is commonly understood (though not correctly) as a meaningless and marginal behavior. Therefore, not many scholars would want to engage in such a parochial activity. However, on average, in every election since 1946 nearly 2.3 percent of voting Europeans cast invalid votes. This fact and its magnitude should not be overlooked nor marginalized.

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<sup>15</sup> This is also a controversial election that is excluded from the model due to other variables being missing. However, the greatest percentage of invalid votes outside of the abovementioned example, is the 1992 Romanian election with 12.7 percent of invalid votes, which is not a subject to controversy.

The overall (i.e. the average for both men and women) literacy rate in a country is definitely one of the most important factors. Literacy data are based on the CNTSDA and World Bank Data, where it is based on the percentage of nonliterate, 15 years of age and over. Literacy is defined in the UN Demographic Yearbook, from which most of the post-World War II data are extracted, as the “ability both to read and to write”. While this is not an entirely adequate and full definition, it is unrealistic to assume that the caliber of most reporting agencies could sustain a more precise one. The World Bank however, does not provide data on the period before 1960 at all.<sup>16</sup> In such instances I use the CNTSDA to fill in the gaps as well as to reach back to the period immediately following World War II (up to 1960). For the most current literacy rates or where it is not available within the two sources, the data are derived from the UNESCO Institute for Statistics.<sup>17</sup>

Literacy is measured in percentages and ranges from 70.3 percent to 99.9 percent. In the most recent cycle of elections, the 2013 Maltese election happened to be the one opened to the least literate public. At that time 93.8 percent of the Maltese population was literate. The lowest literacy rate overall was noted in 1946 in Greece, whereas the greatest occurred in Belgium, Estonia, Finland, Poland, and Slovenia. The average literacy rate is 96.86 percent, yet for the most current cycle of elections the mean is equal to 98.8 percent. I hypothesize that countries with higher literacy rates exhibit lower percentages of invalid votes cast.

However, I do not expect a huge variation with respect to this element across Europe, as countries in this region tend to have highly literate populations. The issue of literacy rates becomes explicitly apparent, when combined with the compulsory voting. As illuminated in the

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<sup>16</sup> World Bank, Literacy rate data, online resource retrieved on April 15, 2015 from: <http://data.worldbank.org/indicator/SE.ADT.LITR.ZS>.

<sup>17</sup> UNESCO, Literacy rate data, online resource retrieved on April 15, 2015 from: [http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT\\_DS&popupcustomise=true&lang=en#](http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en#).



literature, voters who would abstain under voluntary voting and are afraid of the consequences related to abstaining under compulsory system, are expected to have a greater likelihood of casting an invalid vote. In most countries with compulsory voting, the illiterate are exempt from participation.

Compulsory voting arguably increases the percentage of invalid votes (Power and Roberts 1995; McAllister and Makkai 1993; Mackerras and McAllister 1999; Singh 2014; Hill 2011; Louth and Hill 2005; Irwin 1974). Compulsory voting is operationalized as a legal requirement to participate in an election that refers to at least one third of the population (see footnote 6 on pp. 12). The compulsory system was used during 88 elections in the examined sample. Voters exhibit different levels of political engagement, yet if they are forced to take part in the electoral process, some of them will solely turn out in order to avoid the prospective penalty. These voters will then choose a random candidate or cast an invalid vote. Coercing people to do something they would not do otherwise, not only boosts the turnout and the percentage of invalid votes, but also, as argued by Louth and Hill (2005), decreases the quality of democracy, because random representatives with no reasonable agenda may be elected. On the other side of the spectrum, there are scholars claiming that “greater participation – whether it is voluntary or encouraged by compulsory vote – makes democratic governments responsive to a larger share of population” (Altman and Perez-Linan 2002, p. 88). Compulsory voting systems are excluded from model 2, yet included in model 1.

In accord with the existing literature, I control for the impact that the competitiveness of the election on the percentage of invalid ballot (Mott 1926; Stiefbold 1965; Stewart 2006; McAllister and Makkai 1993; Ugglä 2008; Power and Garand 2007; Power and Roberts 1995; Irwin 1974). In this thesis electoral competitiveness is defined as a probability (though not

understood in plainly statistical fashion) that a rival party can replace the largest party in the process of government formation (Kwak and Janda 2010, p. 38). Electoral competitiveness is operationalized as the seat share of the second largest party.

Many authors use other measures of competitiveness. Even though, different operationalizations than the one employed herein are more popular, they have limitations recently discerned and illuminated by Kwak and Janda (2010). The two deeply flawed indicators are the seat share held by the largest party and the gap between the percentage of seats held by the first and the second largest party. First, I would like to depict the flaws of the former, which is especially troublesome with regards to the research design discussed in this chapter.

Kwak and Janda (2010) discuss eight indicators describing characteristics of a party system in a country, including the effective number of parties and the seat shares of the first and the second largest parties. They notice that the largest party seat share tends to limit the success of other parties, and therefore, significantly correlates with both quality and quantity of democratic participation (which are the focal point of this thesis). Furthermore, Kwak and Janda (2010) analyze the intercorrelations between the strengths of the consecutive parties and the effective number of parties across about 200 nations. In their data, the correlation index for the largest party-based measure equals negative 0.89, whereas for the second largest party-based measure only 0.1 (based on table 10 in Kwak and Janda, p. 43). The same observation pertains to my models; the coefficient of correlation between the effective number of parties and largest party seat share equals -0.77, whereas for the second largest party it is equal to -0.52. Table 2.1 below presents the correlation test for all the three measures of competitiveness, including the one operationalized as the gap between the percentage of seats held by the first and the second largest party.

Table 2.1: Correlation test for effective number of parties, percentage of invalid votes, and three concepts measuring electoral competitiveness.

Variables	% of invalid votes	Effective # of parties	Seat share of the 1 <sup>st</sup> largest party	Seat share of the 2 <sup>nd</sup> largest party	Seat share gap between the 1 <sup>st</sup> and the 2 <sup>nd</sup> largest party
% of invalid votes	1				
Effective # of parties	0.29	1			
Seat share of the 1 <sup>st</sup> largest party	-0.25	-0.77	1		
Seat share of the 2 <sup>nd</sup> largest party	-0.24	-0.52	0.44	1	
Seat share gap between the 1 <sup>st</sup> and the 2 <sup>nd</sup> largest party	-0.08	-0.4	0.7	-0.32	1

One of the most popular indicators of competitiveness is the gap between the percentage of seats held by the first and the second largest party. The competitiveness is claimed to increase as the delta becomes smaller. This measure is the least correlated with the effective number of parties (-0.4). However, it possesses another problem; it significantly violates one of the most underlying assumptions of regression – normality of distribution.

Figure 2.1 below presents the results of the tests of the normality of distribution in all the three indices of competitiveness (and their logarithmic transformations). The distribution of the seat share of both the first largest party and the second largest party seem close to normal, however logarithmic transformation shall still improve the normality. However, such a transformation causes a slight improvement as far as the second largest party competitiveness measure, whereas worsens the situation with the first largest party competitiveness measure. Therefore, out of these two, the second largest party measure deserves its place in the models. Regardless of whether one compares the gap between parties measure with either first largest party measure, or second largest party measure, the gap measure looks much more skewed when analyzed as plain number and in a corrected, logarithmized form.

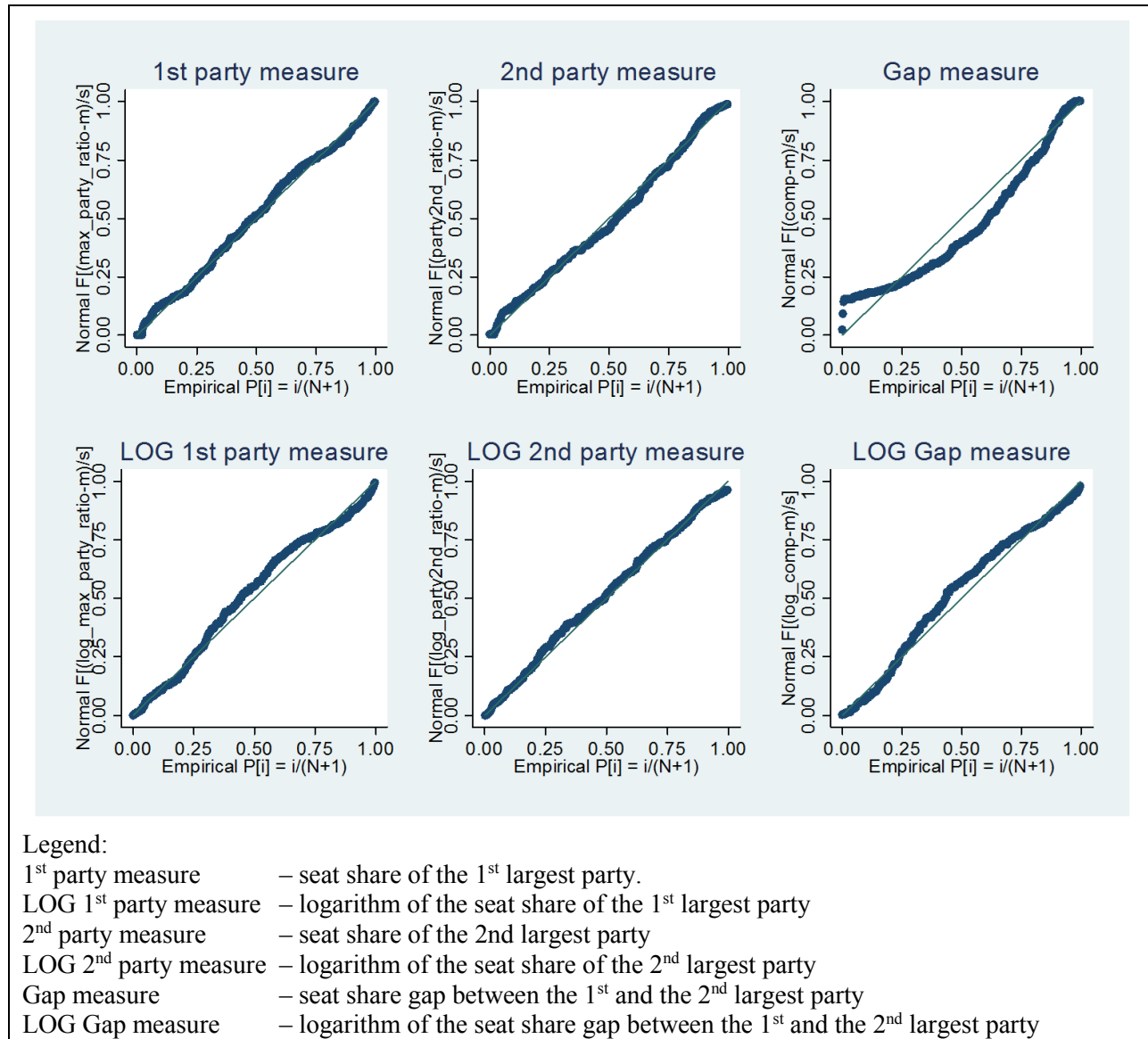


Figure 2.1: Distributional diagnostic for the competitiveness measures and their logarithmic transformations.

Hence, in the models for this chapter I utilize the second largest party seat share variable. Kwak and Janda (2010) conclude that the “statistical results showed that the percentage of seats held by the second largest party in parliament offers ... a good [and] simple indicator of parliamentary [inter]party competition” (p.38).

Equally important is average district magnitude. Average district magnitude is operationalized as the overall number of seats in a lower chamber divided by the number of

districts in a country. In multi-tier systems the mean is weighted, depending on how many representatives were chosen in each tier. This provides us with the explanation of how many representatives are elected on average in each district. Under the pure SMD, average district magnitude equals 1, whereas if there is just one district, the whole country, average district magnitude equals the number of seats in a lower chamber of the parliament. The sample studied herein has a mean average district magnitude equal to 22.37, whereas the median is equal to 7.7. It varies from 1 (SMD) to 450 (one nation-wide district).

Due to the large deviation between the maximum and the minimum as well as its skewed distribution, I employ a logarithmic transformation of average district magnitude. The hypothesis stems here from the perspective of representation. If voters elect more representatives in a district, they are more likely to cast a valid vote, even if the effective number of parties does not provide many alternatives to represent their voters in an influential fashion. Under single member districts one can cast an invalid vote as a protest against the sheer inability to introduce any other candidate than the most powerful one in that particular district, which addresses exactly the same political concept as the effective number of parties – under greater selection and representation more people would become vital participants in democracy. Under this scenario, voters put invalid votes into the ballot box due to the lack of a vital option representing their ideals.

There are two variables in this study directly related to the problem of representation. The absolute representation, defined as a number of seats in a lower chamber, is arguably negatively correlated with the percentage of invalid votes. National legislatures in the sample vary in size from 35 (in Iceland) to 672 (in Germany) deputies which sets the mean at about 248 representatives. To enhance the normality of the distribution I use the logarithmic transformation

of this variable. Voters are likely to associate the absolute representation with the most visible embodiment of the representation provided to them – the number of deputies that hold mandates. I hypothesize that countries with larger legislatures (lower houses) face lower percentages of invalid votes, compared to countries with small legislatures.

The second factor, relative representation, is defined as a ratio of the number of people per representative. Here as well, the logarithm offers better fit to normal distribution and is used in the models. An average European deputy in a national parliament represents 48,000 people with 3,770 (again, Iceland) and 173,750 (in Germany) at the extremes. Arguably, this is the more important index than the former in terms of representation *per se*, yet it is also deemed to be comprehended by fewer people.<sup>18</sup> Both measures are used in the models, since this study deals with the mass political behavior, not the institutional features. Most of the time people do not realize how underrepresented (which results in less people's problems on the political agenda) or overrepresented (this is the expensive option) they are, compared to their "counterparts" in other countries. The expected correlation here is positive, since if more and more people are represented by the same number of politicians, the representation gets distorted, causing more invalid votes to appear in the voting urn. An increase in either type of representation should reduce the percentage of invalid votes.

The experience with democratic procedures measured as years of democracy in a particular country appears to be essential in acquiring the "know-how" about voting procedures. The variable is derived from the Quality of Government0 dataset. To maintain as many

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<sup>18</sup> It is rarely brought up in mass media, where most voters derive their information about politics. Moreover, it changes with the fluctuations in population (changes in a chamber's size are less common, yet they happen too, additionally complicating the ratio). Therefore, less voters are aware of the value that the index actually indicates at a specific moment.

observations as possible, one is added to the indicator and then the sum is logarithmized.<sup>19</sup> Years of democracy are counted continuously only if a country experienced high levels of polity index in an uninterrupted manner. To be counted as a democracy a country needs to have at least 6 points on the polity score spectrum.<sup>20</sup> Sweden, Belgium, Norway, Luxemburg, Netherlands, France, Denmark, Ireland, Switzerland,<sup>21</sup> and Finland are the oldest inclusive democracies in the sample (since 1930), whereas Serbia and Montenegro are the youngest (since 2003). With time, voters become more familiar with the procedures of balloting and requirements of casting a valid vote, which causes a decline in unintentional vote invalidating. I argue that the longer the democracy lasts in a country, the lower the percentage of invalid votes the country's citizens cast.

The same logic applies to social development's proxy measure – the percentage of women in the parliament. In the average European parliament, one observes that 14.8 percent of all the members are women. Gradual inclusion of women in politics is very discernible over the 68 years under the scrutiny in this study. In the most recent electoral cycle, women constituted 26.5 percent of all the lower chamber deputies that were holding mandates, whereas in the oldest electoral cycle (1946-1951) the index was equal to about 3.3 percent. The highest percentage of women in parliament was representing Swedes after the 2006 election, when 47.3 percent of the

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<sup>19</sup> The logarithm of a number is defined as the exponent to which the base must be raised to produce that number. Since zero raised to any power gives zero, the logarithm of zero cannot be defined. As one logarithmizes an observation equal to zero it becomes missing. As there are many observations in the dataset the loss of these observations would significantly impair the conclusiveness of the regression. To prevent this from happening, I added one to the number of years ( $\log(1) = 0$ ), which enabled me to keep under consideration a wider spectrum of data.

<sup>20</sup> Polity data series contains annual information on the level of democracy for multiple countries in the world. Each country is assigned a specific score based on a set of factors including checks and balances as well as electoral competitiveness and openness. It ranges from negative 10 (complete autocracy) to positive 10 (full democracy). States awarded a score between -10 and -6 are considered autocracies, whereas states ranging in the score between -5 and 5 – anocracies (transitional type characterized by the mix of elements found in democratic and autocratic regimes). A state is considered democratic, starting from the score of 6 (inclusive).

<sup>21</sup> Although this case can be disputable, as the universal suffrage was granted in 1971, yet in one canton as late as in 1990 (see e.g. Paxton 2000; Banaszak 1996).

parliament was made up of women representatives. Even though less voters turn out to vote in democracies nowadays, those who do so have a message to share with the policy makers and election candidates. Citizens in the countries at high levels of social development are, on average, well off. Hence, they are probably content with their lives regardless of the government's policies. Populations of states that are more socially advanced have, therefore, quite different priorities, such as increasing personal wealth, than electoral participation. If these citizens made an effort to go to the polling place, they will not protest in the form of casting an invalid vote. Additionally, the probability of unintentional casting of invalid vote is minimized by the fact that literacy rates in modern welfare democracies are very high.

Two economic variables are included in the models and both are logarithms of their values. First of them is GDP per capita. "GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources."<sup>22</sup> I use the value of the GDP per capita in the 1990 International Geary-Khamis dollars<sup>23</sup> from the year prior to the election year. The explanation is similar to the one related to the social development. Citizenry in economically developed states is more likely to engage in activities associated with accumulation of wealth. Elections, in most cases, do not fall into that category and voters, who turn up shall want to indicate a party they perceive most relevant to their success. Therefore, the correlation between GDP per capita and invalid vote rate is hypothesized to be negative.

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<sup>22</sup> World Bank definition of GDP per capita retrieved on April 14, 2015 from:  
<http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>

<sup>23</sup> "The Geary-Khamis dollar is a hypothetical unit of currency that has the same purchasing power that the U.S. dollar had in the United States at a given point in time" (Quality of Government dataset codebook, January 2015, p. 364).



GDP per capita is compiled from the 2015 version of the Quality of Government dataset. It varies from \$1776 (Albania, 1992; the index for 2009 Albanian election equals \$4,149) to \$26,500 (Norway, 2009) with \$6,015 on average. GDP per capita is hypothesized to be negatively correlated with the invalid votes. Usually, wealthier societies have more educated people. If they are not interested in participation and the system lets them decide on that (i.e. voting is not mandatory), abstaining from voting can be beneficial in terms of time and attention span. Voting (as a process starting from the reconnaissance of agendas differentiating candidates, and ending at a polling place) might divert their attention span from more important and directly profitable businesses. By abstaining, they protect themselves from such losses.

