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"I Voted": Examining the Impact of Compulsory Voting on Voter Turnout

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CLAREMONT MCKENNA COLLEGE

“I VOTED”:
EXAMINING THE IMPACT OF COMPULSORY
VOTING ON VOTER TURNOUT

SUBMITTED TO

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Abstract

Over the past few decades, falling voter turnout rates have induced governments to adopt compulsory voting laws, in order to mitigate issues such as the socioeconomic voter gap and to bring a broader spectrum of voters into the fold. This paper presents evidence that the introduction of mandatory voting laws increases voter turnout rates by 13 points within a particular country through an entity- and time-fixed effect panel model. Moreover, it includes a discussion of the implications of adopting mandatory voting policies within the United States, finding that compelling citizens to vote would have increased participation rates to over 90 percent in the past four presidential elections.

Acknowledgements

First, I want to thank my parents for their unconditional love, support, and encouragement. I would also like to thank Professor Manfred Keil, Associate Professor of Economics at Claremont McKenna College, for his valuable guidance and support in completing this senior thesis. Without his feedback, vast knowledge on the topic, and support to the project, this thesis would not be as strong. Additionally, I would like to express gratitude towards Professor Eric Helland, William F. Podlich Professor of Economics at Claremont McKenna College, for his advice and subject matter expertise throughout the process. I extend my genuine gratitude to each of them.

Jury duty is mandatory; why not voting?

William Galston, Brookings Institution (via *The New York Times*)

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Chapter 1

Introduction

Other countries have mandatory voting. It would be transformative if everybody voted – that would counteract money more than anything.

U.S. President Barack Obama (via *WhiteHouse.gov*)

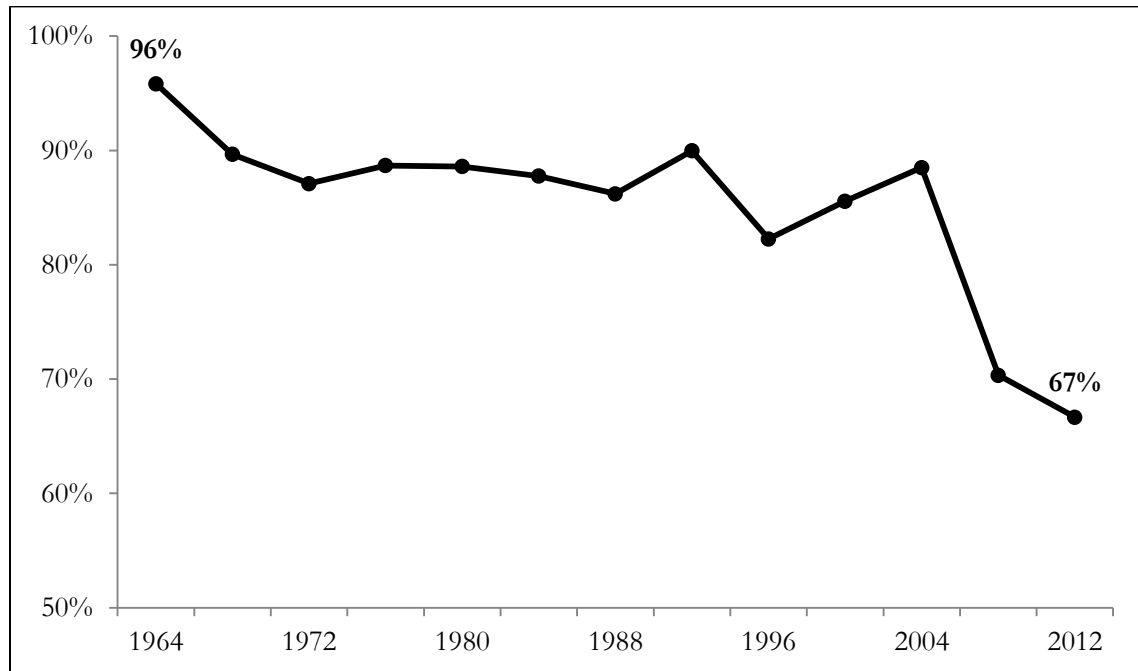
Though the United States is considered one of the world’s oldest democracies, it has one of the lowest voting levels of all democracies (Franklin 2004).¹ In the United States, voter turnout—the percentage of eligible voters who cast a ballot in an election—has declined substantially for presidential elections from 96 percent in 1964 to 67 percent in 2012 (see Figure 1). This phenomenon is equally true in other democracies, with some turnout rates lower than 60 percent. In a speech on March 2015 in Cleveland, Ohio, President Barack Obama endorsed mandatory voting in the United States.² President Obama suggested that

¹ Switzerland, which vies for the title of the “world’s oldest democracy,” has turnout rates that are even lower than that of the United States.

² Throughout this paper, I will use the terms “compulsory voting” and “mandatory voting” interchangeably. Both terms refer to a citizen’s obligation to register and attend a polling booth instead of an obligation to actually vote. Even under mandatory voting laws, citizens are free to cast blank or invalid ballots.

mandatory voting would transform the current political landscape by bringing voices of the young, the poor, immigrants, and minorities into the fold (Somin 2015).

Figure 1 Voter turnout for American presidential elections, 1964 – 2012³



According to the International Institute of Democracy and Electoral Assistance (IDEA), at least 35 countries adopted some form of mandatory voting procedure between 1945 and 2015. These countries include nine members of the Organization for Economic Cooperation (OECD) and two-thirds of Latin American nations. More than half of them use various enforcement mechanisms to ensure there is a legal punishment behind the law, while the rest merely rely on the “moral force of the law” (Galston 2011). Australia, which has a comparable government structure and level of democracy to the United States, adopted mandatory voting in 1924 when their voter turnout was lower than 60 percent in 1922. After voting became mandatory with small sanctions imposed on nonvoters, voter participation in

³ (International Institute of Democracy and Electoral Assistance 2015a).

Australia surged from 59 percent to 91 percent in the election of 1925 and has remained consistently high over the years (Orszag 2012, Australian Electoral Commission 2014, International Institute of Democracy and Electoral Assistance 2015a).

Australia illustrates how much compulsory voting can increase political participation within a particular polity. Proponents of mandatory voting argue that, by making voting compulsory, voter turnout rates increase and a democracy such as Australia can ideally operate better by reflecting the true perspectives and concerns of whole population. Hill (2006) argues that compulsory voting can additionally lessen the corrupt influence of campaign finances and break the cycle of alienation and exclusion within American politics, preserving democratic values of popular sovereignty, political equality, representativeness, and minimization of elite power. Opponents of compulsory voting question its ability to increase voter turnout. Somin (2012) argues that while Australia may present an ideal alternative to current political apathy in the United States, other countries with compulsory voting legislation compulsory voting legislation, such as Argentina, Lebanon, Egypt, and the Democratic Republic of the Congo, are hardly good examples of well-functioning democracies. For instance, despite compulsory voting laws, Lebanon and Egypt have had turnout as low as 30 percent and 23 percent, respectively. Switzerland, which is one of the few democracies with an even lower turnout than the United States, is “widely considered one of the best-governed nations in the world,” suggesting that mandatory voting does not necessarily promulgate democratic legitimacy (Somin 2012).

The goal of this thesis is to evaluate the impact on mandatory voting policies on voter turnout within a particular country and to assess the particular case of compulsory voting in the United States. This thesis has two distinctive parts: one qualitative and one

quantitative. In the qualitative part, I utilize country case studies to analyze how voter turnout can change when switching between voluntary and compulsory voting systems. In the quantitative part, I use both a pooled cross-sectional time-series regression model and an entity- and time-fixed effect panel regression model to understand the impact of compulsory voting laws on voter turnout, controlling for various political and socioeconomic factors.

My evidence contributes to the debate in the following ways: first, I look at a wider selection of countries over a longer time-period than other studies, and second, I utilize a panel regression model to remove omitted variable bias found within countries and overtime that other cross-sectional studies fail to capture. I supplement this analysis with a section on the adoption of compulsory voting policies in the United States. By applying my model to the United States, I predict what voter turnout would have been if voting in America was mandatory for the past few presidential elections.

This thesis proceeds as follows: first, I present background information as to why this debate has arisen and, in the process, elaborate on the problem of low voter turnout in present-day democracies. Next, I present a literature review of the various empirical methods economists and political theorists have used to analyze the impact that compulsory voting policies have on voter turnout. Then, I dive into a qualitative assessment of mandatory voting within particular country case studies. I proceed with a quantitative section, where I include an empirical specification and discuss the explanations, conclusions, and limitations of my results. I end with an analysis of compulsory voting in the United States, focusing on critical barriers to its adoption.

Chapter 2

Background

American voter turnout presents an interesting paradox: Americans seem to be more politically aware and involved than citizens in any other democracy, yet the levels of voter turnout in the United States are consistently far below the average.

G. Bingham Powell, Jr. (via *American Political Science Review*)

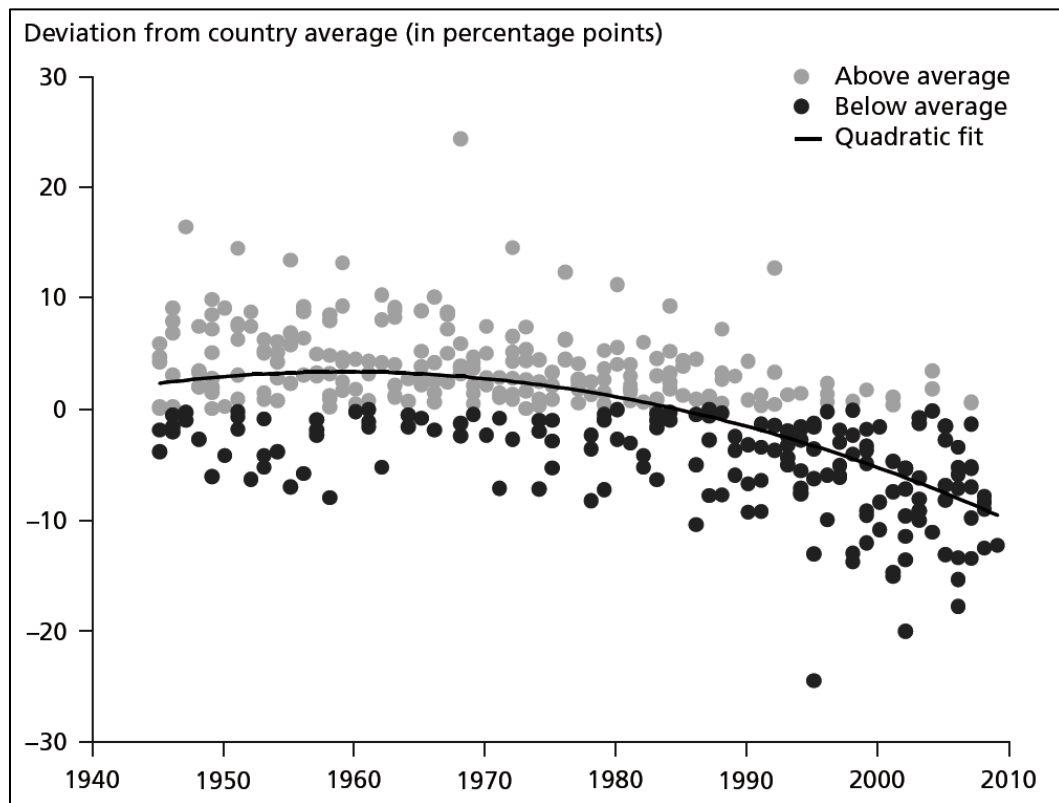
2.1 Is Low Voter Turnout a Problem?

Prior to discussing the implications of compulsory voting legislation on turnout, it is important to understand a brief background behind voter turnout. This section aims to answer the following questions: What has been the general trend of voter turnout? If turnout is low, does it present a problem?

It is a well-documented phenomenon that among established democracies, voter turnout has been declining. Figure 2 shows that the turnout in the presidential elections of 20 democratic countries, measured as a ratio of actual voters to registered voters, has declined since World War II. The *Y*-axis represents the deviation in turnout rates from long-

term country averages, the light gray dots indicate above-average turnout rates, and the black dots indicate below-average turnout rates (Schafer 2011). Overtime, there is a clear downward trend in participation rates, where below-average turnout (black dots) largely outnumbered above-average rates (light gray dots). It is undeniable that voter turnout rates have declined among many of the established democracies, with the United States serving as an epitome of this phenomenon (see also Figure 1).

Figure 2 Turnout change in twenty democracies, 1946 – 2009⁴



Not everyone considers the downward trending voter turnout to be a problem. For instance, some political theorists regard low turnout as a signal of citizen satisfaction in

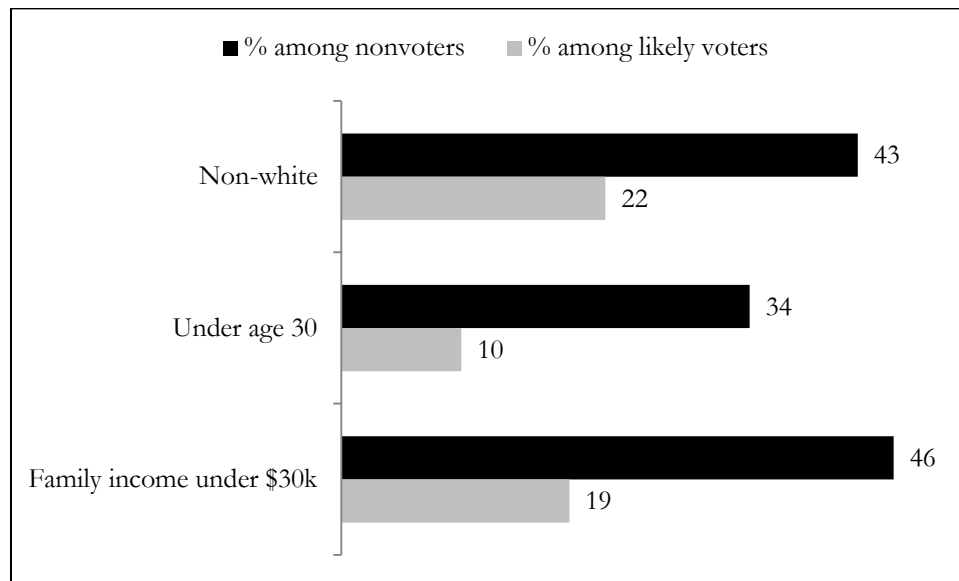
⁴ *Note:* This graph does not differentiate between countries with compulsory and voluntary voting laws. The countries examined include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, The Netherlands, Norway, Sweden, Switzerland, the UK, and the USA. (Schafer 2011).

government and politics. Jones (1954) celebrates the apathetic voter for apathy “may...have a beneficial effect on the tone of political life itself” as an “effective counter-force to the fanatics who constitute the real danger to liberal democracy.” Hardin (1998) argues that low voter turnout shows that the government has not provoked distrust and resistance from its citizenry. Other political theorists suggest higher turnout would not change the ultimate political outcome of an election. Highton and Wolfinger (2001) perform analyses of survey data and find that an increase in turnout would provide little differences in electoral outcomes since the preferences of voters hardly differ from those of all citizens. They conclude that “universal turnout would bring modest changes,” since the “party of non-voters’ is heterogeneous and “appear[s] well represented by those who vote” (Highton and Wolfinger 2001).

