UNIVERSIDADE FEDERAL DE MINAS GERAIS
FACULDADE DE FILOSOFIA E CIÊNCIAS HUMANAS
PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIA POLÍTICA

NATÁLIA NUNES AGUIAR

DOES MANDATORY TURNOUT AFFECT THE QUALITY OF THE POLITICAL REPRESENTATION PROCESS?
A cross-national study on the "second-order effects" of the compulsory voting law.

Belo Horizonte
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A dissertation presented to the Graduate Program in Political Science of *Universidade Federal de Minas Gerais* in candidacy for the degree of Doctor of Philosophy.

Supervisor: Dr. Bruno Pinheiro Wanderley Reis

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ATA 07ª/2023 DA DEFESA DE TESE DA ALUNA NATÁLIA NUNES AGUIAR

Realizou-se, no dia 25 de agosto de 2023, às 08:00 horas, por videoconferência, a defesa da tese, intitulada "Does mandatory turnout affect the quality of the political representation process? A cross-national study on the "second-order effects" of the compulsory voting law", elaborada e apresentada por NATÁLIA NUNES AGUIAR, número de registro 2017699343, graduada no curso de CIÊNCIAS SOCIAIS. A defesa é requisito parcial para a obtenção do grau de Doutora em CIÊNCIA POLÍTICA, e foi submetida e analisada pela seguinte Comissão Examinadora: Prof. Bruno Pinheiro Wanderley Reis - Orientador (DCP/UFMG), Prof. Felipe Nunes dos Santos (DCP/UFMG), Prof. Thiago Moreira da Silva (DCP/UFMG), Prof. Gabriel Ávila Casalecchi (UFSCar), Profa. Luciana Fernandes Veiga (UNIRIO). A comissão considerou a tese APROVADA. Finalizados os trabalhos, lavrei a presente ata que, lida e aprovada, vai assinada eletronicamente pelos membros da Comissão. Belo Horizonte, 25 de agosto de 2023.

*To my dear mothers, Jacqueline and Rita, who
I miss every day.*

ABSTRACT

This dissertation investigates the relationship between compulsory voting (CV) and the quality of the political representation process. I discuss the notion of quality regarding various approaches to the political representation process and seek to answer the question: does mandatory voting hinder the quality of the political representation process? To that end, I offer a structured analysis of the literature on the second-order effects of CV and explore how the existing research relates to the distinct aspects of the political representation process. I also identify the theoretical background of different approaches to the idea of quality in the process of political representation and offer an empirical assessment of it: the accountability model as measured by economic voting. I conduct two sets of analyses to test the hypotheses: one based on an aggregate-level database I constructed and the other based on individual-level data from the Comparative Study of Electoral Systems. The data do not support the general hypothesis: there is no evidence that CV hinders the accountability process. Whether at the macro or micro level, assessed objectively or subjectively, economic issues relate to the process of political representation in the same way under compulsory and voluntary voting systems.

Keywords: compulsory voting; accountability hypothesis; economic voting; correct voting.

RESUMO

A tese investiga a relação entre o voto obrigatório (VO) e a qualidade do processo de representação política. Primeiramente, discuto a noção de qualidade em diferentes abordagens do processo de representação política e coloco a questão: o voto obrigatório prejudica a qualidade do processo de representação política? Para respondê-la, ofereço uma análise estruturada da literatura que trata dos efeitos de segunda ordem do VO e exploro como essa literatura trata dos distintos aspectos do processo de representação política. Além disso, busco identificar o contexto teórico de diferentes abordagens da ideia de qualidade no processo de representação política, bem como oferecer uma avaliação empírica dessa qualidade a partir do modelo de *accountability*, aqui medido pelo voto econômico. Assim, conduzo dois tipos de análise para testar minhas hipóteses: um com base em um banco de dados autoral, de nível agregado, e outro com base em dados de nível individual, oferecidos pelo Estudo Comparativo de Sistemas Eleitorais (*Comparative Study of Electoral Systems – CSES*). Os resultados, porém, não confirmam a hipótese geral: não há evidências de que o VO dificulte o processo de *accountability*. Seja no nível macro, seja no micro, avaliadas objetiva ou subjetivamente, questões econômicas se associam ao processo de representação política de forma semelhante nos sistemas de voto obrigatório e voluntário.

Palavras-chave: voto obrigatório; *accountability* eleitoral; voto econômico; voto correto.

Contents

INTRODUCTION

This dissertation investigates the relationship between compulsory voting and the quality of the process of political representation, which involves three factors: i) the political competence of electors, ii) the votes they cast, and iii) the aggregate electoral results. My goal is to debate the notion of quality regarding a variety of approaches to the political representation process and answer the following general question: does mandatory voting hinder the quality of the political representation process?

I. The second-order effects of compulsory voting

The compulsory voting law (henceforth CVL or CV) obliges registered voters to attend the polling stations on Election Day. As it does not require citizens to cast a vote for any of the available options, CV actually relates to mandatory *turnout*[1] (Birch, 2009; Power, 2009, Lundell, 2012). Accordingly, mandatory voting has been studied with respect to its consequences in boosting turnout rates (Lijphart, 1997; Birch, 2009; Singh, 2014). Besides, CV has been widely considered to reduce sociodemographic inequalities between voters and absentees (Lijphart, 1997; Herrmann de Oliveira, 1999; Elkins, 2000; Wattenberg, 2007; Birch, 2009; Quintelier, Hooghe and Marien, 2011; Gallego, 2015; Carey and Horiuchi, 2017; Aguiar and Casalecchi, 2021).

In contrast, investigations into the secondary consequences of mandatory voting are more scant. The so-called second-order effects of CV go beyond its relation to higher and more equal turnout rates. Scholars often relate these possible effects to the quality of what I identify as the *process of political representation* (which falls under the broader theme of democratic quality). Lijphart (1997, p. 10) mentions that 'more speculative' aspects of compulsory voting involve the advantage of stimulating both stronger political interest and electoral participation. He believes that CV can function as a means of civic education and political stimulation by encouraging citizens to become better informed about political issues.

On the other hand, some authors argue that mandatory voting encourages unreasoned votes by forcing unwilling and uninterested people to participate in elections (Jakee and Sun, 2006; Selb and Lachat, 2009; Singh e Roy, 2018), considering that "an unwilling or indifferent vote

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1 Despite this terminological imprecision, "compulsory/mandatory voting" is widely used to refer to the laws that require electors to appear at polling stations. Therefore, it will be used throughout this dissertation.

is a thoughtless one" (Abraham, 1955, p. 21). Although some of these scholars may regard the act of voting as a moral duty, due to the possible malign consequences of obligated votes, the moral obligation to vote is not considered a sufficient justification for compelling citizens to vote. As Lever (2010, p. 914) argues, "it may be morally wrong to abstain, but morally wrongful abstention may not be especially harmful. Such harms as it causes, moreover, can be caused by careless, ignorant and prejudiced voting".

Here, turnout rates and sociodemographic representation are no longer the focus of concern but rather secondary effects of forcing voluntary absentees to become electors. Taking into account the theoretical framework set especially by Abraham (1955) and Lijphart (1997), a growing number of studies have provided empirical evidence on the relationship between mandatory voting and the quality of the process of political representation. These studies form a burgeoning research agenda to which this dissertation seeks to contribute.

But why should one bother investigating the relationship between compulsory voting and the various conceptions of quality involved in the political representation process? The following section aims at answering this question and placing the discussion under the broader theme of democratic quality.

II. Why study the relationship between CV and the quality of the political representation process?

Verba, Schlozman and Brady (1995, p. 1) open *Voice and Equality* by stating that "citizen participation is at the heart of democracy" and that political participation is the mechanism by which citizens inform the government about their interests, preferences and needs and pressure it to respond. Additionally, they claim that high and equal levels of political participation are central to democratic participation, arguing that "since democracy implies not only governmental responsiveness to citizens interests but also equal consideration of the interests of each citizen, democratic participation must also be equal".

Several scholars defend the adoption of compulsory voting as a way to boost electoral participation and political equality based on this idea – that political equality and political participation are essential in a democracy (Lijphart, 1997; Hooghe and Pelleriaux, 1998; Wattenberg, 2007; Quintelier, Hooghe and Marien, 2011; Lundell, 2012; Dallari, 2013;

Córdova and Rangel, 2016). Yet, for Verba, Schlozman and Brady (1995), although CV can reduce participation gaps regarding socioeconomic and demographic factors, mandatory participation would work only for voting. Instead, the authors are concerned with inequalities in political participation beyond the electoral modality.

Nevertheless, high turnout rates are widely considered an indication of democratic well-being. As Engelen (2007, p. 25) points out, voter turnout is regarded as an adequate measure of the condition of electoral democracies because it is linked to crucial democratic values. The rationale behind the defence of CV on the basis of democratic values is as follows: since democratic values encompass inclusive participation (Dahl, 1972; Bobbio, 1984) and political equality (Verba, Schlozman and Brady, 1995; Verba, 2001), systematic low and unequal electoral turnout would be a sign of democratic fragility. Consequently, compulsory voting laws would safeguard democratic values by raising turnout and minimising socioeconomic inequalities in electoral participation (Lijphart, 1997; Engelen, 2007, p. 28; Dallari, 2013; Aguiar and Casalecchi, 2021).

On the other hand, Lau et al. (2014, pp. 239-240) shift the focus away from turnout rates and inequalities, challenging the idea that the health of a democracy should be judged in terms of its election turnouts and that declining turnout rates are undoubtedly a reason for concern about the quality of representation. According to them, once we have witnessed an irreversible trend of democratisation in the past decades, we now must question what is the quality of the representation democracies provide. In this sense, the authors ponder that the usual focus on turnout would implicitly assume that all votes are equal and contribute equally to democratic representation – an assumption they do not believe to be entirely justified. Therefore, Lau and Redlawsk (1997, p. 586) defend that there is a way of voting *correctly*. For them, "a 'correct' vote decision is the same as the choice which would have been made under conditions of full information". The idea is that the quality of a democracy refers to the *quality*, instead of the *quantity*, of the votes.

> Proposing a standard for correct voting very explicitly allows for the possibility that some people do not meet that standard: that some citizens vote, for lack of a better term, incorrectly. If 'the will of the people' is achieved in a democracy in large part by citizens electing representatives who share their own values and priorities, that mechanism can only work if citizens actually choose those parties or candidates who do indeed best represent their own views. Incorrect votes undermine democratic representation by helping to elect officials who do not accurately represent the views of their voters, and by misleading other government officials who might try to assess public opinion based on those election results. We argue that democracies must not

> only engage their citizens in the decision-making process by encouraging them to vote; they must also provide the information, motivation and institutional arrangements to allow their citizens to choose candidates who are consistent with their preferences. Healthy democracies should encourage both voting and voting correctly. No level of turnout can compensate for relatively high levels of incorrect voting.

Contrary to the idea that all votes matter and that each franchise weighs the same (the maxim of "one person, one vote"), this perspective on the quality of democracies proposes that electoral decisions can be valued differently. Moreover, this conception also affects the discussion on compulsory voting: the idea is that CV would compel politically uninformed and less motivated people to the polls. In addition, considering that most obliged electors would not vote if they were free to choose, electoral results under CVL would tend to be determined by less accurate votes that do not represent the actual preferences of citizens (Abraham, 1955; Selb and Lachat, 2009; Lever, 2012; Singh, 2016).

Selb and Lachat (2009, p. 574) claim that "if true, this conjecture implies that the conditions for the efficient representation of preferences would be less fully met under CV". The authors also consider that it is important that such conditions are met because "voters being aware of the differences in the policy positions of parties and voting accordingly to their own preferences are central conditions for a system of political representation" (p. 576). They argue that, even if socioeconomic and demographic disparities are surpassed with mandatory voting, inaccurate votes would still damage political representation if voters fail to identify the party that better represents their interests.

> In sum, it is questionable whether CV promotes the equal representation of political interests. Equal representation requires both socioeconomically unbiased participation and voters who vote in accordance with their wants and needs. While CV tends to ensure the former condition by boosting levels of turnout, it fails to guarantee the latter (Selb and Lachat, 2009, p 581).

The debate on CV arises from different conceptions of democracy, and both sides appeal to democratic values. On the one hand, opponents of the voluntary vote focus on turnout rates and equality in political representation. On the other hand, opponents of the mandatory vote focus on the idea that voters have a certain standard to reach and that whether this goal is accomplished is the actual sign of democratic quality. Engelen (2007, p. 29) highlights that such an approach to what should be valued in a democracy cannot but be deemed elitist, stating that:

> This line of reasoning is potentially dangerous, because it implies deciding beforehand which votes are worthy and which are not. [...] the purpose of

> democratic elections is not to reflect only the well-considered views of involved citizens, but the views of all citizens. We do not value democracy because it is the most efficient form of government but because it is based on the principle that no vote is less worthy. As every citizen is a subject of his government, democracy is everybody's business.

Diversely, Saunders (2010) states that low levels of turnout are not a cause for concern in a democracy, and, therefore, CV is not related to democratic quality. He also mentions that people may participate in elections for the wrong reason (implying, therefore, that there is a *right* reason to participate) if they are forced to vote, as voting involves an *expressive* value that cannot be extracted by force (p. 7). The author also approaches the so-called dilemma between quality and quantity when it comes to voting:

> Contrast a world where 60 per cent of people show up and cast informed, reflective votes to one where 99 per cent of people attend the polls but still only 60 per cent cast informed, reflective votes (the rest voting randomly or abstaining). I fail to see anything better about the latter from a democratic point of view. Thus, it seems to me that high turnout is not necessarily democratically better. It might be better if more people voted (in an informed, reflective way), but – as proponents of compulsory turnout freely admit (e.g. Birch, 2009, p. 22; Engelen, 2007, p. 25; Lacroix, 2007, pp. 192–3) – this cannot be ensured given the constraints of the secret ballot. […] Higher turnout does not necessarily realise the expressive value in question better, since that depends on *why* people vote and there may be high turnout for bad reasons, even without compulsion (for instance, if a racist agitator whips up popular support against immigration) (Saunders, 2010, p. 14 – footnotes 12 and 14).

It can be seen that the discussion about mandatory voting is highly normative and entails different perspectives of democracy. In addition, as mentioned above, this discussion also relates to distinct aspects of the political representation process, each of which carries specific notions and measures of democratic quality. Thus, investigating how CV influences this process is at the heart of a broader normative discussion on democratic quality. It helps understand the effects of a widely applied institution that directly affects who votes (and their motivations for doing so).

Since my aim is not only to contribute to the theoretical discussions regarding the second-order effects of CV but also to provide empirical evidence on the topic, I chose an approach to the notion of quality that is both well-established in the literature and suitably wide to be assessed in relation to various of the political representation process' aspects.

III. An approach to *quality* in the representation process

For providing an empirical assessment of the topic addressed in this dissertation, I have chosen a standard approach to assessing the quality of political representation: the accountability model. According to Powell (2000, p. 10), "the simplest and perhaps most fundamental role of elections is the evaluation of the incumbent government", which is in line with the idea that the essence of popular government is to support the Ins when things are going well and the Outs when they seem to be going badly (Lippmann, 1927, p. 126).

In this sense, Fearon (1999, p. 55) defines relations involving accountability as "agency relationships in which one party is understood to be an 'agent' who makes some choices on behalf of a 'principal' who has powers to sanction or reward the agent". Following Dassonneville, Hooghe and Miller (2017), I use economic voting to measure accountability and, thus, assess the quality of representation. Overall, the Economic Voting Theory states that voters evaluate incumbents based on their economic outcomes and either punish or reward them in the next election by voting for the governing party or the opposition.