The second economic indicator represents growth of GDP and is operationalized as an “annual percentage growth rate of GDP at market prices.”<sup>24</sup> The values are based on the constant 2005 U.S. dollars and expressed in percentages. The logic behind such a method is based upon the usual way that blame and credit are attributed. Election is the appraisal time for politicians. If they were not successful in making the economy functioning properly and being beneficial to citizens, they are (or at least should be) dismissed. Economic performance immediately before an election is particularly important.

GDP growth in the sample varies from -30.9 percent (scored by Moldova in 1994) to 54.2 percent (achieved by Bosnia and Herzegovina in 1996), with the mean of 2.75 percent GDP growth. This suggests that the extremes can be reached only by underdeveloped countries during economic transitions, whereas the less extreme values are achieved by the countries that are at the high level of economic development. I hypothesize GDP growth to be negatively correlated with the percentage of invalid votes. Countries reaching positive extremes with regards to the

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<sup>24</sup> World Bank definition of GDP growth. Online resource retrieved on April 14, 2015 from: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>.

GDP growth are the success stories of the economic transition and, even if still in transition, provide well-being to their citizens, who will grant their party system with a vivid participation and will cast less invalid votes. At the other side of the spectrum we have countries with failing and shrinking economies, whose citizens will “rebel” during elections against such a situation in a form of casting an invalid vote. Similarly, the citizens of stagnant economies will cast invalid votes to a greater extent.

I also control for the regional effects discernible across Europe. I expect to find a larger percentage of invalid votes in the post-communist states, since they are newer democracies and their citizens still lack or have underdeveloped essential skills in vote casting techniques, especially during early democratic years. Between 1946 and 2014, 130 elections were held in post-communist democracies. The states that are the EU members for longer are hypothesized to have lower percentages of invalid votes than non-members, due to an increased exposure to the democratic institutions and greater successes of these institutions in providing the well-being to the citizens of the EU member states. The variable measuring membership counts years of membership at a time of a particular election. To each observation a value of 1 is added and then the logarithm is applied (consult footnote 21 for explanation). The six original members of the European Economic Community (founded in 1957) are the oldest members in the sample, whereas Croatia that joined the EU structures in 2013 is the youngest member.

The observations are divided into panels to correct the standard errors within countries. The models predicts a linear and negative correlation between the effective number of parties and the percentage of invalid votes. Paris-Winsten regression will be employed in the analysis. Table 2.2 below presents the summary statistics for all the variables used in the models and, when the variable has been transformed into a logarithm its base counterpart is also presented.

Table 2.2: Summary statistics for all variables used in the invalid votes models (for logarithmized variables also the base variables are provided).

<b>Variable</b>	<b># of observations</b>	<b>Mean</b>	<b>Min</b>	<b>Max</b>
% of invalid votes	481	2.27	.05	14
Effective # of parties	485	3.8	1.31	10.87
Literacy rate	485	96.86	70.3	99.9
Average district magnitude	485	22.37	1	450
Log(Average district magnitude)	485	2	0	6.11
# of seats	485	247.85	35	672
Log(# of seats)	485	5.26	3.56	6.51
Relative representation	485	47,911.5	3,771.5	173,756
Log(Relative representation)	485	10.44	8.24	12.07
Compulsory voting	485	Median: 0	0	1
Years of democracy	485	30.65	0	84
Log(Years of democracy + 1)	485	2.95	0	4.44
Social development (% of women in parliament)	471	14.8	0	47.3
GDP per capita (constant 1990 GK\$)	342	11,130	1,775	28,500
Log(GDP per capita)	342	9.15	7.48	10.26
GDP growth (%)	460	2.75	-30.9	54.2
Log(GDP growth)	388	1.07	-4.28	4
Post-communist	485	Median: 0	0	1
Years in the EU	485	8.12	0	57
Log(Years in the EU + 1)	485	1.09	0	4.06
Competitiveness	485	0.27	0	0.49

## 2.6 RESULTS AND FINDINGS

According to the R-squared statistic, the first model explains about 76 percent of variation in the dependent variable. Therefore, due to high  $\chi^2$  statistic, which equals about 300 and, alongside with probability at 0.0001 level, the models are statistically significant. This enables an important analysis of its implications.

Table 2.3: Paris-Winsten regression results for the percentage of invalid votes.

Variable	Model 1	Model 2
Effective # of parties	0.46 (0.086)***	0.45 (0.097)***
Literacy rate	−0.103 (0.026)***	−0.101 (0.028)***
Log(Average district magnitude)	−0.196 (0.08)*	−0.22 (0.085)**
Log(# of seats)	−0.068 (0.24)	−0.08 (0.25)
Log(Relative representation)	1.05 (0.219)***	1.07 (0.224)***
Compulsory voting	1.28 (0.324)***	
Log(Years of democracy + 1)	0.053 (0.17)	0.05 (0.17)
Social development (% of seats held by women)	0.006 (0.01)	0.007 (0.01)
Log(GDP per capita)	−0.772 (0.268)**	−0.74 (0.28)**
Log(GDP growth)	−0.147 (0.08) <sup>tt*</sup>	−0.16 (0.11)
Post-communist	1.57 (0.29)***	1.58 (0.29)***
Log(Years in the EU + 1)	0.295 (0.077)***	0.23 (0.094)*
Competitiveness	−4.71 (1.01)***	−4.92 (1.2)***
Constant	7.25 (3.27)*	6.77 (3.56)

Model 1: # of groups = 33    n = 286     $R^2 = 0.76$      $\chi^2 = 301.45$      $p > \chi^2 = 0.0001$

Model 2: # of groups = 31    n = 235     $R^2 = 0.73$      $\chi^2 = 240.28$      $p > \chi^2 = 0.0001$

Note: Model 2 excludes compulsory voting systems.

\* – variable statistically significant at 0.05 level

\*\* – variable statistically significant at 0.01 level

\*\*\* – variable statistically significant at 0.001 level

no symbol – variable not statistically significant

*Het-corrected standard errors in parentheses*

<sup>tt\*</sup> – One-tailed significance at 0.05 level

Nine variables are statistically significant; seven at the 0.001 level, one variable at the 0.01 level and at the 0.05 level. Four variables are statistically insignificant, including GDP growth that is significant considering one-tailed test at 0.05 level. Table 2.3 above presents the results of the regression.<sup>25</sup>

<sup>25</sup> I also tested for the possible curvilinear relationship. One could hypothesize that the high effective numbers of parties could provide a greater representation and therefore diminish invalid vote rates. I entered a squared term of effective number of parties to see, if this is indeed the case, yet the squared term's coefficient was statistically insignificant. Therefore, based on my model, the effective number of parties is positively correlated with invalid vote rates.

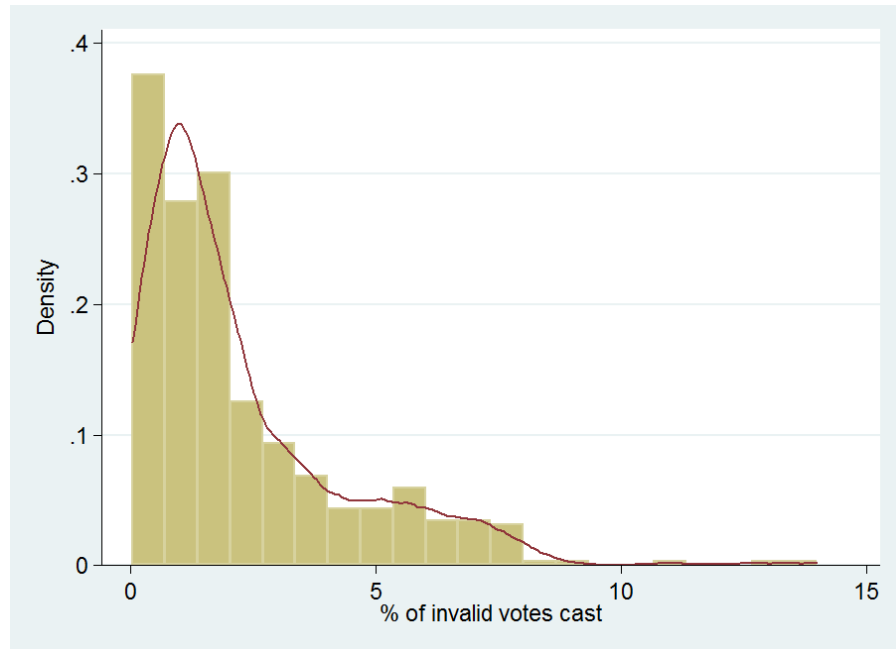


Figure 2.2: Kernel density plot for the percentage of invalid ballots.

Figure 2.2 above depicts kernel density for the percentage of invalid votes in the model. Despite the obvious differences in the conceptualization of the number of parties and its effective counterpart, the major hypothesis was found incorrect, yet convergent with the results of the previous studies about the relationship between the number of parties (not effective) and invalid votes (Power and Roberts 1995; see also Blais and Dobrzynska 1998). If the effective number of legislative parties is increased by one, the invalid votes increases about 0.46 percentage point. This enhances the plausibility of the following arguments. First, voters do not cast invalid votes to protest against the small selection on the ballot. Second, they cast such votes, because of the lack of clarity while selecting their representatives. The second argument is related to voters' insufficient information about multiple candidates (limited ability to process political biographies and programs of many politicians running in an election). Another explanation would be voters' incapacity to understand basic voting procedures. However, this interpretation merits further research.

The importance of examining the invalid votes was emphasized several times so far. Yet now, as the positive correlation of the effective number of parties with the percentage of invalid votes has been found, a new perspective comes to the fore. In the process of translating votes into seats, only valid and not spoiled votes are considered. Perhaps this fact makes some analysts and practitioners believe that invalid votes are not important for electoral outcomes. Considering, however, the following logic related to the winning margin<sup>26</sup> (rooted in mathematic properties of electoral formulas) sheds light at why invalid votes actually change the distribution of power in the parliament.

Let me consider a simple hypothetical example of how a Hare quota, defined as the number of valid votes divided by the number of seats, changes as the number of invalid votes increases. Assume that country A's lower chamber has 50 representatives. The population is 200 people, and turnout equals 75 percent. If all ballots are valid, the Hare quota would be 3 (as a result of  $150/50$ ). However, if 50 ballots were invalid, the quota would be 2 (as a result of  $100/50$ ). This entails that an increase in the percentage of invalid votes "shrunk" the hypothetical quota so that now each party needs just 2 (instead of 3) votes to introduce each candidate into the parliament.

The second hypothetical deliberation discusses the differences in the number of mandates held by each parliamentary party. Voters cast more invalid ballots if there are more options from which to choose. In other words, as a result of an increased amount of effective actors on the political scene, voters cast more invalid votes. The increased effective number of parties is the consequence of an increase in the number of parties or in a lower difference in the number of

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<sup>26</sup> Winning margin is the number of votes indicating the difference by which a winning party actually won over the second party in an election. The winning margin is especially important when it refers to district-level analysis (swing districts particularly) where these differences can be really minuscule. In such a case, even relatively small shifts in voter preferences deliver the winning position to another party.

seats held by each party in the parliament. Both of these factors entail smaller differences in the number of seats held by these parties. Therefore, on average, parties are “closer” to each other in terms of the number of seats each of them has in a chamber. Such a situation makes it easier to alter the outcome of elections, as the margin separating parties is smaller. Therefore, having in mind this situation and the quota issues, it is visible how minimal the margin differentiating gains and losses of parties can be. If the number of invalid votes outweighs the winning margin, one can only speculate what would have happened, if those who invalidated their ballots unintentionally cast a valid vote. No scholar analyzed this phenomenon, yet Western Australian Electoral Commissioner Warwick Gately said, that “the number of informal votes in 2008 could have swung the results of 12 [out of 150] lower house seats, or 20 per cent of the legislative assembly, and changed the outcome of the election.”<sup>27</sup> Such striking numbers definitely demonstrate the importance of the subject to electoral outcomes and, to the functioning of the democratic institutions.

GDP growth is statistically significant at 0.07 level in a one-tailed test. A unit increase in the logarithm of GDP growth results in a 0.15 percentage points decrease in invalid vote rates. The GDP growth’s impact on the invalid voting was predicted correctly. Economic success of a country causes that its citizens become less dependent on a state’s social programs and instead focus on intensifying their well-being through private means.

The absolute representation is not significant (while the relative representation was found statistically significant). In the justification for the implementation of both absolute and relative representation that I discussed in the research design section, I posited that voters in a process of “imagining” how well they are represented, pay more attention to the actual number of seats in a

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<sup>27</sup> Ceranic, I. (2013). “Informal Votes Effect Election Outcome”. ABC news, online resource retrieved on April 19, 2015 from <http://www.abc.net.au/news/2013-02-08/informal-votes-affect-election-outcome/4509078>. In brackets are the thesis author’s remarks.

chamber, as it does not require any mathematic transformation. However, this finding that the absolute representation does not influence the percentage of invalid votes can be explained by exactly opposite associations made by European voters. It shows that Europeans are more aware than I previously assumed about their representation issues. The aforementioned awareness pertains to the ability to differentiate between factors affecting the capacity of delegates to represent their voters' agendas. Whereas an increase in the number of seats in a chamber seems to be more appealing at first, one quickly notices that the relative representation affects the capability to "get things done" accordingly.

Surprisingly, the age of democratic system in a country does not affect the percentage of invalid votes cast. Therefore, it is not sheer experience with democratic institutions, but other factors influencing the fluctuations in the ratio of invalid votes. Another explanation is offered by a high skewness of the variable. Figure 2.3 illustrates the normality test results for three modifications of the variable, each being significantly disparate from the normal distribution.



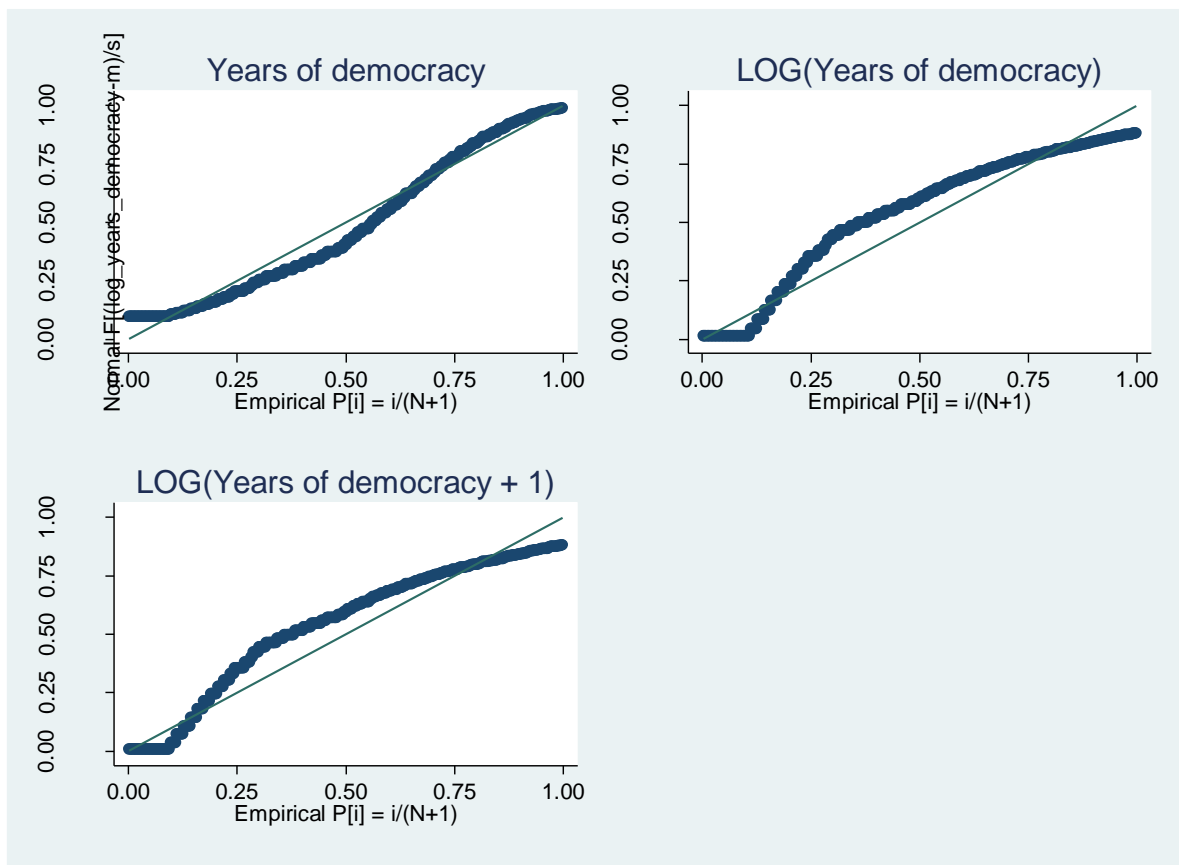


Figure 2.3: Distributional diagnostic for the years of democracy measure and its logarithmic transformations.

Social development is the last statistically insignificant variable. The percentage of seats held by women in a parliament does not interfere with the percentage of invalid votes. In short, voters cast invalid votes to protest against a situation they do not agree with, or as a result of insufficient familiarity with voting procedures. Common logic suggests that developed societies should not be struggling with the latter, as well as the extent of the former should be rather minuscule.

This thesis uses three indices of the “democratic maturity of a society.”<sup>28</sup> First, it looks at the EU membership, for the member states need to “pass the maturity exam” beforehand

<sup>28</sup> The European Union requires every state that wants to join the structures to fulfill a set of conditions that can be divided into four broad categories. Among political requirements the EU seeks a country’s stability, following the

accession. Second, it includes the dummy variable for the post-communist democracies. Post-communist states are more likely to exhibit lower social and economic development than states that were not governed by communists. Third, the number of years that a democratic system exists in a country is analyzed as well.

In congruity with the literature and the hypothesis adopted in this chapter, high literacy rates reduce percentages of invalid votes. If literacy rates increase by a one percentage point, one observes about a 0.1 percentage point decline in invalid votes. Literacy of voters enhances their ability to complete the ballot with no errors, minimizing the possibility of unintentional vote invalidating. This is one of the few well-studied correlations among the small literature on invalid votes. The extent to which the electoral outcomes can be altered due to the literacy-related issues are discussed in the next section.

Another factor is compulsory voting, whose direction of correlation with the percentage of invalid votes was predicted correctly. Indeed, the existence of the mandatory voting in a country boosts the portion of the invalid votes in the ballot box by about 1.38 percentage points. Arguably, this represents the number of people that are highly discontent with the requirement to turn out during a voting day.