However, Jones and Highton and Wolfinger fail to consider that low voter turnout leaves an important portion of the citizenry out of political discourse, a group of nonvoters that is often neither apathetic nor homogeneous with current voters. In fact, low voter turnout is correlated with unequal and socio-economically biased turnout, commonly referred to as the “socioeconomic voter gap.” Some political pundits argue that, with low turnout, the voices of the poor, the young, immigrants, and minorities are largely left out of the political process. Powell (1986) found that, of seven European nations and Canada, there was a consistent impact of level of education on turnout. Between the highest and lowest levels of education, there was a difference in voter turnout of 10 percentage points and a consistent increase of 2 to 3 percentage points as education level increased (Powell 1986, Lijphart 1998).

This phenomenon is particularly true in the United States. In the past U.S. midterm election, the Pew Research Center (2014) found that nonvoters are very different demographically from voters in that they are younger, more racially and ethnically diverse, and are less affluent and less educated (see Figure 3). For instance, when looking at education level, we find that 54% of nonvoters have not attended college, while 72% of likely voters have completed at least some college. Nonvoters are also less affluent: nearly half have family incomes less than \$30,000 as compared to the 19% of likely voters with the same income level. These demographic differences between nonvoters and likely voters are not new in the United States; similar trends were found during the 2010 and 2012 American elections (Pew Research Center 2010, Pew Research Center 2012).

Figure 3 Demographic divides between nonvoters and likely voters, United States midterm elections, October 2014⁵



In an article in *Bloomberg Business*, Orszag (2012) notes that “over the past decades the differences between voters and nonvoters have grown significantly larger.” This was

⁵ Survey conducted from October 15-20, 2014. (Pew Research Center 2014).

precipitated by the fact that the “political machines” in the 1950s and 1960s launched local mobilization efforts to get individuals to the polls, allowing citizens with more modest means and low levels of education to connect with neighborhood institutions and participate in national politics. Now, it is much more likely for political parties to employ mass mobilization techniques—for instance, social media blasts—which leaves the less affluent and less educated out of the picture.

More importantly, since nonvoters as compared to voters have more diverse backgrounds in terms of age, race, affluence, education level, and ethnicity, they also have a different set of political priorities and preferences. For instance, those of lower socioeconomic backgrounds may have a higher interest in supporting progressive income taxes as compared to wealthy citizens. Hill and Leighley (1992) show that class bias in U.S. state electorate policy and spending, especially as related to redistribution policies, can be explained by the underrepresentation of the poor in the political process. Moreover, low levels of democratic participation are associated with higher income inequality and considerable class bias in the political process (Mueller and Stratmann 2003, Hicks and Swank 1992). According to Lijphart (2001), low and unequal turnout makes it easier for politicians “to reduce government aid to the poor than to cut entitlement programs that chiefly benefit the middle class.” When turnout numbers shift from low to high, it is likely that political attitudes and behavior will change as the poor and the young raise their own set of political concerns.

Finally, Hill (2006) provides a principled account as to why low voter turnout is bad for American democracy on the “level of values.” Since the concept of majority will is a central component to democracy, low turnout (especially those as low as 60 percent) may

not accurately represent the preferences of the majority of the population. More importantly, the value of political equality is undermined when a disproportionate number of people with a particular socioeconomic status have less of a say in the system. From a value perspective, low voter turnout “impugns a number of fundamental democratic values,” including “population sovereignty, legitimacy, representativeness, political equality, and minimization of elite power,” when there is a striking gap in socioeconomic status between voters and nonvoters (L. Hill 2006). Overall, low voter turnout presents a problem since fewer citizen preferences are registered by the system. The fewer opinions expressed by the electorate, the less representative the government can be to the total population.

2.2 Overview of Compulsory Voting Laws

To fix the low voter turnout problem, some countries have employed compulsory voting laws.⁶ Before discussing whether or not compulsory voting laws effectively increases turnout, let us explore how compulsory voting policies are constructed and where they are most prevalent.

Compulsory voting requires that citizens of a particular polity register and attend a polling place. As a result of the secret ballot, voters “cannot be compelled to either mark their ballot or voter formally,” such that they have “the option of returning blank or spoiled ballots,” if desired (L. Hill 2006). Figure 4 shows the distribution of compulsory to voluntary voting policies implemented in countries around the world. In 2015, 24 countries have

⁶ Other mechanisms to bolster voter turnout span the gamut. Lijphart (1998) suggests removing burdensome registration requirements, implementing proportional representation, and reducing the complexity and frequency of elections to address the problem of voter fatigue. Hill (2006) also suggests ideas from moving Election Day to Saturday to making voting booths more accessible, for instance sitting polling places in shopping malls. A less divided government will also improve “the relationship between voting and policy consequences” (L. Hill, *Low Voter Turnout in the United States: Is Compulsory Voting a Viable Solution?* 2006).

compulsory voting systems in all eight geographical areas of the world. When looking at the ratio of countries that practice compulsory voting to the total countries within a particular geographical region, we find that compulsory voting is most commonly practiced in Latin America, Western Europe, Oceania, and Asia, with 55%, 19%, 13%, and 12% for their ratios respectively. Overall, 13% of the 199 countries with elections practice compulsory voting.

Figure 4 **Number of countries with compulsory and voluntary voting laws ordered by geographical area in 2015⁷**

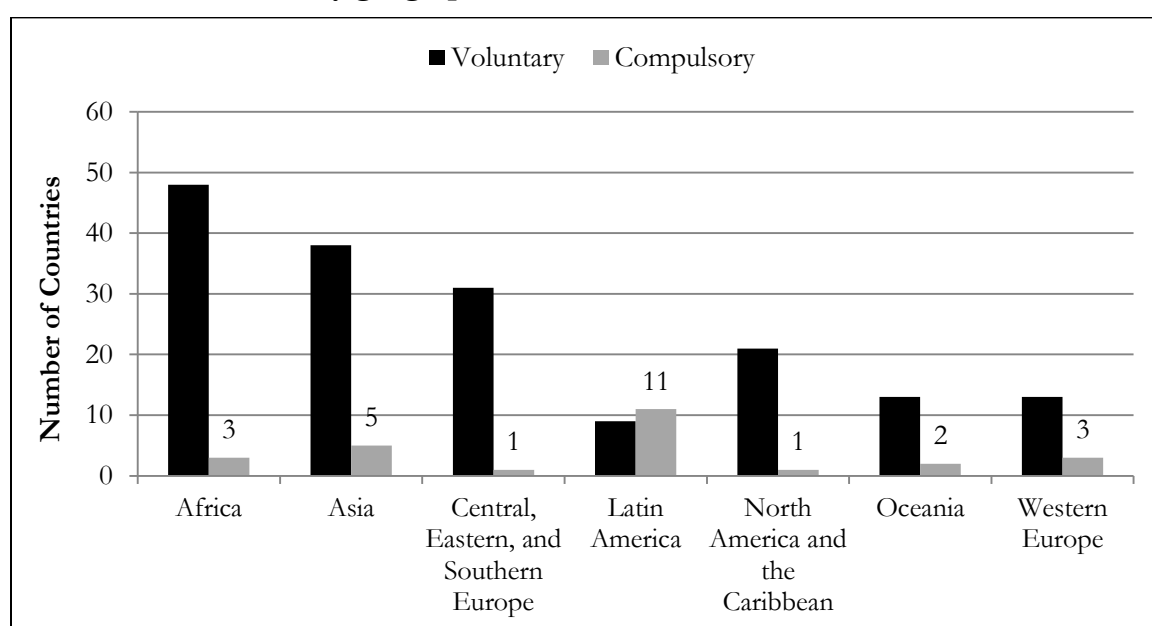


Figure 5 displays a map of these geographical differences with respect to voting laws. There are no compulsory voting laws for countries in North America, Northern Europe, and Western and Southern Africa. Four countries do not hold direct elections, or that voters do not cast ballots to choose the person, persons, or political party to fill a particular political

⁷ The countries that have compulsory voting in 2015 include: Argentina, Australia, Belgium, Bolivia, Brazil, the Democratic Republic of the Congo, Costa Rica, Cyprus, Dominican Republic, Ecuador, Egypt, Gabon, Greece, Honduras, Lebanon, Liechtenstein, Luxembourg, Mexico, Nauru, Panama, Paraguay, Peru, Singapore, Thailand, Turkey, and Uruguay (24 countries). (United Nations 2015, International Institute of Democracy and Electoral Assistance 2015a, Pintor and Gratschew 2002).

enforcement to punish citizens who fail to register. The particular types of sanctions include the following:⁹

- **Explanation** – The nonvoter has to provide a legitimate reason for failure to vote and to avoid further sanctions.
- **Fine** – The nonvoter faces a fine, which ranges by country: three Swiss francs in Switzerland, 300 – 3,000 schillings in Austria, 200 pounds in Cyprus, 10 – 20 pesos in Argentina, 20 soles in Peru, and so forth.
- **Possible Imprisonment** – The nonvoter faces imprisonment as a sanction, especially after failure or repeated refusal to pay the country-specific fine. While no such cases are documented, this is a possibility in Austria, Chile, Egypt, Fiji, and Peru, such that courts may impose a prison sentence on the nonvoter.
- **Infringements of Civil Rights or Disenfranchisement** – A nonvoter in Belgium, for instance, will be disenfranchised after not voting in at least four elections in 15 years. In Peru, nonvoters are unable to obtain certain goods and services from public offices. A nonvoter in Singapore is removed from the voting register until reapplication or a legitimate reason is submitted for having not voted. A Bolivian nonvoter cannot receive a salary from the bank unless proof is shown of voting.
- **Other** – Some sanctions follow none of the following categories. For instance, in Belgium, it is hard for a nonvoter to obtain a job in the public sector, while a nonvoter in Greece cannot obtain a new passport. In Italy, a nonvoter might receive an “innocuous sanction,” where it might for example be difficult to put his or her child in childcare.

⁹ (Gratschew 2002, International Institute for Democracy and Electoral Assistance 2015b).

Table 1 **Compulsory voting and sanctions in select countries¹⁰**

<i>Country</i>	<i>Type of Sanction^a</i>	<i>Level of Enforcement</i>	<i>Year(s) Introduced or Practiced</i>	<i>Voter Turnout Percentage^b</i>
Argentina	1, 2, 4	Weak	1912	82.03
Australia	1, 2	Strict	1924	94.96
Austria (Tyrol)	1, 2	Weak	1929 – 2014	82.99
Austria (Vorarlberg)	2, 3	Weak	1929 – 1992	82.99
Belgium	1, 2, 4, 5	Strict	1919, 1949	91.80
Bolivia	4	Not available	1952	83.11
Brazil	2	Weak	N/A	78.32
Chile	1, 2, 3	Weak	1925 – 2012	80.30
Congo, Dem. Repub.	N/A	Not available	N/A	63.44
Costa Rica	None	Not enforced	N/A	74.21
Cyprus	1, 2	Strict	1960	83.58
Dominican Republic	None	Not enforced	N/A	69.10
Ecuador	2	Weak	1936	71.37
Egypt	1, 2, 3	Not available	1956	42.33
Fiji	1, 2, 3	Strict	1992 – 2006	78.77
Gabon	N/A	Not available	N/A	63.98
Greece	1, 5	Weak	1926	74.94
Guatemala	None	Not enforced	Till 1990	52.35
Honduras	None	Not enforced	N/A	68.66
Italy	5	Not enforced	1945 – 1993	83.59
Lebanon	N/A	Not available	N/A	43.78
Liechtenstein	1, 2	Weak	N/A	91.28
Luxembourg	1, 2	Strict	N/A	89.53
Mexico	None / 5	Weak	N/A	63.03
Nauru	1, 2	Strict	1965	92.43
Netherlands	2	Strict	1917 – 1967	73.24
Panama	N/A	Not available	N/A	71.87
Paraguay	2	Not available	N/A	75.49
Peru	2, 3	Weak	1933	81.33
Philippines	None	Not enforced	1972 – 1986	74.50
Singapore	4	Strict	N/A	93.77
Switzerland	2	Strict	1904 – 1974	54.95
Thailand	None	Not enforced	N/A	55.50
Turkey	1, 2	Weak	1980s	81.63
Uruguay	2, 4	Strict	1970	81.56
Venezuela	N/A	Not enforced	Till 1933	77.70

^a The type of sanction includes the following:

1 = nonvoter must provide explanation;

2 = nonvoter faces a fine (amount varies by country);

3 = possible imprisonment;

4 = infringement of civil rights or disenfranchisement;

5 = other (i.e., Belgium makes it harder to get a job while Greece is difficult to obtain a new passport).

^b Voter turnout percentage averaged over 71 years (from 1945 – 2015) and including both first-order and second-order elections.

¹⁰ (Gratschew 2002, International Institute for Democracy and Electoral Assistance 2015b).