Moreover, as long as this theory belongs to a broader school, the Rational Choice Theory, for which a rational institutional environment enables rational decisions (Popkin, 1991), one of the core assumptions of the economic vote is that there are institutional and contextual factors that affect how clear it is for voters to recognise who should be held accountable for the economic situation (Dassonneville and Lewis-Beck, 2017). Hence, clarity of responsibility – defined as the "perceived unified control over policy-making by the incumbent government" (Powell and Whitten, 1993, p. 398) – is a pivotal point in the analysis of accountability, as there are institutional variables that can muddle the process of electing leaders who offer better policies.

Yet, institutions that influence electoral accountability and economic voting by means other than the clarity of responsibility are not often investigated. Powell (2000, p. 51) highlights that "if retrospective control is to play a significant part in linking what citizens want and what policymakers do, citizens must be able to cast reasoned votes based on the performance of the incumbents". Considering that CV is thought to lessen well-reasoned electoral behaviours and encourage thoughtless votes by forcing uninformed, uninterested, unengaged and distrusting citizens to the polls (Selb and Lachat, 2009; Lever, 2010; Singh, 2016, 2017; Singh and Roy, 2018), it is plausible to expect that this rule also influences accountability and

economic voting. However, this would not be a consequence of hindering the process of identifying those responsible for a given economic outcome but, instead, of altering the electoral mobilisation process.

Following the endeavour of providing the necessary concepts to discuss the relationship between compulsory voting and the political representation process, which is also needed for setting up the parameters of the empirical analyses, in the next section, I present a brief look at what constitutes the compulsory voting law and which countries and constituencies can be considered mandatory voting systems.

IV. Overview of CV worldwide and an attempt to contribute to its conceptualisation

Engelen (2007, p. 26) points out that "it is not easy to record exactly which countries currently have compulsory voting laws because of a lack of uniformity in the way countries formulate, implement and enforce such laws". In addition, Bóveda (2013) mentions that the literature on mandatory voting lacks a clear conceptual definition of it. She proposes that compulsory voting refers to "citizens' legal obligation to attend the polls at election time" (p. 13)[2] and that it "necessarily entails legal penalties for those who are eligible to vote and who, despite not qualifying for any of the exemptions contemplated in the law, fail to attend the polls" (p.14).

Bóveda (2013, p. 19) argues that countries that do not stipulate penalties for abstention should be considered voluntary voting systems regardless of any reference to voting as a duty or obligation in their electoral laws. Moreover, she contends that the enforcement of such penalties is not decisive in defining mandatory voting, claiming that "we should probably be more concerned with individuals' perception of the likelihood of enforcement rather than with actual enforcement" to understand how enforcement affects turnout.

Following this line of reasoning, I consider as compulsory voting systems countries where voting is not only constitutionalised (Birch, 2009, p. 14) but where penalties for abstaining are provided for in the law, whether strictly or weakly enforced. My categorisation draws from several sources and is detailed in Table 1.

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2 The author also mentions that 'to attend the polls' should not be taken too literally insofar as it may include postal and other forms of remote voting (Bóveda, 2013, p. 13).

Table 1 – Countries where voting is compulsory, whether sanctioned or not, 2021.

Country	Region	Sanctioned?	Observations
Argentina	Latin America	Yes	
Australia	Australasia	Yes	
Belgium	Europe	Yes	
Bolivia	Latin America	Yes	
Brazil	Latin America	Yes	
Congo	**Africa**	**No**	
Costa Rica	**Latin America**	**No**	
Ecuador	Latin America	Yes	
Egypt	Africa	Yes	
El Salvador	**Latin America**	**No**	
Gabon	**Africa**	**No**	
Greece	**Europe**	**No**	**All sanctions were abolished in 2001**
Honduras	**Latin America**	**No**	
Italy	**Europe**	**No**	
Lebanon	**Middle East**	**No**	**Only male voters**
Liechtenstein	**Europe**	**No**	**All sanctions were abolished in 2004**
Luxembourg	Europe	Yes	
Mexico	**Latin America**	**No**	
Nauru	Australasia	Yes	
Panama	**Latin America**	**No**	
Paraguay	Latin America	Yes	
Peru	Latin America	Yes	
Singapore	Australasia	Yes	
Switzerland	Europe	Yes	In just one canton: *Schaffhausen*.
Thailand	Australasia	Yes	
Turkey	Europe	Yes	
Uruguay	Latin America	Yes	

Source: Author's elaboration based on data from the Institute for Democracy and Electoral Assistance – IDEA, the Parliament of Australia, Birch (2009), Bóveda (2013), and Aguiar (2017).

In order to clarify how compulsory voting is operationalised in my empirical analyses, Table 1 also includes countries that consider voting to be a duty but do not provide punishments for absence. Currently, sixteen countries adopt, either totally or partially[3], mandatory voting. Eleven others consider voting to be compulsory (or a duty) in their constitutions or other electoral laws but do not apply any sanctions for abstention[4]. Where sanctions for electoral abstention are provided for, not only do the penalties for abstaining vary from weak to strong, but the degree to which the rule is enforced also differs from country to country.

Latin America

Eleven countries in Latin America require electoral participation at least on paper, seven of which provide penalties for absentees, including Brazil, the country with the largest compulsory electorate in the world. As a matter of fact, Colombia is the only Latin American country where mandatory voting has never been adopted. It is also noticeable that twelve countries in the region introduced CV during dictatorial periods (Aguiar, 2017). Although compulsory voting is widespread in Latin America, its application varies intra-nationally in the region: in several countries, specific cohorts have the right to vote but are not obliged to attend polling stations.

Since 2012, Argentinians aged 16 and 17 have been allowed to vote, following Law 26,774[5]. Yet, these electors and citizens over 70 years of age are not punished in the event of an electoral absence, as established by Article 125 of the National Electoral Code[6]. Likewise, illiterate Brazilians, as well as those aged 16 and 17 and older than 70 years of age, are not obliged to vote, according to Article 14 of the Brazilian Constitution[7]. Similarly, in Ecuador, the vote is voluntary for people aged 16 and 17 and over 65 years of age, those who live abroad, members of the Army and the National Police, and disabled people, as Article 62 of the Constitution states[8].

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3 Only one canton in Switzerland adopts CV.

4 Namely: Congo, Costa Rica, El Salvador, Gabon, Greece, Honduras, Italy, Lebanon, Liechtenstein, Mexico and Panama.

5 Available at: https://www.argentina.gob.ar/interior/observatorioelectoral/analisis/voto-joven. Consulted on the 3rd of February, 2021.

6 Available at: http://www.saij.gob.ar/19945-nacional-codigo-electoral-nacional-lns0003070-1983-08-18/123456789-0abc-defg-g07-03000scanyel. Consulted on the 3rd of February, 2021.

7 Available at: http://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm. Consulted on the 4th of February, 2021.

8 Available at: http://www.oas.org/juridico/pdfs/mesicic4_ecu_const.pdf. Consulted on the 4th February, 2021.

Furthermore, the Bolivian Constitution[9], Article 168, removes the sanctions for abstention for those who could not vote due to unforeseeable circumstances or force majeure, those over 70 and those who were absent from the national territory at the time of the election. In the same way, the Paraguayan Electoral Code[10], Article 94, exempts from sanctions for abstention: the magistrates of the electoral jurisdiction and the judicial personnel affected by the elections; those over 75 years of age, those who are at least 50 kilometres away from where they should vote for work reasons, patients unable to attend the polls and people who perform functions in public services whose interruption is not possible. Finally, Peruvian citizens older than 70 years of age are also not obliged to vote, as established in Article 31 of the Peruvian Constitution[11].

Europe

Despite mandatory voting being currently adopted by only a few countries in Europe, there are important examples of its practice in this continent. In fact, according to Birch (2009), the origin of mandatory voting was in Europe: it traces back to the citizen assemblies (*Landsgemeinde*) of medieval Switzerland. Yet, although much of the country has already considered voting as a duty, whether or not sanctioning abstention, only one Swiss canton (*Schaffhausen*) currently requires voter participation – and only for cantonal matters.

Among the European countries that still adopt CV, Belgium was the first to introduce it nationally (in 1893) and is widely known for imposing strong sanctions against abstention. The Belgian Electoral Code[12], Article 210, establishes that a first unjustified abstention is punishable by a penalty ranging from five to ten euros, while the penalty for a repeat offence ranges from ten to twenty-five euros. However, as this amount must be multiplied by eight[13], a person who fails to vote must pay a fine between forty and two hundred euros. It is worth mentioning that more than half of the Belgians declare that they would still vote if it were

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9 Available at: https://www.lexivox.org/norms/BO-L-1246.html. Consulted on the 4th of February, 2021.
10 Available at: http://www.oas.org/es/sap/deco/moe/Paraguay2013/docs/CODIGO_ELECTORAL.pdf. Consulted on the 5th of February, 2021.
11 Available at: http://www4.congreso.gob.pe/comisiones/1996/constitucion/cons_t1.htm. Consulted on the 4th of February, 2021.
12 Available at: https://elections.fgov.be/sites/default/files/documents/CodeElectoral_Kieswetboek_0.pdf. Consulted on the 10th of September, 2018.
13 All fines mentioned by the Belgian Constitution must be multiplied by the "*décimes additionnels*". As established by the *loi-programme* of 25th December 2016, fines have been multiplied by eight. Available at: http://www.emploi.belgique.be/defaultNews.aspx?id=36145. Consulted on the 13th of September, 2018.

optional (Hooghe and Stiers, 2017), while the average turnout rates in the country are over 90% under the CVL[14].

Finally, Luxembourg and Turkey also provide penalties for electoral abstention in Europe.

Oceania

Australia also has a very consolidated compulsory voting system with strong and highly enforced penalties. According to Article 245[15] of the Commonwealth Electoral Act 1918[16], (1) "it shall be the duty of every elector to vote at each election", and (5b) "it is an offence to fail to vote at an election without a valid and sufficient reason for the failure". The penalty for such an offence is a fine ranging from twenty (for first-time offenders) to fifty (if the voter has previously paid a penalty or been convicted of this offence) Australian dollars. Besides, "electors who do not respond to notices or do not pay the prescribed penalty may have the matter referred to the Fines Enforcement Registry and could have their driver's licence suspended"[17].

It is noteworthy that Australia requires electors to cast a vote[18] (ballot papers do not include a "none of the above" option) and not just to attend polling stations. However,

> because of the secrecy of the ballot, it is not possible to determine whether a person has completed their ballot paper prior to placing it in the ballot box. It is, therefore, not possible to determine whether all electors have met their legislated duty to vote (Evans, 2006, p. 04).

Moreover, most of the Australian population is favourable to CV (Mackerras and McAllister, 1999; Bilodeau and Blais, 2005)[19], and turnout rates in the country are over 90%[20].

Finally, Nauru also adopts CV and provides sanctions for abstention in Oceania.

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14 Available at: https://www.idea.int/data-tools/question-countries-view/521/60/ctr. Consulted on the 13th of September, 2018.

15 It was originally expressed in Article 128A, having been changed for Article 245 by the Commonwealth Electoral Legislation Amendment Act 1984.

16 Available at: https://www.legislation.gov.au/Details/C2018C00259/Download. Consulted on the 8th of September, 2018.

17 Available at: https://www.elections.wa.gov.au/vote/failure-vote. Consulted on the 6th of February, 2021.

18 Available at: https://www.aec.gov.au/About_AEC/Publications/backgrounders/compulsory-voting.htm. Consulted on the 8th of September, 2018.

19 Available at: https://www.sbs.com.au/news/why-does-australia-have-compulsory-voting. Consulted on the 8th of September, 2018.

20 Available at: https://www.aec.gov.au/elections/federal_elections/voter-turnout.htm. Consulted on the 06th of February, 2021.

Asia and Africa

In Africa, Egypt is the only country with laws providing sanctions for electoral abstention. However, such rules are not enforced. In Asia, Singapore and Thailand also adopted CV and provided sanctions for abstention in the Australasia region.

As mentioned, Table 2 summarises all countries that currently consider voting to be mandatory in their laws, regardless of whether sanctions are provided for.

Countries that banned CV – either expressly or by excluding penalties for abstention

Since the 1980s, ten countries have abandoned mandatory voting. Liechtenstein, the first country to adopt CV nationally, in 1878, abolished all penalties for not showing up at the polls in 2004. Yet, voting remains compulsory in the law. Besides, Birch (2009) mentions that CV was briefly in force in Mongolia from 1980 to 1986. Moreover, Greece rendered CV only symbolic by withdrawing an interpretive act that allowed for the introduction of penalties to non-voters in 2001 – although penalties were rarely applied since the enactment of compulsory voting (Malkopoulou, 2007, p. 1). Similarly, Cyprus adopted CV between 1960 and 2017, although sanctions for abstention were never strictly upheld (Kanol, 2013). However, penalties were stipulated in the law.

Likewise, Fiji abandoned CV in 2014 but had already stopped enforcing sanctions for abstention in 2006. Similarly, Dominican Republic, Guatemala and the Philippines no longer provided for sanctions for abstention before the mandatory vote was formally abolished in 2010, 1990 and 1987, respectively. Additionally, CV was abolished in Chile and Venezuela in 2012 and 1993, respectively, with important consequences for each country (Contreras, Joignant and Morales, 2015; Carey and Horiuchi, 2017). Finally, Austria abolished compulsory voting in the provinces of *Styria* and *Vorarlberg* in 1992, as well as in *Tyrol* in 2004.

Although the abolishment of mandatory voting is the trend, in recent decades, at least three countries have attempted to institute it: Thailand introduced CV in 1997 amid a series of other measures aiming at constraining electoral abuse (Birch, 2009, p. 33), and this electoral reform provoked important changes in Thai party competition (Singh, 2018). Moreover, in Colombia, there are recurrent propositions to alter Article 258 of the Constitution in order to introduce

CV (recent examples occurred in 2014[21] and 2020[22]). Finally, Bulgaria did approve the adoption of mandatory voting in 2016. Yet, the Constitutional Court judged it unconstitutional in February 2017[23].

Mandatory voting as a duty

Aiming at providing a comprehensive overview of the adoption of CV over the world, Table 2 presents both the countries considered as mandatory voting systems and the cases where the constitution or other laws mention that voting is an obligation, but penalties for abstention are not stipulated. In this sense, the cases of El Salvador and Italy are worth mentioning. The first is not included in the lists provided by IDEA or the Australian Parliament. Yet, El Salvador is mentioned by Birch (2009, pp. 26; 36) as a country where compulsory voting is constitutionalised and, in fact, Article 3 of the El Salvadorian Electoral Code[24] states that suffrage is a right and a duty and that its exercise cannot be renounced. Therefore, despite not having sanctions for abstention, El Salvador is a country where voting is considered a duty – and therefore is mentioned in Table 2.

Similarly, Italy is not mentioned by Birch (2009) as a country that has already adopted compulsory voting. However, IDEA states that Italy informally sanctioned abstention until 1993, mentioning that "possible arbitrary or social sanctions", called 'innocuous sanctions' were applied, and that "it might for example be difficult to secure day care placement for your child or a similar service, but this is not formalised". Yet, as the Australian Parliament mentions, the Italian Constitution[25], Article 48, still considers voting a civic duty.