Average district magnitude is statistically significant. If the logarithm of average district magnitude increases by one, and consequently more candidates are elected from that district, augmenting the system's ability to reflect electorate's preferences proportionally, invalid votes decreases by 0.2 percentage points. For example, if the logarithm of average district magnitude increases from 0 to 1 (i.e. average district magnitude increases from zero to 2.72), each member

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rule of law, respecting human rights, as well as protection granted to minorities. From the economic standpoint a country needs to have a viable market economy, and to be responsive to the competition within the EU. Furthermore, a candidate state has to follow the obligations stemming from the membership in the organization in the legal context. Lastly, a state has to adapt the EU administrative structures.

added to a district causes a 0.07 percentage points decrease (on average) in the ratio of invalid votes. An increase from 1 to 2 in the logarithmized value (that equals a change from 2.72 to 7.39 in the actual average number of seats) provides less impact, translated to the actual average district magnitude. Within this range, each seat added to a district causes about a 0.04 percentage point decrease (on average) in the invalid votes measure. Voters who do not support the candidates from the biggest party may perceive SMD as an unfair system. This group is more likely to cast an invalid vote as a protest against disregarding their political predilections. As the district magnitude increases, the number of voters that feels deprived of the possibility to elect their favorite candidate shrinks, consequently minimizing the overall percentage of invalid votes.

The relative representation is also statistically significant. The logarithm of this variable ranges from 8.24 ( $\exp(8.24) = 3790$  people per representative) to 12.07 ( $\exp(12.07) = 174,400$  people per representative). As the ratio increases from its minimum to 10,300 ( $\exp(9.24)$ ) the percentage of invalid votes increases about 1.05 percentage points. It is definitely related to the attention span that each deputy has for his or her electorate as he or she has to represent 3 times more people, than before. Deputies that are put into that situation find no time to address everybody's problems at the same level of dedication as before an increase in the number of people they represent. Consequently, the spectrum of policy issues is not fully covered by the politicians in a parliament, attracting more protest-driven voters to cast invalid votes against such a situation.

The expectation about the correlation between the EU membership and the percentage of invalid votes turned out to be erroneous. The model revealed that a unit increase in the logarithm of the years of presence in the EU structures increases the percentage of invalid votes by about 0.29 percentage points. This finding seems counterintuitive, as the voters in the older EU

member states should have more experience with voting procedures, and due to a higher standard of democratic institutions shall not be discontent and protest-prone. This is also surprising, as the EU has financial tools and instruments such as the European Social Fund, European Regional Development Fund, and Cohesion Fund that strengthen the economic development of the member states, these countries become stronger economically over time. As the economic variables used in that model have shown, economically developed states experience lower invalid vote rates.

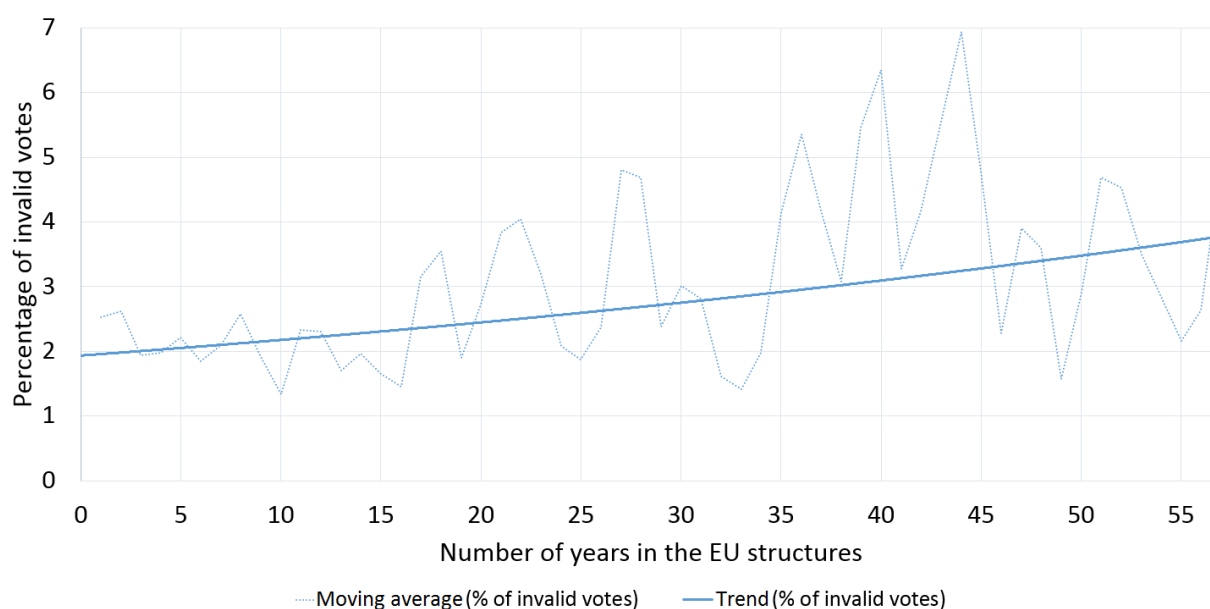


Figure 2.4: Moving average and the trend of the percentage of invalid votes by years of membership in the EU.

Figure 2.4 shows the average of the percentage of invalid votes and its trend over the years of the EU membership. The invalid voting for the first ten years does not exceed the “norm” set by the less literate voters and “must-be” anti-establishment protesters. After that time, though, the function’s oscillations are amplified and the trend increases at a higher rate than during the first ten years. It might be caused by the rise in the awareness among the European voters. During the first ten years of the EU membership citizens of these states become better-

off, infrastructure is improved as well as the standard of living. After the tenth anniversary of the EU membership, however, the economy might experience a curbed development. The more you have, the more you want, a proverb says. Citizens of the EU member states become dissatisfied with the hampered improvement after reaching ten years in the EU structures and, consequently, cast more invalid votes. Nevertheless, I need to highlight the need of examining this paradox in future works.

To assess the accuracy of the model I calculated the predicted value of the percentage of invalid votes and compared it with the observed values. The prediction is based on all statistically significant independent and control variables that exist in the model. Each independent variable is multiplied by the coefficient from the regression; then the sum of these products is summed with the constant. Based on this, the following formula is used to derive the predicted values:

$$\begin{aligned}
 & \text{Predicted}(\% \text{ of invalid votes}) \\
 &= 7.25 + 0.46 \cdot \text{Effective \# of parties} - 0.103 \cdot \text{Literacy rate} - 0.196 \\
 &\quad \cdot \log(\text{Average district magnitude}) - 0.068 \cdot \log(\# \text{ of seats}) + 1.05 \\
 &\quad \cdot \log(\text{Relative representation}) + 1.28 \cdot \text{Compulsory voting} - 0.772 \\
 &\quad \cdot \log(\text{GDP per capita}) - 0.147 \cdot \log(\text{GDP growth}) + 1.57 \cdot \text{Post-communist} \\
 &\quad + 0.295 \cdot \log(\text{Years in the EU} + 1) - 4.71 \cdot \text{Competitiveness}
 \end{aligned}$$

The model predicted nearly correctly (i.e. with 1 percentage point margin error) about 201 (41.4 percent) of the 485 observations in the sample. However, 198 observations in the sample have at least one value missing, which gives 287 observations without any missing values. Therefore, the ratio of the percentage of invalid votes predicted correctly based on the cases without missing values is quite high and equals a bit more than 70 percent. Altogether, the model offers a great convergence of the predicted and observed percentages of invalid votes, given that the index that the model tries to estimate is, intangible in its nature. Not only can we not assign voters'

intentions behind invalid votes, but we also cannot predict the extent to which the invalid votes could occur perfectly. This leaves more intriguing venues for future research opened.

## **2.7 CONCLUSIONS**

Having fewer parties does not push voters to cast invalid votes. Actually, fewer parties makes voting simpler. If they appear at a booth, they want to indicate the direction of changes, not protest. Further insights are offered by the inclusion of literacy rates into this interpretation. Voters are disorientated by the abundant number of parties, and if the choice is not parsimonious enough, they cast invalid votes. Therefore, the high percentages of invalid votes can be triggered by the less literate voters, who face technical problems while dealing with large amounts of information (such as large number of candidates and political programs). This boils down to a single conclusion: voters value clarity both on the ballot and during the campaign. The effective number of parties should be kept low in order to make sure that voters can handle voting techniques and process the amount of candidates accurately.

Apart from the effective number of parties, three variables measured different shades of representation. All of them proved to indicate that representation, once kept clear and parsimonious (low effective number of parties), constitutes a huge value to the voters. All three indices show that citizens want to be properly represented and if there is lack of such representation, they cast spoiled ballots more often. Larger districts experience less invalid votes. The same pertains to larger chambers. Moreover, the more people a representative represents, the higher the invalid vote rates. These observations tell us that simple voting procedures and techniques are not the only factors that matter, but also that more caution should be devoted to the subject of representation. The size of both a chamber and a district should be based upon a country's (or district's) population to deliver fair representation. Voters are sensitive with

regards to representation and utilize their right to vote that might have huge impact on electoral outcomes, as shown in the previous sections. Politicians cannot predict, who is (or will be) “punished” by invalid votes, and hence they should be wary in constructing the electoral system. In short, representation is a value highly desired and assessed at a time of election by voters.

Greater percentages of invalid voting are observed in post-communist states than under compulsory voting. Henceforth, it seems that voters casting invalid ballots do not protest. Rather, they just do not know how to cast a valid vote. The analysis shows the importance of education on voting procedures to the political system. This should be particularly visible on the agenda of parties aspiring to gather votes from less educated communities such as workers, lower income class, or underprivileged. Voters from these milieus are most likely to cast votes for parties leaning towards agrarian, socialist, peasant, or workers, and if they cast an invalid vote, it can actually support the competitor, as shown in table 2.5. Therefore, education among these less literate environments is profoundly essential for some political parties that should undertake any effort to enhance the validity of ballots cast by its less literate electorate.

Some advice for policy-makers could be compiled from the extensive exploration of the invalid votes. First, they should make the selection and construct ballots as simple, as transparent, and as adequate to voter’s sophistication and literacy as possible. Second, systems that are more representative constitute a better venue for fair electoral results. Moreover, even with the simplest voting procedures, the percentage of invalid votes had never reached zero, which should make politicians pondering over focusing on electoral education more than they did before.

This chapter, in accord with the existing literature, offers important implications that should be considered by policy makers, who have impact on electoral laws and party systems. If

many ideologically divergent parties exert a substantial power over the decision making process, the policy input that each party can effectively have is lower and the consensus reaching harder. Consequently, fewer policies are implemented, and cautious citizens notice a lowering responsiveness from the government. Therefore, politicians should focus on the effectiveness of the legislative body and its responsiveness to the needs of the people. This will “feed” body politics with healthy and inclusive elections, leading to improved democratic quality.



## **Chapter 3: Does the Size Matter? Number of Parties and Turnout in Europe**

### **3.1 INTRODUCTION**

“It has been said that democracy is the worst form of government except all the others that have been tried,” said Winston Churchill in front of the British House of Commons in 1947 (Rose, Mishler, and Haerpfer 1998). Very likely, he was optimistic about democracy, since it provides a phenomenal openness and inclusiveness to “demos” – citizens, who are even included in the name of this form of government. Democracy, unlike other forms of government, allows citizens to actively and freely participate in the political processes. Presumably, elections are its most important feature in terms of relevance and accessibility for virtually all adult citizens of a democratic country. Nevertheless, we observe that significant numbers of eligible voters do not exercise this right. This is especially discernible in developed nations where citizens exhibit significant indifference to their possible impact on a country’s political process.

This chapter seeks to address the impact of the variation in the number of parties on voter turnout. Numerous works have elaborated the topic of structural and other types of incentives fostering or lessening turnout. Some scholars focused on such institutional elements as electoral formulas and district magnitudes (Blais and Carty 1990; Blais and Dobrzynska 1998; Bowler, Brockington, and Donovan 2001), while others examined socio-economic stimuli (Delaney, Masters, and Schwochau 1988; Radcliff 1992; Hill and Leighley 1999; Gerber, Green, and Larimer 2008). Up to this day, only a few scholars, only very recently attempted to examine one of the most important political features shaping national politics in terms of efficacy – the amount of political actors adjusted for their relative strength, also known as the effective number of parties (Taagepera, Selb, and Grofman 2014; Tiemann 2015; Grofman and Selb 2011).

Many democracies struggle with low turnouts in parliamentary elections. A common reason given by the people who do not vote is the lack of candidates deserving their support.

Another motive why citizens surrender their voting rights is the possibility that their political option does not have enough strength to be considered as a viable power in running a country's situation, and hence, the option cannot be pondered as an effort-worthy alternative.

At the beginning of the following section, I explain theoretical deliberations devoted to voter turnout by building upon rational choice and alienation theories. Then, I will proceed in the same section to the analysis of the factors that motivate voters to turn out considered by other authors. After expounding on the major hypothesis of this chapter, I describe the methods and research design utilized in the analysis. Results and findings are elaborated afterwards. The chapter closes with conclusions entailed by these findings.

### **3.2 WHAT MOTIVATES VOTERS TO TURN OUT?**

Scholarly contributions derive from complimentary as well as contending theories that focus on different factors influencing voter turnout. The existing literature can be grouped alongside three distinctive perspectives, from socio-economic to institutional and media impacts on voters' voting choices. Rational choice theory predicts that voters turn out during an election if they discern and can rationally explain benefits stemming from this act for them. One of the major drawbacks of the theory is a pre-condition that voters are capable of aggregating and managing the full information about a particular election, candidates, context, etc. Rational choice theory has been challenged by Downs (1957) as not explaining large numbers that do appear in some countries over the voting urn even without being forced to do so, as it is the case with Malta (Hirczy 1995). Nevertheless, the trend of the average change in voter turnout rates, as we analyze annual means, is sharply negative. Obviously, the reasons for abstaining from voting are numerous and multifaceted. These malfunctions of the rational choice theory pushed me to look for another theoretical answer to the question of voter turnout. The theory pointed out by a

large group of scholars is the alienation theory (Citin et al. 1975; Geys 2006a; Miller 1974; Plane and Gershtenson 2004; Zipp 1985). It implies that the absence of proper representation (by proper I mean that the representation is substantive and has a possibility to address and influence voters' policy preferences in a legislative manner) acts as a discouraging element for some citizens who, as a result, do not turn out to vote. Ultimately, if no political party represents some voters' preferred agenda, these voters are completely alienated from the political process.

Following the common proverb, "it cuts both ways," we may think about these two theories as the two ends of the same stick. On the one hand, we have rational choice theory considered on the "positive end" stating that rationally benefiting elections attract more voters, whereas alienation theory stands at the opposite end explaining how the lack of representation influences voting abstention.

The next theory predicting voter turnout holds that voters are more likely to cast a vote in proportional representation systems than in single member district systems for multiple reasons (Ladner and Milner 1999; Shachar and Nalebuff 1999; Geys 2006a; Blais and Carty 1990). Some authors pointed out that voters sympathizing with a party that is more likely to lose the election do not turn out for a very simple reason – nobody enjoys taking part in a game that never benefits them, but the opponents. Under proportional representation, the spectrum of possible losers decreases, because there is always the second place and, many times, next places available. Following the simplest logic, the explanation resembling common sense would argue that many representatives can attract more supporters from his or her possible electorate than just one representative.

Crepaz (1990) claims that the major stimulus among the citizens lies in the range of political expression available to them. Remarkably, Crepaz's work finds polarization on the

national political scene as the main reason explaining why we observe higher turnout in some countries but not in the others. His proposition, most importantly, includes the number of parties (but not effective) as a control factor.

Laakso and Taagepera (1979) developed a measure of the effective number of parties addressing the aforementioned issues. I hypothesize that the relationship between the effective number of parties and turnout is non-monotonic. Turnout can be expressed as a curvilinear function of effective number of parties that initially rises towards the peak, falling slowly afterwards.

### **3.3 HYPOTHESIS**

In this chapter I analyze the model focusing on the correlation between the effective number of parties and voter turnout. I hypothesize that as the effective number of parties increases, turnout initially increases, and after it reaches a certain threshold, it starts to fall down slowly. The threshold is constituted by citizens' capability to comprehend and analyze the complexity of the political scene in a particular country without getting overwhelmed by the "size" or amount of data that needs to be processed by them in order to make an educated decision. As this characteristic varies from person to person, the aggregate level observation constitutes a society's mean in this feature. Nevertheless, political sophistication is not what I find particularly useful in this thesis. Electorate acquires information about the candidates, accordingly with their capacity to process that information. They turn out if the balance between the amount of options presented to them (the size of the political scene in a country) and parsimony exists. Too few and too many options have the same discouraging result. I suppose that there is a balance point for each election and each country that guarantees high values of

turnout. However, in reality, the effective number of parties after each election is not equal to the golden spot and, consequently, it produces lower than the greatest possible turnouts.

Let me now focus on the shape of the hypothetical correlation dividing it into the two stages. First, when voters have more options from which to choose, they are more likely to cast a vote. To put it in the context of an economic market, if a store offers a wide variety of products, customers are encouraged to shop there since they do not have to shop around to get the product they are looking for. Of course, in the ideal market situation, customers shop around anyways, until they get what they want at the lowest price, but with democracy the selection is narrower than in the consumer market. In a way, democracy is like a store opened just several times per decade (every 2, 4 or so years, depending on how often parliamentary elections take place) that proposes its limited products – a few parties from which voters can choose. Yet, if the parties do not satisfy customers' requirements, they would just not "buy" them, especially in the context of very limited availability of the democratic store's goods. Hence, citizens may abstain from voting.

When there are numerous parties, there can be an adverse effect as well. Having a complex political environment in a legislature increases the necessity of bargaining among them, and consequently decrease their potential for the policy input (Taagepera, Selb, and Grofman 2014). Therefore, my hypothesis is convergent with that of Taagepera, Selb, and Grofman (2014). I expect that as the number of visible and hearable actors on the political scene increases, the customers' (voters') propensity to vote also increases up to the point where the complexity of the decision discourages citizens from voting. Visibility of a party is something that stems directly from the concept of the effective number of parties. As a party becomes less effective, which entails that this particular party has only a small percentage of the seats in a chamber, it

exerts less influence over the situation of a country. Voters leaning toward that option are not convinced about the party's effectiveness in representing their needs and abstain from voting. The main goal of a political party is to gain and maintain the power to rule. Small parties do not even have a chance to obtain this goal, which discourages citizens from taking part in elections.

As I mentioned above, this non-monotonous relationship has been tested and confirmed before by Taagepera and his coauthors (2014) on another set of countries. Their model also was less complex and looking at district level instances, as opposed to this thesis that provides the national-level analysis.