Table 1 shows that, in terms of particular geographical areas of the world, the presence and enforcement of sanctions follow particular patterns. All areas outside of North America and Central and Eastern Europe have countries with compulsory voting laws and attached sanctions. Countries in Latin America, Western Europe, Asia, and Oceania have stricter enforcements in practice. The most common sanction is an explanation alone or together with a fine. Those countries with some type of sanction have an average turnout rate of over 70%, with the exception of Switzerland, which discontinued compulsory voting in 1974. Countries with a sanction with strict enforcement have an average voter turnout of 90%.

2.3 The Voting Paradox

Another related topic is why citizens even vote. Economists have studied in depth the inherent problem in voting: rational abstention. Downs (1957) argues that a citizen's value from voting is very close to zero as a result of having such a small probability of affecting the outcome of an election. Downs (1957) presents the "calculus of voting," where the net payoff from voting is $p \times B - C$. In this equation, p is the probability of changing the outcome, B is the net-benefit from having the preferred outcome over the outcome that results when no vote is given, and C is the cost of voting. Since p is close to zero in a large population of citizens, the instrumental benefit of $p \times B$ is approximately zero and smaller than C , resulting in a negative overall benefit for an individual voter. Overall, a rational citizen would not feel compelled to vote, especially since a citizen incurs costs when voting, for instance, time and money (Orszag 2012). In fact, rational abstention can explain why the socioeconomic voter gap exists, as the opportunity costs to voting are much higher for those with lower income. The "voting paradox" describes the fact that despite the economic

prediction of a near-zero voter turnout, a fairly sizeable portion of the population submit ballots every November.¹¹

Compulsory voting changes the Downs' calculus of voting. When voting is mandatory, the probability of someone affecting the outcome of a vote, p , is no longer zero, since a coalition of voters with one's similar interests are all mandated by the law to vote. As a result, it is much more likely that the instrumental benefit of voting, $p \times B$, is higher than the cost of voting, C , under a compulsory voting system. Hill (2006) argues that compulsory voting reduces information uncertainty in voting, where simply by knowing that "other voters with similar interests to mine are going to vote overcomes any uncertainty about the value of my vote and frees me from having to weight 'opportunity costs' against benefits in an environment where resources and information are scarce." For instance, consider a poor, unemployed, agoraphobic African American woman. Without mandatory voting, it is rational for her to stay at home and preserve her scarce resources, since it is highly likely that those in her similar circumstance will also not vote and therefore her vote will be fairly inconsequential to protect her interests. Mandatory voting takes this "prisoner's dilemma" aspect out of the decision about whether or not to bother voting," helping coordinate individuals within a polity" (L. Hill 2006). Hill (2006) reasons that much in the same way that taxation and compulsory schooling solves collective action problems, so too can

¹¹ To solve the voter paradox, economists have either departed from standard utility maximization models or assumed that voting gives various forms of utility through "expressive benefits"—the benefits of self-expression, the pride in participating in a well-functioning democratic static, and the desire to fulfill one's civil duty to vote (Funk 2005). Regarding the last expressive benefit, Knack (1992) and Opp (2001) find that citizens that have internalized the social norm that a good citizen should go to the polls are more likely to do so. Ferejohn and Fiorina (1974) consider a different voter other than an expected utility maximizer: "the minimax regret decision maker." This type of voter finds the error of his ways in the future, so he chooses to act so as to minimize his maximum error over a future time horizon. The minimax regret decision makers will regularly vote in elections so as to minimize their future regret of not voting. Funk (2005) argues that citizens also go to the polls for "signaling purposes," namely as a result of social pressures and social rewards that serve as an "external benefit of norm-adherence."

“compulsory voting be better understood as a coordination necessity in mass societies of individuated strangers unable to communicate and coordinate their preferences.”

Chapter 3

Literature Review

Economists and political theorists have analyzed the impact of mandatory voting on voter turnout through various empirical studies. Table 2 shows a snapshot of the various empirical studies that examine the relationship between compulsory voting policies and voter turnout, with the number of countries examined, years in the study, and main findings. As a whole, these studies demonstrate that compulsory voting increases voter participation rates, although the scale of the effect of compulsory voting on turnout differs between studies. As Blais (2006) puts it, “This pattern has been confirmed by every study of turnout in western democracies, and the magnitude of the estimated impact is almost always around 10 to 15 points... ‘Compulsory voting increases turnout’ can be construed as a well-established proposition.”

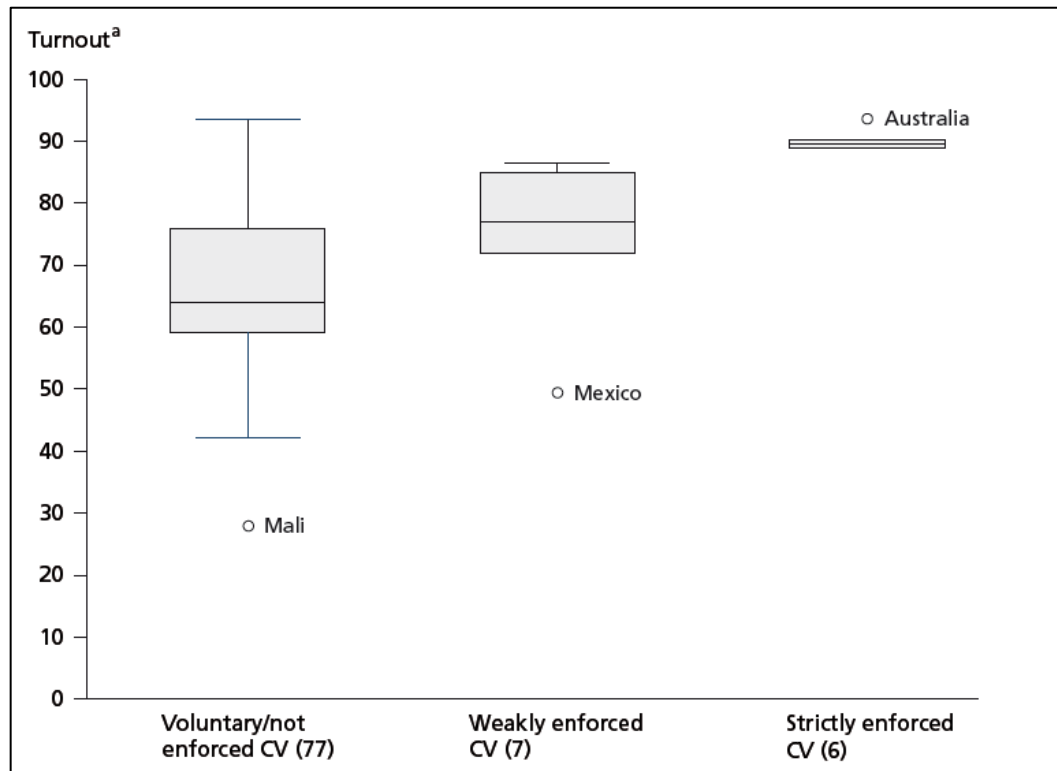
Table 2 **Empirical studies on relation between compulsory voting and voter turnout¹²**

<i>Author (Year)</i>	<i>No. of countries (No. of elections)</i>	<i>Years in study</i>	<i>Results</i>
Powell (1982)	29 democracies	1960 – 1970	Compulsory voting induces higher turnout while voluntary registration reduced turnout.
Jackman (1987)	19 democracies	1960 – 1980	Compulsory voting increases turnout by 13 points.
Franklin (1996)	23 democracies	1961 – 1990	Compulsory voting increases turnout by 6 to 7 percentage points.
Blais and Dobrzynska (1998)	91 countries (324 elections)	1972 – 1995	Compulsory voting induces an 11-point increase in voter turnout. Combining various factors socio-economic environment, institutional setting, and the party system can account for turnout as high as 90 percent.
Norris (2002)	23 democracies	1990 – 2000	Compulsory voting regulations are particularly salient in older democracies, where turnout is 7.7 points higher as a proportion of the voting age population and 14.2 points higher as a proportion of the registered electorate.
Blais, Massicotte, and Dobrzynska (2003)	61 democracies (151 elections)	1990 – 2001	Compulsory voting induced a 13-point increase in turnout, provided there was a penalty or sanction for failing to vote. Proportional voting systems also induce higher turnout in these countries.
Fornos, Power, and Garand (2004)	18 Latin Am. countries (85 parliamentary and 70 presidential)	1980 – 2000	Compulsory voting laws have a positive impact on voter turnout in both Latin American elections, accounting for as much as a 20-point increase in turnout with the presence of enforced sanctions.
Shafer (2011)	90 democracies	2001 – 2010	Countries with strict enforcement consistently have high turnout rates, with an average turnout of 24 points higher than those countries with voluntary voting. In his multivariate analysis, he finds that average turnout is 10 points and 18 points higher in countries with weak enforcement and strict enforcement, respectively, as compared to voluntary voting systems.

¹² (Jackman 1987, Blais and Dobrzynska 1998, Blais, Massicotte and Dobrzynska 2003, Blais 2006, Schafer 2011, Fornos, Power and Garand 2004, Norris 2002).

As shown in Table 2, the seminal studies on mandatory voting focused principally on democratic countries. Starting with Blais and Dobrzynska (1998), scholars increased the sample size of countries to greater than 30 or examined only a subset of countries, such as those in the Latin America. More recent literature, such as Fornos, Power, and Garand (2004) and Schafer (2011), examine the kinds of sanctions that must accompany compulsory voting legislation for them to be efficient as well as how strictly these sanctions should be enforced. For instance, Schafer (2011) finds that even if compulsory voting is weakly enforced, there is still a higher average turnout though there is a considerable range of participation rates within this group (see Figure 6).

Figure 6 **Average voter turnout rates in 90 democratic countries, 2001 – 2010¹³**



¹³ a = Percentage of registered voters. CV = compulsory voting.

The sample comprises all countries that Freedom House rated at least as “free” and not worse than “partially free” for half of the years between 2001 and 2010. (Schafer 2011).

These studies, however, have a fair amount of limitations. First, all the studies in Table 2 employ cross-sectional time-series models, meaning that each observation is a separate election, associated with one country in one year. Their models fail to distinguish each observation as a specific country (entity) in a specific year (time) as a panel regression might take into account. As a result, the studies suffer from omitted variable bias, since their studies do not account for variables that might differ between countries (entity-fixed effects) and over the years (time-fixed effects).

Additionally, the studies limit the sample size of countries to below 90 (often below 30) over a short 20- to 30-year time horizon. This makes it challenging to discern if the study results can be applied directly to the United States in the present-day, since conclusions might apply to only a narrow range of countries and over a specific decade in the past.

Another weakness is that prior studies often confound correlation with causation. Countries with mandatory voting policies are very different culturally and politically than those without these policies, so it difficult to ascertain if higher turnout in countries with compulsory voting can really be attributed to the law itself or differences in a country's political or economic climate. None of the studies directly analyze voter turnout before and after the imposition of compulsory voting legislation (or before and after the annulment of such legislation), which would control for country-specific differences.

Finally, studies, such as Blais and Dobrzynska (1998) and Blais, Massicotte, and Dobrzynska (2003), leave the United States out of their sample because of missing data. This is highly problematic because the U.S. is an influential country with a low voter turnout despite a high GDP per capita and population size. Using their models, we would predict a high voter turnout rate for the U.S. of over 100 percent, even without compulsory voting.

Chapter 4

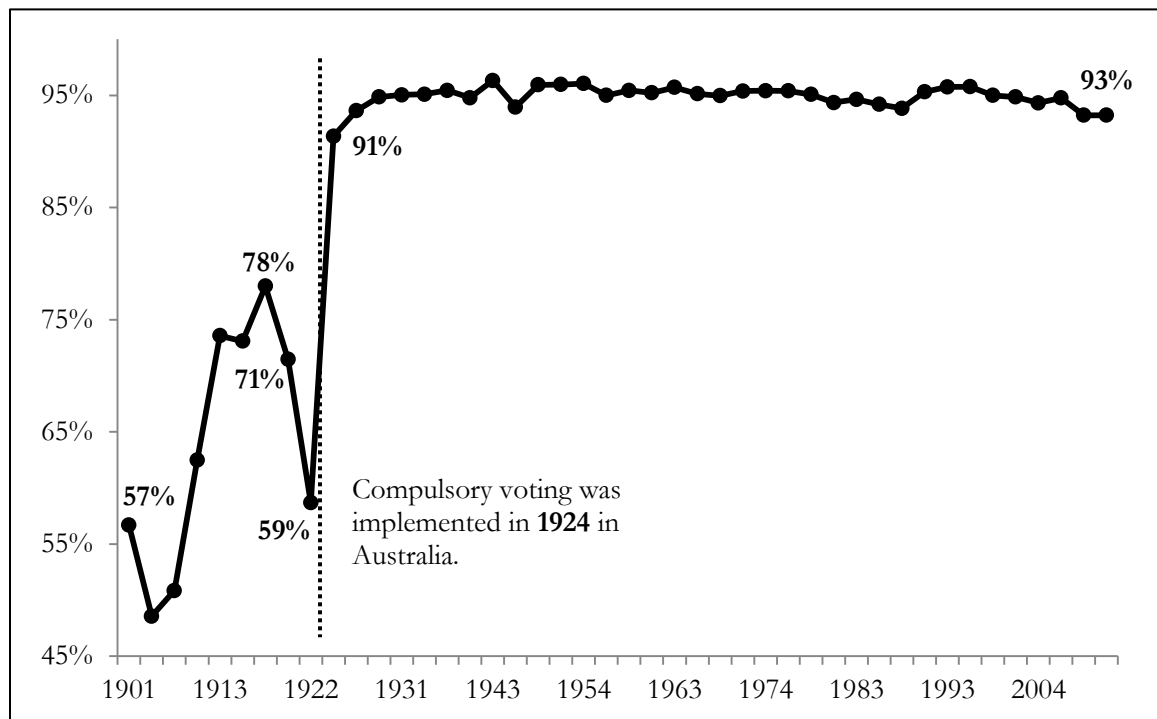
Preliminary Data Analysis

In my study, I correct the limitations of prior literature with both a qualitative and quantitative analysis of compulsory voting. In the qualitative section that follows, I compare turnout before and after the adoption or abandonment of mandatory voting laws.