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21 Available at: https://www.camara.gov.co/deroga-acto-legislativo and
http://leyes.senado.gov.co/proyectos/index.php/proyectos-de-acto-legislativo/pal-2014-2018/pal-2014-2015/article/1-por-el-cual-se-modifica-el-articulo-258-de-la-constitucion-politica-voto-obligatorio?position=1&total=1. Consulted on the 7th of February, 2021.
22 Available at: https://www.camara.gov.co/voto-obligatorio-3. Consulted on the 7th of February, 2021.
23 Available at: https://sofiaglobe.com/2017/02/23/bulgaria-constitutional-court-strikes-down-compulsory-voting-sanction/. Consulted on the 7th of February, 2021.
24 In Spanish: "*Art. 3. - El sufragio es un derecho y un deber de los ciudadanos y ciudadanas, su ejercicio es indelegable e irrenunciable. El voto es libre, directo, igualitario y secreto*". Available at:
https://www.tse.gob.sv/documentos/normativa-electoral/Codigo-Electoral-2020-04-30.pdf. Consulted on the 6th of February, 2021.
25 In Italian: "*Art. 48. (1) […] Il voto è personale ed eguale, libero e segreto. Ilsuo esercizio è dovere civico*". Available at: https://www.senato.it/documenti/repository/istituzione/costituzione.pdf. Consulted on the 7th of February, 2021.

Formalising which countries adopt mandatory voting and whether sanctions for electoral abstention are provided for and enforced is crucial to analyse the consequences of CV comparatively. Furthermore, since several countries altered the law concerning the voting regime in recent years, this exercise is necessary for constructing a data set that considers such variability.

V. Dissertation roadmap

I began this dissertation by briefly indicating the problem to which it is dedicated and the research agenda with which it dialogues. After that, I stressed the relevance of the topic under investigation and indicated the empirical approach that will be followed. Lastly, I offered an overview of the rule and detailed the concept of compulsory voting being used here.

Next, I present the literature on the second-order effects of CV, seeking to demonstrate how the existing research relates to the distinct aspects of the political representation process. By doing so, I also aim at identifying the theoretical background of different approaches to the idea of *quality* in the process of political representation. Following, I detail the approach to the quality of the representation process addressed in the empirical chapters. The literature discussion formulated in Chapter 1 supports the indication of some hypotheses and I offer two sets of empirical analyses to test them. Each empirical chapter conveys the hypotheses to be tested, information about the data set built up and/or used, as well as the results of the tests carried out. Finally, I close the dissertation by recovering what has been done and indicating possible further explorations.

1. CHAPTER 1: THEORETICAL ASPECTS AND NORMATIVE BACKGROUND

1.1. What do we know about the second-order effects of compulsory voting?

Focusing on **political sophistication** as a symptom of a qualitative political representation process, Gordon and Segura (1997) propose that institutional and political arrangements can influence the costs of acquiring information and, consequently, the average levels of political sophistication. In this sense, mandatory voting – which they found to be positively associated with political sophistication – would prompt voluntary non-voters (who have little incentive to accumulate information) to learn about politics to vote (obligated). Since otherwise this group of citizens would be away from the electoral and informational processes, CV would raise the average levels of political sophistication by driving at least some citizens not only to show up to vote but also to acquire political information.

Following this line of investigation, Bilodeau and Blais (2005) tested whether citizens' socialisation background (either under mandatory or voluntary voting) is associated with differences in i) levels of **political interest** and ii) how frequently people report **engaging in political discussions**. They found that the socialisation effect of compulsory voting is virtually negligible and if any, temporary. Besides, their bivariate analysis across European countries shows lower levels of political interest and engagement in political discussions in countries where CV is adopted.

Seeking to enhance the internal validity of investigations into the relationship between CV and political information, Singh and Roy (2018) conducted an experiment to simulate federal elections in Australia. The authors found that feeling compelled to vote decreases **political information seeking**. Likewise, a few studies have leveraged that in Brazil, those aged 16 and 17 are allowed, but not forced, to participate in elections. De Leon and Rizzi (2014; 2016) surveyed high school and college students aged 16-19 in the city of São Paulo and found that there is no discontinuity in the threshold of voluntary/compulsory voting (18 years old) with regard to **political information** (either the level of political information or the act of acquiring it).

Similarly to de Leon and Rizzi (2014; 2016), Bruce and Lima (2019) used regression discontinuity design to analyse TV news consumption of subjects aged 16-19, based on

nationally representative survey data provided by the Brazilian Media Survey[26]. They found that becoming obliged to vote (reaching the age of 18) increases the consumption of a major newscast aimed mainly at political issues. As Bruce and Lima (2019) consider that the habit of watching this particular newscast is a proxy for **consuming political information**, they argue that their results are contrary to what had been found by de Leon and Rizzi. Moreover, the effect found by Bruce and Lima (2019) is especially strong among those who are not neutral in their evaluation of the government (which means to say that young Brazilians who either approve or disapprove of the incumbent are especially prone to consume this particular newscast).

Freire and Turgeon (2020) also carried out an experimental study on the unintended consequences of the CVL in Brazil, conducting a list experiment to check whether Brazilian voters tend to **select their candidates "randomly"** only because voting is mandatory. The authors point out that an important share of the Brazilian electorate does admit to voting randomly[27], especially in elections perceived as less important, such as the representative races. Moreover, they found that forced voters (people who declare that they would not vote under a voluntary system) are more prone to vote randomly than (likely) voluntary voters. Freire and Turgeon (2020, p. 2) conclude that "the positive effects of increased turnout and lower inequality in participation attributed to compulsory voting may well be offset by lower quality voter engagement".

With regard to the relation between voters and parties, Mackerras and McAllister (1999) point out that mandatory voting promotes both **stronger parties and the connection between parties and citizens**, while Singh and Thornton (2013) mention that CV stimulates **party identification** as a voting heuristic. On the other hand, Selb and Lachat (2007; 2009) observed that Belgian citizens who would not vote without being obliged to i) have lower levels of **political knowledge** and **interest in politics,** ii) tend to have reduced **knowledge about the differences between parties** on salient issues, and, thereupon, iii) make **vote choices** that are more loosely related to their own individual preferences.

Similarly, Dassonneville et al. (2019) conclude that CV tends to reduce **ideological congruence**[28] in voting but with a limited effect. Likewise, Hooghe and Stiers (2017)

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26 *Pesquisa Brasileira de Mídia*.
27 Ranging from 8.2% to 13.4%, depending on the race.
28 The proximity between one's ideological position and that of the party for which they vote.

analysed a few elections in Australia and Belgium. They found that, although willing voters are more likely to **vote ideally**[29] than reluctant electors[30],

> when looking at the aggregate electoral results, however, the most willing voters do not get closer to what would be the proportion of 'correct' votes than does the whole electorate in the current [compulsory] system (Hooghe and Stiers, 2017, p. 89).

Regarding the effects of mandatory voting on the electoral performance of parties and the arrangement of the party system, there are indications that CV disadvantages leftist (Birch, 2009; Jensen and Spoon, 2011) and small parties (Birch, 2009). Yet, there are opposite suggestions for Australia (Mackerras and McAllister, 1999) and Switzerland (Bechtel, Hangartner and Schmid, 2016). However, results depend on the definition of compulsory voting (is voting merely mentioned in the constitution as a duty or are there predicted sanctions for abstention?), as well as on how strictly enforced the rule is. For example, where CV is strictly enforced, it is shown to favour leftist parties (Birch, 2009, p. 128).

Furthermore, Jensen and Spoon (2011, p. 706) found a negative (albeit rather small) association between sanctioned compulsory voting (either weakly or strongly enforced) and the total seat share for the left. However, the authors also found that the interaction term of sanctioned CV and high turnout rates is significantly and positively associated with the number of seats won by leftist parties, which means that in countries where voting is compulsory, the higher the turnout rates, the greater the seat share for left-wing parties.

In addition, Jensen and Spoon (2011) point out that mandatory voting increases the effective number of parliamentary parties (ENPP) and **governmental ideological range**[31], especially when CV is combined with high turnout rates. Focusing on the individual level, de Leon and Rizzi (2016) mention that newly obliged voters (aged 18 to 19) in Brazil have higher levels of (self-declared) **ideological extremism** and prefer left-wing parties[32] when compared to voluntary electors (aged 16 to 17).

Even though the electoral performance of particular parties, government formation, and party system arrangements are not necessarily taken as measures of the quality of the representation process, these studies often assume that such aggregate results reflect or result from more or

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29 The authors define the "ideal vote" as the best electoral decision one can make according to their own political or ideological views.

30 Willing electors are those who declare that they intend to vote even if voting is voluntary, while reluctant voters show up to vote only because turnout is mandatory.

31 The difference between the ideological positions of the most right and most left party in the government.

32 Left and right are classified in the study according to the respondents' self-placement.

less qualitative political behaviours. For instance, one might wonder how parties respond to the behaviour of obliged voters or whether CV affects the quality of political representation by influencing party systems and party strategies.

In this regard, Singh (2018) investigated whether **parties are more or less programmatic or clientelistic** and **how widespread vote buying** is when voting is optional or mandatory. He employed both cross-national analyses and strategies of causal inference for the cases of Thailand and Argentina. The author found that strictly enforced mandatory voting is positively associated with more programmatic party strategies and negatively correlated to vote buying. Besides, he argues that Thai parties became more programmatic after CV was adopted in the country in 1997. Similarly, young voluntary voters in Argentina (aged 16 to 17)[33] declared that they were offered a gift or a favour in exchange for their electoral support more frequently than those aged 18 and over (who are obliged to show up at the polls). This result reinforces the hypothesis that voluntary voting is associated with vote buying (attempts, at least).

Finally, another approach to qualitative representation processes focuses on the legitimacy of elections and of the system itself. Birch (2009) identifies that mandatory voting boosts the **legitimacy of electoral results**, while Lundell (2012) shows that the CVL is associated with higher **levels of trust in political institutions** (namely: the government, the parliament and the justice system) – despite being negatively associated with levels of **civic participation**.

On the other hand, Cześnik (2007; 2013) found that the hypothetical introduction of CV in Poland would stimulate the vote of citizens with significantly lower **levels of satisfaction with democracy** in the country. Moreover, the author pointed out that an important share[34] of Polish voluntary non-voters (citizens who do not vote under the optional system) declare that they would prefer to cast an invalid vote or simply abstain – regardless of possible fines – if turnout were compulsory.

As can be seen, the secondary effects of compulsory voting comprise a wide set of political phenomena. Equivalently, its hypothesised relationship with "quality" refers to a variety of issues that compose the process of political representation. From the electoral point of view, this process is at least threefold, as it involves: i) individuals' political competence and attitudes; ii) citizens' political engagement, including the vote choice itself; iii) as well as

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33 This group of Argentinians are eligible electors but are not compelled to vote.
34 Rates are11% and 7%, respectively.

electoral results and other aggregate political outcomes. Therefore, different notions and focal points of quality have been discussed in the literature about the second-order effects of mandatory voting. Since each of these ideas relates to distinct phenomena and, thereupon, can be (and has been) measured differently, the existing findings of such a flourishing research agenda may seem contrasting and lacking a more effective dialogue.

The next section seeks to identify the different parts of this thread involving the process of political representation. By doing so, I expect to categorise more effectively the notions of quality being mentioned in these studies in order to i) clarify the gaps of investigation that can be filled by new empirical endeavours and ii) propose measures of quality that dialogue with the literature and are sufficiently specific and distinguishable.

1.2.   Quality of *what*?

While some scholars focus on citizens' levels of political information and sophistication (Loewen, Milner and Hicks, 2008; de Leon and Rizzi, 2014; Sheppard, 2015), others pay attention to how frequently people discuss politics and consume political news (Bilodeau and Blais, 2005; Singh and Roy, 2018; Bruce and Lima, 2019), as well as how politically engaged they are (Bilodeau and Blais, 2005; Lundell, 2012; Córdova and Rangel, 2016; Singh, 2017) under compulsory voting laws. Additionally, the way people make their vote choice is also considered: is an obliged vote programmatically decided, or is it based on clientelistic relations (Singh, 2018)? Could it be that obliged votes are randomly decided just to fulfil a legal requirement (Freire and Turgeon, 2020)? What kind of candidate/party characteristics do electors look upon: are they competence-related, or are they personal features, such as charisma (de Leon and Rizzi, 2016)?

Rather, several authors reason that it is more important to consider the actual vote one casts, since poorly informed people are able to vote "correctly". According to Lau and Redlawski (1997), a correct vote decision "is the same as the choice that *would* have been made under conditions of full information" (Lau et al., 2014, p. 241). In this sense, the proximity between one's ideological and political positions and those of the party for which they vote is also taken as an indication of quality in the political representation process (Selb and Lachat, 2009; Dassonneville, Hooghe and Miller, 2017; Hooghe and Stiers, 2017; Dassonneville et al., 2019). Likewise, based on the premises of the Economic Voting Theory, the connection

between electors' economic evaluations and their vote has been considered a sign of voting quality (Dassonneville, Hooghe and Miller, 2017).

Moreover, as the vote choice can be constrained by electoral rules and is context-dependent, some scholars who assess the quality of the political representation process by focusing on the legitimacy and the ideological range/extremism of the electoral results (Birch, 2009; Jensen and Spoon, 2011, Lundell, 2012). In addition, another reason why aggregate results are important to be considered is the fact that invalid vote rates are especially high where voting is compulsory (Power and Roberts, 1995; Birch, 2009; Singh, 2017), which means that the final electoral results will not necessarily be affected by individual decisions (Kahn, 1992; Elkins, 2000; Cześnik, 2007).

We may notice that the relationship between mandatory voting and the quality of the political representation process is both polysemic and diverse. In addition, the debate remains open (Singh and Roy, 2018), with some contrasting results. As Dassonneville et al. (2019, p. 210) mention, although there are numerous references to this debate in the literature, there is a lack of consensus over the definition of a high-quality vote choice. Yet, whereas there is indeed a lack of definition about what constitutes a qualitative vote, a crucial point that has not been properly discussed is that the notion of quality implied in this literature refers to distinct dimensions of a process and not only to the vote choice.

The definition of quality not only differs from author to author but also varies according to the facet of the process of political representation to which it refers. It is, therefore, important to recognise that political representation involves different aspects and that there are distinct conceptions of quality in each part of a whole. Still, all aspects of this process share a common normative background: the debate over democratic quality. Figure 1 displays the three facets of the political representation process I propose, as well as how scholars have employed and measured each when investigating the secondary consequences of CV. Each of the concepts of "quality" within the process of political representation dialogues with theories of Political Behaviour and, consequently, carries specific ideas and expectations about voters' attitudes.

Figure 1 – The process of political representation and existing indicators of quality regarding each of its dimensions.