### **3.4 RESEARCH DESIGN AND METHODS**

I test the model in this chapter with the same dataset used in chapter 2. Therefore, it focuses on 39 European countries' national-level elections between 1946 and 2014. The compiled dataset contains 485 election-year observations. I also use two models (with and without compulsory systems) to test my hypothesis.

The main dependent variable, voter turnout, is based on the IDEA and DESD datasets. The variable has a continuous form. Voter turnout ranges from 32.37 percent in the 2008 Lithuanian election to 97.16 percent in the 1996 Maltese election.

Since I examine the influence of the effective number of legislative parties on mass political behavior, the main independent variable stays the same as in the previous chapter. It is, therefore, operationalized in exactly the same manner as in the second chapter. I hypothesize that as the effective number of parties increases, the turnout initially increases up to the point, where it starts to fall down. To test for this curvilinearity, a squared term of the effective number of parties appears in the model. I hypothesize that the squared coefficient is negative to provide fit of the inversed u-shape parabola characteristic.

I control for institutional and socio-economic factors. Very crucial with regards to the institutional part of the model is average district magnitude. This variable is measured by the number of seats in a parliament divided by the overall number of districts in single tier systems. In multi-tier systems, the mean is weighted, depending on how many representatives were chosen in each tier. I hypothesize that an increase in average district magnitude triggers higher turnout. This applies especially to multimember district systems, since under such circumstances every vote counts (at least many more votes count compared with single member district systems). Higher values of this index provides greater proportionality. Therefore, a citizenry is mobilized by the will of accomplishing as much influence over the shape of the politics as possible, even if their favorite party does not have the polls' leadership position. The variable is logarithmized.

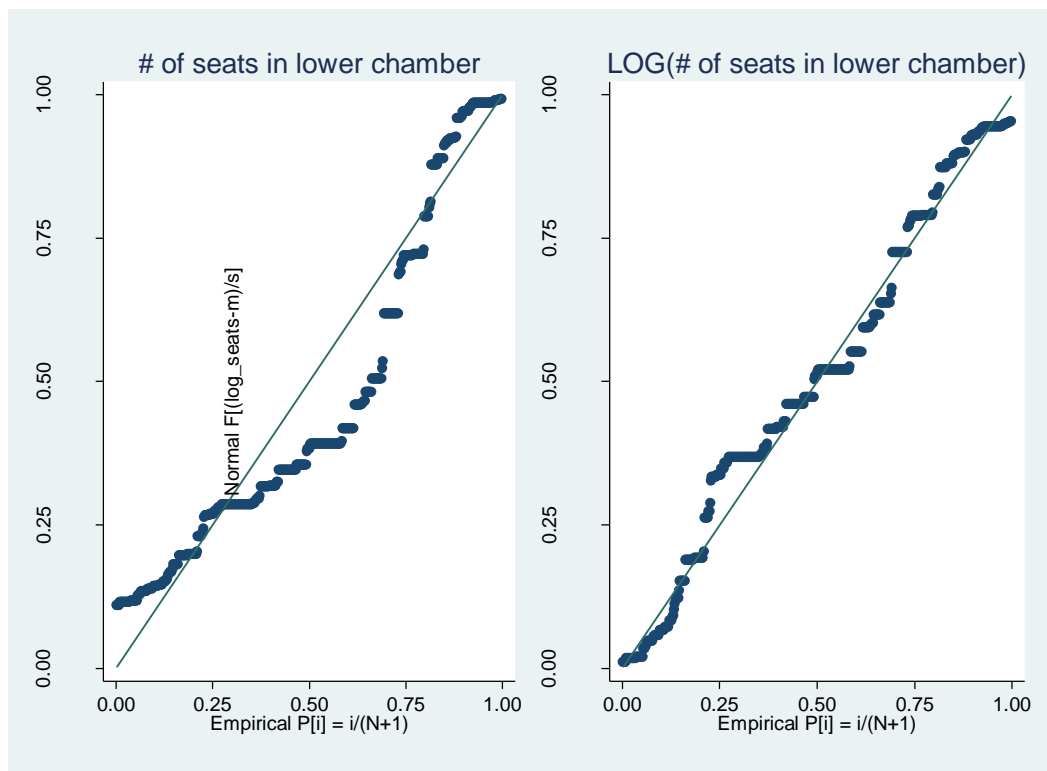


Figure 2.5: Distributional diagnostic for the number of seats in lower chamber and its logarithmized value.

An additional indicator used in this study is the type of democratic regime. The variable undertakes a binary differentiation between parliamentary (coded as 1) and other (semi-presidential and presidential, coded as 0) democracies. The dataset consists of 449 parliamentary systems and 36 systems of other types. I hypothesize that parliamentary regimes tend to produce higher turnout in parliamentary elections than presidential systems, for the institution of parliament is of much higher importance: it appoints the head of government, whereas in presidential democracies the head of government is popularly elected. In such a case, citizens may not feel the need to “monitor” the situation further by attending parliamentary elections, thus feeling that they already satisfied their civic duty by electing a president.

Scholars noticed increased voter participation during electoral races that allow multiple parties to compete against the largest party (Franklin 2004; Vowles 2010; Altman and Perez-Linan 2002; Johnston, Matthews, and Bittner 2007; Blais and Lago 2009; Blais and Rubenson 2013; Blais and Carty 1990). Therefore, I control for the competitiveness measured, just like in the previous chapter, as a percentage of seats held by the second largest party. I hypothesize that voter turnout and the second largest party seat share are positively correlated. Closer races attract more voters to turn out, since if they neglect voting, the party that they support can lose seats to the advantage to their political opponents.

Another factor that influences the extent of the choice available to the voters is the size of a lower chamber measured as the number of deputies. I need to acknowledge that the differences between countries in population and the number of deputies in Europe are enormous. Germany with over 81 million people has 620 representatives in the Bundestag (132,000 people per representative), whereas in San Marino 32,500 people elect 60 National Council’s deputies (535 people per representative). Therefore, I will use both: the number of seats in a lower chamber



(absolute and perceptible representation) and people per representative ratio (relative and real representation) as two separate controls. I theorize that as the number of representatives increases, people's conviction about being well-represented increases and ultimately they feel motivated to cast a vote. For smaller chambers, greater disproportionality effects come into play, distorting popular vote, and discouraging voters from participation.

The ratio of the number of people per representative indicates the relative representation. As highlighted by the numbers evoked alongside the German and San Marino's examples, some assemblies can illusively provide citizens with a belief of being extremely well represented (620 representatives seems to be quite a large chamber). As we take a closer look at the ratio, the Bundestag proves to be the worst in terms of representativeness across the whole Europe. I hypothesize that the ratio will have smaller influence on voter turnout, yet the direction is the same – the lower the ratio (less people per one representative), the greater the turnout.

A very important systemic regulation is an existence (coded as 1) or absence (coded as 0) of compulsory voting in a state. It follows the operationalization from the previous model in chapter 2. Indeed, such a rule increases the turnout since most people are afraid of the consequences stemming from violating the regulation. However, model 4 omits compulsory voting systems, as the requirement to participate greatly inflates turnout rates (Taagepera et al. 2014).

Since I focus on Europe, there is a need to control for three greatly influential and regionally unique factors. I include a variable indicating whether a country experienced a communist rule (1) or not (0). I hypothesize that voter turnout in countries that were communist at some point is lower than in those without such an experience. The logic behind is that elections under communism were marked by lower importance, because the communist party

was constantly and completely successful whatever the popular vote pointed out. Countries without such a burden approach democracy with greater trust in democratic institutions, and their citizens are more likely to participate in elections. However, as the empirical observation shows, the first election after the communist period exhibit one of the largest humps on the turnout curve. Therefore, I also control for the first election after liberalization. The first election in each post-communist country after the communist rule has finished is coded as 1, whereas all the other cases are denoted by 0 (not relevant or not the first election after liberalization occurred).

The third factor is the number of years of the European Union (EU) membership. The EU members are usually well established democracies and their citizens have other options to express their political views. They do not need a large-scale government funded social programs. However, many countries that are either outside of the EU or at recently accessed the EU structures are still seeking their stability and develop germane means of political expression other than elections. Hence, competition is presumably heated in these non-EU countries and turnout rates are higher than in the EU member states. I expect to find a negative correlation between the EU membership and voter turnout. The variable responsible for gauging the EU membership indicates how many years a country participates in the EU structures during an election. Some states have joined the Union very recently, whereas others are there since its formation. The EU membership variable has a logarithmic format to reduce its skewness. Before the logarithmization, I added one to each observation to eliminate shrinking in the number of observations (see footnote 19 on p. 34)

Experience with democratic institutions is also crucial for the proper functioning of these institutions. Hence, the number of years of democracy during a particular election plays an important role in affecting mass political behavior. The predicted correlation is negative. The

older the system is in a country during an election, the lower the turnout. The explanation is convergent with the one pertaining to the social development described in the paragraph below. Since some European countries enjoy democracy for a long period of time and some do not (post-communist states) I apply the logarithmic modification to address the skewness caused by the prevailing democracies that had never collapsed during the examined time span.

As for socio-economic variables, I control for social development, which due to data limitation, can be quantified by a proxy measure – percentage of women in parliament, which, according to the World Bank, is a valid social development indicator.<sup>29</sup> I expect that the greater the percentage of female representatives in a legislative chamber, the lower the turnout. This perceptible trend could indicate that people in more developed societies do not bother themselves with going out and voting on an election day. The process can be perhaps explained by lower interest that people habituate in politics and larger interest in self-development, business, and so forth; consequently, the turnout falls down.

For the same reasons, GDP per capita is predicted to be negatively correlated with voter turnout. The variable varies from 1,775 to 28,500. In this model I do not utilize logarithm of the GDP per capita value, since such a variable fits the model better. Eligible voters in wealthier nations are less government-dependent and more self-sufficient. Therefore, many of them will not want to participate in elections, considering them useless and unnecessary acts. Moreover, in countries that are economically developed, people are usually in constant “rush” to multiply their wealth, or prefer to dedicate their time to their localities. This often results in a lower percentage of voters showing up to elections.

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<sup>29</sup> The World Bank includes the variable “proportion of seats held by women in national parliaments” into the “Social Development” indices group. Source: <http://data.worldbank.org/indicator#topic-15>.

Economic growth, which is another control variable, is claimed to be positively correlated with turnout. I measure economic growth by the logarithm of the percentage of GDP growth. The variable ranges from negative 4.28 (-30.9 percent) to positive 4 (54.2 percent). I hypothesize that as the growth increases, the turnout increases as well. The situation resembles the one discussed under social development; people are better off, but they have to work harder to maintain their status. As a consequence, they do not have enough time to consider the complexities of the political realm, and simply do not turn out to vote. As the economic growth is a function of a privately owned enterprises and governmental efficiency in economic policies, voters associate the responsibility for the economic progress (or regress) to the broader spectrum of the decision-making process – the whole chamber. If the economy is doing poorly, they will not participate in elections; yet if it is doing well, they might want to share their “joy” and join the democratic process by casting votes in an election.

I control for the logarithm of tax revenue expressed as the percentage of GDP, since if people pay more, they are more likely to get involved in what they pay for. I hypothesize that the higher the percentage of tax revenues, the higher the turnout. As citizens pay more taxes, the possibility that they would like to take part in its redistribution increases. To influence the budgeting process voters have to focus on electing the right people into the office. Therefore, elections are the only means to achieve the representation by these knowledgeable agents. Citizens care more, if they are required to pay more, to benefit from what they input to the system.

Since the dependent variable, voter turnout, is continuous, the model is analyzed using Prais-Winsten regression with panel-corrected standard errors, based on the panel data for each country. Appendix 1 presents the detailed sources of data, whereas Appendix 2 provides

correlation test results. The post-estimation tests employed are the heteroscedasticity and multicollinearity tests. Table 3.1 below presents the summary of all the variables used in the analytical model for this chapter.

Table 3.1: Summary statistics for all variables used (for logarithmized variables also the base variables are provided) in the voter turnout model.

<b>Variable</b>	<b># of observations</b>	<b>Mean</b>	<b>Min</b>	<b>Max</b>
Voter turnout (%)	485	76.52	32.37	97.16
Effective # of parties	485	3.8	1.31	10.87
(Effective # of parties) <sup>2</sup>	485	16.41	1.72	118.157
Average district magnitude	485	22.37	1	450
Log(Average district magnitude)	485	2	0	6.11
Parliamentary democracy	485	Median: 1	0	1
# of seats	485	247.85	35	672
Log(# of seats)	485	5.26	3.56	6.51
Relative representation	485	47,911.5	3,771.5	173,756
Log(Relative representation)	485	10.44	8.24	12.07
Compulsory voting	485	Median: 0	0	1
Post-communist	485	Median: 0	0	1
1 <sup>st</sup> election after liberalization	485	Median: 0	0	1
Years in the EU	485	8.12	0	57
Log(Years in the EU + 1)	485	1.09	0	4.06
Social development (% of female representatives in lower house)	471	14.8	0	47.3
Total tax revenue (% of GDP)	353	27.6	9.41	57.8
Log(Total tax revenue)	353	3.25	2.24	4.06
Years of democracy	485	30.65	0	84
Log(Years of democracy + 1)	485	2.95	0	4.44
GDP growth (%)	460	2.75	-30.9	54.2
Log(GDP growth)	388	1.07	-4.28	4
GDP per capita (const. 1990 GK\$)	342	11,130	1,775	28,500
Competitiveness	485	0.27	0	0.49

### 3.5 RESULTS AND FINDINGS

Tests for heteroscedasticity show that the problem exists. Cameron-Trivedi's decomposition yielded  $\chi^2$  of 349 with significance at the 0.0001 level, while the Breusch-Pagan test gave the result of  $\chi^2$  equal to 16.47 with same significance as the previous assessment. The graphical investigation I ran while testing for homoscedasticity of residuals of the model shows

that they are correlated with fitted values of voter turnout, and hence, that the model is burdened with the heteroscedasticity problem. The choice of the Paris-Winsten regression is a result of the estimation's capacity to take care of the serial correlation issues and to correct standard errors in the heteroscedastic panels. Figure 3.1 below presents graphical heteroscedasticity test result.

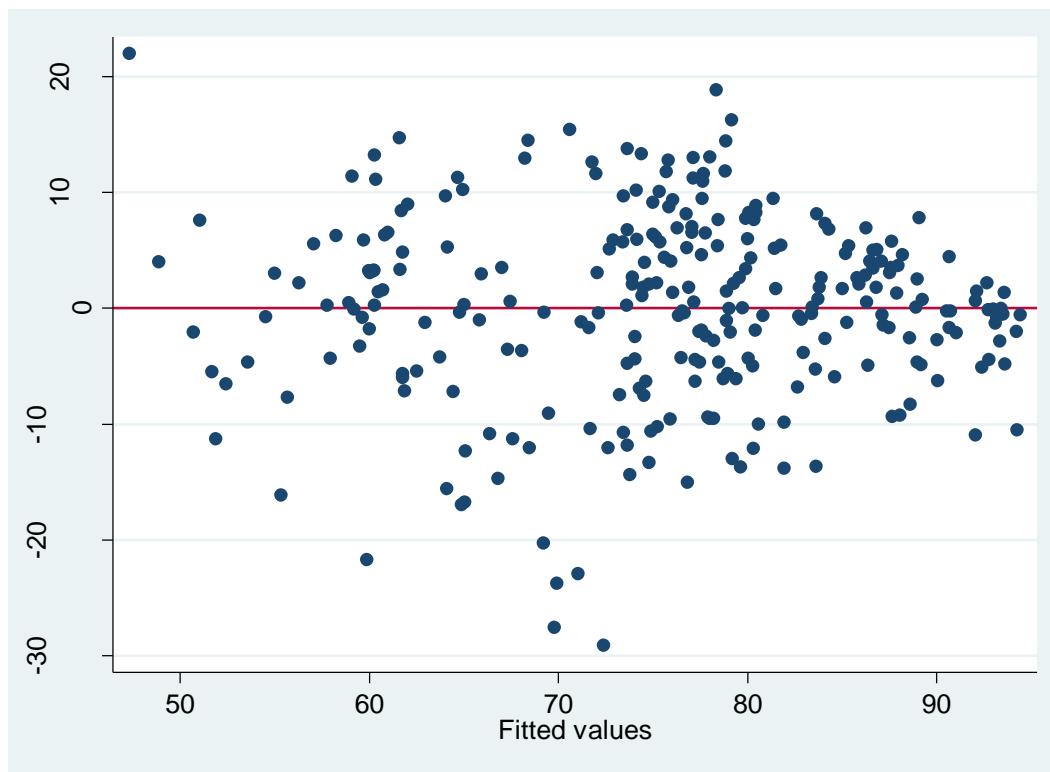


Figure 3.1: Heteroscedasticity test for the model.

I analyzed the problem using two models. Model 3 includes both mandatory and voluntary voting systems, whereas model 4 excludes compulsory voting systems. Let me first analyze and discuss the implications of model 3. The number of observations shrunk from original 485 to 228 while performing regression due to the missing data and logarithmic transformations.<sup>30</sup> According to the R-squared statistic, the model presented herein explains

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<sup>30</sup>  $\log(0)$  is not defined, therefore, after the logarithmization every observation that previously was equal to 0 becomes missing. Performing logarithmization on observations with a GDP growth equal to zero excludes these observations from the analysis. GDP growth is the only affected variable, with 460 observations before, and 388 values after the transformation.

about 92 percent of the variation in the dependent variable. Table 3.2 provides the Paris-Winsten regressions results.

Table 3.2: Paris-Winsten regression results for the voter turnout models including (model 3) and excluding (model 4) compulsory voting systems.

Variable	Model 3	Model 4
Effective # of parties	-6.86 (2.41)**	-5.93 (3.57)
(Effective # of parties) <sup>2</sup>	0.61 (0.24)*	0.45 (0.4)
Log(Average district magnitude)	2.38 (0.65)***	2.22 (0.72)**
Parliamentary system	7.84 (2.93)**	8.19 (2.96)**
Log(# of seats)	1.68 (1.53)	1.8 (1.77)
Log(Relative representation)	-4.77 (1.54)**	-5.39 (1.79)**
Compulsory voting	6.26 (2.38)**	
Post-communist	-17.96 (2.5)***	-18.66 (2.63)***
1 <sup>st</sup> election after liberalization	21.4 (7.61)**	21.15 (7.59)**
Log(Years in the EU + 1)	3.48 (0.71)***	3.22 (0.78)***
Social development (% of women in parliament)	0.26 (0.09)**	0.23 (0.1)*
Log(Tax revenue)	11.97 (2.07)***	10.93 (2.2)***
Log(Years of democracy + 1)	-4.76 (1.29)***	-5.25 (1.38)***
Log(GDP growth)	1.43 (0.76) <sup>tt*</sup>	1.63 (1.04)
GDP per capita	-0.0008 (0.0003)***	-0.0007 (0.0003)**
Competitiveness (ranges from 0 to 0.49)	-28.84 (9.33)**	-27.12 (10.14)**
Constant	107.86 (20.53)***	116.77 (24.97)***

Model 3: # of groups = 33    n = 228     $R^2 = 0.92$      $\chi^2 = 349$      $p > \chi^2 = 0.0001$

Model 4: # of groups = 31    n = 196     $R^2 = 0.91$      $\chi^2 = 234$      $p > \chi^2 = 0.0001$

Note: Model 4 excludes compulsory voting systems.