4.1 *Case Study: Australia*

Australia is an interesting country to focus on given its consistently high rates of compliance under a compulsory voting system. Figure 7 shows that when compulsory voting was implemented 1924, voter turnout jumped to 91 percent, which is 32-point increase from the previous election in 1922. Since the imposition of compulsory voting, voter turnout has remained high at an average turnout of 95 percent from 1925 to 2013. In comparison, the average voter turnout prior to the imposition of compulsory voting was 64 percent from 1901 to 1922, which represents a 31-point difference.

Figure 7 **Voter turnout in Australian parliamentary elections, 1901 – 2013¹⁴**



Australia imposes two sanctions on citizens who fail to vote—an explanation is required and a fine between \$10 and \$170 is imposed if an insufficient explanation is offered (Australian Electoral Commission 2014).¹⁵ Interestingly, the imposition of these sanctions does not necessarily need to result in rigorous punishment in order to be effective. For instance, through “‘please explain’ letters,” Australia has an honor system whereby abstainers give “‘valid and sufficient’” reasons in order to avoid penalties for not voting (L. Hill 2006). Abstainers are rarely fined in practice. Less than one percent of the Australian electorate face

¹⁴ (Sharman and University of Western Australia n.d., International Institute of Democracy and Electoral Assistance 2015a).

¹⁵ According to the Australian Electoral Commission, all non-voters that do not “provide a valid and sufficient reason for failing to vote” pay a \$20 penalty. If one fails to pay the \$20 penalty, the matter may be referred to a court hearing, in which case the fine could be as high as “\$170 plus court costs and a criminal conviction may be recorded against you” (Australian Electoral Commission 2014).

a fine or court commitment in a given election period (L. Hill 2006).¹⁶ Overall, administering sanctions is not a huge burden on the Australian Electoral Commission.

An explanation of why Australia has such high rates of compliance with low rates of punishment can be traced to two reasons. First, in this system, voting is easily accessible and failure to vote is often more troublesome than voting. Second, when the law requires that people vote, a norm of universal participation is generated and reinforced. As Hasen (1996) explains, “[L]aw may be the pathway to order, not the obstacle to it,” through the emergence of adaptive social norms that “shape preferences” and “change tastes.” Since laws show a consensus of acceptable behavior in a community, citizens often treat the law the final say. As such, a law such as compulsory voting can cause people to internalize a preference for a particular type of behavior. This type of norm shaping is shown in Australia, where most citizens approve of compulsory voting “not merely because they feel bound to obey the laws” but because they think the “law and its entailed obligation as a reasonable imposition on personal autonomy, in much the same way that people feel obligated to stop at red lights” (L. Hill 2006). Galston (2011) notes that Australians see voting as obligatory, given that roughly 2 to 3 percent of ballots are intentionally spoiled or completed randomly in resistance of the law. Simply having the law of compulsory voting alone is not enough to ensure turnout or build a particular norm. The law must be accompanied by some type of sanction in order to have its desired effect. As Hirczy (1994) notes, democratic regimes with sanctions for nonvoters increase voter turnout by around 10 to 13 points as compared to

¹⁶ This is equally true in other countries with imposed sanctions. For instance, Belgium has prosecuted less than a quarter of a percent of nonvoters (L. Hill, *Low Voter Turnout in the United States: Is Compulsory Voting a Viable Solution?* 2006).

those that do not, suggesting that the law is recognized as obligatory once penalties, even those that are negligible, are prescribed.

While compulsory voting might appear to be a tedious system to administer that requires a heavy financial burden on the public purse, in reality, mandatory voting is not extremely costly. In Australia, the cost of the compulsory voting system is relatively small at \$5 per vote (L. Hill 2006).¹⁷ The Australian Electoral Commission has tried to limit the citizen costs of voting by actively assisting with registration, ensuring that there are polling booths within close proximity to all citizens, holding elections on Saturday, expanding voting the absentee population, and increasing technology through mobile polling and postal voting. The Commission is thereby able to ensure that voters do not forego too much when voting, minimizing the opportunity and transaction costs. While opponents to mandatory voting could argue that these costs incurred by the Australian government are too burdensome and expensive, even if they are as low as \$5 per vote, a high cost is not a sufficient reason to reject compulsory voting in solving the low turnout problem. In fact, democracy is an expensive and cumbersome process that is often well worth its process with a well-functioning polity and engaged citizenry. The fact that mandatory voting increased Australian voter turnout by upwards of 30 percentage points is reason enough to justify the costs incurred by the Australian Electoral Commission in making the registration and voting process relatively painless.

¹⁷ The dollar value of the vote was calculated from Hill's correspondence with Gay Young, information officer at the Australian Electoral Office in May 2012.

4.2 Case Study: The Netherlands

The Netherlands presents another fascinating example to understand the relationship between law and norms with respect to compulsory voting, given that Dutch elections switched from compulsory to voluntary voting.

Figure 8 Voter turnout in Dutch parliamentary elections, 1946 – 2012¹⁸

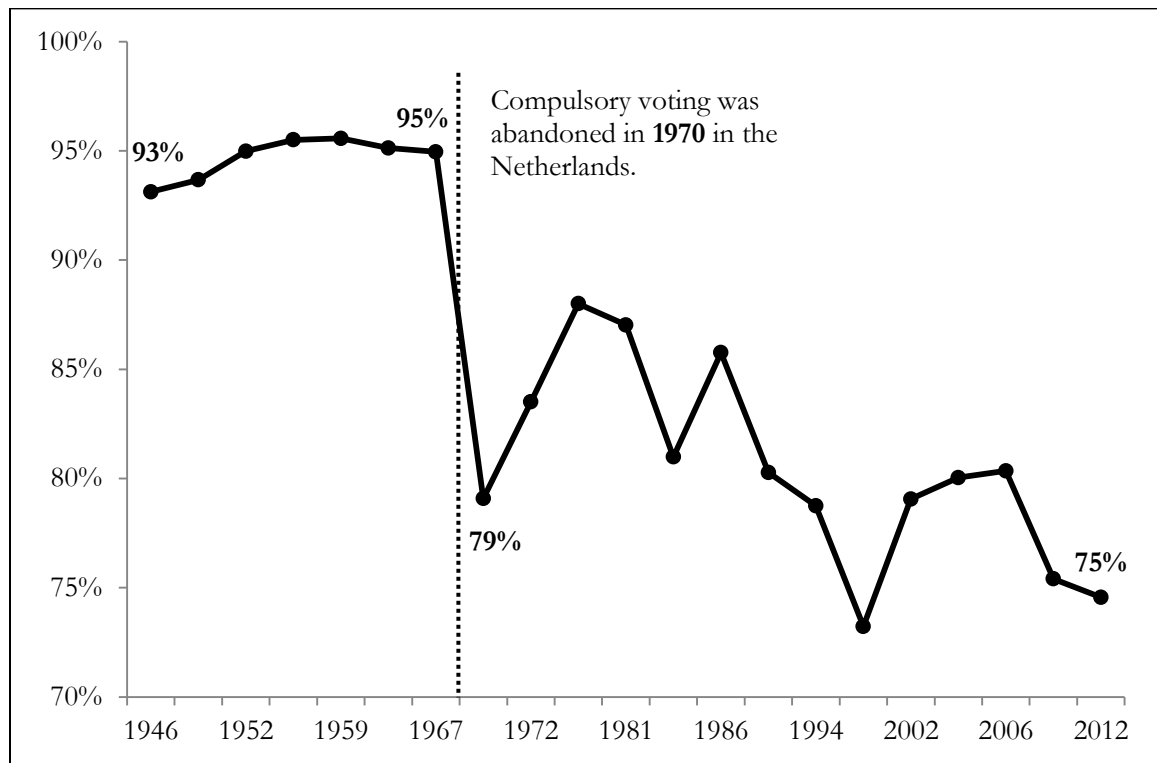


Figure 8 shows that before the compulsory voting law was repealed in the Netherlands, voter turnout was extremely high with an average of 95 percent between 1946 and 1967. Immediately after compulsory voting was abandoned in 1970, voter turnout plummeted to 79 percent in the election of 1971, representing a 16-point drop from its 95 percent level in 1967. As Hill (2006) puts it, “As soon as the law was repealed, turnout fell immediately and

¹⁸ (International Institute of Democracy and Electoral Assistance 2015a).

drastically.” Overall, the average voter turnout in the Netherlands after the abandonment of compulsory voting has hovered around 80 percent, with the lowest turnout in 1998 at 73 percent. In contrast, the Dutch compulsory voting system boasted an average turnout rate of 95 percent, which is 15 points higher.

In the Netherlands prior to 1970, the fine for nonvoters was relatively modest at around \$5, and only a small percentage of abstainers were brought to court and prosecuted after any given election. Irwin (1974) found that in 1966, only 577 of 400,000 nonvoters were even brought to court. This suggests that the high turnout figures were not the result of fear of severe penalties for violation. Instead, “obedience was simply recognition that that was the law and the law should be obeyed. When the law was changed, behavior also changed” (Irwin 1974). Hill (2006) adds that in cases where compulsory voting is “applied systematically and without zealotry,” it can serve as an effective “surrogate for the social norm of voting.”

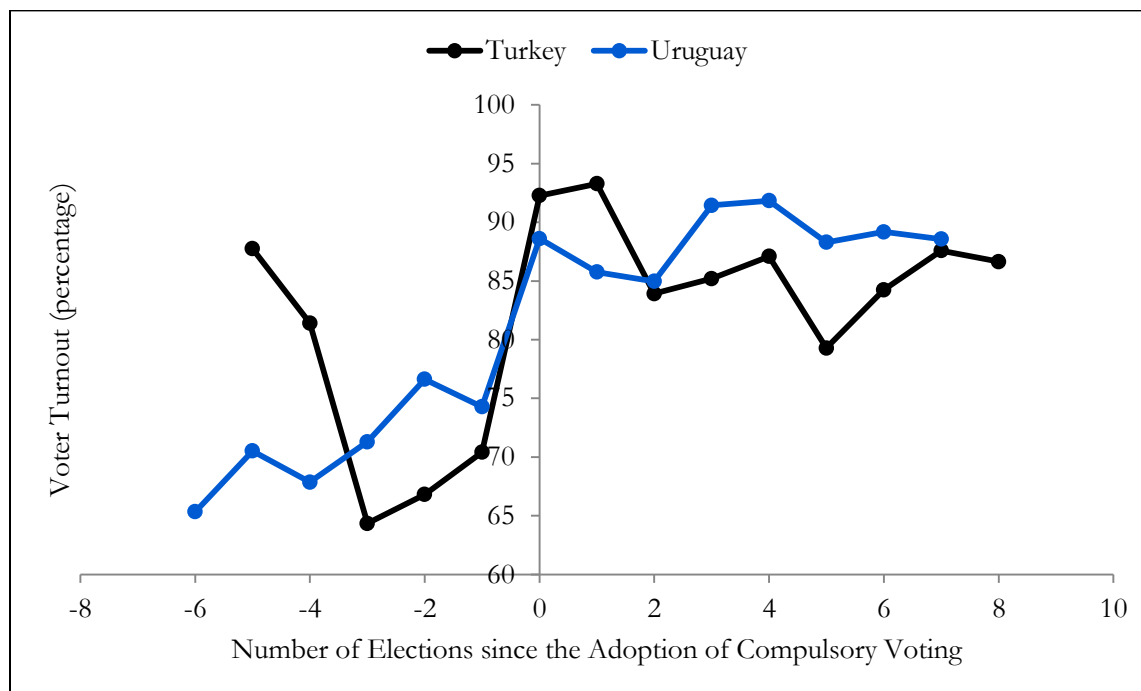
4.3 Switching between Voluntary and Compulsory Systems

After examining the particular situations within Australia and the Netherlands, a question remains whether these trends can be generalized across all across countries. In other words, does the pattern in Australia and the Netherlands stand true for other countries? Does the adoption compulsory voting cause voter turnout to rise, and similarly, does the abandonment of compulsory voting cause turnout to fall?

To examine these questions further, I first modeled the impact that a change from a voluntary to a compulsory voting system had on voter turnout. Figure 9 displays voter

turnout in two countries—Turkey and Uruguay—before and after the adoption of compulsory voting, with election 0 representing the first election since the passage of mandatory voting policies.

Figure 9 Voter turnout in select countries before and after the adoption of compulsory voting¹⁹



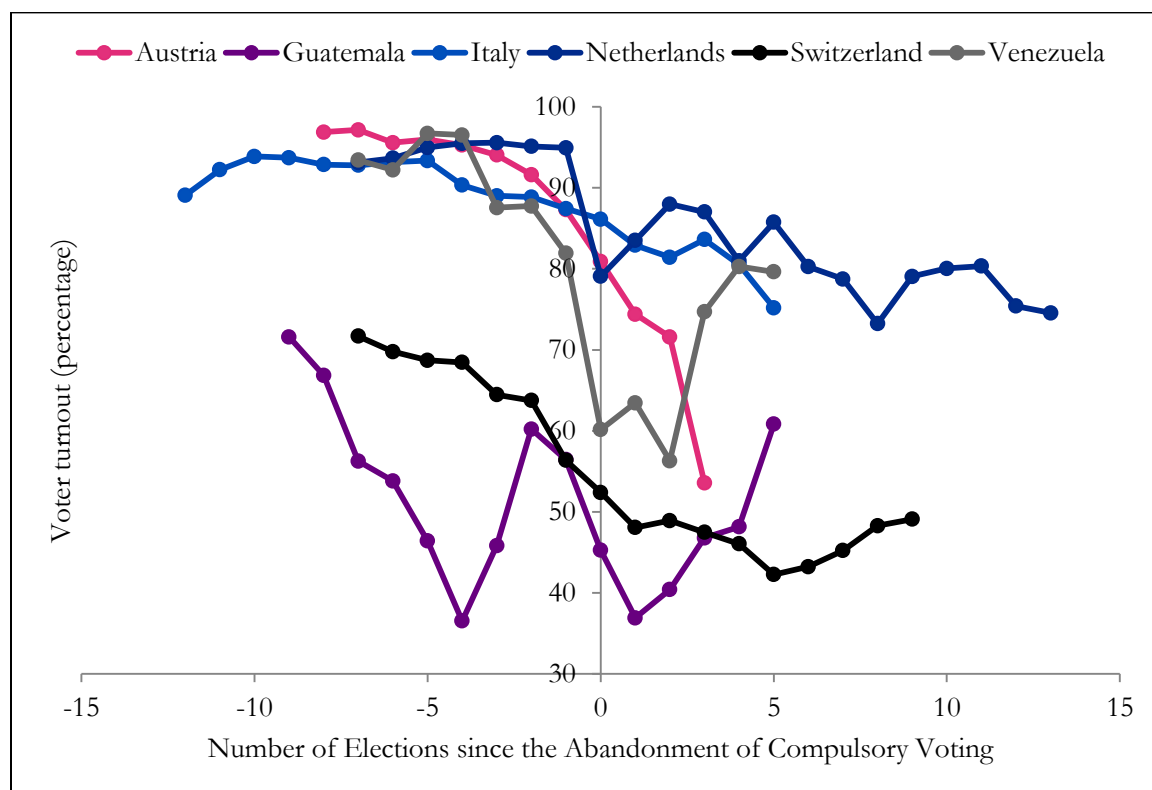
In Turkey, compulsory voting increased voter turnout from 70 percent to 92 percent, representing a 22-point increase. Before the adoption of compulsory voting, the average voter turnout in Turkey was 74 percent. Since the early 1980s with the passage of mandatory voting laws, average turnout in Turkish elections increased by 13 points to 87 percent. Similarly, in the Uruguayan elections before and after a compulsory voting system was implemented, turnout was 74 percent and 88 percent, respectively. On average, turnout in the years preceding and following the passage of mandatory voting laws was 70 and 88

¹⁹ (International Institute of Democracy and Electoral Assistance 2015a).

percent, respectively. In other words, mandatory voting increased average turnout by 18 points. Overall, voter turnout before and after the adoption of compulsory voting exhibits a similar trend found in Australia, although the scale of the increase varies by country based on regional and cultural differences.