Process of political representation

Political competence and Attitudes	Vote choice	Aggregate results
Political interest Political sophistication/ knowledge/ information Democratic support	Ideological congruence ("correct voting") (Non) Random vote Evaluation of the incumbent's performance	Ideological range (Lack of) Ideological extremism Electoral accountability Legitimacy of electoral results
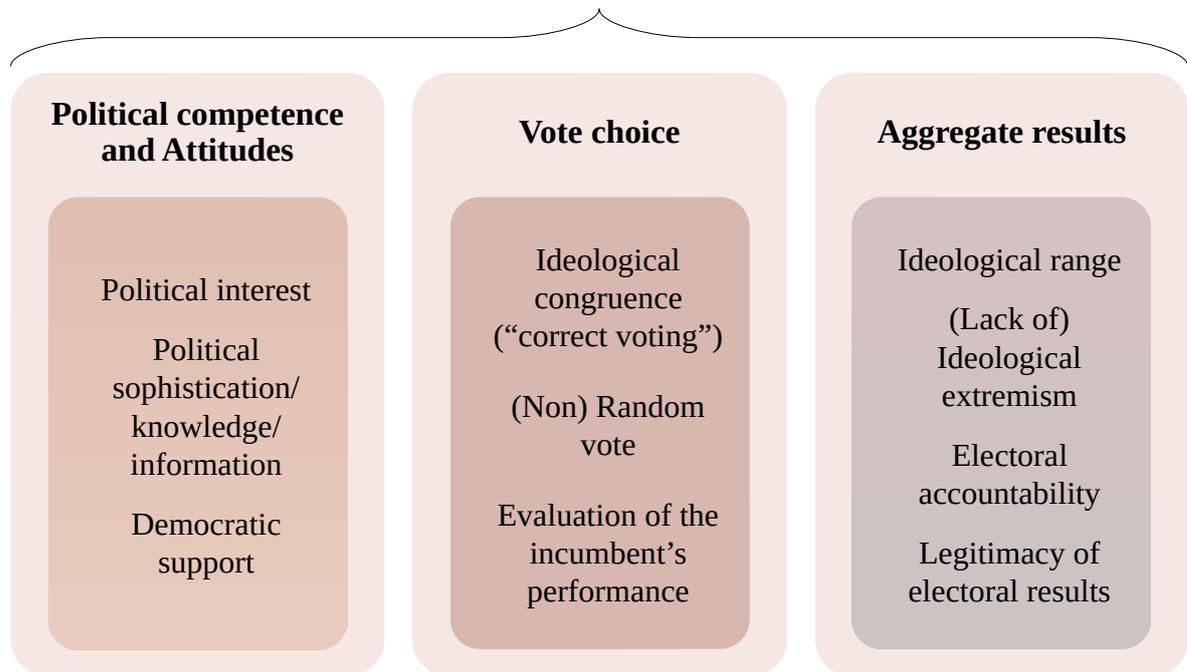
Source: Author's elaboration.

Another difference between the diverse empirical approaches in the literature on the secondary effects of compulsory voting concerns the unit of analysis. While some analyses are based on the whole voting-age population, others consider only the group of *de facto* voters. It is important to note that the mandatory vote is usually followed by compulsory registration. Hence, where registration is mandatory, nearly all individuals who compose the voting-age population are potential electors. On the other hand, where voting is optional, registration is usually also voluntary, which not only reduces the sample of possible voters but also makes it biased in favour of vote-prone citizens.

As a consequence, turnout rates calculated based on registered voters disregard the share of the population that meets the age criteria to vote but is not even registered as potential electors, a problem that also influences what scholars look upon. For instance, when authors compare contexts in which voting is optional/mandatory according to citizens' levels of political knowledge, sophistication, and interest, or to how spread clientelism is, as well as to people's levels of trust in democracy and in political institutions, the unit of analysis tends to be all citizens who can vote. On the other hand, when scholars question whether voters make

a "correct decision" or decide their vote randomly, the unit of analysis is only people who actually vote.

Let us consider a country with a population with average levels of political information. If this country obliges people to register and to show up to vote, the electorate tends to reflect such levels of information. Now, let us consider a country whose citizens have lower levels of political information when compared to the previous one. If this country makes it optional for its citizens both to register and vote, we might expect that those who are more interested in politics will vote at higher rates (Verba, Schlozman and Brady, 1995; Elkins, 2000; Gallego, 2015; Aguiar, 2018). Thus, if we compare electors from both countries, it is likely that voters in the latter present higher rates of political information. On the other hand, if we consider the entire voting-age population, citizens from the first country will have higher degrees of political information (considering that the more interested in politics one is, the more informed about it they tend to be).

While this is a common consequence of massification processes, it also highlights the importance of clearly identifying the unit of analysis when comparing existing results. Not only because turnout rates based on registered electors may underestimate abstention where registration is voluntary but also because *de facto voters* in each context will reflect distinct electorate groups. Birch (2009, p. 92) stresses that, in spite of the numerous discussions about calculating turnout rates based on the voting-age population or on the registered electorate, data on the former are scarce, which makes it widespread in the literature the use of turnout rates based on registered voters.

Figure 2 highlights the differences between both rates in 34 countries. In this sample, the adoption of voluntary/mandatory electoral registration and voting varies among countries and, sometimes, over time for the same country. It is interesting to take a closer look at the Chilean case, where voting was compulsory until 2012, while electoral registration was voluntary. Since 2013, however, registration is mandatory, but voting is optional in the country. It becomes evident that this special case of institutional change brought the two lines together.

Figure 2 – Turnout rates for Registered Voters and the voting-age population (VAP), 1982-2019.
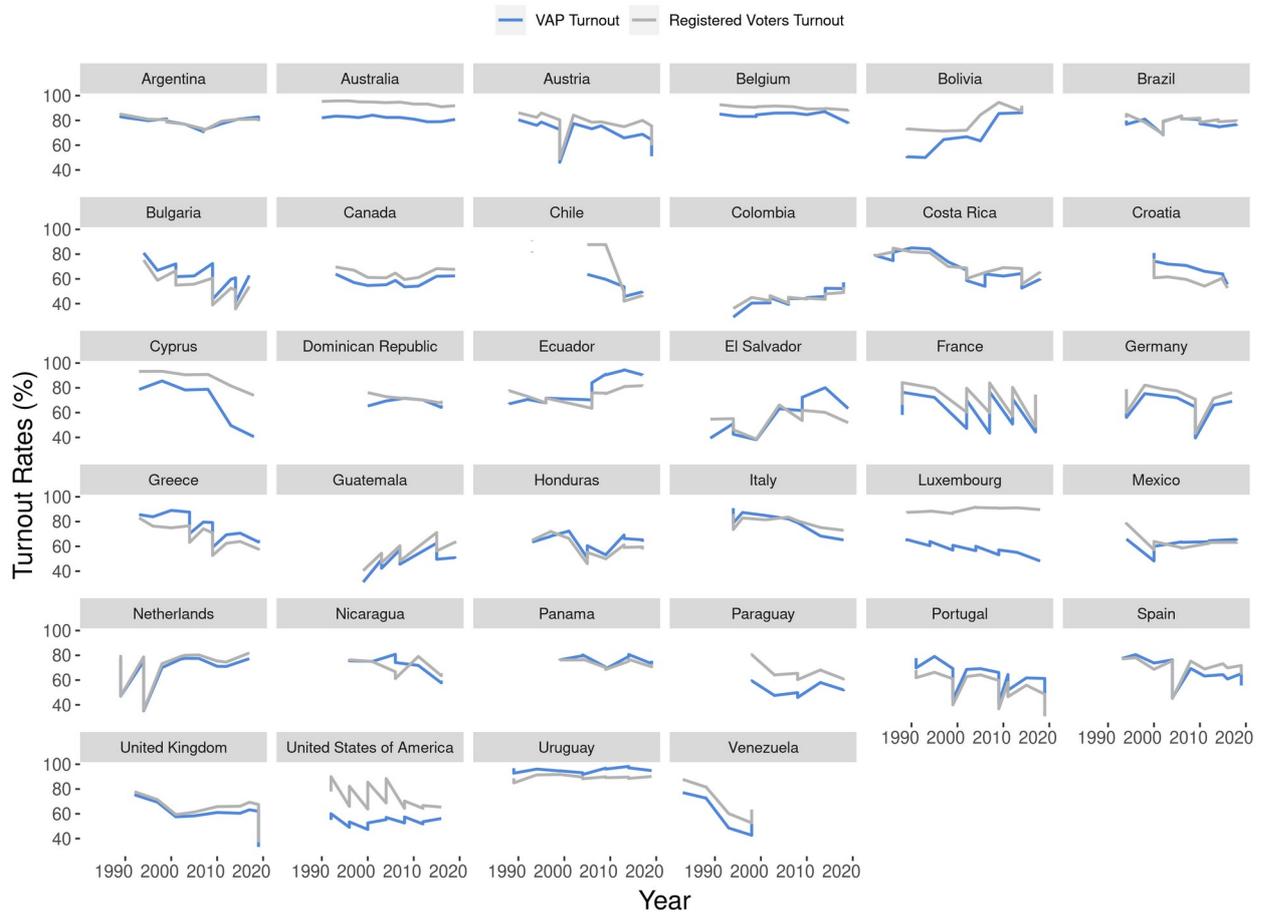
Source: Author's elaboration based on data from the International Institute for Democracy and Electoral Assistance (IDEA)[35].

Additionally, Table 2 summarises the studies mentioned above according to their unit of analysis and on which aspect of the political representation process they mostly focus. My main objective in proposing this framework is to understand better the existing results in this literature, as well as improve the dialogue between different works by shedding light on possible reasons for apparent contradictions.

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35 Available at: <https://www.idea.int/data-tools/world-view/40>. Last checked in March 2023.

Table 2 – Literature framework according to the unit of analysis and the aspect of the representation process.

UNIT OF ANALYSIS	ASPECT OF THE REPRESENTATION PROCESS		
	Individual competence and attitude	**Vote choice**	**Aggregate results**
voting-age population	Bilodeaus & Blais (2005) Gordon & Segura (1997); Sheppard (2015) Bruce & Lima (2019)	Hooghe & Stiers (2017)	Birch(2009) Jensen & Spoon (2011) Lundell (2012)
De facto voters	Cześnik (2007; 2013) Loewen, Milner & Hicks (2008) De Leon & Rizzi (2014; 2016) Singh & Thornton (2013) Singh & Roy (2018)	Selb & Lachat (2009) Singh (2016) Hooghe & Stiers (2017) Dassonneville et al. (2019) Freire & Turgeon (2020)	Dassonneville, Hooghe & Miller (2017)

Source: Author's elaboration.

In the next section, I present the literature on one of the approaches to the quality of the representation process and the variables commonly used to measure this concept according to this specific theoretical approach. After that, I explain how the theoretical framework linked to such an approach relates to my research problem and what hypotheses it raises. Finally, I carry out two sets of empirical analyses in order to try to contribute to the research agenda on the second-order effects of the compulsory voting law.

1.3. Quality of representation, accountability, and the Economic Vote

As aforementioned, the second-order effects of the compulsory voting law comprise its consequences beyond the increase in turnout rates, and scholars investigating such effects are especially concerned with the impact of CV on the quality of political representation, given that this rule is considered to bring uninterested and uninformed people to the polls (Abraham, 1955; Selb and Lachat, 2009; Lever, 2010; Singh, 2016, 2017). Although the concept of quality regarding electoral participation and representation is broad and still open to discussion, a standard approach to it is the 'accountability function of democracy' (Powell, 2000). This theory considers elections as mechanisms of political accountability as they serve

as "a sanctioning device that induces elected officials to do what the voters want" (Fearon, 1999, p. 56).

As democracies require equal consideration of the preferences and interests of all citizens (Verba, 2001), and political participation is aimed at influencing politics and policy-making by informing elites about such preferences (Milbrath, 1981; Verba et al., 1995), elections are considered instruments of democracy to the extent that they enable people to influence the policy-making process (Powell, 2000, p. 3). Electoral accountability is, therefore, pointed out as a guarantee of such a goal:

> Even if citizens are unable to control governments by obliging them to follow mandates, citizens may be able to do so if they can induce the incumbents to anticipate that they will have to render accounts for their past actions. Governments are "accountable" if voters can discern whether governments are acting in their interest and sanction them appropriately, so that those incumbents who act in the best interest of citizens win re-election and those who do not lose them. Accountability representation occurs when (1) voters vote to retain the incumbent only when the incumbent acts in their best interest, and (2) the incumbent chooses policies necessary to get re-elected (Manin, Przeworski & Stokes, 1999, p. 40).

The accountability model operates in two ways: a) on the one hand, elections are expected to fulfil the minimal task of providing citizens with a periodic opportunity to select policymakers by evaluating incumbents through a veto/support mechanism. This is in line with some scholars' expectations that citizens are unable to choose specific policies or opine on multiple and complex issues, as Powell (2000) points out; b) on the other hand, there are theorists who believe that electoral accountability can also impact policies by compelling governors to act as their constituents would like them to do, as they fear losing the next elections.

This is certainly not the only model to grant political influence to the people. In fact, Fearon (1999, p. 57) argues that "there is no logical reason why elections must be understood as a part of a relationship of accountability". The author believes that voters should not perceive elections as a form to establish accountability relations but instead, as an opportunity to select leaders who will better serve the interests of the people (therefore, *good types* of leaders). He considers that the accountability model is restricted to the pursuit of re-election, which would lead to both strategic behaviours on the part of politicians (bad types of leaders pretending to be good types because they seek to get elected again) and irresponsible actions on the part of the government when re-election is not an option. For him, although retrospective and prospective evaluations interact when voters decide how to vote, there is a clear division between them.

Notwithstanding, assessing the occurrence of accountability is indeed an approach well established in the literature to at least one dimension (the retrospective one) of the quality of political representation as it reveals whether voters are pressing incumbents to act properly on their behalf. However, the set of activities for which government officials are accountable is also diverse. A standard and similarly established measure of accountability is related to the economic performance of political leaders. The so-called Economic Voting Theory states that electors punish or reward incumbents for the economic outcomes they achieve, based on what Lewis-Beck and Paldam (2000, p.114) call "the responsibility hypothesis: voters hold the government responsible for economic events".

Hence, incumbents may remain in office or be removed from it based on economic circumstances. Duch and Stevenson (2008) define economic voting as the link between one's perception of the economy and their probability of voting for any available options. As Lewis-Beck and Paldam (2000) highlight, the economic vote works through a two-step chain: first, the economy affects voters' perceptions, which, thereupon, influence how people vote. Albeit apparently simple, this theoretical formulation involves several important premises.

Voters' perceptions may be related to someone's personal economic situation or collective economic circumstances. Therefore, the economic vote can be, respectively, egotropic (also called *pocketbook vote*) or sociotropic (Lewis-Beck and Stegmaier, 2008). Besides, electors' economic perceptions can also be divided into considerations about past governments and events (a retrospective evaluation) and considerations about future outcomes to be achieved by certain leaders through given measures – constituting, therefore, prospective assessments (Downs, 1957; Fiorina, 1981). Lewis-Beck and Paldam (2000, p. 118) state that most research findings indicate that retrospective variables work better (although only marginally) and that voters are more sociotropic than egotropic-led.

For Duch and Stevenson (2008), there are two models of economic voting, and each one presumes different kinds of rationality and has distinct expectations about voters' behaviours: the sanctioning and the selection models. According to them, the sanctioning model is essentially retrospective as electors base their voting decisions on the recent economic outcome delivered by the incumbent and do not consider promises made by other competing parties. This is in line with the idea that citizens "use their voting choice either to retain the

incumbents in office or to 'throw the rascals out'" (Powell, 2000, p. 09) and with the punishment-reward mechanism (Kramer, 1971; Fiorina, 1981).