\* – variable statistically significant at 0.05 level

\*\* – variable statistically significant at 0.01 level

\*\*\* – variable statistically significant at 0.001 level

no symbol – variable not statistically significant

*Het-corrected standard errors in parentheses*

<sup>tt\*</sup> – One-tailed test significance at 0.05 level

Surprisingly, based on both models, the major hypothesis has been found incorrect. Model 3 predicts that the effective number of legislative parties is negatively correlated with voter turnout, but the squared value of the term has a positive coefficient. This suggests that the correlation between the effective number of legislative parties and voter turnout is a u-shaped parabola. Figure 3.2 below illustrates the impact of the effective number of parties (i.e. without

including the changes in the curve caused by other factors analyzed in the model) on the average voter turnout with one standard deviation confidence interval.

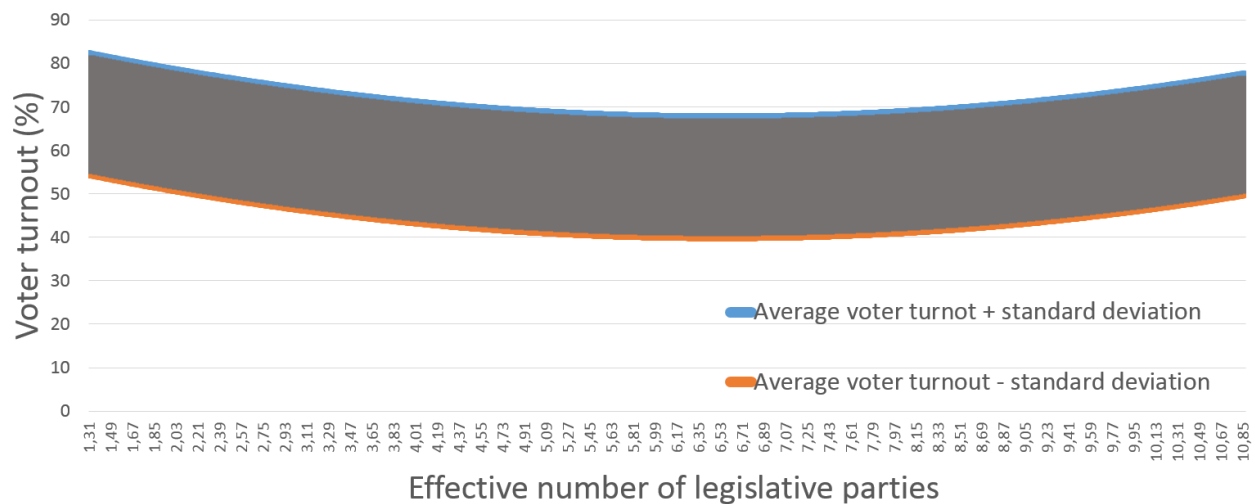


Figure 3.2: Illustration of the curvilinear correlation between the effective number of parties and voter turnout.

The regression curve indicates that as the effective number of legislative parties increases, voter turnout initially decreases, yet after the effective measure reaches 6.55 (parabola's vertex) parties, it starts to increase. Such an unexpected relationship triggers doubts about the validity of the model. These doubts are for the most part related to the role that outliers in the model could play. Figure 3.3 below presents a plot of the leverage against the normalized residual squared, where outliers are exposed more than in the regular scatterplot.



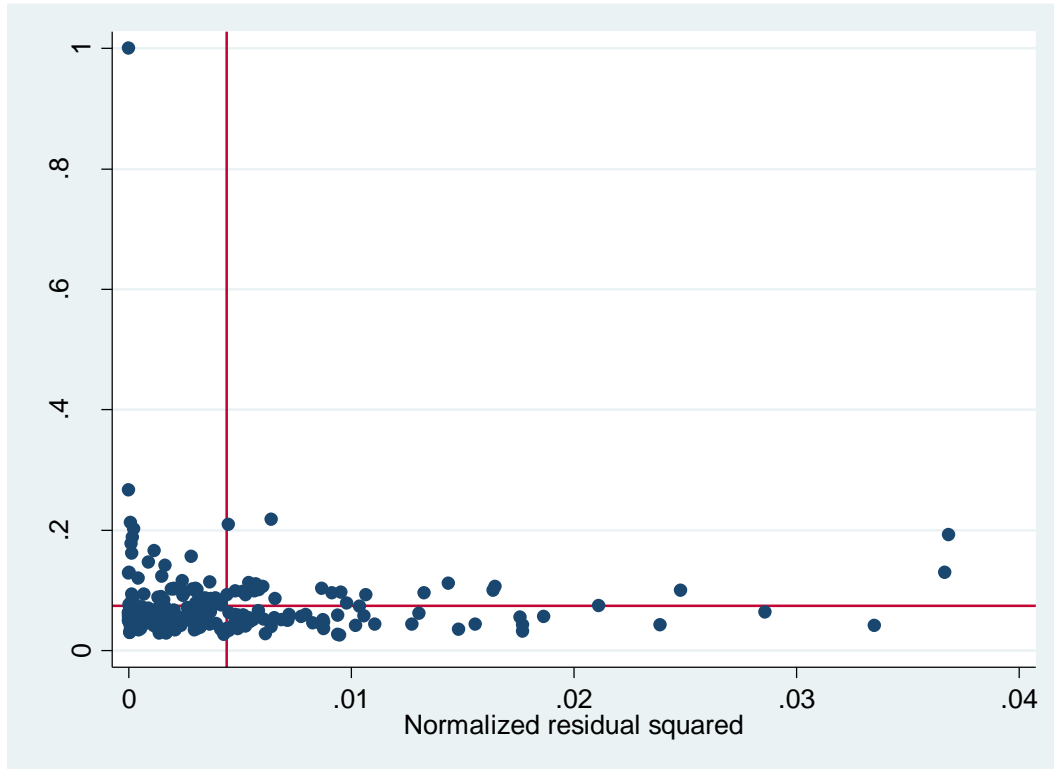


Figure 3.3: Leverage against residual squared plot testing the existence of outliers in the sample.

The outliers shall appear at the top of the figure. The observation that is considered an outlier in the sample is the 1994 Moldovan election. After removing it from the model, the regression results remain identical with the results of the model with this outlier included.

However, analyzing model 3, I find the u-shaped correlation between the effective number of parties and voter turnouts. A brief explanation of the shape of this counterintuitive function is explained into. First of all, a large menu of parties on the balloting paper is not necessarily a value in every case, but it is surely not an advantage in terms of clarity, which, reasoning from the findings of the previous chapter, has a particular value to the citizens. Such a situation is often confusing for ordinary people who value transparency the most. Voters do not discern many positive effects of a severely fractured parliament, for great effective number of

parties indicates that it is highly divided and often inoperative, not to mention the lack of a parliamentary responsiveness. Each fraction has its own idea about the future of a country. Henceforth, “Mr. Average” does not see any difference, whether party A, B, or any other is in power. As a result, voters can feel extremely discouraged to turn out.

In general, voters have stable opinions about political parties in well-established party systems, and therefore are permanently divided alongside partisan cleavages. Moreover, they base their reasoning and preferences on cues and heuristics that are handy in “maneuvering” through complex political realm (Pomper 1972; Page and Brody 1972; Lupia 1994; Lau and Redlawsk 2001; Kuklinski, Quirk, Jerit, Schweider, and Rich 2000; Taber and Lodge 2006). The situation where many parties enter the parliament does not motivate electorate (as presented by the two examples above and the whole model), but rather questions the sense of balloting.

Following trivial thoughts of a voter who considers attendance in an election can be presented in this way: a voter hesitates between four options that reflect his or her preferences quite well. He or she usually has only a single vote to cast, so there is a need to pick the one candidate. The voter hesitates about which party resembles his or her preferences the best. Ultimately, a voter that initially exhibited the will to cast a vote is now overwhelmingly confused and he or she decides to go fishing or bowling instead. That is, a voter chooses the activity that does not necessitate so definitive choices. Turnout is higher when voters have less and very distinctive parties to choose from, because of much greater clarity delivered by the selection to the possible electorate. In such a scenario it is much easier for a voter to discern which party reflects his or her political identity closer. Therefore, voters are no longer conflicted about the choice between parties that are similarly close to their own opinions. In this case, the clarity reaches its highest point, allowing a much easier decision-making process to select between

parties A and B. Such a dichotomous selection bears an effective hallmark, especially if the electorate assigns a higher value to clarity than to multiple possibilities – it encourages also less politically involved to take part in their “civic duty”.

Yet, the second part of the curve comes to the fore. Voters value not only clarity but also fair representation. The increasing voter turnout in the latter part of the function is likely to be the result of a representation notion. After the clarity of the party choice and the electoral campaign is already lost (systems with over six effective parties are usually fairly complex), voters focus on bringing more options representing a wider spectrum of policy preferences into the political scene. This focus is discernible at this point in increased participation. If fewer parties are provided to the citizens and a selection is still not clear, less voters should appear at the polls.

Model 4 that excludes compulsory voting systems reveals even more intriguing finding. Effective number of parties does not affect voter turnouts at all. The coefficients for the effective number of parties and its squared term have the same signs as in model 3, but they are not statistically significant. What are the possible causes of this insignificant results? One might that the lower number of observations in model 4 drove the significance down. However, the other variables included in the model affect voter turnouts, lowering the plausibility of such a reason. Another possible explanation is that the assumption of the infinite variation in the variables of the regression method employed has Perhaps other methods, for example the censored regression model would change the results, yet I leave this opened for future research.

Why, then, the correlation was significant in model 3 that includes both mandatory and voluntary systems? Perhaps, the high turnout rates in countries with compulsory voting drove the significance up. As will be explained in detail shortly, the representation-related variables are all

significant. Therefore, I found that an increased political representation is the factor that attracts more voters to turn out, and that the effective number of parties do not have any effect on voter turnouts across Europe. However, this intriguing finding merit more research.

Two interesting examples, confirming the findings from model 4, come from Polish politics. The first entirely free parliamentary election took place in 1991. For the first time Poles felt that they had the opportunity to choose their own, very real representative. There was no electoral threshold at that time. Voters went ahead and as many as 29 parties entered the 460-seats parliament. This massive explosion of parties in polish Sejm (lower house of the Polish parliament) resulted in the highest effective number of political parties, equal to nearly 11. 18 parties gained 5 or less seats. Women's Union gained 0.01 percent of votes and received 1 seat. Very successful at that time was a party with an intriguing name – Polish Beer-lovers' Party, which gained 16 seats.<sup>31</sup> A lot of parties got their mandates, but only with the legitimacy from 43.2 percent of eligible who turned out. Even though the effective number of parties is the highest in the entire dataset, the turnout was very low. The parliament has been dissolved due to the inability to operate in 1993, and during the following election 52.1 percent of the eligible voted. Destruction of the country's political scene and the lack of potential to achieve desired policy outputs encouraged more voters to turn out during the next election, where less parties entered the parliament.

On the other extreme, we observe the 1996 Maltese election, when as much as 97.2 percent of the eligible cast their votes. From the observed time span, the effective number of parties averaged about 2 and varies between 1.96 and 3.96 (Malta is a real two-party system for the most part, with only two party existing in its lower chamber). This case is an exception from

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<sup>31</sup> Similarly named parties were quite popular at the beginning of the 1990s' across the whole Europe. This kind of satirical or joke-parties were usually founded by satirists.

Duverger's Law prediction, since Maltese elections are held under a proportional representation system. Therefore, model 4 seems to be more accurate in assessing the correlation between the effective number of parties and voter turnouts on national-level in Europe.

The rest of the variables are similarly significant and correlated with voter turnout rates in both models. I will therefore analyze the control variables based on model 3. The number of seats and GDP growth turned out to be statistically insignificant. This might be due to the lack of normality of distribution. Furthermore, the number of seats variable is not continuous, which disrupts the significance even farther (consult figure 2.5 on p. 58 for the distributional diagnostic).

As the number of seats was proven to be not statistically significant, the second representation-related variable, relative representation, largely influences voter turnout. An increase of one in the logarithm of the relative representation measure shrinks voter turnout by about 4.77 percentage points. This means that countries that have lower people per representative ratios experience about 18 percentage points advantage in turnout over these that have the highest ratio. These findings, in conjunction with the set of discoveries from the previous chapter, definitely changes the perception of the average European voter, who does not appear as uneducated in political representation indices, and seems much more aware than I assumed at the beginning. The amount of representatives in a lower chamber, however important, is of minuscule importance, when it comes to the policy making and political efficacy. Citizens' voices, that are many times not harmonized and require different politicians taking care of the multiplicity of interests, are better represented if these politicians do not have to compromise their attention span and can immediately represent their constituencies or, more broadly, like-minded electorate. Even though, the ratio is just an offshoot from the number of seats in a

chamber (and population), it is of much greater significance to the voters, and hence appear statistically significant and technically influential in the models. European voters understand what relative representation entails and decide to turn out in elections that result in a responsive and comprehensive governments as well as oppositions.

Staying with the concept of democratic representation and electoral processes in which power is delegated from the people to the representatives, I now turn my attention to average district magnitude's impact on mass political behavior. This variable measures, with several exceptions, the capacity of a system to provide proportionality<sup>32</sup> to electoral districts and constituencies; more so, to the people that reside these regions. A unit increase in the logarithm of average district magnitude entails about a 2.38 percentage points increase in voter turnout on average, if we keep all other factors constant. The finding is convergent with previous works (Blais & Carty, 1990; Blais & Dobrzynska, 1998; Bowler et al., 2001) that examined the issue from the perspective of the proportionality of the electoral system (as opposed to the operationalization approached herein that measures the capacity to provide proportionality). However, they find that the impact of this institutional condition on voter turnout is lower. As hypothesized, under the pure first-past-the-post systems that produce the average magnitude equal to one, voters that do not converge with the propositions of the leader feel deprived of representation, which discourages them from turning out. On the contrary, more candidates being elected from a district brings more voters to the pools.

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<sup>32</sup> However, the Japanese parliamentary elections used to use Single Non-Transferable Vote (which is held in multi-member districts) and exhibit disproportionality between 5 and 6 percent, which is around 1 to 2 percentage points higher than the average proportional representation system (Grofman 1999, pp. 292-293). SNTV despite its multi-member districts characteristic, is not proportional. Higher district magnitudes does not necessarily provide an increased proportionality, although it is usually the case in proportional systems.

The logarithm of GDP growth is not significant in one-tailed test only. A unit increase in logarithm of GDP growth increases voter turnout by about 1.43 percentage points. Therefore, the one-tailed confirms the hypothesis stated in the previous section.

A thousand dollars increase of the GDP per capita results in about 0.8 percentage points decrease in voter turnout during parliamentary elections. This finding is consistent with the hypothesis. The population in economically developed countries does not need politicians and “red tapes” often associated with their activities to an extent that citizens of underdeveloped countries do. Wealthier societies are more individualistic in nature and undertake actions that are more tangibly related to their personal well-being. Elections are only indirectly related to that issue, and therefore some people consider electoral participation as redundant.

Following the same logic, each economy needs a source of income. For each as well, big chunk of its revenues comes from taxation. I hypothesized that as voters take part in satisfying a country’s financial requirements more, they are also more prone to participate, at least indirectly (by choosing representatives to manage the resources), in its redistribution. Indeed, as a logarithm of a country’s tax income increases by a unit, turnout rises by around 12 percentage points. Such an increase is remarkable, because hypothetically, if a country collects an equivalent of 100 percent of its GDP from taxes, the turnout would increase some 55 percent *ceteris paribus*, compared to a country that does not collect taxes. The impact is very discernible regardless of the plausibility of such an example, especially, while we look at the kernel density of the total tax revenue variable. Figure 3.4 presents the distribution of the observations in total tax revenue as a percent of GDP and its logarithmized value. The latter was used in both models.

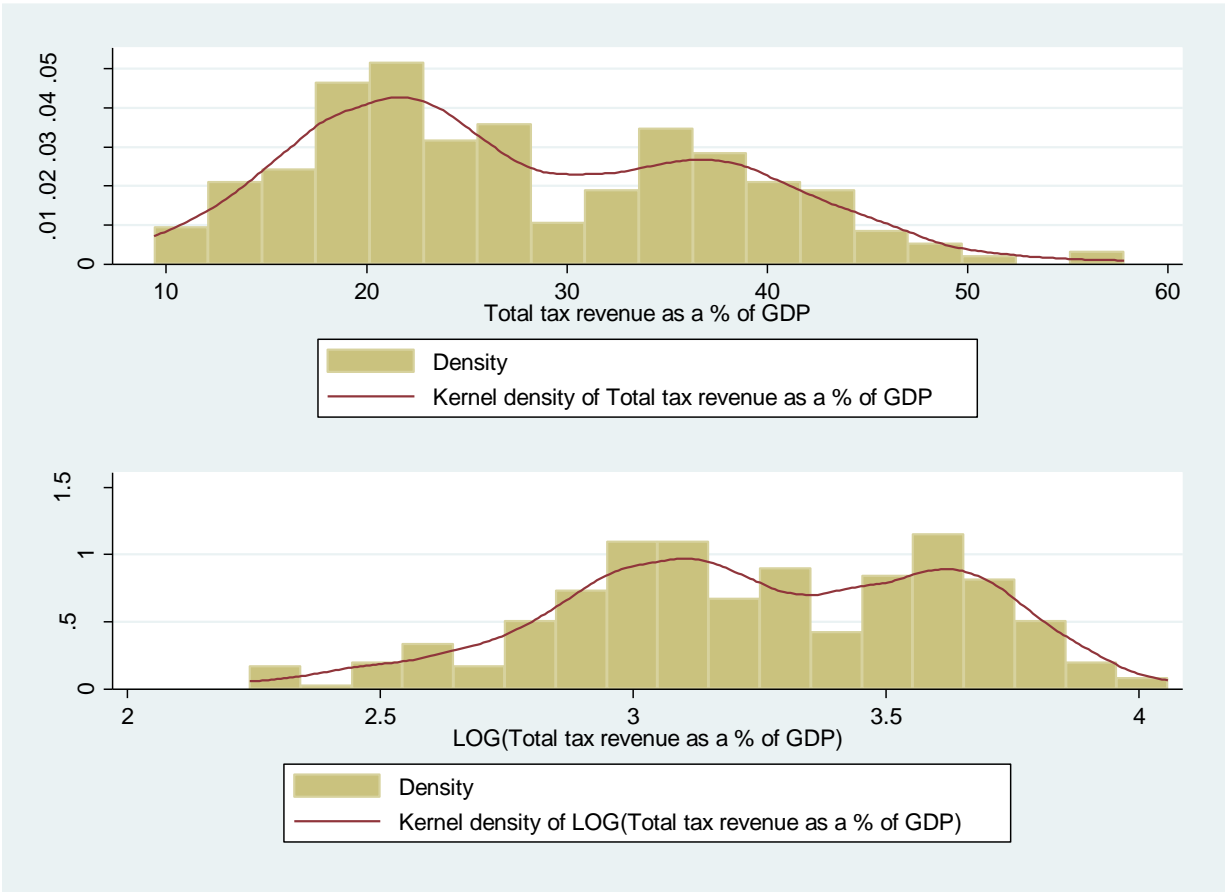


Figure 3.4: Kernel density of total tax revenue as a percent of GDP (at the top) and its logarithmic transformation (at the bottom).