Next, I modeled the impact that a change from a compulsory to a voluntary system had on a voter turnout. Figure 10 shows voter turnout in six countries before and after the abandonment of compulsory voting, with election 0 representing the first election since the annulment of compulsory voting laws.

Figure 10 Voter turnout in select countries before and after the abandonment of compulsory voting²⁰

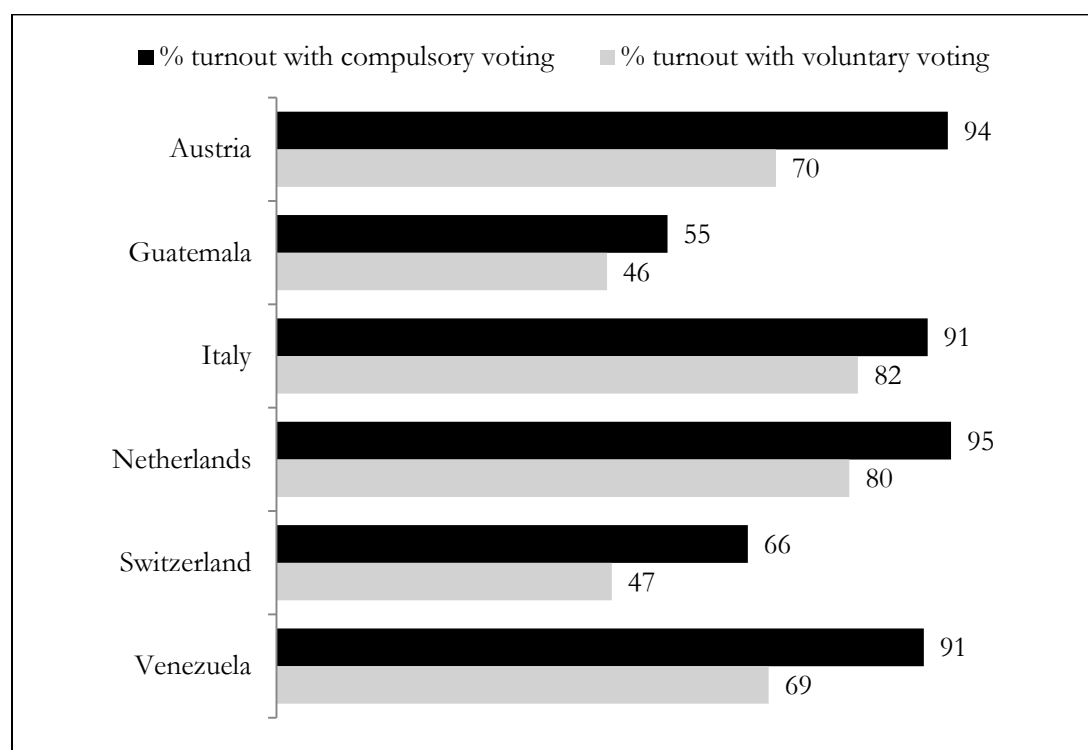


²⁰ (International Institute of Democracy and Electoral Assistance 2015a).

When comparing the elections right before and after the abandonment of voting, voter turnout dropped by 6 points in Austria, 11 points in Guatemala, 3 points in Italy, 16 points in Netherlands, 4 points in Switzerland, and 21 points in Venezuela. Although the Netherlands has one of the highest drops in voter turnout with the abandonment of mandatory voting policies, the trend in voter turnout is similar across every country observed: voter turnout consistently drops with the abandonment of compulsory voting policies.

Figure 11 extends the voter turnout trends in Figure 10, by capturing the average voter turnout in the selected countries when their political systems had either compulsory or voluntary voting systems.

Figure 11 **Average voter turnout in select countries with a switch from compulsory to voluntary voting systems²¹**



²¹ (International Institute of Democracy and Electoral Assistance 2015a).

Outside of Guatemala, which has a change in average turnout of 8 points, all other countries experience a drop in average voter turnout in the double digits. In fact, Austria and Venezuela experience a change in average voter turnout of over 20 points when the system switches from mandatory to voluntary voting.

The trends found within Australia and the Netherlands remain consistent. In order to explore what the impact compulsory voting would have on the United States' voter turnout, I now turn to modeling the relation between voter turnout and mandatory voting, controlling for various factors from the socioeconomic environment to the institutional setting to the party system. A multivariate regression model allows me to control for various factors that might also contribute to higher or lower compulsory voter, which makes for a better point estimate of how much turnout would shift in the United States under a compulsory voting system.

Chapter 5

Data

5.1 Overview of the Data

To build a model to find causal correlations between voter turnout and laws, I rely on one major dataset for my analysis, which provides voter turnout data from national presidential, parliamentary, and European parliamentary elections since 1945. The data is provided by the International Institute for Democracy and Electoral Assistance (IDEA), an intergovernmental organization that aims to support democracy worldwide through the provision of knowledge, assistance in democratic reform, and influence on policies and politics (International Institute for Democracy and Electoral Assistance 2015c). This dataset is widely used by cross-national research on compulsory voting and is well known as the most comprehensive global collection of voter turnout statistics (Fornos, Power and Garand 2004, Schafer 2011). Table 8 in the Appendix provides a description of variables in the IDEA voter turnout database, the majority of which are used as key variables in my model.

I used two additional data sources to add further explanatory variables to my model from population to per capita GDP to level of democracy. The first of these data sources is

the Penn World Tables (PWT) constructed at the University of Pennsylvania that covers real national-accounts data (Summers and Heston 2015). Unlike other databases, such as the World Bank's World Development Indicators, PWT covers a longer time period that is useful to compare country productivity over a range of time. PWT combines the prices within each country for expenditure categories to determine an overall relative price level, known as the country's purchasing power parity (PPP). PPP helps to estimate the exchange rate between two currencies, such that when country's GDP is converted into another country's currency, it is standardized instead of relying on fluctuating market exchange rates. The second of the data sources is Freedom House, an organization that aims to defend human rights and promulgate democratic change by focusing on three pillars of "analysis, advocacy, and action" in the support of basic political rights and civil liberties (Freedom House 2015). Freedom House developed a comprehensive database that measures the democracy and political freedom within countries. To determine the level of democracy within a country, there are two separate scales for political rights and civil liberties, both of which are measured from 1 (*high freedom*) to 7 (*low freedom*). For instance, Denmark has a combined average score of 1, indicating it is a well-functioning democracy, while Kenya has a combined average score of 6, suggesting that citizens lack basic political liberties.

I also added dummy variables to my model to capture geographical differences between countries. *The United Nations Statistical Yearbook* produces a yearly report that references standardized regional groupings of countries, primarily based on the continent in which the country is housed. For example, Cameroon is located in the sub-region of Middle Africa in the geographical area of Africa.

5.2 Coverage

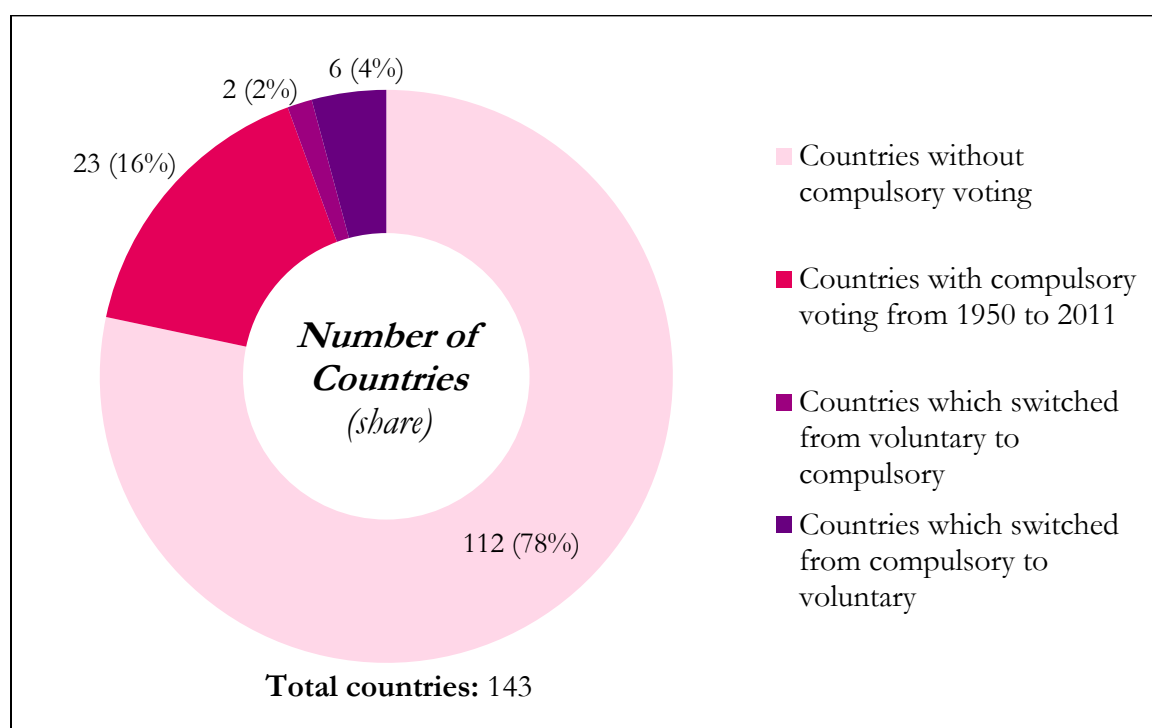
The original dataset from the International Institute of Democracy and Electoral Assistance includes 2771 elections from 199 countries over the time period of 1945 to 2015 (International Institute of Democracy and Electoral Assistance 2015a). Within the IDEA dataset, 35 of the countries have had compulsory voting at some point during the 71-year period, 24 of which employed compulsory voting for the entire period and 11 of which employed compulsory voting for part of the time period (Table 1 lists the 35 countries).

Since the IDEA dataset included presidential, parliamentary, and EU parliamentary elections, I have limited my sample to include the major elections within countries—presidential elections if a country is a federal republic or parliamentary elections if a country follows a parliamentary system. For instance, United States as a federal republic has both presidential and congressional elections, so I only included the presidential elections. Germany, on the other hand, is a federal parliamentary republic that includes both parliamentary and EU parliamentary elections, so I only considered the impact of the parliamentary elections. Additionally, other explanatory variables, such as per capita GDP from the Penn World Tables or level of democracy from Freedom House Ratings, had some missing observations. In these cases, I omitted these particular elections from the dataset.

Overall, the data used in my model includes 143 countries from 1950 to 2011, covering 1051 elections. (See Table 9 in the Appendix for a list of countries used in this study.) Over the 62-year period, 31 countries had compulsory has mandatory voting at some point, with 23 countries consistently practicing compulsory voting laws, 2 countries switching from voluntary to compulsory voting systems, and 6 countries switching from compulsory to voluntary voting systems. (The countries that switch between compulsory and

voluntary systems are shown in Figure 9 and Figure 10.) Figure 12 graphically shows the number and share of countries with compulsory versus voluntary systems used in my model. Over 20 percent of the countries analyzed had some type of compulsory voting system from 1950 to 2011.

Figure 12 **Number (share) of countries with compulsory versus voluntary systems in model, 1950 – 2011²²**



5.3 Data Limitations

Although the sample of countries is of a large sample size, including over 70 percent of the countries with democratic elections, the number of countries with compulsory voting is fairly small. This makes it particularly difficult to assess if a sizeable voter turnout can be attributed to compulsory voting or various cultural or regional factors. Moreover, countries differ wildly in their political environment and stability, socioeconomic status of its citizens,

²² (International Institute of Democracy and Electoral Assistance 2015a).

demographic makeup of the population, and cultural attitude. While I have controlled for some of these factors in my model, there are numerous factors that differ between countries that can shape voter turnout.

Another major limitation in the data is that there are an unbalanced number of elections per country. For instance, the sample includes 12 elections for the United States from 1964 to 2008, while it only includes two elections for Sudan in 1996 and 2010. This makes it particularly hard to compare between countries because there are inherently more observations (elections) in the dataset for some countries and less for others. Additionally, the elections within each country also fall on different years and include different gaps between elections. The United States has presidential elections every 4 years, but Senegal has presidential elections between 5 and 7 years apart.²³ With elections falling on different years, it is hard to isolate particular cross-country effects on voter turnout in a particular year. Different gaps between elections could shape whether or not citizens vote – infrequent elections could boost turnout while frequent elections could induce political apathy.

²³ The reduction of the Senegalese presidential term from 7 to 5 years was due to a constitutional amendment in 2001.