While there have been questions about how rational this narrow focus on the recent past is, the sanction model assumes that there is a moral hazard related to letting leaders with unsatisfactory economic performances go unpunished (Duch and Stevenson, 2008). Hence, the overall idea of this model of economic voting is the same as the accountability model. That is, incumbents are concerned about re-election and, fearing to be sanctioned in the next elections, try to deliver good economic outcomes (Ferejohn, 1986). "To maintain the credibility of this threat, voters punish incumbents at the polls when retrospective economic performance is substandard" (Duch and Stevenson, 2008, p. 11).

Contrarily, the selection model states that, rather than seeking to punish or reward the incumbent, voters aim at choosing the most competent candidate. This aligns with Fearon's (1999, p. 68) proposition about what elections are intended for: choosing good types of leaders, which means selecting a candidate with similar policy preferences and who is relatively honest, principled and skilled. According to him, electoral accountability is not necessary for achieving responsiveness. In this approach, the economic vote is related to the probabilities of voting for each of the candidates since it would be the combination of comparative assessments that lead to a given vote choice.

However, this dimension can only be seized from an individual perspective and not through aggregate analyses. Additionally, we may argue that the separation between the evaluation of past performance and choosing an option based on comparative assessments is characteristic of the US-American context (and other bipartisan systems) since multiparty systems almost inevitably require voters to make a prospective choice in spite of retrospectively deciding to punish the incumbent.

Furthermore, strategic behaviours on the part of voters and politicians are a phenomenon to be considered. From the electors' perspective, as mentioned by Duch and Stevenson (2008, p. 15), "just as voters have rational expectations about economic outcomes, they also should have rational expectations about the relative electoral strength of competing candidates" (Cox, 1997). In this sense, electoral rules greatly impact economic voting because they directly affect the relative electoral strength of candidates. An example is the two-round system: voting for your favourite option in the first round may generate a run-off in which your least

favourite candidate is the winner. Consequently, in the first round, it would be interesting to vote for a less favourite candidate who can beat your least favourite option in the second round. This is strategic voting and will not always correspond to the exact expected choice according to the punish-reward approach of economic voting.

From the politicians' perspective, strategic behaviour consists of acting with the only purpose of being re-elected. However, although this can be understood as a rational behaviour on the part of political parties (Downs, 1957; Manin, Przeworski & Stokes, 1999), Fearon (1999) considers that such an attitude does not contribute to fulfilling the purpose of elections and is morally objectionable. In fact, as Borsani (2001) reveals, Latin-American presidents whose party is majoritarian in Congress tend to take long-term risky economic measures during electoral years in order to provoke an artificial short-term growth in the gross domestic product (GDP). The effect of such electioneering practices is an increase in unemployment rates and a decrease in GDP in the year after the election (even when the party of the president is not majoritarian in the Low Chamber). In this sense, voters are considered to have myopic electoral behaviour because they tend to vote in response to immediate past events.

In fact, Fearon (1999, p. 70) have also considered possible causes and implications of myopic votes. Still, he relates it to certain contexts and to a retrospective vote "aimed solely at finding a good type rather than at giving politicians incentives not to shirk in office", which apparently is not (always) the way people behave.

> The question is when to dump the present incumbent for a return to the pool of challengers. With two candidates, optimal behavior involves a myopic decision rule where the voter dumps the incumbent if performance falls below a certain level (Fearon, 1999, p. 70).

While the Economic Voting Theory is an established body of investigation and has been applied to a diverse range of contexts for decades, it is commonly divided into different waves. The first focused on the effects of macroeconomic indicators and was mainly based on aggregate-level data (Lewis-Beck and Paldam, 2000; Veiga, 2013), inaugurating cross-national and single-country studies on the subject.

Subsequently, comparative analyses indicated important variance and instability in the weight of economy in electoral choices and even challenged the existence of economic voting (Lewis-Beck and Paldam, 2000; Veiga, 2013). Moreover, this kind of contrast with single-country investigations has also appeared in analyses with individual-level data (Duch and

Stevenson, 2008). In exploring such controversies, it is important to highlight that, just as there are two steps in the chain of economic voting, there are four steps connecting economic policies and electoral results. That is, the economic and electoral performance of the incumbent are not directly related. However, such steps do not necessarily affect each other.

First, government actions do not always become actual results. References to incumbent actions are frequent in the literature on the economic vote. Yet, government actions are not always translated into outcomes. In this sense, characteristics such as the constitution of the government (majoritarian or coalitional), the degree of cohesion between the governing parties, and the size of the governing party's presence in the Legislature may influence not only the clarity of responsibility (Powell & Whitten, 1993; Anderson, 2000; Valdini and Lewis-Beck, 2018) but also the likelihood of transforming positions into actual policies (Borsani, 2001).

Second, macroeconomic outcomes do not necessarily affect people's perceptions of the economy and, consequently, their votes. If someone does not vote according to the macroeconomic reality, it does not mean inevitably that the economy is not important to them. For instance, it might be that their ideology[36] or their perception of the economic situation of the country or their own economic well-being led them to vote for a different option from what would have been expected. Moreover, analysing individual-level data is essential to capture this second stage.

Furthermore, as Carlsen (2000) highlights, a party's ideology influences its economic priorities, which, in turn, affect the responsibility hypothesis. This happens because voters tend to vote for parties that value a particular variable that is important to them (for example, controlling inflation rates over the level of unemployment), as well as to punish those responsible for poor outcomes with respect to this same salient variable (Lewis-Beck and Paldam, 2000). On the other hand, those who favour a decrease in the level of unemployment at the expense of higher inflation rates will be less understanding of a government with a poor economic performance in this specific point. In this sense, macroeconomic outcomes can indeed impact people's perceptions about the state of the economy, but such perceptions are also subject to other influences. Moreover, context also influences the relevance of economic

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36 A possible important influence on someone's perception of the economic state is the ideological distance between them and the incumbent, as ideology affects their acceptance of certain economic measures (Evans and Anderson, 2006; Ratto, 2011).

factors in elections. For example, it is accepted that the economy is a stronger factor in bad times than in good times (Lewis-Beck and Paldam, 2000).

Following, the third step in the chain between economic policies and electoral outcomes concerns the link between perceptions about the economy and the actual vote. Albeit disputable, it can be argued that the incompatibility between one's perception of the economy and vote choice is usually related to strategic voting – as discussed above. Furthermore, Lewis-Beck and Paldam (2000, p. 116) mention Sanders' (2000) analysis "demonstrating that while the link from the economy to the vote is weak, there is a strong link from the economy to the voters' perceptions of the economy, and from these perceptions to the vote".

Finally, the fourth step linking economic policies and electoral results concerns the link between actual votes and electoral results. Vote choices can indeed affect the vote share for the incumbent party. However, it does not automatically determine who gets elected, since other factors also influence the final electoral result (such as two-round rules, for example).

It is important to note that the third part of this chain – the connection between perceptions about the economic situation and the *vote choice* – should actually be explored in terms of how these perceptions affect people's *electoral behaviour,* since choosing *not to vote* is also an electoral decision – a decision made possible (or easier) in specific institutional contexts. The usual outcome of interest in the Economic Voting Theory is either the incumbent party's electoral performance or one's electoral choice. Hence, investigations on **how** people vote have been strikingly predominant over analyses on **whether** they vote. As Rosenstone (1982, p. 25) points out:

> Although the social, economic, and electoral consequences of fluctuations in the economy have been widely examined, no consensus has been reached on the impact of economic adversity on political participation. The economy clearly affects how a person votes, but does it affect whether he votes?

The few investigations on the topic have come to contrasting results. Rosenstone (1982) tested how economic adversity affects electoral behaviour. He concludes that "the higher the short-term unemployment rate and the larger the proportion of the electorate that is worse off financially, the lower the voter turnout" (p. 38). On the other hand, Burden and Wichowsky (2012), using aggregate-level data, found a positive association between unemployment rates and electoral turnout within a certain region. According to them, these results are normatively

interesting, as they consider that electoral accountability is supposed to reduce the participatory gap between the unemployed and those who have a job.

Considering that compulsory voting directly affects the mobilisation process (by increasing the costs of abstention as well as by lowering the costs of voting (Helmke and Meguid, 2010, p. 5), investigating possible interactions between this rule and the economic vote is an important task yet to be tackled and raises interesting hypotheses.

In order to offer an empirical assessment of the relation between mandatory voting and the quality of the political representation process, I will investigate whether CV interacts with economic factors and impacts their association with the electoral performance of the incumbent party or alliance. The specific question to be answered becomes: does mandatory voting weaken economic voting and, consequently, electoral accountability?

To that end, as well as in reference to the four paths between the state of the economy and electoral results, I conducted two sets of analysis: one based on aggregate-level data and one focused on the electoral performance of the incumbent party/alliance and on macroeconomic variables, and another based on individual-level data and focused on the electoral decision-making process, considering information about one's electoral behaviour and their perception about the state of the economy.

In the following chapters, I address the hypotheses formulated within the theoretical framework and provide empirical tests for them.

2. CHAPTER 2: DOES MANDATORY TURNOUT HINDER ELECTORAL ACCOUNTABILITY? AN AGGREGATE-LEVEL APPROACH

In this chapter, I test the accountability model and the retrospective dimension of economic voting based on aggregate-level data. As Lewis-Beck and Paldam (2000, p. 119) state,

> With regard to measurement, the dependent variable must indicate the appropriate target of economic responsibility. For example, in an essentially two-party system, the economic voter acts for or against the party in government. In a multi-party system, the economic voter may target a whole coalition, a party within the coalition.

Therefore, I will target incumbents' parties and alliances and their electoral performance. For this first set of analyses, I have built an aggregate database with more than 200 observations using Valdini and Lewis-Beck's (2018) data as a starting point. The data set includes macroeconomic variables, as well as institutional controls, and information about electoral results and governing parties/alliances.

Next, I detail the hypotheses to be tested in this chapter. Then, I present the database and the methods and discuss the results. Finally, I close the chapter with concluding remarks.

2.1. Hypotheses

Since my research question asks whether compulsory voting weakens economic voting and, thus, electoral accountability, my main hypothesis is:

H1 – CV interacts with macroeconomic factors reducing their association with the percentage of votes for the governing party/alliance.

Considering that this hypothesis assumes the association between economic variables and the vote share for the incumbent, the first sub-hypothesis is that:

H1.1 – GDP growth is positively associated with the vote share for the incumbent party or alliance, while unemployment and inflation rates are negatively associated.

Furthermore, since the relation between the state of the economy and the incumbent electoral performance does not imply that electoral results will also be affected, as well as considering the previous hypothesis that the compulsory vote, the second hypothesis is:

H2 – CV interacts with macroeconomic variables hindering their association with the probability of victory of the incumbent party/alliance.

    H2.1 – CV is positively associated with the probability of victory of the incumbent party/alliance.

2.2. Data and Methods

The data set comprises 243 national elections in 34 different countries and covers the period after the redemocratisation process (which, in general, started in the 1980s and lasted until the 1990s). However, because of missing values in three variables, the data used in the analyses include only 235 observations for the same 34 countries. Of these elections, 156 were held under the voluntary voting system, and 79 compelled voters to attend the polls (under varying degrees of enforcement).

My database was based on the data set provided by Valdini and Lewis-Beck (2018), which includes information about elections in 18 Latin-American countries, and to which I added information about recent elections in Latin America, as well as in other regions. Moreover, I have also included economic and institutional variables necessary for testing my hypotheses. It is important to note that this database considers only free and fair elections, classified according to the projects Freedom House and Varieties of Democracy (V-Dem). The data set is available in the online supporting material of the dissertation.

- **Dependent variables**

Two variables of interest were considered: the first one, following Valdini and Lewis-Beck (2018), is a numerical variable that considers the percentage of votes received by the incumbent party or alliance in the first round (if it is a two-round system[37]) of a given election

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[37] Using a party/alliance's vote share in the first round in two-round systems is an interesting strategy because the first round is when voters tend to cast sincere votes: they do tend to vote for their favourite party regardless of its chances of winning in spite of possible strategic behaviours stimulated by each party's likelihood of going to the second round – something especially important for multiparty systems. In this sense, choices made in the first round of a two-round election are more comparable to those made in single-round elections.

(T_0)[38]; while the second one is a binary variable that considers whether the incumbent party or alliance got elected.

It is important to note that the elections included in the data set are nationwide, aimed at selecting the head of government: the president, prime minister or chancellor. Two countries are classified as semi-presidential systems: France and Portugal. For the French case, I collected data on presidential elections (Chagnollaud, 1993), while for Portugal, I considered parliamentary elections (da Cruz, 2017). Likewise, although Germany is considered a parliamentary country, not a semi-presidential system, it does have a presidency. In this case, I gathered information about elections for chancellor.

a) *Linear Models*

Table 3 details the numeric dependent variable, including the lagged one while Figure 3 illustrates the incumbent vote share by country[39].

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38 A lagged dependent variable, which is the percentage of votes for the incumbent party/alliance in the first round of the previous election (T_{-1}), was also included in the data set, following Beck and Katz' (1995) recommendations, and tested as a controlling factor, since the results of elections occurred in T_{-1} affect what happens in T_0.

39 We can notice that there are cases in which the dependent variable equals 0. It happened in two Latin-American elections in which the incumbent party or alliance did not participate. On the one hand, this represents a very large difference between the percentage of votes for the incumbent party in the previous and in the current elections, so these cases can muddle the analysis for being outliers. Additionally, such results do not necessarily represent voters' electoral behaviour, as electors have not actively chosen to punish the incumbent. Moreover, electors are unable to punish or reward the incumbent if a party or an alliance representing them fails to run. On the other hand, withdrawing candidacy is not necessarily an exogenous factor. In fact, it may be related to issues closely associated with the punishment-reward mechanism. This is probably the case in the 2002 Colombian election. The Conservative Party (PC) of President Andrés Pastrana faced a troubled process to nominate a candidate until Juan Camilo Restrepo was selected through a party primary. However, polls indicated that Álvaro Uribe, the candidate of the newly created movement *Primero Colombia* (Colombia First), was rapidly becoming the favourite option of electors. To that end, after the legislative elections, Restrepo gave up competing precisely because he anticipated an electoral sanction. As Taylor (2009, p. 106) highlights, "the fortunes of the PC were so anaemic that its 2002 presidential nominee, Juan Camilo Restrepo, decided to withdraw his candidacy". As long as we cannot affirm that the lack of electoral support for Restrepo was motivated by economic evaluations – it was presumably associated with preferences regarding the relation between the State and the Revolutionary Armed Forces of Colombia – we also cannot conclude that PC withdrawal was disconnected from the voters' wills. As for the 1998 Venezuelan election, the incumbent party (National Convergence) rescinded its candidacy and did not support any other candidate. In both cases, I decided to keep the value 0 of the dependent variable in the analyses for theoretical reasons.

Table 3 – Descriptive Statistics of the Dependent and the Lagged Dependent Numeric Variables.

Variable	Min.	Median	Mean	Max.
Incumbent Vote Share in the first round (T_0)	0	35.2	33.36	72.44
Incumbent Vote Sdare in the first round (T_{-1}) – Lagged Dependent variable	9.60	41.5	40.17	64.22

Source: Author's elaboration.