Total tax revenue variable has a mean of about 27.6 percent, while ranging between 9.4 and 57.8 percent. According to the dataset, Albania, which in 1996 collected 9.4 percent of its GDP from taxes should have the turnout about 21 percentage points lower than Cyprus in 1991, when the total tax revenue was 57.8 percent of its GDP. Yet in reality, these two countries were only about 4 percentage points apart with 89 and 93 percent respectively.

Not surprisingly, parliamentary democracies are more prone to produce higher turnout rates than other (presidential or semi-presidential) democracies. As hypothesized, parliamentary democracies experience about 7.8 percentage points higher turnout rates than other types of democracies.



Compulsory voting exists or existed at some point during the examined time period in Austria, Belgium, Cyprus, Greece, Italy, Luxembourg, and Netherlands. It contributes to the most obvious increase in voter turnout. These nations note an increase of 6.26 percentage points in turnout compared to those where voting is not obligatory. The reasons are perhaps legal and psychological for the most part. Voters are afraid of possible sanctions related to not turning out, and hence, follow the rule of law. Of course, Malta's example is an outlier in the data, but most of the times, the turnout is much smaller if participation is not mandatory. Having in mind sheer mathematic means, in countries with compulsory voting it equals 89.22 percent, while in those without such an obligation, the average rate of voter turnout equals 73.96 percent.

One of the most surprising findings in this chapter is related to the competitiveness measure. Each percentage point increase in the seat share of the second largest party decreases voter turnout by about 0.29 percentage points. Therefore, in races when the second largest party receives half of the seats in a legislature (49 percent of the seats is the maximum in the dataset) about 14 percentage points less voters turn out to vote. Such a discrepancy with the previous works can be explained by the first time use of the competitiveness operationalized as the second largest party seat share in an academic work. However, as shown in the Appendix 3, even the competitiveness index that is most commonly found in the literature, the gap between first and second largest seat shares, produces the same, counter-logical results.

What does it tell us about the eligible voting age population in Europe? Europeans take many things for granted, including the results of elections. Both the gap measure and the second largest party seat share provide a credibility of such an explanation. As the gap between the first and the second largest party decreases, competitiveness is claimed to increase. An increase in the second largest party seat share also produces greater competitiveness index. The overlooked

in the previous studies notion is that parties winning a lot of seats had been, with a high likelihood, the leaders of pre-electoral opinion polls. Electorates of parties that are more likely to succeed based on these polls, take the good result for granted and therefore abstain from voting.

Looking at the second largest party seat share variable, one might discern that the more seats that it finally wins, the greater the plausibility of such an outcome to occur beforehand. Therefore, prospective voters that favor that second largest party are not incentivized to take part in an election, since it is “obvious” that this party will get a satisfactory number of seats and it is not necessary to support it (“other voters’ votes will make it”). However, I would hypothesize that there is a certain threshold after which increased competitiveness enhances participation, causing curvilinearity of the correlation between competitiveness and voter turnout. Yet this hypothesis is beyond the scope of this thesis, meriting farther research on this topic.

The regression result tells us that, as predicted, older democracies struggle with lower turnout. For a one unit increase in the logarithm of the years of democracy, the turnout falls 4.8 percentage points on average. There is a proverb stating that forbidden fruit is the sweetest. This is probably the most accurate explanation, apart from the whole discussion provided in the research design section. Voters are usually tired of politics, and after being exposed to the ability to vote for a long time, it is no longer an attractive activity.

In relation to Europe, as one could infer, the longevity of a democratic regime in a country is somehow correlated with the EU membership. These variables are often thought of as parallel concepts, with the EU membership being a consequence and a proof for the success of democratic rule in a country. However, this is not the case. Unexpectedly, countries that are longer in the EU structures exhibit, contrary to the common wisdom, higher voter turnout rates. This contradicts the predicted convergence of the two hypotheses measuring the persistence of a

democratic success in a country. An increase of 1 in the logarithm from the years of membership results in about 3.48 percentage points increase in voter turnout. This means that countries that are in the EU from the very beginning (since 1957) experience about 14 percentage points higher voter turnout than states that are not part of the EU.

Europeans are known for their vivid participation in NGOs and strong sense of civil society. Considering jointly years of membership in the EU and economic growth, reveals that the European Union, which pushes toward even stronger mobilization, positively influences Europeans by encouraging them to take part not only in local-scope activities, but also in larger, nation-wide events. Therefore, the most compelling argument for higher turnouts in more developed (older) EU countries is a stronger spirit of civil society that unfolds on a greater, national scale. I would definitely link these two: economic growth and the years spent as the EU member. The EU offers many different programs that foster the economies of its members. The unified budget is often the only way to develop especially for the newer members. However, all the members benefit from these investments made in different parts of the Union, as the trade with these neighbor countries brings more capital and goods to the participants of the exchange. Countries that entered the EU recently are still developing nations. There is a huge potential, which, if utilized properly, fosters a country's chances of obtaining a satisfying level of development and enhancing its economic capacity as well as its interactions with other fellow members. The longer a country is in the EU, the more money it received from the unified budget and, therefore the more successful it is in terms of its economic improvement.

The correlation between social development and voter turnout had been hypothesized incorrectly. However, after a scrutiny of an impact of the EU membership on active electoral participation in the paragraph above, the purported paradox becomes less paradoxical. Being a

part of the EU not only denotes an economic success of a member country, but it also awards the achievements in the realm of social development. Therefore, it is more probable for a socially developed state to be part of the EU. As the years of the EU membership variable has shown, the longer a country is a part of this institution, the higher the voter turnout. Social development variable is not different and European countries that are at a higher level of social development display more vivid electoral participation. A one percentage point increase in the presence of female in the lower chamber causes a 0.26 percentage point boost in voter turnout.

Communism was destructive to political institutions across the world. Nevertheless, a majority of the former communist countries developed and became members of multiple international organizations. This can serve as the measure of success achieved by them. A large portion of countries considered in the dataset were at some point communist (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia, and Ukraine). Nearly all of them constitute now the part of the European Union – the alliance that is widely perceived as one of the most successful international organization in the modern history, but entering “Western civilization” is related to negative nuances stemming from development. Regression results revealed that in post-communist countries, turnout in parliamentary elections is about 18 percentage points lower than in those which did not suffer the burden of communist form of government in the past. This is a great number indeed, and hence I will take a closer look at the causes of such a discrepancy caused by the historical regime.

Building upon the simplest possible comparison of the two types of countries (post-communist and non-post-communist) without compulsory voting, the average voter turnout rate in post-communist states equals about 65 percent, while in non-post-communist countries it

reaches a value about 14 percentage points higher (79 percent). Figure 3.5 illustrates the fluctuation of this statistic over time. The time span covered in that figure encompasses only the time since 1990, as most European countries were liberated from communist rule by then. Very few countries from behind the iron curtain became democratic and held elections, before that time.

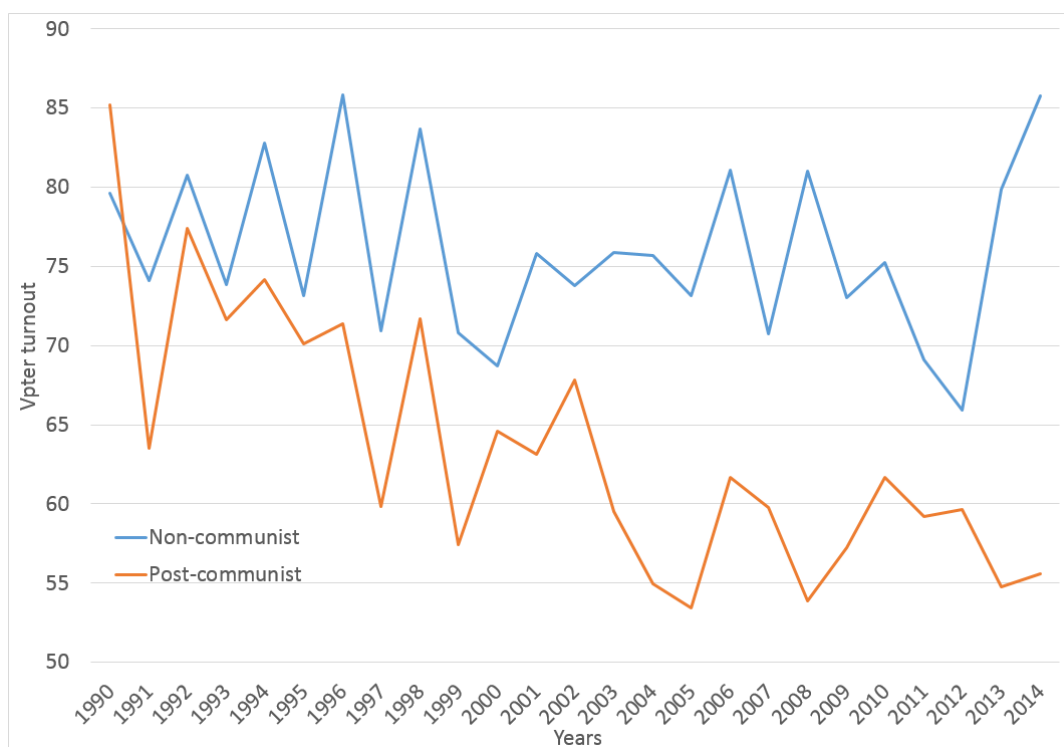


Figure 3.5: Arithmetic means of voter turnout in post-communist and non-post-communist states among voluntary participation countries from 1990 to 2014.

As shown in the figure above, long-term democracies and post-communist countries are both characterized by massive variations in citizens' electoral participation. Yet, if we compare the general trends, the states with communist burden on their institutional reliability exhibit a shift downward, whereas non-post-communist states seem to fluctuate, but with no perceptible direction. Considering the post-communist situation, initially, the wave of democracy was very appealing to the voters and the average turnout rate in these countries was as high as 85 percent.

However, a rapid decrease occurred thereafter. After mid-1990s, there is a constant and increasing gap between the post-communist and non-post-communist countries. As far as an arithmetic mean of turnout is concerned, there is also a discernible stabilization among post-communist states about 50 percent after 2004, when vast majority of them entered the European Union. Does it mean that this 56-58 percent between which we can observe the average of this sinusoidal oscillation, is what we can expect to see in the future among these nations? Is it their optimum, as 75 percent is in well-established democracies? We will probably see this in the future, but having in mind that the citizens in the post-communist states do not trust political institutions more than long-lasting democracies' citizenry, we can discern the sign that democracies with an experience of socialism are condemned to lower turnout rates, at least in the nearest future.

The initial spikes followed by the nearly constant downward trend on post-communist states' curve can be considered itself as the evidence of my hypothesis pertaining to the first election after liberalization. In most cases the high values of turnout in the first election after liberalization had never been repeated. The first free (or partially free) elections had the biggest impact from all the variables investigated herein. During the first election after the collapse of the communist regime, a country was likely to experience 21.4 percentage points higher voter turnout than in any election to follow (yet this also pertains to elections in countries that have never been communist).

### **3.6 CONCLUSIONS**

The study focuses on a single region – Europe. Since the 1990s, when Blais and Carty provided the evidence for the higher turnout rates under PR systems, a few other studies examined voter turnouts in both, SMD and PR systems in a single model. Taagepera et al. (2014)

state that “because we are most interested in studying the effects on turnout of increasing numbers of parties, we focus on multi-party PR systems” (p. 399). Nonetheless, I claim that excluding these SMDs and therefore two-party systems distort the observations so that they do not apply to all the systems, but only to multiparty systems with PR system. Whereas both logics are defensible, the reasoning applied in this chapter is more appropriate, since it does not exclude electoral formulas that are prone to produce two-party systems (according to the Duverger’s Law). Therefore, I did not start the analysis from *de facto* three-party systems upwards. It is important to note and account for the differences in outcomes produced by SMDs and PRs, yet we should not exclude either.

This chapter concentrated on the role that the quantity and quality of such a representation have on voter’s mobilization to cast the ballot. Scholars have been debating about numerous aspects including socio-economic and institutional configurations, as well as media and campaigning. Regression analysis revealed that the logic adopted in the main hypothesis of this chapter was wrong. My expectation to find the curvilinear correlation between the two factors under examination on national-level did find an evidence. However, the parabola opens its arms upwards, instead of the expected reversed u-shape function.

As pointed out in chapter 2, European voters value specific characteristics of an election. First, they value clarity of a selection and electoral competition. Difficult electoral choices discourage voters from taking part in the voting process. Second, in an act of voting, voters from the old continent seek representation. If it cannot be provided by the parliamentary setting, they do not turn out. These two factors are identified in this chapter as the most influential in terms of shaping the turnout expressed as the function of the effective number of parties.

A major takeaway lesson from this chapter is that providing the public with a large selection in parliamentary elections reduces turnout, whereas high numbers of parties reduce representation. This leads to an increase in voter turnouts. Until a certain threshold (which is most likely country specific), turnout is falling down, whereas from that threshold onward, the people who participate seek an enhancement in representation.

More importantly, the findings constitute a relevant base for the practitioners of politics, who via this chapter's guidance can discern a more valuable qualitative aspect of participation. People get very confused when it comes to voting – the act with which they are not supremely familiarized. Many of them do not understand political realm enough to participate vigorously in the democratic process. Nowadays many analysts and pundits herald the weakness of democracy, enumerating low voter turnouts as one of its failures. However, my model contradicts to some extent their criticisms. Admittedly, we observe a decline in participation, yet voters mobilize to turn out when the electoral situation endangers their right to be accurately and equally represented by the deputies. Straightforwardness and provision of representation to the voters encourage them to participate in complicated events such as elections.

Having discussed all these phenomena, I can identify fruitful venues for future research. One of them would be related to institutional setting, where we could compare other activities that are perceived as socially-driven, such as participation in NGOs or other nonpolitical organizations, to strictly political actions undertaken by the people. With regard to the latter possibility, we observe an ostensible contradiction in the United States, where local elections are characterized by extremely low turnouts, yet every American participates in a few NGOs on average (Mettler and Soss, 2004). What is the key to understanding this phenomenon in Europe? Why do people who care about their own community via NGOs neglect the possibility to



influence local politics? Is individualism pushing people to take an active approach (“make it yourself and do not wait until somebody else does it for you”) rather than an indirect one (through representatives) in exerting an influence on their localities, but not the nation (I would argue that on national-level there is perhaps the opposite preference regarding the attitude – passive rather than active)? These questions are still unanswered, puzzling scholars, policymakers, and other observers.

Recalling the example from the previous section concerning the choice that a voter has between voting and fishing or bowling, one may focus the analysis on the change in electoral system, giving the voters multiple votes (as they seek representation). The change should be looking for providing greater inclusiveness and making the electoral selection easy. There are many options to assure that voters’ preferences are utilized in a logical fashion (not wasted). For example instant runoff methods, among others, that does not increase the cost of elections, but ensures that each vote counts. Yet, this solution has another drawback, demanding more on the intellectual side from citizens eligible and willing to vote.

This chapter contributed to the discussion on democratic participation by examining its correlation with the effective number of parties. The results showed that many voters feel overwhelmed by an abundant selection, and hence decide to abstain. On the other side, they decide to take the matter into their own hands, if they discern a provision of representation of their policy preferences among the options running in an election. It may be alarming to the part of scholars analyzing political sophistication or knowledge that too much information confuses the electorate. Nevertheless, the finding that representation is well-understood concept and that voters do not follow deceptive indices in recognizing the extent of representation given to them by the institution of parliament is somehow appeasing. There is no panacea on low voter

turnouts. Yet, does it really endanger democracy? Yet so far, what Winston Churchill noticed in a colorful manner nearly 70 years ago is, perhaps, still true.

## **Chapter 4: Conclusions**

### **4.1 PRISTINE ELECTIONS AND DEMOCRATIC SUCCESS**

This thesis sought answers to the fundamental questions relating to the quality and quantity of electoral participation and how institutions such as political parties affect them. Both these features are commonly associated with the condition of a democratic regime in a country. I find that effective number of parties affects invalid voting, but also that its correlation with voter turnout rates is inconclusive.

In the first two models, which investigated the correlation between the effective number of parties and the percentage of invalid votes, a very crucial qualitative aspect of participation was scrutinized. It demonstrated how important it is to provide a clear and simple selection of parties, and to grant a responsive and representative legislature to the constituents. Truly, this undermines the belief, with which I approached the European voters' electoral "talents," in their capacity to handle electoral procedures and their irreproachable voting intentions. It shows how largely interconnected these two ends of a democratic system – the people who stand for election, and people who vote for them – are. Both these electoral subjects are fused by a democratic deal in which each of them seeks its own benefits. Increasing legislative influence and power by expanding the number of deputies belonging to the same party in a chamber (which decreases the effective number of parties) is more beneficial from a perspective of political parties. On one hand, parties converge with voters at this point, since the latter eulogize the simplicity on the party scene. On the other hand, however, voters find another, even more important and highly valued, matter that sets them apart from political parties. An increased representativeness of a lower chamber decreases rates of invalid ballots. Lower rates of protest votes might be a result of a greater compliance of a political agenda with the interest of the people that brought a particular candidate into office. The closer a representative is to the people

and the smaller a ratio of the people per representative, the more likely voters are to cast valid votes.