Chapter 6

Methodology and Variable Specification

The models used in the majority of the literature are cross-sectional in nature, where turnout across a series of elections is taken as a function of the levels of various explanatory variables (Jackman 1987, Blais and Dobrzynska 1998, Blais, Massicotte and Dobrzynska 2003, Blais 2006, Schafer 2011, Fornos, Power and Garand 2004). These scholars employ a pooled cross-section model, where the units of analysis are individual elections. This is particularly superior to a model where mean turnout is analyzed over the mean levels of independent variables and each observation is one nation. As Fornos, Power, and Garand (2004) explain, the problem with looking at country means is that “there is co-variation in turnout and key independent variables that occurs within countries overtime yet is hidden by the process of aggregating the data through the calculation of means for each variable.” Thus, I begin my analysis by applying a pooled cross-sectional time-series model, where turnout in each i -th country and each t -th year is a function of independent variables at the time of the particular election-year. I add to these models by including a larger selection of countries (143 as

opposed to roughly 50 countries in other studies) over a longer time period (71 years as opposed to 20-30 years).

Next, since we know that voter turnout is bounded by 0 and 1, I applied a logistic specification to the cross-section model. Since my voter turnout dependent variable was originally scaled from 0 to 100 to represent the percentage of registered voters that voted, I divided this variable by 100 to bound it by 0 and 1 in a logistic specification. Additionally, I linearized the logistic function. Since the standard command on regression packages is to estimate a linear regression, I performed the following transformation to linearize the model and estimate all the relevant regression coefficients.

The following equation represents a logistic specification with B_0 representing the constant term, B_1 representing the regression coefficient for the parameter of interest, x representing the parameter of interest, B_t representing a vector of regression coefficients, and z representing a vector of regressors:

$$y = \frac{1}{1 + e^{-(B_0 + B_1x + B_tz + E)}}$$

Rearranging this equation, we get:

$$y = \frac{e^{(B_0 + B_1x + B_tz + E)}}{e^{(B_0 + B_1x + B_tz + E)} + 1}$$

From here, we know that $1 - y$ is the following:

$$1 - y = 1 - \frac{e^{(B_0 + B_1x + B_tz + E)}}{e^{(B_0 + B_1x + B_tz + E)} + 1}$$

$$1 - y = \frac{e^{(B_0 + B_1x + B_tz + E)} + 1}{e^{(B_0 + B_1x + B_tz + E)} + 1} - \frac{e^{(B_0 + B_1x + B_tz + E)}}{e^{(B_0 + B_1x + B_tz + E)} + 1}$$

$$1 - y = \frac{1}{e^{(B_0 + B_1x + B_tz + E)} + 1}$$

Dividing y by $1 - y$, we get the following:

$$\frac{y}{1 - y} = \frac{e^{(B_0 + B_1x + B_tz + E)}}{e^{(B_0 + B_1x + B_tz + E)} + 1} \times \frac{e^{(B_0 + B_1x + B_tz + E)} + 1}{1}$$

$$\frac{y}{1 - y} = \frac{e^{(B_0 + B_1x + B_tz + E)}}{1}$$

$$\frac{y}{1 - y} = e^{(B_0 + B_1x + B_tz + E)}$$

Finally, if we take the natural log of both sides of the equation, we get a standard linear equation on the right side:

$$\ln\left(\frac{y}{1 - y}\right) = \ln(e^{(B_0 + B_1x + B_tz + E)})$$

$$\ln\left(\frac{y}{1 - y}\right) = B_0 + B_1x + B_tz + E$$

In order to understand the meaning of the regression coefficients, I graphed the relationship between a regressor and the dependent variable, with and without the parameter of interest of compulsory voting.

In my second model, I used an entity- and time-fixed effects model, since my data was structured with n different country entities observed at T time periods. As noted in the section on data limitations, since some countries have fewer elections recorded than other countries, this involves an unbalanced panel. With entity-fixed effects, I can control for omitted variables that vary across entities but not overtime. Similarly, with time-fixed effects, I can control omitted variables that vary across time but not between entities. Combined, an

entity- and time-fixed effects regression model eliminates omitted variable bias arising from both unobserved variables that are constant across countries and overtime (Stock and Watson 2011). This is significant because cross-sectional studies used by other scholars fail to account for omitted variable bias that might occur between countries or over the time horizon examined.

6.1 Empirical Framework

In the pooled cross-sectional time-series model, I apply a simple Ordinary Least Squares (OLS) regression to model the differences between voluntary and compulsory voting systems. Thus,

$$Y_i = B_0 + B_1x_{1i} + \dots + B_kx_{ki} + u_i$$

Here, B_0 represents the constant, B_1 is the regression coefficient for the regressor x_1 , and u_i is the error term. For the linear specification, Y_i represents the dependent variable or voter turnout. For the logistic specification, the dependent variable or Y_i is $\ln\left(\frac{y}{1-y}\right)$ where y is voter turnout bounded between 0 and 1. All regressions have heteroskedastic robust standard errors.

In the entity- and time-fixed effects panel model, I use the following empirical framework:

$$Y_{it} = B_0 + B_1X_{it} + \dots + B_kX_{k,it} + \gamma_2D2_i + \dots + \gamma_nDn_i + \delta_2B2_t + \dots + \delta_TBt + u_{it}$$

Here, i from 0 to n represents the country entities; t from 0 to T represents the years; and X_{it} is the value of the first regressor for country i in time period t , $X_{2,it}$ is the second

regressor and so forth. The model is represented using $n - 1$ country binary indicators and $T - 1$ time binary indicators.

6.2 Variable Specification

The dependent variable, voter turnout, is measured in two ways: turnout in parliamentary elections and in presidential elections. Parliamentary elections involve the lower house elections in bicameral legislatures. I only included parliamentary elections in cases where they are the highest-level election in a particular country, for instance in Australia and Germany. Additionally, turnout is calculated as the percentage of the ballots cast over the registered population. This is a better measure than a measure of turnout over the voting age population as “we do not have good data on the percentage of residents who are aliens of voting age, and cannot systematically adjust our turnout data to remove them” (Blais and Dobrzynska 1998). Instead, similar to Franklin (1996), Blais and Dobrzynska (1998), and Fornos, Power, and Garand (2004), I look at voter turnout as a percentage of those registered on the electoral list.

To understand what affects voters’ predisposition to cast votes during an election, I include the following independent variables in my two models. These variables are broken into three groups of factors: socioeconomic environment, institutional setting, and party system. These groupings are commonly used by other scholars (Blais and Dobrzynska 1998, Blais, Massicotte and Dobrzynska 2003, Blais 2006, Fornos, Power and Garand 2004).

Socioeconomic Environment

Levels of per capita GDP (log). The values of per capita GDP are reported in millions of 2005 dollars every year for each country according to data provided by University of

Pennsylvania's Penn World Tables. GDP is measured by looking at country expenditures at chained purchasing power parities (PPPs). I predict that levels of per capita GDP will be positively related to voter turnout levels, since economic development makes a citizenry more engaged and informed in the political process. It is also possible that the relationship between per capita GDP and voter turnout is non-linear because over a certain threshold of economic development, there is no additional impact on turnout. I consider these implications in the logistic specification.

Level of population (log). Next, I include levels of population as reported in millions by the University of Pennsylvania's Penn World Tables. I predict that the relationship between country population and turnout will be negative as voting is more likely to occur in smaller communities where political life is more personal and close-knit. On the other hand, larger communities, which tend to have citizenry that is more impersonal and distant, will have lower turnout.

Geographic areas of the world. To control for differences between specific geographic areas of the world, I included six dummy variables based on seven geographic regions. These regions included Oceania; Africa; Central, Eastern, and Southern Europe; Asia; Latin America; Western Europe; and North America and the Caribbean. Countries were divided in geographical areas according to common groupings established by the *United Nations Statistical Yearbook*. Given that Oceania is comprised of two major countries with large turnout numbers, Australia and New Zealand, I predict that turnout will be significantly higher in this geographical area.

Other considerations. I considered two additional socio-economic variables that I ultimately decided to leave out of my model: population density and levels of illiteracy. For

population density, turnout is purported to be lower in less densely populated countries as people are less exposed to group pressures to vote and are more difficult to mobilize. However, since large populations are concentrated around major cities within a country, I believe that a country's overall population density does not accurately capture this phenomenon. For instance, if we take the population density of the United States, the majority of people live on either the West or East Coasts. While an individual in a small town in Kansas may be less predisposed to vote because fewer individuals talk about politics, an individual in San Francisco or New York City is more likely to vote given large political rallies and efforts to mobilize voters. Much in the same way that the United States does not have a homogenous population density, I reasoned other countries would exhibit a similar pattern, so I decided to drop this variable from my model. For levels of illiteracy, I believe that voting is not a very demanding form of political activity, such that minimal levels of reading and comprehension are required. Additionally, other models that included this variable did not find it to be significant (Blais and Dobrzynska 1998, Blais, Massicotte and Dobrzynska 2003, Blais 2006, Fornos, Power and Garand 2004).

Institutional Setting

Compulsory voting. I relied on simple binary variable to measure compulsory voting laws, with 1 representing country-year cases where compulsory voting laws were present and 0 otherwise. Unlike some scholars, who rely on a scale to capture compulsory voting, I decided to go with the simpler model, given the small sample of countries with any compulsory voting laws. Moreover, given that some countries in my model abandoned compulsory voting during the time period, it is ambiguous as to what types of sanctions or enforcement levels their governments previously employed in the 1950s. Since the data for

compulsory voting laws is readily available by the Institute of Democracy and Electoral Assistance (IDEA), I believe that using the simple binary variable would be more accurate. I predict that compulsory voting laws will boost turnout significantly, given the findings of other past studies.

Degree of democracy. To capture differences in political freedom between countries, I used the Freedom House Ratings of degree of democracy, which measures the political rights and civil liberties within particular countries. Since Freedom House measures both political rights and civil liberties on a scale from 1 (*high freedom*) to 7 (*low freedom*), I averaged these two scales to capture the overall degree of democracy within a country. I expect that this variable will be positive, since turnout should be higher when the degree of democracy is higher in a particular country-year case.

Number of years in democracy. It is expected that when a country first becomes a democracy, turnout will be higher since a citizenry is excited to vote, suggesting that the longer a country has been a democracy, the lower the turnout. Despite this hypothesis, I decided to exclude this variable in my model for the following reasons: first, some countries switched between democratic and undemocratic alternatives making a simple continuous variable difficult to decipher, and second, despite having democratic elections, corruption within certain countries suppresses turnout (i.e., Afghanistan or the Islamic Republic of Iran). Instead, I used the Freedom House Ratings to determine the degree of democracy within country-year cases, measuring both the level of political rights and civil liberties that would make it easier for citizens to vote.

Party System

Type of electoral system. I included three dummy variables according to a country's particular type of electoral system. This data was provided by the Institute of Democracy and Electoral Assistance (IDEA). Countries employ four different types of electoral systems: Plurality/Majority Systems, Proportional Representation Systems, Mixed Systems, and Other Systems. I predict that turnout will be higher in proportional representation (PR) systems, since there are a greater number of parties, which increases the number of options afforded to voters, and PR elections are generally more competitive (Blais and Dobrzynska 1998, Fornos, Power and Garand 2004).

Closeness of election. Although I would have liked to measure the closeness of an election by taking the difference in the vote share for top-two contenders, data was not readily available for this variable going back to the 1950s.

6.3 Summary Statistics

Table 3 presents summary statistics for the variables covered in this study. All variables with the exception of degree of democracy from the Freedom House Ratings have 1,051 observations. When degree of democracy is included within a regression model, the particular country-year observations with missing observations are omitted. Several of the variables are binary variables, meaning country-year observations are marked with a 1 if the specification is relevant or 0 otherwise. For these variables, means represent the proportion of the sample that meets the condition. For example, a mean of 0.186 for Asia means that 18.6% of the country-year observations in this sample are located in Asia.

Table 3 **Summary statistics for variables covered in study**

Variables	N	Mean	Standard Deviation	Minimum	Maximum
<i>Voter turnout</i>	1,051	74.04	14.75	2.730	102.6
<i>Compulsory voting*</i>	1,051	0.288	0.453	0	1
<i>GDP per capita (log)</i>	1,051	8.799	1.131	5.645	11.21
<i>Population (log)</i>	1,051	1.966	1.827	-2.823	7.097
<i>Degree of Democracy</i>	885	2.497	1.674	0	7
<i>Asia*</i>	1,051	0.186	0.389	0	1
<i>Africa*</i>	1,051	0.167	0.373	0	1
<i>Central, Eastern, & Southern Europe*</i>	1,051	0.136	0.343	0	1
<i>Latin America*</i>	1,051	0.180	0.384	0	1
<i>Western Europe*</i>	1,051	0.187	0.390	0	1
<i>Oceania*</i>	1,051	0.0476	0.213	0	1
<i>PR System*</i>	1,051	0.526	0.500	0	1
<i>Mixed System*</i>	1,051	0.168	0.374	0	1
<i>Plurality/Maj. System*</i>	1,051	0.277	0.448	0	1
Note: An asterisk symbol next to a variable signifies that the variable is a binary.					

The average voter turnout across all 1,051 observations is 74.04%. Interestingly, two countries have a voter turnout percentage of over 100%, which signifies that more people showed up to the polls than were registered in the books. The country-year observations with the minimum and maximum GDP per capita are Nigeria in 1999 and Luxembourg in 2009, respectively. For levels of population, the minimum and maximum country-year observations are Bermuda in 1989 and India in 2009. Since the average Freedom House Rating is roughly 2.5, this indicates that the majority of the countries have fairly high political rights and civil liberties, since a rating of 1-2 is a high level of democracy. For specific geographic areas, 19% of the observations are located in Asia; 17% in Africa; 14% in Central, Eastern, and Southern Europe; 18% in Latin America; 19% in Western Europe; 5%

in Oceania; and the remainder in North America and the Caribbean. Finally, the majority of country-year observations employ a proportional representation electoral system.

Chapter 7

Results

7.1 Pooled Cross-Sectional Time-Series Model

I begin my analysis with a pooled cross-sectional time-series model to mimic the empirical models used by other scholars.