Figure 3 – Vote Share for the Incumbent Party/Alliance over time by country, 1982 – 2019.
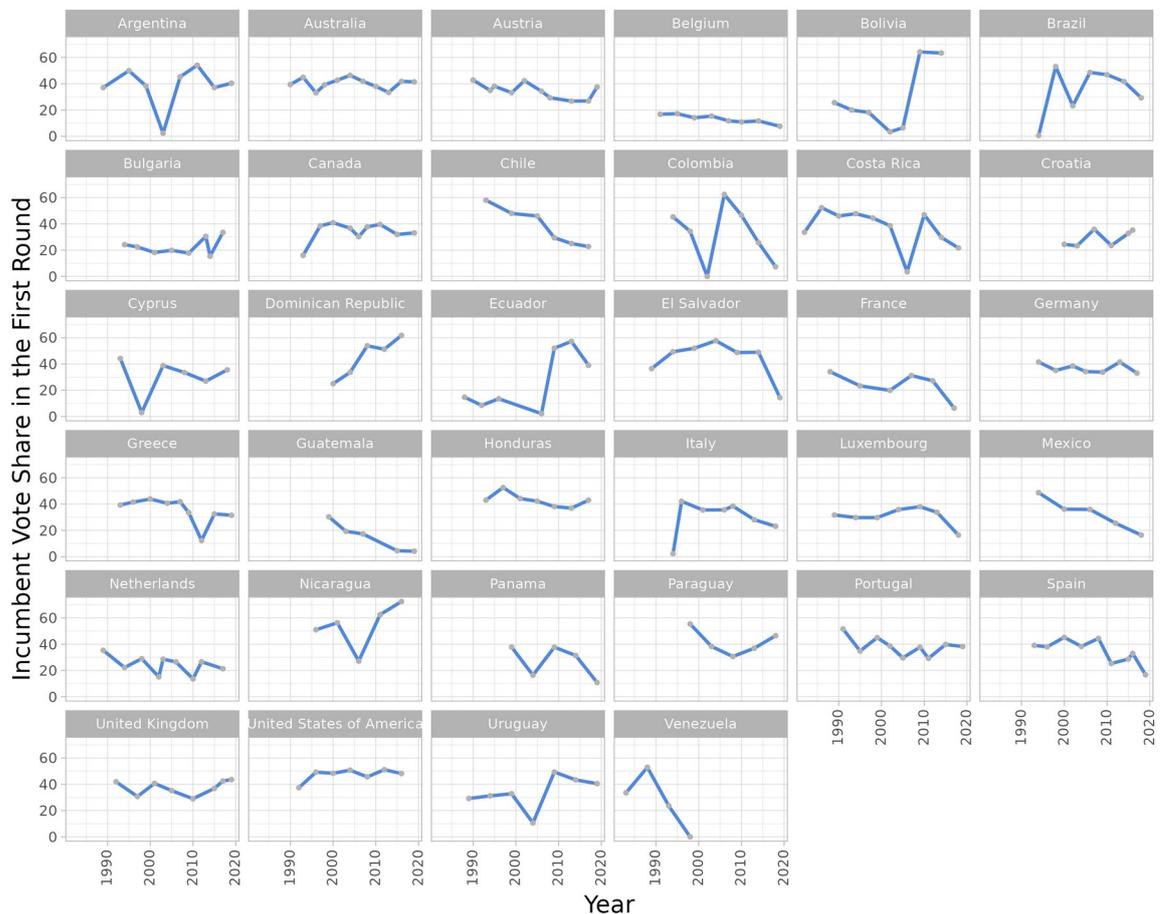
Source: Author's elaboration.

b) Logistic Models

Given the four steps in economic voting mentioned above, the vote share of the incumbent party or alliance does not necessarily determine who wins the election. Therefore, I created a dichotomous variable to assess whether mandatory voting affects the relation between

macroeconomic factors and the incumbent's probability of winning an election. It assumes a value of 0 when the incumbent is voted out and 1 when their party or alliance wins the election. Table 4 details the second dependent variable of the aggregate-level analysis.

Table 4 – Categorical Electoral Performance of the Incumbent Party/Alliance.

Did the incumbent win?	Frequency	Percent
Did not win	121	51.49
Won	114	48.51
Total	**235**	**100.00**

Source: Author's elaboration.

- **Independent Variables**

    a) **Economic Variables**

As for the economic variables, the data include three macroeconomic indicators: the annual change in the gross domestic product (GDP), as well as the annual rates of inflation and unemployment. The information was obtained mainly from the World Bank Open Data. Yet, unemployment rates were collected from the Organization for Economic Co-operation and Development (OECD) archives when information was not available in the first source.

To collect the economic data, I considered as the base year: the previous year, when the election was held from January to April; the mean of the values for the previous year and the current year, when the election was held between May and August; and, finally, the current year, when the election took place from September onwards. Table 5 presents the descriptive statistics of the three macroeconomic indicators used in the analyses. In addition, Figure 4, Figure 5, and Figure 6 display the evolution of the three macroeconomic variables over time and by country.

Table 5 – Descriptive Statistics of the Macroeconomic Variables.

Variable	Min.	Median	Mean	Max.	No. Obs.
Change in GDP	-10.89	2.75	2.59	9.40	235
Inflation Rate	-8.70	3.01	22.58	2,302.84	235
Unemployment Rate	1.80	6.91	7.81	26.49	235

Source: Author's elaboration.

Figure 4 – Change in GDP over time by country, 1982 – 2019.
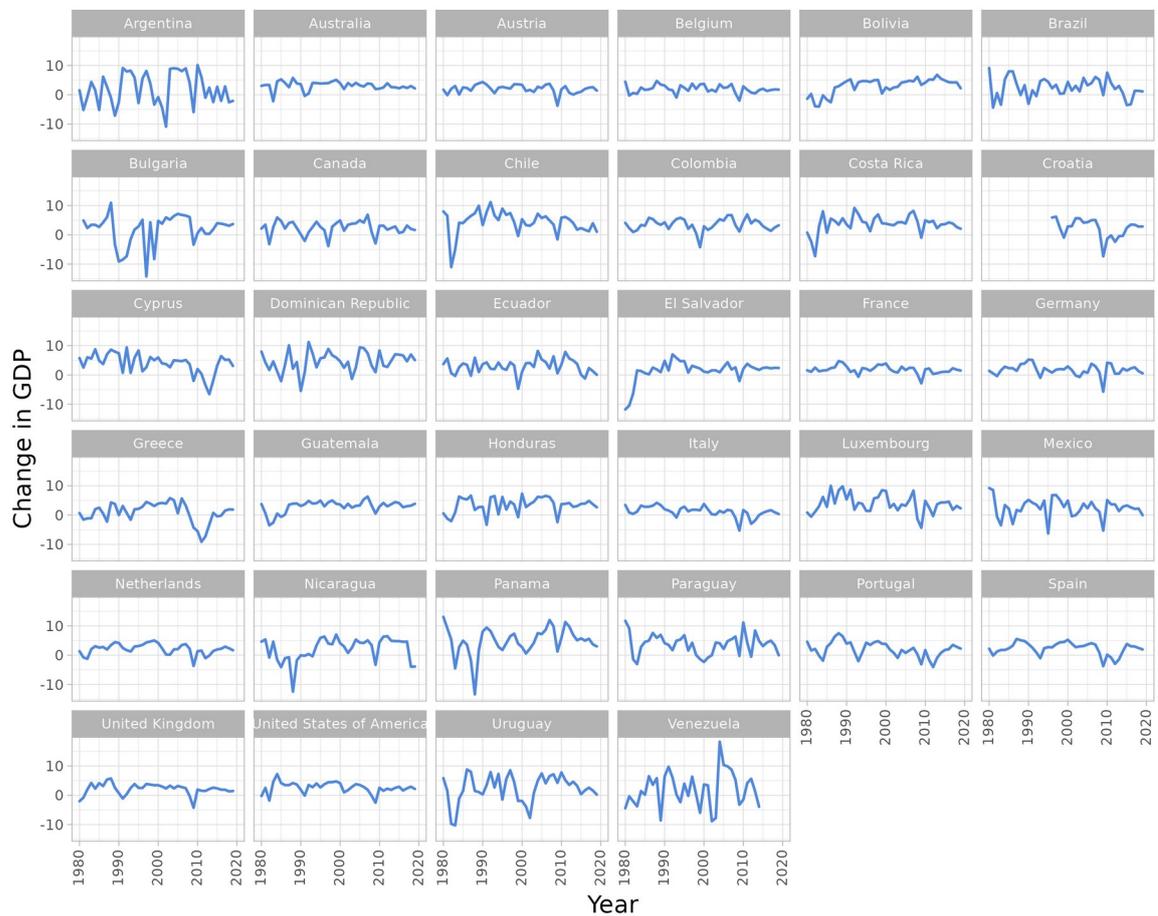
Source: Author's elaboration.

Figure 5 – Inflation Rate over time by country, 1982 – 2019.
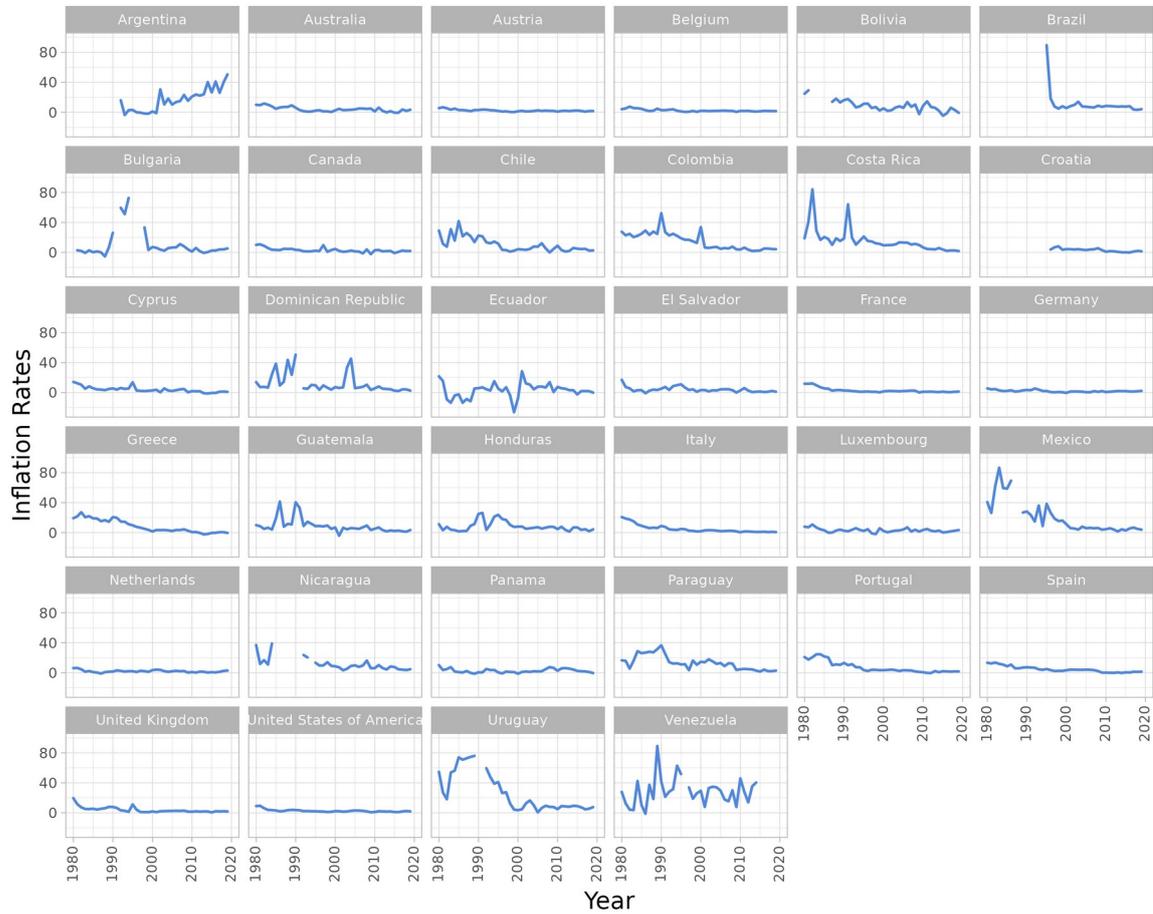
Source: Author's elaboration.

Note that the variance interval of inflation rates is very large, ranging from negative values to over 2,000. Therefore, Figure 5 does not include observations higher than 100 in order to improve visualisation. Even so, cases above 30 still "flatten" the curves of other countries due to the low variability of their inflation rates.

Figure 6 – Unemployment Rate over time by country, 1982 – 2019.
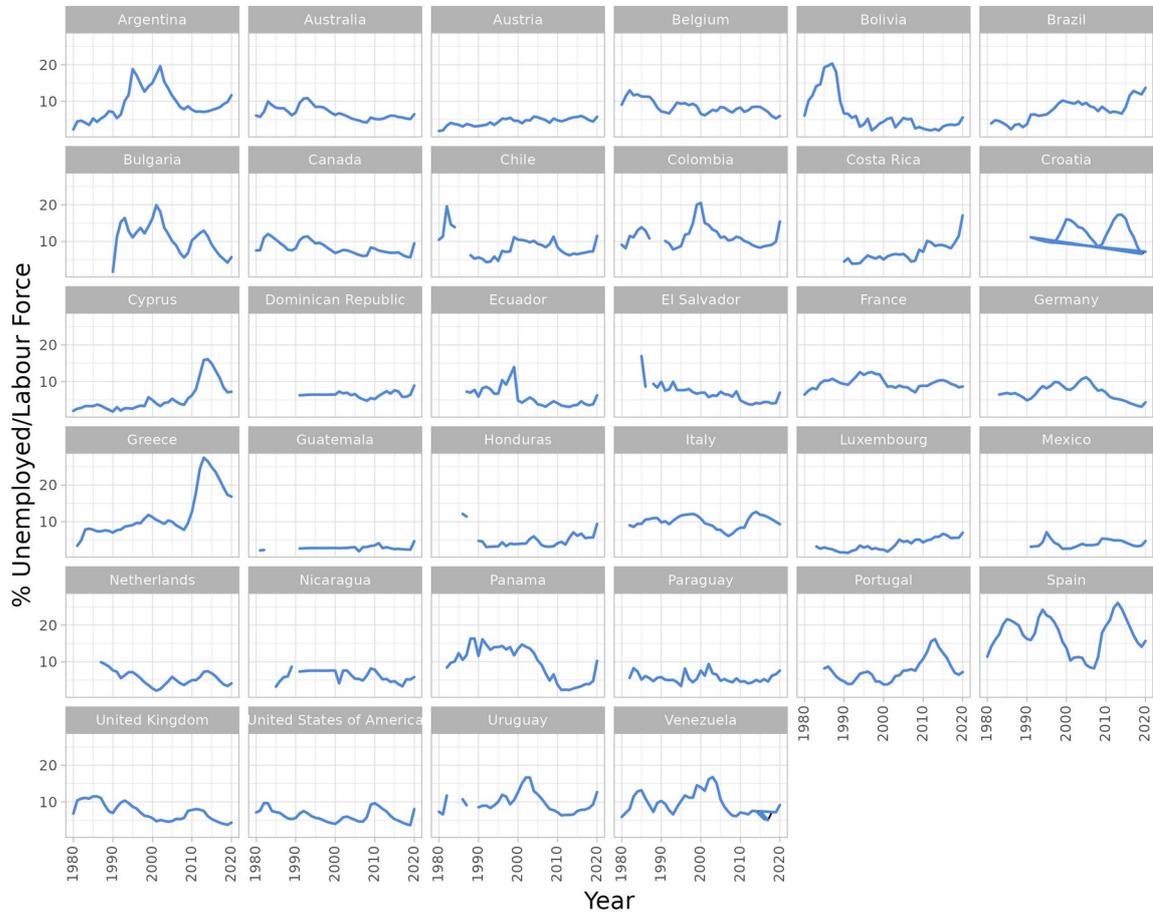
Source: Author's elaboration.

b) Institutional and contextual variables

As for the institutional factors that may affect the electoral performance of the incumbent party or alliance, our main explaining variable is the adoption of the compulsory voting law in a given election. This variable was coded according to the parameters informed in the previous chapter, as summarised in Table 2. It includes only two categories, as my goal is to test whether the adoption of compulsory voting, whether weakly or strictly enforced, affects the accountability process when it comes to the economic vote.