Some regimes are manipulating electoral outcomes by considering a portion of votes cast for their political opponents as invalid. Therefore, invalid votes are sometimes “made,” not cast. However, it is very difficult to comprehensively control for electoral manipulation given the research design used in this thesis. An exclusion of non-democratic regimes from considerations is hoped to minimize the bias caused by manipulation.

Another finding is that citizens do not want to waste their time. This is displayed by two control indicators scrutinized in this thesis. One of them insightfully contradicts the existing conventional argument. According to my findings, a large second largest party discourages voters from participating. This participatory free riding<sup>33</sup> problem is hard to address from institutional point of view, yet proper education and electoral socialization can bring about the desired result.<sup>34</sup> This statement, however, needs to be tested comprehensively through the experimental research.

The second index is representation. If voters do not perceive the electoral process and the government to be beneficial for them (i.e. representing their interests), they will not bother with turning out. If they do turn out, however, they do not waste time by casting an invalid ballot, unless they are uneducated. Once at a booth, voters want to exert influence over the course that their country will undertake after an election. It is also necessary to acknowledge a certain

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<sup>33</sup> Participatory free riding refers to a situation in which some supporters of parties that are very likely to win an election do not turn out, as they assume that their candidate is going to win anyway. They also assume that other people that support this party will participate, and the free riders will enjoy the same benefits as those who turned out, yet at no cost.

<sup>34</sup> Competitiveness in two-party and SMD systems has probably the same impact. Yet, it discourages from participation not because of the confidence in a good result of a party they support that will be scored anyways, but rather because of the lack of hope in winning an election by their candidate. In relation to the U.S. politics, voters who identify with, say, Democratic Party but happen to live in a Republican district, will not feel much galvanized to “throw out” their vote and waste time by casting a vote for a candidate that will not win a seat. This logic is sometimes deceptive. When the opposition mobilizes and turns up, the electoral outcomes can be easily altered.

institutional design of the electoral processes that welcomes electoral outcomes that are more beneficial from the perspective of citizens. Districts that distribute more mandates invite less invalid votes. The same conclusion pertains to the size of chambers. Larger legislatures are commonly viewed as more attractive. It is worthy of every effort to minimize unintentional self-exclusion from affecting the democratic system in a country and to curtail inadvertent *de facto* provision of support to political opponents of voters' preferred parties (which happens when individuals cast invalid votes). With regards to invalid votes, the most important component is education, which enables these unaware and unschooled individuals to complete a ballot successfully and make it count, and consequently, influence the direction of a country's politics. The success of proliferation of democratic values does not lie in militant powers imposing democracies over populations that had never experienced this system before. What makes this form of government bold and appealing to vast masses is rather related to a delivery of an inclusion and responsiveness to the people. Demos and its participation should be put at the pedestal while pursuing democratic ideals.

In the second chapter, I examined the links between the effective number of parties and voter turnout, to incorporate a more direct notion of quantity of democratic participation into my thesis. Contrary to expectations, in one of the models I found that curvilinear function is a parabola opened upward. Such a shape enhances the findings from the first model, that voters need, *inter alia*, a clear-cut situation that moreover grants them a great deal of representation to successfully participate in elections. In the other model I found no correlation between these factors at all. Therefore, the links between the effective number of parties and voter turnouts need to be examined in the future research.

The implications of these models are both theoretical and practical. From the theoretical perspective, the correlation between the effective number of parties and invalid votes has not yet been investigated by any other scholar. Neither was the topic of invalid votes investigated by vast literature. This thesis filled this gap. Similarly, the voter turnout literature, however rich, did not offer such a model and geographically consistent perspective before. Therefore, this research offers new and underexplored venues to delve into.

From the practical end, the research showed that democracy is better off than some people expected it to be. However, it also exposed the weaknesses that can lead to perils of democracy. Hiroi and Omori (2009) found that parliamentary systems can be more susceptible for democratic breakdown than presidential ones. My thesis discussed the possible hazards stemming from the ignorance of democratic participation to both these systems. Hiroi and Omori's (2009) findings in combination with this thesis's discoveries should be especially startling to the parliamentary systems. If the inherent threat of breakdown in previously crippled parliamentary democracies is augmented by lack of representation leading to lower interest in democratic participation, these systems would quickly plunge into chaos. To prevent this from happening, politicians should definitely take care of their voters, as the citizenry anticipates that representation is due to them and reacts quickly, in case it discerns unfairness of the system.

#### **4.2 WHERE TO GO FROM HERE?**

Even though this study offers a comprehensive and novel approach to the problem of participation in the European democracies, the perspective undertook in this thesis, hopefully, will bring about a heated discussion on quality and quantity of democratic participation operationalized as voter turnout and invalid votes, respectively. The effective number of parties is an important contributor to these concepts, yet without a proper debate at a political level, the

previously mentioned downfall of democratic systems might be just postponed, not eliminated. Virtually every democracy experiences some mobilization-related problems when it comes to delegation of power and elections. Yet, motivating voters to turn out is just half of the success. Once they make an effort and appear at a balloting place, they should be able to cast a valid vote.

The effective number of parties is not comprehensive enough to fully explain the complex realm of participation. Therefore, education, and high representativeness of a party system are the key concepts to develop a participatory mass political behavior. Eleanor Roosevelt noticed that “the morality of a [political] party must grow out of the conscience and the participation of the voters” (1992, p. 421). To paraphrase a famous constructivist article’s title – the democracy is what demos makes of it.

## Bibliography

- Altman D., and Pérez-Linan A. (2002). "Assessing the Quality of Democracy: Freedom, Competitiveness and Participation in Eighteen Latin American Countries." *Democratization*, 9(2): 85-100.
- Bachrach, P., & Baratz, M. S. (1970). *Power and Poverty: Theory and practice*. Oxford: Oxford University Press.
- Banaszak, L. A. (1996). *Why movements succeed or fail: Opportunity, culture, and the struggle for woman suffrage*. Princeton: Princeton University Press.
- Banks A. S., & Wilson K. (2013). *Cross-National Time-Series Data Archive*. Online resource retrieved on May 15, 2015 from: [http://0-librstaff.utep.edu.lib.utep.edu/cnts\\_files\\_2013/index.html](http://0-librstaff.utep.edu.lib.utep.edu/cnts_files_2013/index.html).
- Bartels, L. M. (1996). "Uninformed Votes: Information Effects in Presidential Elections." *American Journal of Political Science*, 40(1): 194-230.
- Bartholdi III, J. J., & Orlin, J. B. (1991). "Single Transferable Vote Resists Strategic Voting." *Social Choice and Welfare*, 8(4): 341-354.
- Bennett, S. E., & Resnick, D. (1990). "The Implications of Nonvoting for Democracy in the United States." *American Journal of Political Science*, 34(3): 771-802.
- Blais, A., & Carty, R. K. (1990). "Does Proportional Representation Foster Voter Turnout?" *European Journal of Political Research* 18(2): 167-181.
- Blais, A., & Dobrzynska, A. (1998). "Turnout in Electoral Democracies." *European Journal of Political Research*, 33(2): 239-261.
- Blais, A., & Lago, I. (2009). "A general measure of district competitiveness." *Electoral Studies*, 28(1): 94-100.
- Blais, A., & Rubenson, D. (2013). "The Source of Turnout Decline New Values or New Contexts?" *Comparative Political Studies*, 46(1): 95-117.
- Bormann N. C., & Golder M. (2013). *Democratic Electoral Systems Dataset*. Online resource retrieved on May 15, 2015 from: [https://files.nyu.edu/mrg217/public/es\\_data-v2\\_0\\_1.zip](https://files.nyu.edu/mrg217/public/es_data-v2_0_1.zip)
- Bowler, S., Brockington, D., & Donovan, T. (2001). "Election Systems and Voter Turnout: Experiments in the United States." *Journal of Politics*, 63(3): 902-915.
- CIA (2015). *The World Factbook*. Online resource retrieved on May 15, 2015 from: <https://www.cia.gov/library/publications/the-world-factbook/>.
- Citrin, J., McClosky, H., Shanks, J. M., & Sniderman, P. M. (1975). "Personal and Political Sources of Political Alienation." *British Journal of Political Science*, 5(01): 1-31.
- Connelly, G. M., & Field, H. H. (1944). "The Non-Voter – Who He Is, What He Thinks." *Public Opinion Quarterly*, 8(2): 175-187.
- Crepaz, M. M. (1990). "The Impact of Party Polarization and Postmaterialism on Voter Turnout." *European Journal of Political Research*, 18(2): 183-205.



- Delaney, J. T., Masters, M. F., & Schwochau, S. (1988). "Unionism and Voter Turnout." *Journal of Labor Research*, 9(3): 221-236.
- Döring, H. (2013). *Parliament and Government Composition Database*. Online resource retrieved on May 15, 2015 from: <http://www.parlgov.org/#data>.
- Downs, A. (1957). "An economic theory of democracy." New York: Addison Wesley.
- Duverger, M. (1972). *Party Politics and Pressure Groups: A Comparative Introduction*. New York: Thomas Y. Crowell.
- Elections Guide (n.d.) *Democracy Assistance and Elections Data*. Online resource retrieved on May 15, 2015 from: <http://www.electionguide.org/>.
- Eurostat (n.d.) *Database*. Online resource retrieved on May 15, 2015 from: <http://ec.europa.eu/eurostat/data/database>.
- Franklin, M. (2004). "Electoral Competitiveness and Turnout: How voters react to the changing character of elections." In presentation to the annual meeting of the Midwest Political Science Association, Chicago, IL.
- Gerber, A. S., Green, D. P., & Larimer, C. W. (2008). "Social Pressure and Voter Turnout: Evidence from a Large-Scale Field Experiment." *American Political Science Review*, 102(01): 33-48.
- Geys B. (2006a). "'Rational' Theories of Voter Turnout: A Review." *Political Studies Review*, 4(1): 16-35.
- Geys B. (2006b). "Explaining Voter Turnout: A review of aggregate-level research." *Electoral Studies*, 26: 637-663.
- Grofman, B., & Selb, P. (2011). "Turnout and the (effective) number of parties at the national and district levels: A puzzle-solving approach." *Party politics*, 17(1): 93-117.
- Heritage Foundation (2015) *Index of Economic Freedom Data*. Online resource retrieved on May 15, 2015 from: <http://www.heritage.org/index/explore?view=by-region-country-year>.
- Hill, K. Q., & Leighley, J. E. (1999). "Racial Diversity, Voter Turnout, and Mobilizing Institutions in the United States." *American Politics Research*, 27(3): 275-295.
- Hirczy, W. (1994). "The Impact of Mandatory Voting Laws on Turnout: A Quasi-experimental Approach." *Electoral Studies*, 13: 64-76.
- Hirczy, W. (1995). "Explaining Near-Universal Turnout: the Case of Malta." *European Journal of Political Research*, 27(2): 255-272.
- Hiroi, T., & Omori S. (2009). "Perils of parliamentarism? Political systems and the stability of democracy revisited." *Democratization*, 16:3: 485-507.
- Institute for Democracy and Electoral Assistance (2015). *International IDEA Voter Turnout Database*. Online resource retrieved on May 15, 2015 from: <http://www.idea.int/>.
- Inter-Parliamentary Union (n.d.) *PARLINE (Parliaments Online) database on national parliament*. Online resource retrieved on May 15, 2015 from: <http://www.ipu.org/parline/>.

- Irvin G. (1974). "Compulsory Voting Legislation Impact on Voter Turnout in the Netherlands." *Comparative Political Studies*, 7(3): 292-315.
- Jackman, R.W., & Miller, R.A. (1995). "Voter Turnout in the Industrialized Democracies during the 1980s." *Comparative Political Studies*, 27: 467-492.
- Jackman, R.W., (1987). "Political Institutions and Voter Turnout in the Industrial Democracies." *American Political Science Review*, 81: 405-423.
- Johnston, R., Matthews, J. S., & Bittner, A. (2007). "Turnout and the party system in Canada, 1988–2004." *Electoral Studies*, 26(4): 735-745.
- Kollman K., Hicken, A., Caramani, D., Backer, D., & Lublin, D. (2014). *Constituency-Level Elections Archive*. Online resource retrieved on May 15, 2015 from: <http://www.electiondataarchive.org/datacenter.html>.
- Kostadinova, T. (2003). "Voter Turnout Dynamics in Post-Communist Europe." *European Journal of Political Research*, 42(6): 741-759.
- Kuklinski, J. H., Quirk, P. J., Jerit J., Schweider D., & Rich R. F. (2000). "Misinformation and the Currency of Democratic Citizenship." *Journal of Politics*, 62(3): 790-816.
- Kwak, J. Y., & Janda, K. (2010). "Measuring Party System: Revisiting Competitiveness." *The Korean Journal of Area Studies*, 28(1): 21-49.
- Laakso, M., & Taagepera, R. (1979). "Effective Number of Parties: A Measure with Application to West Europe." *Comparative political studies*, 12(1): 3-27.
- Ladner, A., & Milner H. (1999). "Do Voters Turn Out More under Proportional than Majoritarian Systems? Evidence from Swiss Communal Elections." *Electoral Studies*, 18(2): 235–50.
- Lau, R. R., & Redlawsk, D. P. (2001). "Advantages and Disadvantages of Cognitive Heuristics in Political Decision Making." *American Journal of Political Science*, 45(4): 951-971.
- Louth, J., & Hill, L. (2005). "Compulsory Voting in Australia: Turnout with and without it." *Australian Review of Public Affairs*, 6(1): 25-37.
- Lupia, A. (1994). "Shortcuts versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections." *American Political Science Review*, 88(1): 63-76.
- Marshall M. G., & Gurr T. R. (2013). *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2013*. Online resource retrieved on May 15, 2015 from: <http://www.systemicpeace.org/inscrdata.html>
- Mackerras M., and McAllister I. (1999). "Compulsory voting, party stability and electoral advantage in Australia." *Electoral Studies*, 18: 217–233.
- McAllister, I., and Makkai, T. (1993). "Institutions, Society or Protest? Explaining Invalid Votes in Australian Elections." *Electoral Studies*, 12(1): 23-40.
- Mettler, S., & Soss J. (2004). "The Consequences of Public Policy for Democratic Citizenship: Bridging Policy Studies and Mass Politics." *Perspectives on Politics*, 2(1): 55-73.

- Miller, A. H. (1974). "Political Issues and Trust in Government, 1964-1970." *American Political Science Review*, 68(3): 951-972.
- Morlan, R. L. (1984). "National Election Voter Turnout: Europe and the United States." *Political Science Quarterly*, 99(3): 457-470.
- Mott, R. L. (1926). "Invalid Ballots under the Hare System of Proportional Representation." *The American Political Science Review*, 20(4): 874-882.
- NALA. (2012). "Adult Skills Survey – Factsheet for Ireland." Online resource (retrieved on April 10, 2015): [https://www.nala.ie/sites/default/files/content-page/attachments/piaac\\_factsheet\\_2013.pdf](https://www.nala.ie/sites/default/files/content-page/attachments/piaac_factsheet_2013.pdf)
- Norris, P. (2004). *Electoral Engineering: Voting Rules and Political Behavior*. Cambridge: Cambridge University Press.
- Nurmi, H. (1983). "Voting Procedures: A Summary Analysis." *British Journal of Political Science*, 13(2): 181-208.
- OECD. (2013). *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*. Paris: OECD Publishing.
- Organization for Economic Co-operation and Development (n.d.) *OECD Data*. Online resource retrieved on May 15, 2015 from: <https://data.oecd.org/>.
- Page, B., & Brody, R. (1972). "Policy Voting and the Electoral Process: The Vietnam War Issue." *American Political Science Review*, 66(3): 979-995.
- Paxton, P. (2000). "Women's Suffrage in the Measurement of Democracy: Problems of Operationalization." *Studies in Comparative International Development*, 35(3): 92-111.
- Perez-Linan, A. (2001). "Neoinstitutional Accounts of Voter Turnout: Moving Beyond Industrial Democracies." *Electoral Studies*, 20: 281-297.
- Pitkin, H. F. (1967). *The concept of representation*. Berkley, CA: University of California Press.
- Plane, D. L., & Gershtenson, J. (2004). "Candidates' Ideological Locations, Abstention, and Turnout in US Senate Elections." *Political Behavior*, 26(1): 69-93.
- Pomper, G. M. (1972). "From Confusion to Clarity: Issues and American Voters, 1956-1968." *American Political Science Review*, 66(2): 459-65.
- Powell, G.B. (1986). "American Voter turnout in Comparative Perspective." *American Political Science Review*, 80: 17-43.
- Power T. J., and Garand J. C. (2007). "Determinants of Invalid Voting in Latin America." *Electoral Studies*, 26: 432-444.
- Power T. J., and Roberts J. T. (1995). "Compulsory Voting, Invalid Ballots, and Abstention in Brazil." *Political Research Quarterly*, 48(3): 795-826.
- Power, T. J. (1991). "Politicized Democracy: Competition, Institutions, and 'Civic Fatigue' in Brazil." *Journal of Interamerican Studies and World Affairs*, 33: 75-112.
- Radcliff, B. (1992). "The Welfare State, Turnout, and the Economy: A Comparative Analysis." *American Political Science Review*, 86(2): 444-454.