Linear Specification

Table 4 shows the results of several regressions under a pooled cross-sectional time-series model. In my first model, I regress compulsory voting laws on voter turnout. In each subsequent model, I add independent variables to control for the effect of differences in the socioeconomic environment, institutional setting, and party system within each country.

Table 4 **Parameter estimates for pooled cross-sectional time-series models of turnout with linear specification, 1950 – 2011**

Variables	(1) <i>vt</i>	(2) <i>vt</i>	(3) <i>vt</i>	(4) <i>vt</i>	(5) <i>vt</i>
<i>comp</i>	7.673*** (0.977)	7.445*** (0.932)	6.233*** (1.090)	6.395*** (1.297)	7.658*** (1.358)
<i>ln_gdp_pc</i>		3.809*** (0.373)	3.554*** (0.469)	3.281*** (0.600)	3.402*** (0.596)
<i>ln_pop</i>		-0.597*** (0.231)	-0.633** (0.260)	-0.578** (0.272)	-0.636** (0.275)
<i>fbav</i>			-0.232 (0.330)	-0.0232 (0.358)	0.0465 (0.357)
<i>asia</i>				0.766 (1.965)	2.040 (2.145)
<i>africa</i>				2.704 (2.206)	3.085 (2.253)
<i>ces_europe</i>				-0.268 (1.916)	-0.852 (2.235)
<i>latam</i>				-0.0903 (2.078)	-1.407 (2.316)
<i>west_europe</i>				4.326** (1.961)	3.718* (2.220)
<i>oceania</i>				13.18*** (2.602)	12.48*** (2.701)
<i>elecys_PR</i>					12.55*** (2.778)
<i>elecys_mixed</i>					12.25*** (2.874)
<i>elecys_plur</i>					11.87*** (2.825)
<i>Intercept</i>	71.83*** (0.525)	39.55*** (3.349)	41.69*** (4.673)	41.52*** (5.865)	28.30*** (6.515)
N	1,051	1,051	885	885	885
Adjusted R ²	0.056	0.148	0.135	0.173	0.193

Notes: Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

In model (1), I regressed compulsory voting on voter turnout. The coefficient for compulsory voting, 7.673, is significant and represents the result of a Welch t-test with

unequal variances.²⁴ The interpretation of this coefficient is that mandatory voting increases voter turnout by 7.7 percentage points. While model (1) shows there is a positive relationship between compulsory voting and voter turnout, the model fails to control for other variables that can differ from each country-year observation. In each subsequent model, I add a few more independent variables to see impact on the regression coefficients. In model (2), with the inclusion of GDP per capita and population controls, the coefficient for compulsory voting decreases to 7.445 but remains significant, suggesting that compulsory voting policies increase voter turnout by 7.4 points. In models (3) and (4), the coefficient for compulsory voting drops to 6, yet remains statistically significant at the 1% level.

Model (5) is the one with the best fit, given the highest adjusted R^2 value and highest number of significant variables. In this model, the coefficient on compulsory voting is highly statistically significant at the 1% level. Countries that include compulsory voting policies boost turnout by 7.7 points, on average, with a 95% confidence interval between 6.3 and 9.02 points. Other significant variables in Model (5) at the 1% level include GDP per capita (log), Oceania, proportional representation system, mixed system, and plurality/majority system. At the 5% level, population (log) is also significant. An increase of log of GDP per

²⁴ The Welch t-test with unequal variances is as follows:

$$t = \frac{(\bar{a} - \bar{b}) - (\mu_a - \mu_b)}{\sqrt{\frac{s_a^2}{n_a} + \frac{s_b^2}{n_b}}}$$

Here, \bar{a} represents the mean turnout for the sample of countries with compulsory voting policies, \bar{b} represents the mean turnout for the sample of countries without the inclusion of mandatory voting, s^2 represents the standard deviation of each group, and n represents the sample size of each group. The null hypothesis, H_0 , is that $\mu_a = \mu_b$ or that the mean turnout in countries with and without mandatory voting is the same. Since the t-statistic is significantly large, we can reject the null hypothesis that the mean turnout is equivalent in countries with and without compulsory voting.

capita by 1 (or an increase in GDP of \$5.34 under an average population of 7 million) results in a 3.4-point increase in voter turnout. Increasing population by 10 million drops turnout by 1.5 points. Finally, an electoral system with a proportional representation, plurality/majority, or mixed system increases turnout by roughly 12 points. It is important to note that the degree of democracy, as measured by Freedom House Ratings, is not significant at any level in any of the linear models. Although my model includes a larger sample of countries over a longer time period, the results are similar to other linear cross-sectional studies (Jackman 1987, Blais and Dobrzynska 1998, Blais, Massicotte and Dobrzynska 2003, Blais 2006, Schafer 2011, Fornos, Power and Garand 2004).

Logistic Specification

To understand if voter turnout is better modeled under a logistic specification, I performed several regressions with the dependent variable as $\ln \left(\frac{y}{1-y} \right)$ where y is voter turnout bounded between 0 and 1 (see Table 5). By linearizing the logistic expression, I could easily estimate the regression coefficients in each model. However, with a logistic specification, the magnitude of the coefficients cannot be interpreted directly. To better interpret the coefficients within the regressions, I graphed the relationship between GDP per capita (log) and voter turnout, under different population levels and different compulsory voting laws, as shown in Figure 13.

Table 5 Parameter estimates for pooled cross-sectional time-series models of turnout with logistic specification, 1950 – 2011

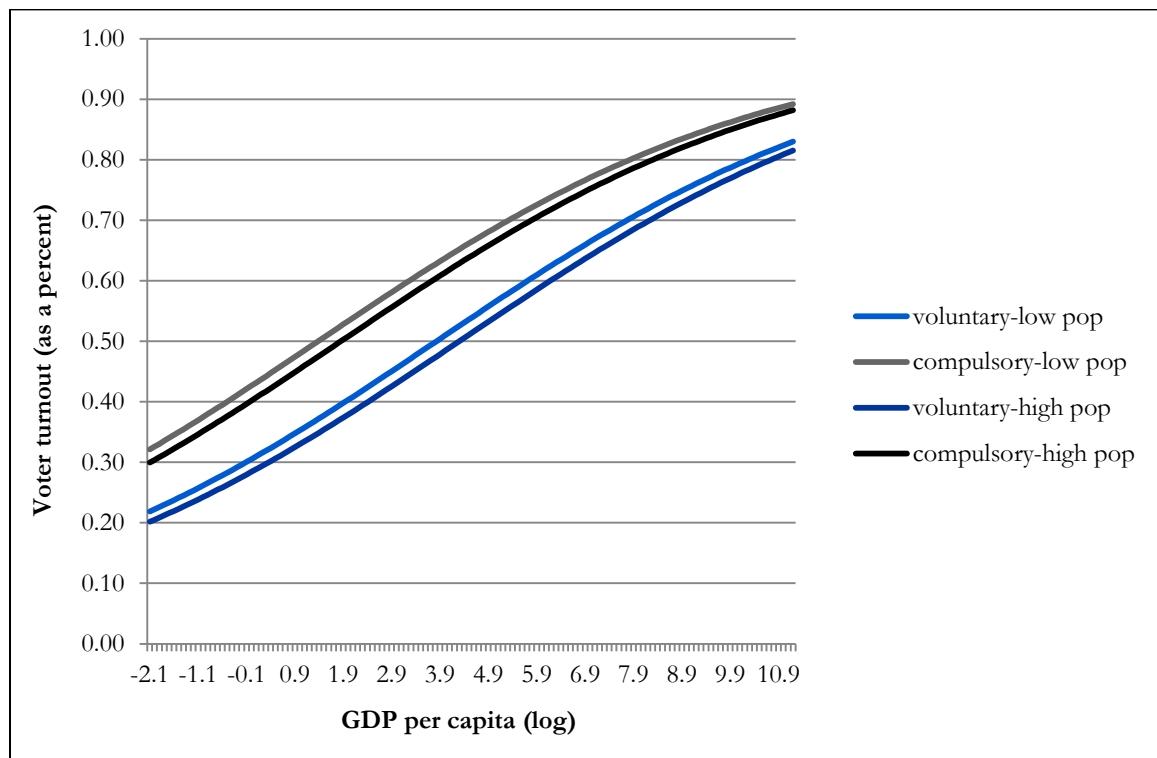
Variables	(1) <i>vt_new</i>	(2) <i>vt_new</i>	(3) <i>vt_new</i>	(4) <i>vt_new</i>	(5) <i>vt_new</i>
<i>comp</i>	0.539*** (0.0601)	0.526*** (0.0577)	0.424*** (0.0664)	0.480*** (0.0777)	0.550*** (0.0813)
<i>ln_gdp_pc</i>		0.215*** (0.0231)	0.218*** (0.0285)	0.194*** (0.0359)	0.199*** (0.0357)
<i>ln_pop</i>		-0.0385*** (0.0143)	-0.0440*** (0.0158)	-0.0403** (0.0163)	-0.0437*** (0.0165)
<i>fbav</i>			0.0164 (0.0201)	0.0297 (0.0215)	0.0319 (0.0214)
<i>asia</i>				0.0765 (0.118)	0.193 (0.129)
<i>africa</i>				0.254* (0.132)	0.296** (0.135)
<i>ces_europe</i>				0.0842 (0.115)	0.0888 (0.134)
<i>latam</i>				-0.0593 (0.125)	-0.0967 (0.139)
<i>west_europe</i>				0.332*** (0.118)	0.329** (0.133)
<i>oceania</i>				1.023*** (0.156)	1.023*** (0.162)
<i>elecys_PR</i>					0.751*** (0.166)
<i>elecys_mixed</i>					0.692*** (0.172)
<i>elecys_plur</i>					0.749*** (0.169)
<i>Intercept</i>	1.066*** (0.0322)	-0.747*** (0.207)	-0.836*** (0.284)	-0.852** (0.352)	-1.654*** (0.390)
N	1,049	1,049	883	883	883
Adjusted R ²	0.071	0.149	0.130	0.193	0.212

Notes: Since this is a logistic specification, the magnitude of the coefficients cannot be interpreted, but the sign of the coefficient signifies the direction of the relationship.

Standard errors in parentheses.

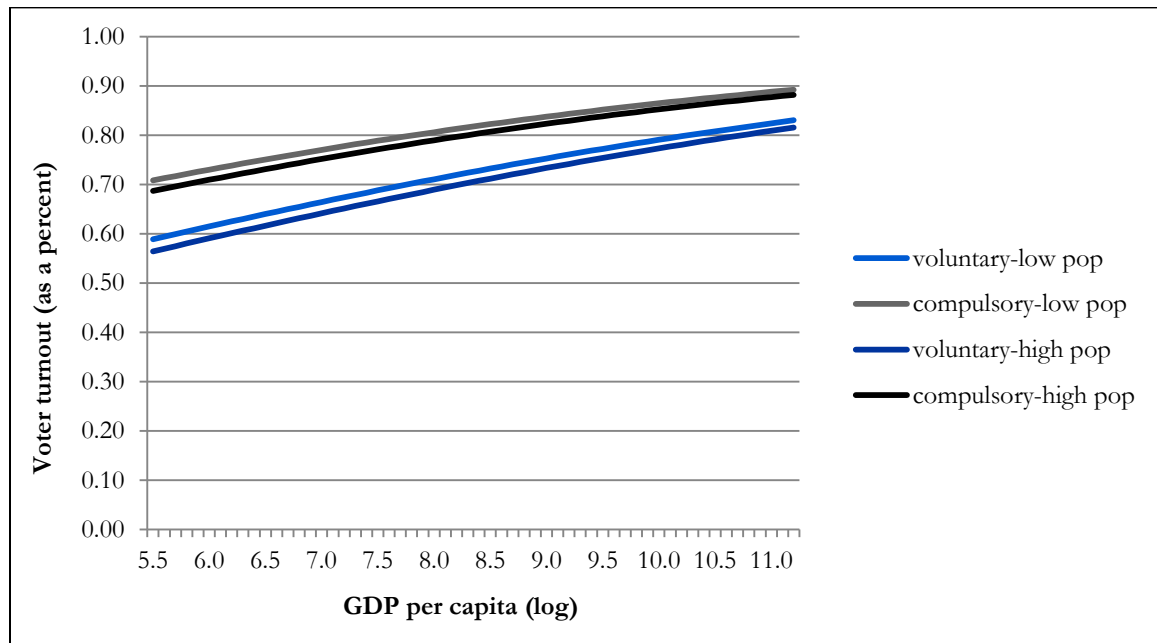
*** p<0.01, ** p<0.05, * p<0.1

Figure 13 Relationship between GDP per capita and voter turnout with logistic specification in model (2)



In Figure 13, we see that if log of GDP per capita is low, voter turnout increases substantially, while if log of GDP per capita is high, the jump in voter turnout is much less. As predicted, compulsory voting policies shifts the curve up between 6 to 13 points depending on the level of per capita GDP. A shift in population from low (*7 million*) to high (*100 million*) increases turnout between 1 to 3 points depending on the level of per capita GDP. While these insights are valuable, it is important to note that the logistic function is fairly flat, meaning it does not have a ton of curvature in its extremes. If we limit the log of GDP per capita to the minimum and maximum of our sample—Nigeria in 1999 at 5.65 and Luxembourg in 2009 at 11.21—we see that the relationship between per capita GDP and voter turnout is fairly linear (see Figure 14).

Figure 14 Relationship between GDP per capita and voter turnout with logistic specification in model (2), anchored by Nigeria (min GDP per capita) and Luxembourg (max GDP per capita)



Since almost all observations in our sample lie in the linear portion of the logistic function, it is reasonable to use a linear specification to model voter turnout.

7.2 Entity- and Time-Fixed Effects Panel Model

To employ a panel model, I assigned countries to entity variables and election years to time variables. Since elections are spaced out differently depending on country, I standardized the election years by assigning them a fake time variable that measures the sequence of elections instead of the particular year of the election. For instance, the first U.S. election in my sample in 1964 was assigned a 1, the second U.S. election in 1968 was assigned a 2, and so forth. Additionally, I omitted the following the binary variables that are consistent for particular entities overtime due to multicollinearity: geographical areas and electoral systems. Although compulsory voting is a binary variable that is typically consistent for particular

entities overtime, a few countries in my sample switched between voluntary and compulsory voting systems, so it did not have to be omitted.