In addition to the CVL, six institutional controls were included in the models following what the specialised literature points out to be related to the accountability hypothesis and the economic vote: system of government; mode of political organisation; number of chambers in the Legislature; the degree of democracy; the margin of majority of the government in the Legislature; and the number of effective parties (Borsani, 2001; Lewis-Beck and Paldam

2000; Lijphart, 1997; Ratto, 2011; Valdini & Lewis-Beck, 2018, Rosenstone, 1982; Veiga & Silva, 2015; Park, 2019).

The system of government refers to the allocation of powers between the Executive and the Legislature and is divided into three levels: 0 = Presidential; 1 = Parliamentary; 2 = Semi-presidential. On the other hand, the mode of political organisation refers to the distribution of powers between the different levels of government, having two different categories: 0 = Unitary System; 1 = Federal System. As for the Legislature, it can be organised into one or two chambers so that the variable has two categories: 0 = Unicameral; 1 = Bicameral. Table 6 describes all categorical institutional variables.

Table 6 – Categorical Institutional Variables Summary.

Variable	Category	Frequency	Percent
Turnout Regime	Voluntary Voting	156	66.38
	Compulsory Voting	79	33.62
	Total	**235**	**100.00**
Parliamentary, Presidential, and Semi-presidential Systems	Parliamentary System	107	45.53
	Presidential System	113	48.08
	Semi-presidential System	15	6.38
	Total	**235**	**100.00**
Unitary and Federal Systems	Unitary	152	64.68
	Federal	83	35.32
	Total	**235**	**100.00**
Legislature	Unicameral	80	34.04
	Bicameral	155	65.96
	Total	**235**	**100.00**

Source: Author's elaboration.

The Democratic Index is a numeric variable calculated based on five indexes provided by the Varieties of Democracy Project (V-Dem): electoral democracy (v2x_polyarchy); liberal

democracy (v2x_libdem); participatory democracy (v2x_partipdem); deliberative democracy (v2x_delibdem); and egalitarian democracy (v2x_egaldem).

As for the Government Margin of Majority, it represents the fraction of seats held by the government and is calculated by dividing the number of government seats by total seats. The variable, as well as its description, was provided by the Database of Political Institutions (DPI2020). Finally, models include the effective number of (electoral) parties (ENEP) in a country's party system at the national level for the specified election year. This variable was calculated at the national level following Laakso and Taagepera's (1979) specification. Data, as well as the description of the variable, were mainly provided by the Constituency-Level Elections Archive (CLEA) and when absent, I calculated them myself. Table 7 summarises the three numeric institutional variables.

Table 7 – Numeric Institutional Variables Summary.

Variable	Min.	Median	Mean	Max.	No. Obs.
Democratic Index	0.12	0.75	0.66	0.83	235
Government Margin of Majority	0.07	0.54	0.54	1.00	235
Effective Number of (electoral) Parties at the national level	1.00	4.06	4.80	18.00	235

Source: Author's elaboration.

2.3. Results

2.3.1) Linear Models

Let us begin by exploring the raw relation between the economic explaining variables (change in GDP and inflation and unemployment rates) and the vote share for the incumbent party or alliance, as well as the direct relation between the institutional explaining variable (the adoption of compulsory or voluntary voting laws) and the dependent variable. That is, let us analyse such associations without mediating factors.

Figure 7, Figure 8, and Figure 9 show scatter plots with smooth regression lines of each macroeconomic variable as a function of the vote share for the incumbent party or alliance as the response variable.

Figure 7 – Relation between GDP variations and the incumbent's vote share. The red line results from a linear regression model.
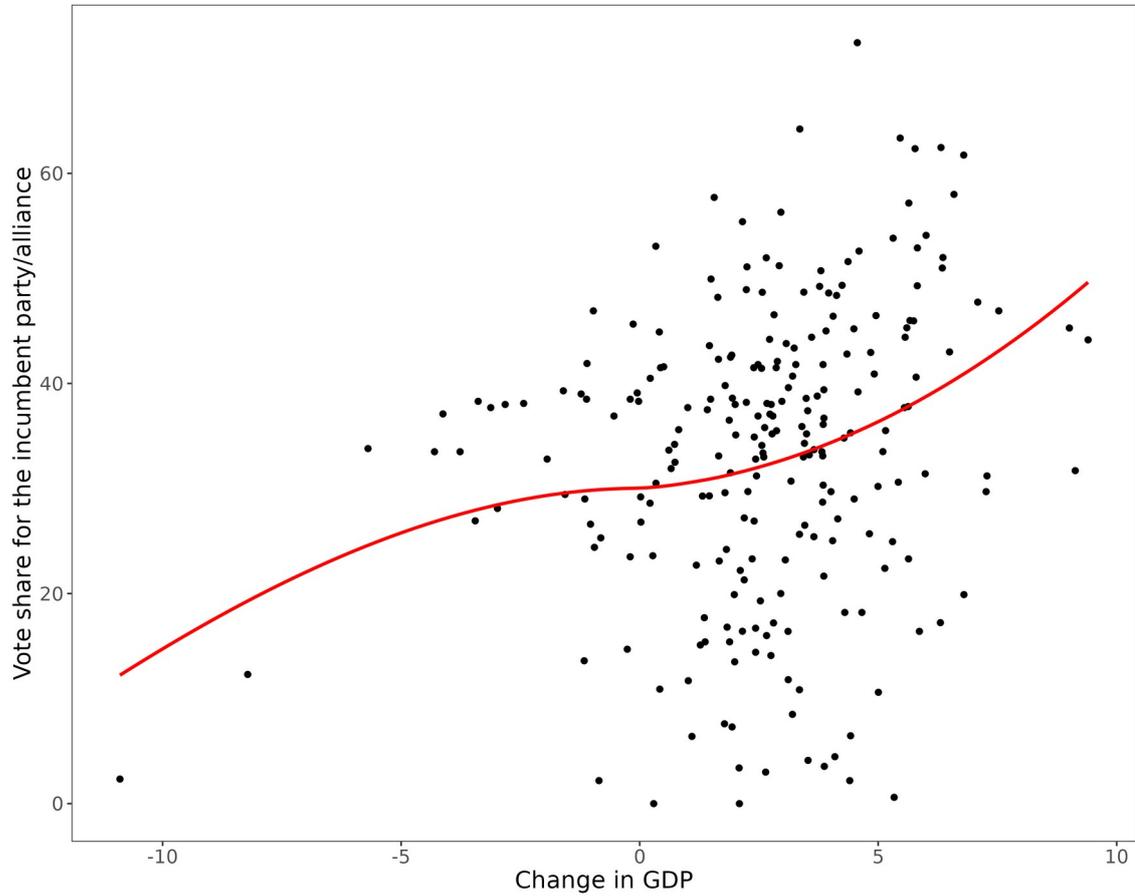
Source: Author's elaboration.

Similarly to what happened in Figure 5, 11 observations with inflation rates greater than or equal to 30 were excluded in Figure 8.

Figure 8 – Relation between inflation rates and the incumbent's vote share. The red line results from a linear regression model.
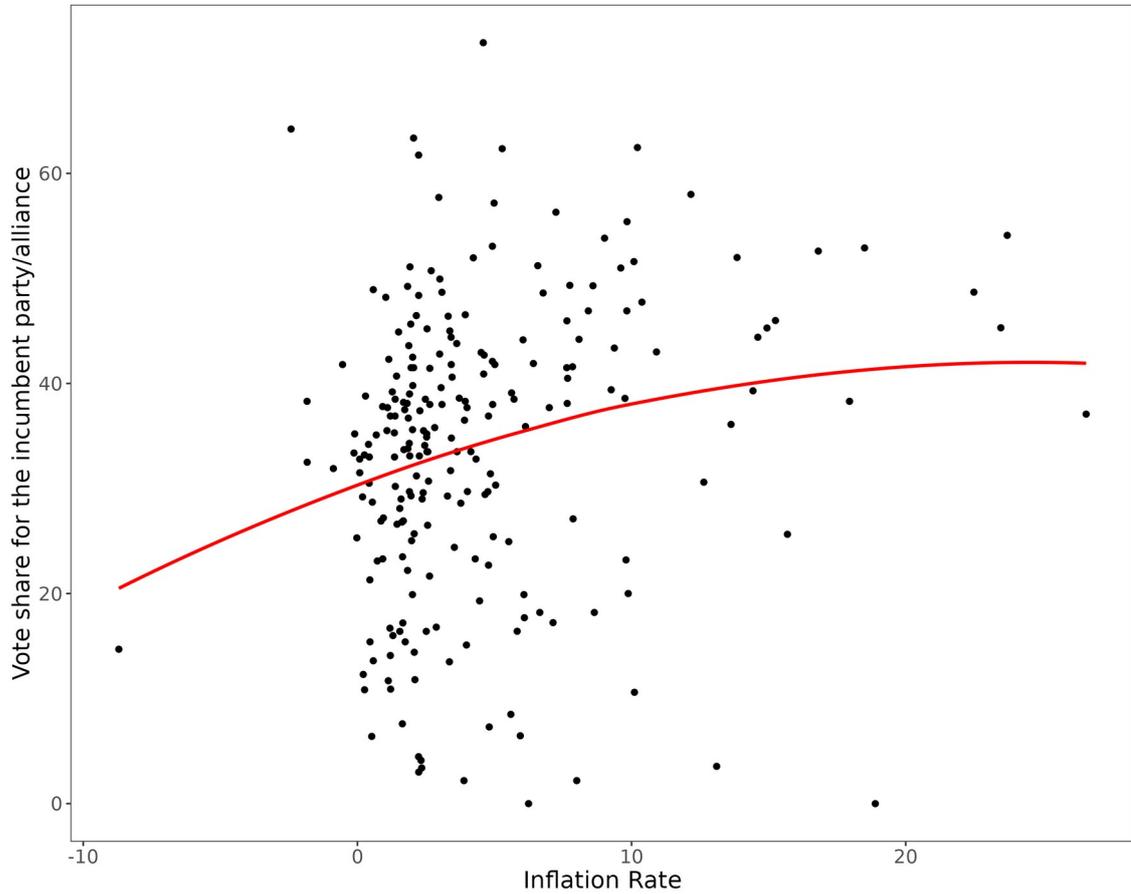
Source: Author's elaboration.

It can be noticed that such relations are somewhat dispersed, although, in general, this data set loosely suggests that higher proportions of votes for the incumbent party/alliance are slightly associated with higher GDP variations and inflation rates, as well as with lower unemployment rates. While the first two relations are in line with the economic voting theory, the positive relation between inflation rates and the incumbent's electoral performance is highly unexpected.

Figure 9 – Relation between unemployment rates and the incumbent's vote share. The red line results from a linear regression model.
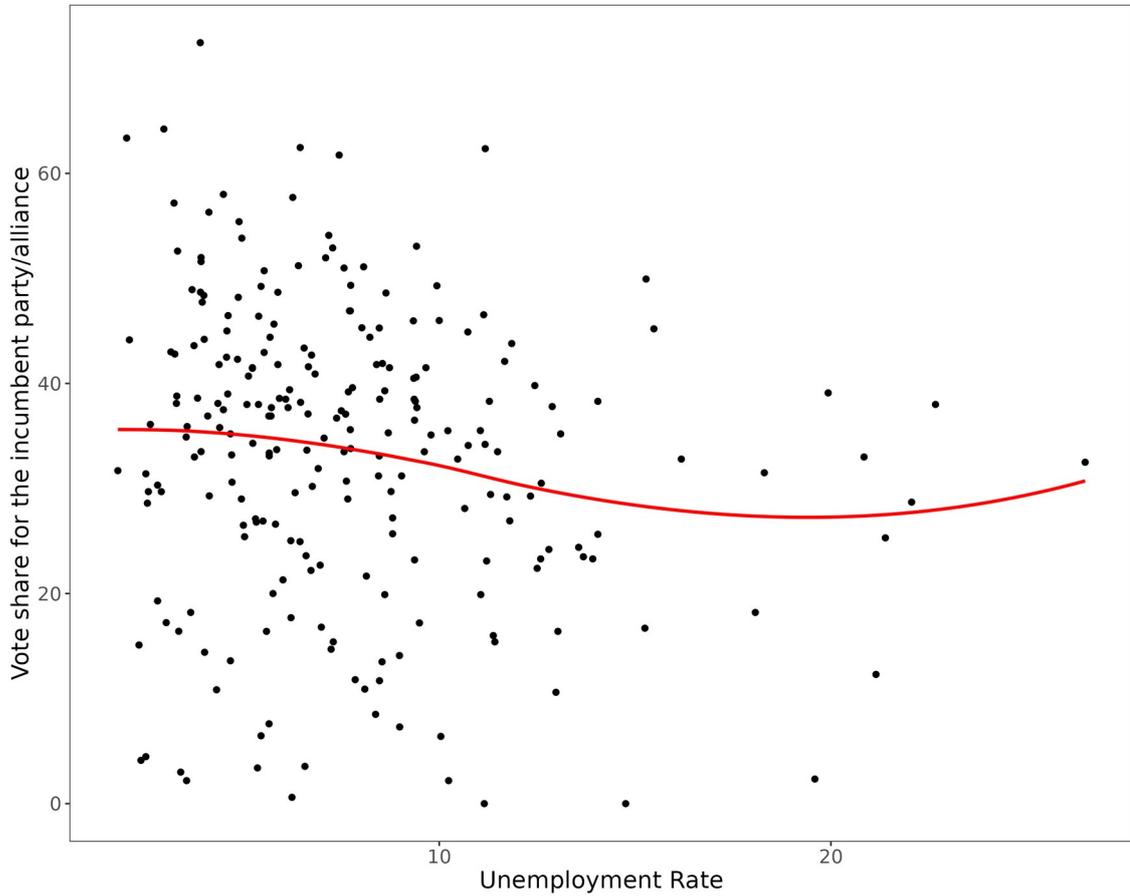
Source: Author's elaboration.

As for the turnout rule, Figure 10 shows the box plot for each category of the explaining variable and the vote share for the incumbent party or alliance. We may notice that this data set does suggest that, albeit rather small, there is a difference in the proportion of votes for the incumbent according to the turnout rule. Mandatory voting seems to be associated with a higher percentage of votes for the governing party or alliance.