- Ragsdale, L., & Rusk, J. G. (1993). "Who Are Nonvoters? Profiles from the 1990 Senate Election." *American Journal of Political Science*, 37(3): 721-746.
- Roosevelt, E. (1992). *The Autobiography of Eleanor Roosevelt*. Boston, MA: Da Capo Press.
- Rose, R., Mishler, W., & Haerpfer, C. (1998). *Democracy and its alternatives: Understanding post-communist societies*. Baltimore, MD: The Johns Hopkins University Press.
- Shachar, R., & Nalebuff, B. (1999). "Follow the Leader: Theory and Evidence on Political Participation." *American Economic Review*, 89(3): 525-47.
- Stiefbold R. P. (1965). "The Significance of Void Ballots in West German Elections." *The American Political Science Review*, 59(2): 391-407.
- Taagepera, R., Selb, P., & Grofman, B. (2014). "How Turnout Depends on the Number of Parties: A Logical Model." *Journal of Elections, Public Opinion & Parties*, (ahead-of-print), 1-21.
- Taber, C. S., and Milton Lodge. (2006). "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science*, 50(3): 755-769.
- Teorell, J., Dahlberg S., Holmberg S., Rothstein B., Hartmann F., & Svensson R. (2015). *Quality of Government*. Online resource retrieved on May 15, 2015 from: <http://qog.pol.gu.se/data/datadownloads/qogstandarddata>.
- theodora.com (n.d.) *31 Years of World Facts*. Online resource retrieved on May 15, 2015 from: <http://www.immigration-usa.com/wfb/>.
- Tiemann, G. (2015). Local Districts, National Contexts, and the Number of Parties. *West European Politics*, (ahead-of-print), 1-22.
- Uggla F. (2008). "Incompetence, Alienation, or Calculation? Explaining Levels of Invalid Ballots and Extra-Parliamentary Votes." *Comparative Political Studies*, 41(8): 1141-1164.
- United Nations (n.d.) *United Nations Demographic Yearbook*. Online resource retrieved on May 15, 2015 from: <http://unstats.un.org/unsd/demographic/products/dyb/dyb2.htm>.
- United Nations Educational, Scientific and Cultural Organization (n.d.) *UNESCO Institute for Statistics Data*. Online resource retrieved on May 15, 2015 from: <http://www.uis.unesco.org/Pages/default.aspx>.
- Vowles, J. (2010). "Electoral system change, generations, competitiveness and turnout in New Zealand, 1963-2005." *British Journal of Political Science*, 40(04): 875-895.
- Wolfinger, R. E. (1980). *Who Votes?* New Haven: Yale University Press.
- World Bank (n.d.) *World Bank Data*. Online resource retrieved on May 15, 2015 from: <http://data.worldbank.org/>.
- Young S., and Hill L. (2007). "Protest or Error? Informal Voting and Compulsory Voting." *Australian Journal of Political Science*, 43(3): 515-521.
- Young S., and Hill L. (2009). "Uncounted Votes: Informal Voting in the House of Representatives as a Marker of Political Exclusion in Australia." *Australian Journal of Politics and History*, 55(1): 64-79.

Zipp, J. F. (1985). "Perceived Representativeness and Voting: An Assessment of the Impact of 'Choices' vs. 'Echoes'." *American Political Science Review*, 79(1): 50.61.

## Appendix 1: Sources of data and variables' definitions

Table A.1: Sources of variables used in the models and their definitions.

Variable	Source(s)	Definition (unit)
Percentage of invalid votes	Institute for Democracy and Electoral Assistance, Inter-Parliamentary Union	Invalid vote is one that has been excluded from the count by the electoral commission officials because of improper indication of a candidate or party, or lack of such indication. (Percentage in relation to all the votes cast in an election)
Voter turnout	Institute for Democracy and Electoral Assistance, Democratic Electoral Systems Dataset, Inter-Parliamentary Union	Percentage of those who cast a vote, both valid and invalid, among all the eligible voters in a particular country in lower chamber parliamentary elections, in cases where the parliament is bicameral and the only chamber, where it has a unicameral form. (Percentage of in relation to all the eligible and registered voters)
Effective number of legislative parties	Democratic Electoral Systems Dataset, National Electoral Commissions' websites, Quality of Government	Adjusted number of political parties in a country's party system and relativizes the strength of parties in a parliament. There are two indices within the effective number of parties. First, at the vote-share level and the second, at the seat-share level. The former looks at the data that actually very few voters analyze, whereas the latter deals with the concept that everyone following news is exposed to. The legislative version of an adjustment comes from the following formula: $N = \frac{1}{\sum_{i=1}^n \left(\frac{s_i}{p}\right)^2}, \text{ where}$ $N - \text{effective number of legislative parties,}$ $s_i - \text{the number of seats held by } i\text{-th party}$ $p - \text{total number of seats in a chamber}$
SQRT(Effective number of legislative parties)	Democratic Electoral Systems Dataset, National Electoral Commissions' websites, Quality of Government	From the equation above: $N^2 = \left( \frac{1}{\sum_{i=1}^n \left(\frac{s_i}{p}\right)^2} \right)^2$
Literacy rate	Cross-National Time-Series Data Archive, OECD, World Bank, UNESCO, Eurostat, UN	Literacy is the ability both to read and to write (Percentage of literate in relation to a country's population)

Average district magnitude	Democratic Electoral Systems Dataset, Quality of Government, National Electoral Commissions' websites, Inter-Parliamentary Union	The overall number of seats in a lower chamber divided by the number of districts in a country. It explains how many people are elected on average in each district. Under the pure single member district average district magnitude equals 1, whereas if there is just one district in a country.
LOG(Average district magnitude)	Democratic Electoral Systems Dataset, Quality of Government, National Electoral Commissions' websites, Inter-Parliamentary Union	Natural logarithm of average district magnitude
Number of seats	Democratic Electoral Systems Dataset, Quality of Government, National Electoral Commissions' websites, Inter-Parliamentary Union	Number of seats in a lower chamber (count). Expresses the most visible component of representation to the public. Also referred to as the absolute representation.
LOG(Number of seats)	Democratic Electoral Systems Dataset, Quality of Government, National Electoral Commissions' websites, Inter-Parliamentary Union	Natural logarithm of the number of seats.
Relative representation	Democratic Electoral Systems Dataset, Quality of Government, National Electoral Commissions' websites, World Bank, Inter-Parliamentary Union	Ratio of the number of people per representative. In calculating this index I considered also non-voting population.
LOG(Relative representation)	Democratic Electoral Systems Dataset, Quality of Government, National Electoral Commissions' websites, World Bank, Inter-Parliamentary Union	Natural logarithm of the ration of the number of people per representative.
Compulsory voting	Institute for Democracy and Electoral Assistance	Legal requirement to participate in an election that refers to at least one third of the population (Binary variable)

Parliamentary system	Quality of Government, Inter-Parliamentary Union	Democratic form of government, where the government is formed the party or a coalition with the greatest number of seats in the parliament. The largest party nominates a person that becomes prime minister, premier, chancellor, or the like. (Binary variable)
Years of democracy	Polity IV	Years of democratic regime in a country are counted continuously only if a country experienced high levels of polity IV index (between 6 and 10) in an uninterrupted manner. The variable indicates the years of democracy during a particular election year.
LOG(Years of democracy + 1)	Polity IV	First, years of democracy are summed with 1. Then, natural logarithm of the result is applied.
Years of the EU membership	General knowledge	Number of years that a state has been a member of the European Union during a particular election.
LOG(Years of the EU membership+1)	General knowledge	First, years of the EU membership are summed with 1. Then, natural logarithm of the result is applied.
Gap between the fist and the second largest party	Parliament and Government Composition Database, Constituency-Level Elections Archive, Elections Guide, Inter-Parliamentary Union	An indicator of electoral competitiveness. Difference of seat shares held by the two largest parties (second largest party's seat share subtracted from the first largest party's seat share). The result is the gap measure of competitiveness. (pp)
Competitiveness	Parliament and Government Composition Database, Constituency-Level Elections Archive, Elections Guide, Inter-Parliamentary Union	Percentage of seats held by the second largest party in lower chamber. Second largest party seat share. (%)
Post-communist	General knowledge	A state is considered post-communist if it has been governed by a communist regime in the past and successfully overthrew that regime, instituting democracy. (Binary variable)
Fist election after liberalization	General knowledge	The first free or partly free election after overthrowing the communist regime in a particular country. (Binary variable)
Social development (% of seats held by women)	Quality of Government, World Bank, theodora.com, Inter-Parliamentary Union, CIA	Percentage of seats in a lower chamber that are held by women. (%)



GDP per capita	Quality of Government	Gross Domestic Product per capita in 1990 International Geary-Khamis dollars. The International Geary-Khamis dollar is a hypothetical currency that has the same purchasing power parity that the USD had in the U.S. during 1990.
LOG(GDP per capita)	Quality of Government	Natural logarithm of the GDP per capita
GDP growth	Quality of Government, World Bank, theodora.com, Eurostat	Annual percentage growth rate of GDP at market prices based on constant local currency. (constant 2005 U.S. dollars)
LOG(GDP growth)	Quality of Government, World Bank, theodora.com, Eurostat	Natural logarithm of the GDP growth
Total tax revenue as a % of GDP	Heritage Foundation, World Bank, theodora.com, Eurostat	Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. (%)
LOG(Total tax revenue as a % of GDP)	Heritage Foundation, World Bank, theodora.com, Eurostat	Natural logarithm of the total tax revenue as a % of GDP.

## Appendix 2: Correlation of the variables in both models

Table A.2a: Model 1 (from Chapter 2 – Spoiled Elections: Effective Number of Parties and Invalid Votes)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A	1													
B	0.38	1												
C	-0.08	0.26	1											
D	-0.08	0.21	0.05	1										
E	.005	-0.32	-0.13	-0.33	1									
F	0.33	-0.002	-0.06	-0.02	0.51	1								
G	0.37	0.13	-0.27	0.08	0.12	0.04	1							
H	-0.14	0.25	0.64	0.02	0.18	0.03	-0.1	1						
I	-0.21	0.25	0.36	0.26	-0.13	-0.1	-0.34	0.46	1					
J	-0.1	0.32	0.44	-0.004	0.16	0.14	-0.06	0.73	0.57	1				
K	0.003	-0.08	-0.1	-0.002	-0.15	-0.11	-0.005	-0.29	-0.22	-0.33	1			
L	0.23	0.05	0.09	0.09	-0.33	-0.1	-0.24	-0.49	-0.02	-0.46	0.22	1		
M	0.23	0.2	0.19	-0.03	0.29	0.43	0.21	0.5	0.24	0.57	-0.24	-0.33	1	
N	-0.28	-0.6	-0.12	-0.03	0.19	0.09	0.07	-0.13	-0.18	-0.1	0.04	-0.11	-0.05	1

A – Percentage of invalid votes

B – Effective # of legislative parties

C – Literacy rate

D – LOG(Average district magnitude)

E – LOG(# of seats)

F – LOG(Relative representation)

G – Compulsory voting

H – LOG(Years of democracy + 1)

I – Percent of deputies being women

J – LOG(GDP per capita)

K – LOG(GDP growth)

L – Post-communist state

M – LOG(Years of the EU membership + 1)

N – Competitiveness

Table A.2b: Model 1 (from Chapter 3 – Does the Size Matter? Effective Number of Parties and Voter Turnout)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	1																
B	.04	1															
C	.07	.98	1														
D	.16	.2	.15	1													
E	.28	.1	.1	-.04	1												
F	.1	-.3	-.3	-.36	-.04	1											
G	.07	-.02	.02	-.001	-.09	.56	1										
H	.36	.23	.29	.05	.13	.14	.11	1									
I	-.52	-.02	-.04	.1	-.4	-.31	-.17	-.23	1								
J	.02	-.06	-.5	.13	-.21	-.1	-.001	.03	.12	1							
K	.28	.17	.2	-.09	.25	.32	.46	.34	-.45	-.06	1						
L	.02	.22	.16	.24	.15	-.16	-.16	-.28	-.11	-.07	.12	1					
M	.51	.13	.12	-.06	.26	.17	-.02	.07	-.47	-.14	.17	.01	1				
N	.23	.25	.23	-.05	.47	.17	.04	.07	-.66	-.14	.52	.42	.4	1			
O	-.08	-.09	-.09	.02	-.12	-.13	-.13	-.13	.28	-.08	-.21	-.15	-.1	-.24	1		
P	.14	.21	.28	-.05	.36	.1	.08	.01	-.6	-.1	.52	.58	.2	.74	-.33	1	
Q	-.01	-.6	-.57	-.02	.04	.16	.1	.02	-.09	0.004	-.01	-.15	-.06	-.1	.01	-.1	1

A – Voter Turnout

B – Effective # of legislative parties

C – SQURT(Effective # of legislative parties)

D – LOG(Average district magnitude)

E – Parliamentary

F – LOG(# of seats)

G – LOG(Relative representation)

H – Compulsory voting

I – Post-communist state

J – 1<sup>st</sup> election after liberalization

K – LOG(Years of the EU membership + 1)

L – Percent of deputies being women

M – LOG(Total tax revenue as a % of GDP)

N – LOG(Years of democracy + 1)

O – LOG(GDP growth)

P – GDP per capita

Q – Competitiveness

### Appendix 3: Invalid Votes Model with Gap Measure

Table A.3: Paris-Winsten regression results for the voter turnout model with competitiveness operationalized as the seat share gap between the first and the second largest parties.

Variable	Coefficient
Effective # of parties	-5 (2.52)*
(Effective # of parties) <sup>2</sup>	0.55 (0.25)*
Log(Average district magnitude)	2.559 (0.75)***
Parliamentary system	6.98 (3.13)*
Log(# of seats)	1.35 (1.67)
Log(Relative representation)	-5.13 (1.6)***
Compulsory voting	4.15 (2.42) <sup>tt*</sup>
Post-communist	-17.23 (2.49)***
1 <sup>st</sup> election after liberalization	19.62 (7.86)*
Log(Years in the EU + 1)	3.3 (0.72)***
Social development (% of women in parliament)	0.23 (0.09)*
Log(Tax revenue)	11.6 (2.24)***
Log(Years of democracy + 1)	-3.75 (1.28)**
Log(GDP growth)	1.4 (0.75) <sup>tt*</sup>
GDP per capita	-0.0009 (0.0003)***
Log(Seat share gap between 1 <sup>st</sup> and 2 <sup>nd</sup> largest party)	1.16 (0.67) <sup>tt*</sup>
Constant	102.4 (21.72)***

# of groups = 33      n = 219      R<sup>2</sup> = 0.92

$\chi^2 = 281$       p >  $\chi^2 = 0.0001$

\* – variable statistically significant at 0.05 level

no symbol – variable not statistically significant

\*\* – variable statistically significant at 0.01 level

*Het-corrected standard errors in parentheses*

\*\*\* – variable statistically significant at 0.001 level

<sup>tt\*</sup> – One-tailed significance at 0.05 level

#### Appendix 4: Countries Included in the Sample

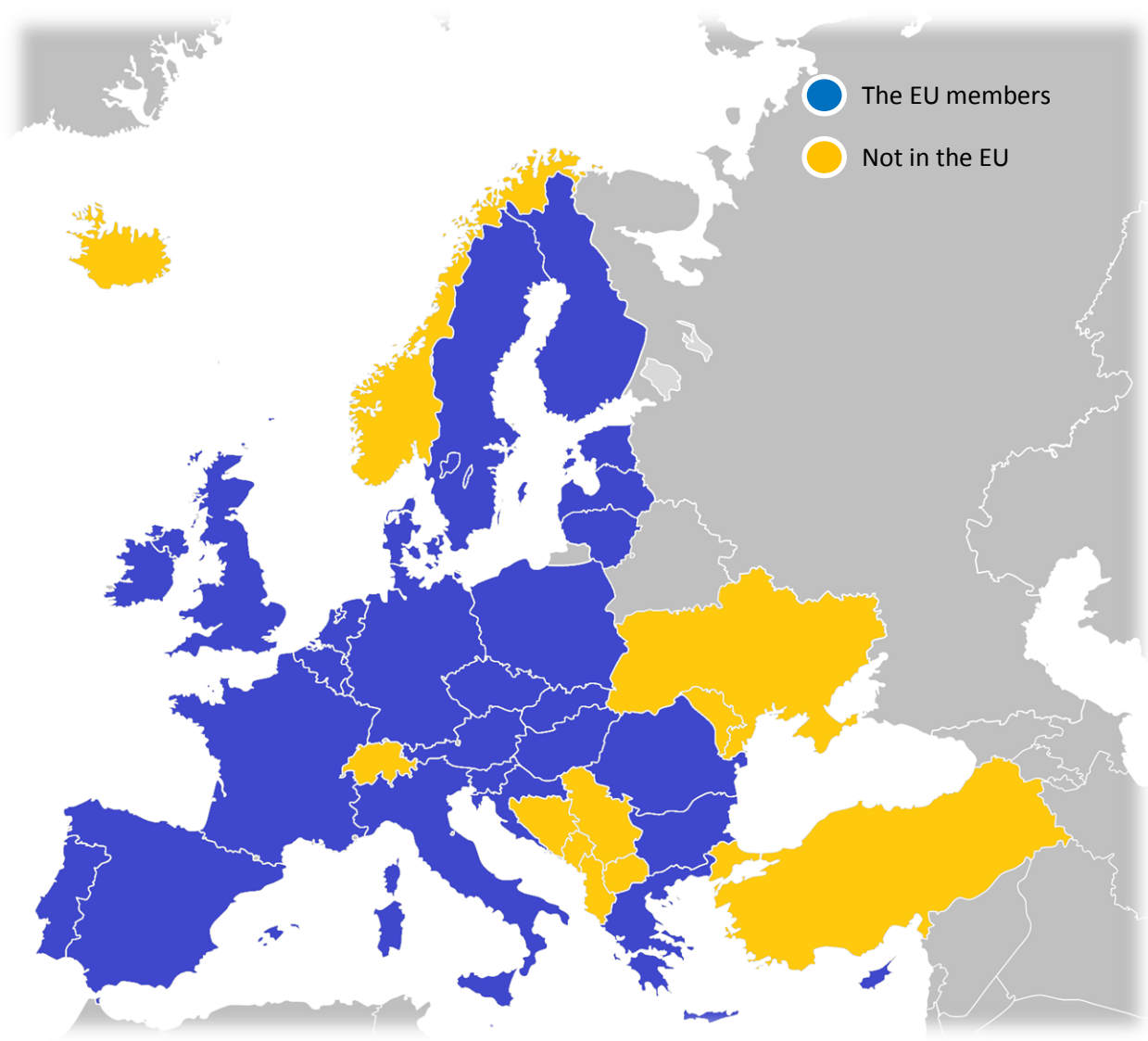


Figure A.4: Map of the countries included in the sample.

Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, Ukraine

## **Vita**

Jakub Zajakala was born in Torun, Poland. After two years of studying political science at the Nicolas Copernicus University (NCU), Torun, Poland he undertook studies in applied computer science at NCU, while continuing the former discipline. Shortly after completing his BA and defending his thesis “Cold War and Superpowers’ Space Race between 1945 and 1980: Politics, Economy, Society” at NCU, he started one semester exchange program in telecommunication engineering at the University of Nottingham, United Kingdom. He entered the MA program in political science at the University of Texas at El Paso in the fall 2013 with the Komarnicki Scholarship. During his time at UTEP he worked as a teaching assistant for several professors, as well as served as a research assistant to Dr. Hiroi for whom he compiled the malapportionment dataset and Dr. Genna with whom he worked on the regional international organizations dataset. In 2014 he became a member of Pi Sigma Alpha, the political science honor society. He also received the best paper award during 2015 Pi Sigma Alpha student conference held at UTEP for the paper “Spoiled Elections: Number of Parties and Invalid Votes in Europe.” Moreover, he presented paper “Does the Size Matter? Number of Parties and Turnout in Europe” at the 2015 Southern Political Science Association conference in New Orleans, Louisiana. For his commitment to education and service at UTEP, he was nominated to be the Graduate School Banner Bearer for the 2015 Spring Commencement.

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