Unlike cross-sectional models, panel regressions account for omitted variable bias that varies between entities or overtime with the inclusion of entity- and time-fixed effects. Table 6 displays two cross-sectional models (1–2) and three panel models (3–5) with entity- and time-fixed effects.

Table 6 Parameter estimates for entity- and time-fixed effects panel models of voter turnout, 1950 – 2011

Variables	(1) <i>vt</i>	(2) <i>vt</i>	(3) <i>vt</i>	(4) <i>vt</i>	(5) <i>vt</i>
<i>comp</i>	7.673*** (0.977)	7.445*** (0.932)	13.69*** (1.730)	9.867*** (1.516)	12.52*** (1.780)
<i>ln_gdp_pc</i>		3.809*** (0.373)	-2.071** (0.821)	2.262*** (0.703)	2.998** (1.280)
<i>ln_pop</i>		-0.597*** (0.231)	-1.066 (1.499)	-0.179 (0.551)	6.960*** (2.086)
<i>Intercept</i>	71.83*** (0.525)	39.55*** (3.349)	90.41*** (5.908)	54.46*** (6.196)	37.82*** (11.48)
N	1,051	1,051	1,051	1,051	1,051
Adjusted R ²	0.056	0.148	0.088	0.181	0.196
Number of Countries	143	143	143	143	143
<i>Time Fixed Effects</i>	No	No	No	Yes	Yes
<i>Country Fixed Effects</i>	No	No	Yes	No	Yes
F-statistics and p-values testing exclusion of groups:					
<i>Time Effects</i>				9.73 (0.000)	6.38 (0.000)
<i>Country Effects</i>			29.24 (0.000)		11.19 (0.000)

Notes: Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

In model (1), we see that compulsory voting policies increases voter turnout by 7.7 percentage points. When we add control variables in model (2), the coefficient on

compulsory voting drops slightly to 7.445 but remains highly statistically significant at the 1% level. In model (3), which includes time-fixed effects, the coefficient on compulsory voting almost doubles to 13.69. Similarly, in model (4) which includes country-fixed effects, the coefficient on compulsory voting increases to 9.867. Finally, in model (5), with the inclusion of both country- and time-fixed effects, the coefficient on compulsory voting is 12.52 with a 95% confidence interval between 10.74 and 14.3. Since the country and time effects and both jointly statistically significant, model (5) appears to be better specified than any of the others. Additionally, model (5) includes the largest adjusted R^2 of any model at 19.6%, suggesting that roughly 20% of the variation in voter turnout can be explained by this model. While compulsory voting remains significant in every model, the magnitude of its effect on voter turnout almost doubles with the inclusion of both time- and entity-fixed effects.

Outside of compulsory voting, another interesting trend is that the sign on log of population switches based on the inclusion of both time- or entity-fixed effects in model (5). This suggests that controlling for differences between countries and overtime, compulsory voting policies, and GDP per capita, increasing population by 10 million increases turnout by 16 points. This is not consistent with the findings in other cross-sectional studies (Jackman 1987, Blais and Dobrzynska 1998, Blais, Massicotte and Dobrzynska 2003, Blais 2006, Schafer 2011, Fornos, Power and Garand 2004).

Chapter 8

Compulsory Voting in the United States

To predict what voter turnout would have looked like in the United States under compulsory voting laws, I apply my best-specified panel model to the past four U.S. elections. Table 7 shows the predicted voter turnout in the presidential elections from 1996 to 2008. My model predicts that with compulsory voting policies, turnout will be over 90 percent for the majority of the elections, similar to that of Australia after mandatory voting laws were introduced. In fact, for 2004, my model predicts a turnout of over 100 percent, suggesting a near-perfect turnout during that election.

Table 7 **Predicted turnout in the United States with compulsory voting laws under panel model (5), 1996 – 2008²⁵**

<i>Year</i>	<i>Actual Turnout</i>	<i>GDP per capita (log)</i>	<i>Population (log)</i>	<i>Predicted Turnout with Compulsory Voting</i>
1996	82.26	10.47	5.60	94.78
2000	85.55	10.61	5.64	98.07
2004	88.50	10.66	5.68	101.02
2008	70.33	10.67	5.72	82.85

²⁵ (International Institute of Democracy and Electoral Assistance 2015a, Summers and Heston 2015).

Despite high predicted turnout rates, it is likely that compulsory voting laws in the United States face critical barriers to its introduction. While some of these barriers are insurmountable, these issues are not as destructive as opponents to mandatory voting argue.

The first of these barriers is that the size and complexity of the American electorate. According to Abraham (1995), “[T]he improbability of rigid enforcement of a compulsory voting law in a country the size and complexity of the United States” would mean that the “practical difficulties of enforcement of compulsory voting legislation in the United States would be Herculean.” Though compulsory voting has worked in Australia and Belgium, their population size is only a fraction of that of the United States.²⁶ However, the United States stands as a nation with an advanced economy, national integration, and modern infrastructure—all of the necessary components to administer compulsory voting effectively. As compared to other laws that are scrupulously enforced by the government—for instance, the imposition, calculation, collection, and regulation of taxes—mandatory voting seems far easier. As Hill (2006) explains, “Even a developing nation like Brazil, which has a population of around 170 million, experiences high levels of illiteracy, and has considerable geographical barriers, still manages to administer compulsory voting with reasonable effectiveness.”

It is likely that compulsory voting will face political opposition through partisan politics. Generally speaking, low turnout is said to benefit the conservative Republican Party, as non-voters, who tend to be of lower socioeconomic status, are more likely to side with the

²⁶ Population figures: Australia (23 million), Belgium (11 million), and United States (319 million) according to the World Bank (2015).

Democratic Party. Republicans, for instance, opposed the Motor Voter Act, which automatically registers all drivers as they obtain or renew their driver's licenses, since they believed it would mobilize Democratic supporters. However, it is likely that compulsory voting is something that will take time to be accepted. Most conservative parties were first opposed to universal suffrage, and yet, with the passage of time, they accepted it as the correct policy decision, something "right and proper" (L. Hill 2006). Lijphart (2001) argues that compulsory voting should follow a similar trend, eventually "accepted as an uncontroversial and national 'extension of universal suffrage.'" Additionally, the conventional wisdom that compulsory voting always benefits Democrats could be misplaced. Citrin, Schickler, and Sides (2003) modeled the effect of full turnout in three cycles' worth of United States Senate races. They found that under universal turnout, "Democrats fare better in each scenario [yet] few outcomes would have changed" (Citrin, Schickler and Sides 2003).²⁷ In other words, the Democratic candidate was not always the beneficiary of universal turnout.

Likely the most intractable barrier to the introduction of compulsory voting is a deep-seated cultural aversion to states interfering with individual autonomy. Hasen (1996), for instance, has advocated for compulsory voting to shape preferences within a polity, yet he worries that it "would be construed as 'a failure of the democratic experiment' which Americans hold so dear." Martin Wattenberg (1998) has a similar line of reasoning: "America's Lockean individual rights culture would lead most to assert strenuously 'that they have an inviolable right to *not* vote.'" These political thinkers, however, miss the point that compulsory voting is not taking away a citizen's right not to vote. As only registration and

²⁷ See also Marcus (2014).

attendance are compulsory, voters can return blank or spoiled ballots back to the polls.

When compared to other problems of collective action solved by mandatory means (i.e., schooling, taxation, jury duty, military service, and garbage separation), compulsory voting “doesn’t seem all that intrusive” (L. Hill 2006). Lijphart (1998) also contends, “[B]efore we put the right not to vote on too high a pedestal, let us also remember that non-voting is a form of free riding – taking advantage of the benefits of democracy without contributing to it – and that free riding of any kind may be rational, but that it is also selfish and immoral.”

Even so, some might argue that compulsory registration and attendance *do* infringe on liberal-democratic principles of choice. When citizens are forced to register and attend a polling place, they no longer have a choice to conscientiously object to voting. Yet, to argue for this would be to say that choice is more important than a range of democratic values that compulsion preserves, namely democratic legitimacy, representativeness, political equality, majority will, and minimization of elite power. Hill (2006) argues that “putting choice first...sacrifices another important liberal right: equality of political *opportunity*,” which is a “value” that is “generally undisputed by liberal democrats.” Furthermore, the issue of the conscientious objector, who wants to protest the system, can be solved in two ways. First, the objector could submit something akin to an Australian ‘please explain’ letter in order to justify why he or she does not want to vote. Second, ballot papers could be expanded to capture a wider range of political responses, for instance, an open category to provide respondents with a space to write their comments or a ‘protest vote’ to record disaffection with the system.

Chapter 9

Conclusion

This paper analyzes the impact that mandatory voting policies have on voter turnout within a particular country and looks into the case of the United States. Over the past few decades, voter turnout has fallen substantially, which has negative implications in terms of widening the socioeconomic voter gap and dampening democratic values of representativeness and majority will. To ameliorate this issue, many countries, particularly those in Latin America, have turned to compulsory voting as a solution.

This study shows that compulsory voting does indeed increase voter turnout, similar to the conclusions met by other scholars. Through a preliminary qualitative analysis, I find that the adoption of compulsory voting in Australia boosted turnout by 31 points, while the abandonment of the policy in the Netherlands drops turnout by 16 points. To predict how much voter turnout would increase within the United States, I perform a quantitative multivariate regression analysis. I extend past empirical studies by looking at a wider selection of countries over a longer time-period and applying a panel regression model to

mitigate omitted variable bias. In the best-specified model, turnout increases by 13 points with mandatory voting laws.

When applying the model to the United States, turnout increases to over 90 percent in the past four presidential elections, with the exception of the 2008 election. While mandatory voting laws appear particularly compelling within a country like the United States that has low voter turnout, there are critical barriers to adopting such policies. Political opposition, cultural aversion, and complexity with enforcement are just some of the barriers to America passing laws compelling citizens to vote on either the state or federal level.

To the extent that we can apply my model to country-specific cases, it presents two key limitations. First, the model does not control for differences in geographic areas because of multicollinearity. Differences in geographic region could have a large impact on turnout. For instance, if a country experiences a major movement to overthrow a tyrannical government and move into a democratic regime, citizens in neighboring countries may feel compelled vote. Second, the model does not consider the differences in turnout based on stricter or milder enforcement mechanisms. These considerations should be the topic of further research.

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Appendices

Table 8 Description of variables in IDEA Voter Turnout Database²⁸

Variable	Type	Description
<i>country</i>	String	Names of the countries for which voter turnout and other relevant statistics are provided
<i>eltype</i>	String	The type of election, whether it be a legislative election (only lower house), presidential election, or European Parliament election
<i>year</i>	Numeric	Year in which the country had an election, includes from 1945-2015
<i>vt</i>	Percentage	Voter turnout = $vote / reg$
<i>vote</i>	Numeric	Total number of people who voted in an election, as reported by the national electoral management body
<i>reg</i>	Numeric	The number of people who were registered for an election, as reported by the national electoral management body
<i>vapvt</i>	Numeric	Voting age population turnout = $vote / vap$
<i>vap</i>	Numeric	Voting age population or the total number of potential voters of voting age in a given country
<i>pop</i>	Numeric	The total population in the country at the time the election took place
<i>invot</i>	Numeric	The percentage share of votes that were invalid against <i>vote</i>
<i>fhav</i>	Numeric	Freedom House indicator which represents the level of democracy and political freedom in a country – measured from 1 (free) to 7 (not free)
<i>fhpr</i>	Numeric	Freedom House indicator on the dimension of political rights – measured from 1 (free) to 7 (not free)
<i>fhcl</i>	Numeric	Freedom House indicator on the dimension of civil liberties – measured from 1 (free) to 7 (not free)
<i>comp</i>	Binary	If a country has compulsory voting or not, with a “yes” indicating compulsory voting and a “no” indicating voluntary voting

²⁸ (International Institute of Democracy and Electoral Assistance 2014).

Table 9 **Alphabetical list of 143 countries covered in study²⁹**

Albania	Cyprus	Kazakhstan	Philippines
Angola	Czech Republic	Kenya	Poland
Antigua and Barbuda	Denmark	Korea, Republic of	Portugal
Argentina	Djibouti	Kuwait	Romania
Armenia	Dominica	Kyrgyzstan	Rwanda
Australia	Dominican Repub.	Latvia	Sao Tome & Principe
Austria*	Ecuador	Lebanon	Senegal
Azerbaijan	Egypt	Lesotho	Serbia
Bahamas	El Salvador	Liberia	Sierra Leone
Bahrain	Equatorial Guinea	Lithuania	Singapore
Bangladesh	Estonia	Luxembourg	Slovenia
Barbados	Ethiopia	Madagascar	South Africa
Belarus	Fiji	Malawi	Spain
Belgium	Finland	Malaysia	Sri Lanka
Belize	France	Maldives	Sudan
Benin	Gabon	Mali	Suriname
Bermuda	Georgia	Malta	Sweden
Bhutan	Germany	Mauritania	Switzerland*
Bolivia	Ghana	Mauritius	Taiwan
Bosnia & Herzegovina	Greece	Mexico	Tajikistan
Botswana	Grenada	Mongolia	Thailand
Brazil	Guatemala*	Montenegro	Togo
Bulgaria	Guinea	Morocco	Tunisia
Burkina Faso	Guinea-Bissau	Mozambique	Turkey*
Burundi	Honduras	Namibia	Turkmenistan
Cambodia	Hungary	Nepal	Uganda
Cameroon	Iceland	Netherlands*	Ukraine
Canada	India	New Zealand	United Kingdom
Cape Verde	Indonesia	Niger	United States
Central African Repub.	Iraq	Nigeria	Uruguay*
Chad	Ireland	Norway	Uzbekistan
Chile	Israel	Oman	Venezuela*
Colombia	Italy*	Pakistan	Yemen
Comoros	Jamaica	Panama	Zambia
Costa Rica	Japan	Paraguay	Zimbabwe
Croatia	Jordan	Peru	

²⁹ Bold countries indicate compulsory voting for every election in the sample.

* indicates that the imposition of compulsory voting fluctuates over the time period.
(International Institute of Democracy and Electoral Assistance 2015a)