Figure 10 – Relation between the turnout rule and the incumbent's vote share.
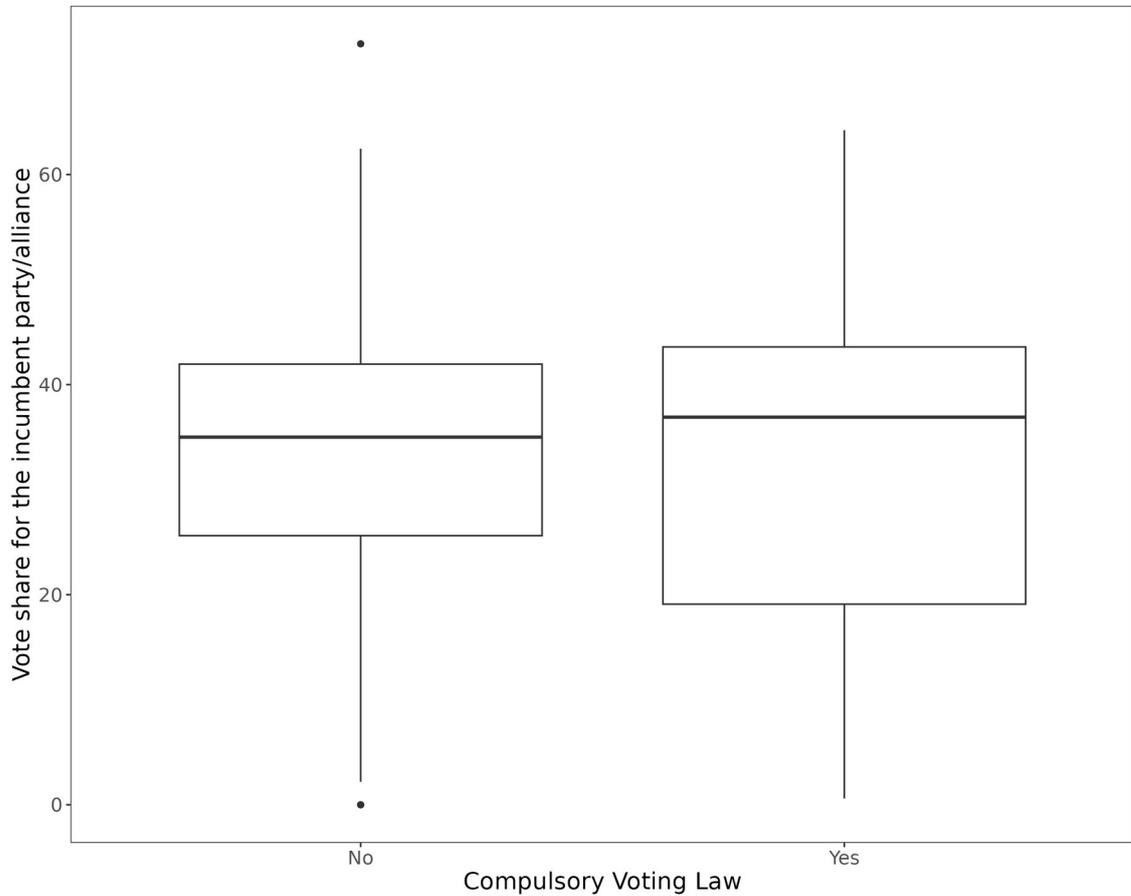
Source: Author's elaboration.

Moving forward, I analyse the mediated interaction between compulsory/voluntary voting and macroeconomic variables in their association with the incumbent's vote share, if any. That is, I controlled these associations by contextual and institutional factors based on both the specialised literature and technical analyses of the data.

Inferential Analyses

As mentioned earlier, I seek to test the hypothesis that **CV interacts with macroeconomic factors reducing their association with the percentage of votes for the governing party/alliance**. Considering the nature of the response variable, as well as the longitudinal characteristic of the data set, I ran a linear Gumbel mixed model (Stasinopoulos et al., 2017) to explain the location parameter of the incumbent's vote share. Therefore, I applied the

selection algorithm "stepGAIC()" of the package "gamlss" of R to the location component (Stasinopoulos and Rigby, 2022), which selects the best model based on the Generalized Akaike Information Criterion. The algorithm selected the following model:

1. $\text{cvl}_{ij} | b_i \overset{ind}{\sim} GU(\mu_{ij}, \sigma)$,
2. $\mu_{ij} = \beta_0 + b_i + \beta_1 \text{change\_gdp}_{ij} + \beta_2 \text{infla}_{ij} + \beta_3 \text{voteinclagfirst}_{ij} + \beta_4 \text{democracy}_{ij} + \beta_5 \text{gov\_maj}_{ij} + \beta_6 \text{enp\_national}_{ij} + \beta_7 \text{cvl}_{ij}$,
3. $b_i \overset{ind}{\sim} NO(0, \sigma_b^2)$,

In this model, μ_{ij} is the location parameter of the incumbent vote share for the i-th country in the j-th election; b_i is the random intercept of each country for $i = 1, \dots, 34$ and $j = 1, \dots, n_i$; and GU(.,.) indicates the parametrised Gumbel distribution. Table 8 presents the results of the model. Note that since the dependent variable is a percentage, I divided its value by 100 in order to get the results in a more intuitive unit of measure.

Table 8 – Estimates of the linear Gumbel mixed model to explain the percentage of votes received by the incumbent party/alliance.

Parameter	Estimation	Std. Error	t value	Pr($> |t|$)
β_0 (Intercept)	0.2673	0.044	6.082	< 0.0001
β_1 Change in GDP	0.0109	0.0019	5.592	< 0.0001
β_2 Inflation Rate	-0.0001	0.00003	-3.205	0.0016
β_3 Incumbent Vote Share in the first round (T_{-1})	0.0059	0.0005	11.037	< 0.0001
β_4 Democratic Index	-0.0829	0.0359	-2.313	0.0217
β_5 Government Margin of Majority	-0.0945	0.0399	-2.367	0.0188
β_6 ENEP (national)	-0.0129	0.002	-6.564	< 0.0001
β_7 Compulsory Voting	0.0393	0.0113	3.474	0.0006
σ_b	0.0357			
Degrees of freedom for the fit	27.6648			

Source: Author's elaboration.

Note that the random intercept induces correlations between observations from the same country and that the algorithm did not select the economic variable unemployment, nor the institutional variables system of government, mode of political organisation and the organisation of the Legislature.

The left panel of Figure 11 shows a scatter plot of quantile residuals of the model on the y-axis versus the fitted values (considering the random intercept predictions) on the x-axis. The right panel shows the normal probability plot of the quantile residuals with an empirical envelope of 99% confidence. As can be seen, both plots indicate that the postulated model is adequate.

Figure 11 – Quantile Residuals vs. Fitted Values and Normal Probability Plot of the Quantile Residuals of the linear model.
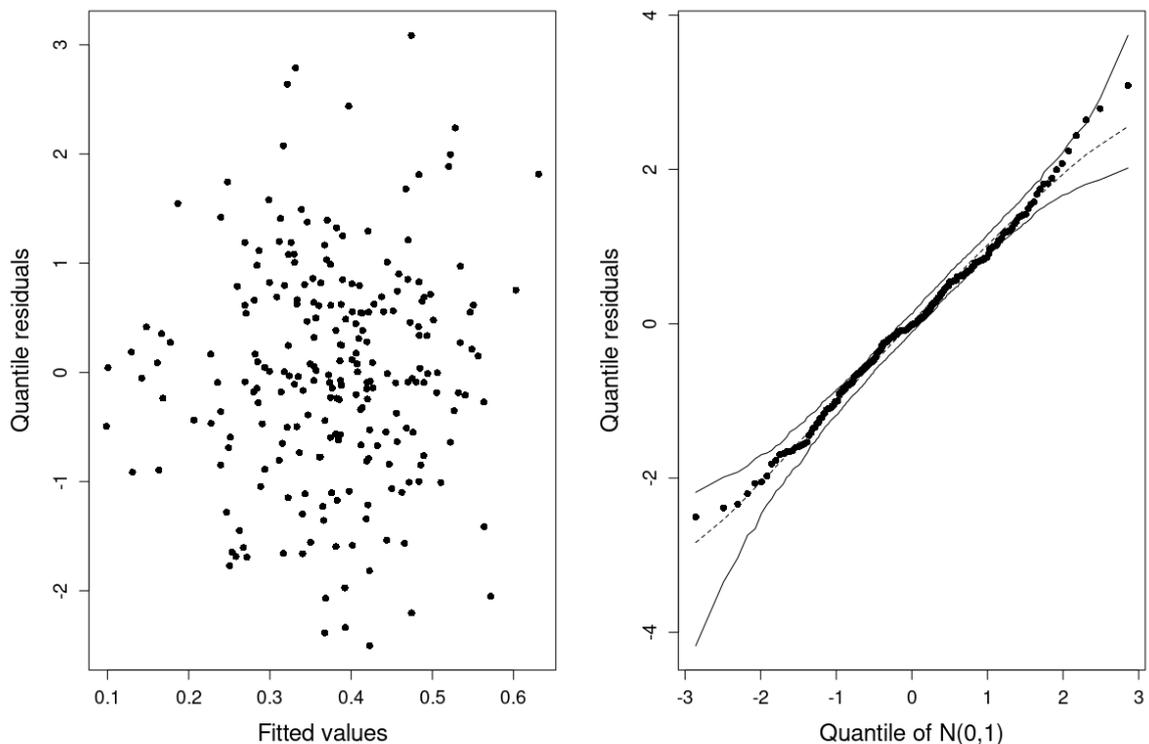
Source: Author's elaboration.

Although these results indicate that my model is adequate for the data, the class of models that were run for such a sample size make it hard to guarantee the asymptotic behaviour of the

distributions. Therefore, I carried out resampling simulations in order to get further results and test my hypotheses[40].

Consider the following model:

$$\beta_0 + b_i + \beta_1 \text{change\_gdp}_{ij} + \beta_2 \text{infla}_{ij} + \beta_3 \text{voteinclagfirst}_{ij} +$$
$$\beta_4 \text{democracy}_{ij} + \beta_5 \text{gov\_maj}_{ij} + \beta_6 \text{enp\_national}_{ij} ,$$

Note that this new model does not include the effect of the compulsory voting law. This specification is necessary to test H1, which states that CV interacts with macroeconomic factors reducing their association with the incumbent's vote share. In terms of modelling, H1 is represented in a little different way: $\beta_7 = 0$ against the alternative of $\beta_7 \neq 0$. Which means to say that it tests whether the coefficient for the adoption of CV is null. Thus, I conducted a likelihood-ratio test between these two nested models. The resulting bootstrap p-value of the likelihood-ratio test equals 0.004, indicating that the null hypothesis can be rejected with a significance level of 5%. That is, there is strong evidence that mandatory voting does affect the expected value of the proportion of votes for the incumbent party/alliance. Table 9 displays the average effect of each independent variable.

Table 9 – Average effect of the explaining variables and their respective limits, based on the linear model.

Variable	Mean	Upper limit	Lower limit
Change in GDP	0.0109	0.0150	0.0061
Inflation Rate	-0.0011	-0.0001	-0.0014
Compulsory Voting	0.0384	0.0735	0.0077

Source: Author's elaboration.

The size of the effect of CV is somewhat small – all else equal, the adoption of compulsory voting would increase the vote share for the incumbent party or alliance by just 0.0384. As

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40 I used the parametric bootstrap method to calculate the p-values of my hypothesis tests based on 500 replications. The estimates of changes in the expected values, as well as their confidence intervals, were obtained from 500 Monte Carlo simulations.

mentioned above, the vote share has been divided by 100 in order to prevent any confusion on what is the percentage of votes for the incumbent party/alliance and what represents a predicted effect expressed in percentage. Multiplying this result by 100, we get that CV tends to increase the vote share for the governing party/alliance by nearly four percentage points. Although this result might seem small – especially in presidential races – such an increase can determine who wins an election depending on the context (e.g., how competitive a given election is and the rules involved). In this sense, testing the effect of compulsory voting on the incumbent's electoral performance in terms of victory is also important to test the accountability hypotheses.

As for the economic variables, the model indicates that one-unit increase in GDP change increases the expected value of the incumbent's vote share by 0.0109. Therefore, an incumbent would have an increase of 1.09 percentage points on their votes by every unit of positive change in GDP. Considering that GDP usually varies little, as shown in Table 5, such an impact is rather modest.

Furthermore, all else equal, a **ten-unit** increase in the inflation rate *lowers* the expected incumbent's vote share by 0.0011. It can be noticed, then, that once the necessary controls are included in the equation, the relation between inflation rates and the percentage of votes for the incumbent party or alliance does become negative, as expected based on the literature on economic voting. As for the size of this effect, however, it is extremely low – near to zero, even considering its impact in terms of percentage points.

So far, it has been possible to test H1.1: in spite of the size of the effect, GDP growth is indeed positively associated with the vote share for the incumbent party or alliance. As for the inflation rate, its association with the dependent variable is only negative when mediated by contextual factors and is near null in this data set.

Finally, although the unemployment rate has not been selected by the algorithm "stepGAIC()", I ran controlling models including it, and it is indeed negatively associated with the percentage of votes received by the ruling party/alliance. Yet, this effect cannot always be generalised to other samples with a standard level of confidence[41].

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41 When including the unemployment rate in the equation, the bootstrap p-value for the likelihood-ratio test for the presence of CV in the model is equal to 0.008, indicating once again that there is strong evidence that CV does affect the expected value of the dependent variable.

Nevertheless, H1 remains to be tested. Since it refers to the interaction between CV and macroeconomic factors, the new model includes the interaction terms between change in GDP/inflation rate and compulsory voting. As a model, H1 is represented in the opposite direction: $\beta_1^0 = \beta_1^1$, $\beta_2^0 = \beta_2^1$ against the alternative that the interactions within at least one of these pairs are different – which means to say that the hypothesis states that the effect of any of the economic variables under voluntary voting equals its effect under compulsory voting and that the test seeks to reject the hypothesis that the effects within each of these pairs are different from each other. The model is as follows:

$$\beta_0 + b_i + \beta_1^0 \text{change\_gdp}_{ij} + \beta_2^0 \text{infla}_{ij} + \beta_3 \text{voteinclagfirst}_{ij} +$$
$$\beta_4 \text{democracy}_{ij} + \beta_5 \text{gov\_maj}_{ij} + \beta_6 \text{enp\_national}_{ij}, \quad \text{compvoting}_{ij} = 0$$
$$\beta_0 + b_i + \beta_1^1 \text{change\_gdp}_{ij} + \beta_2^1 \text{infla}_{ij} + \beta_3 \text{voteinclagfirst}_{ij} +$$

Similarly to H1.1, H1 was assessed through the likelihood-ratio test between each of these pairs with two nested models. The bootstrap p-value obtained is equal to 0.626, which indicates that the hypothesis cannot be rejected with a significance level of 5%. That is, there is evidence that any difference in the influence that macroeconomic factors exert on the expected value of the proportion of votes for the incumbent party/alliance that is related to the turnout rule cannot be generalised to other samples. To illustrate these results, Figure 12 shows how the expected values for the incumbent's vote share vary as a function of each macroeconomic variable and the obligation to vote[42].

It is quite clear that the relation between the macroeconomic factors tested in my models and the vote share for the incumbent party/alliance is not affected by the turnout regime. It is possible to visualise that the regression lines are practically equal under the compulsory and voluntary voting rules. Although the intercepts differ, the angular coefficients are very similar. Moreover, it is also noticeable that the relation between the inflation rate and the proportion of votes for the incumbent is almost null. Additional models, which include the unemployment rate as an independent variable, show a similar pattern – and can be seen in the Appendix.

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42 The other variables included in the model were fixed at their mean, and a country with a predicted random intercept equal to zero was considered.

Figure 12 – Fitted location parameters of the incumbent's vote share as a function of the variables "Change in GDP" and "Inflation Rate" under compulsory and voluntary voting systems.
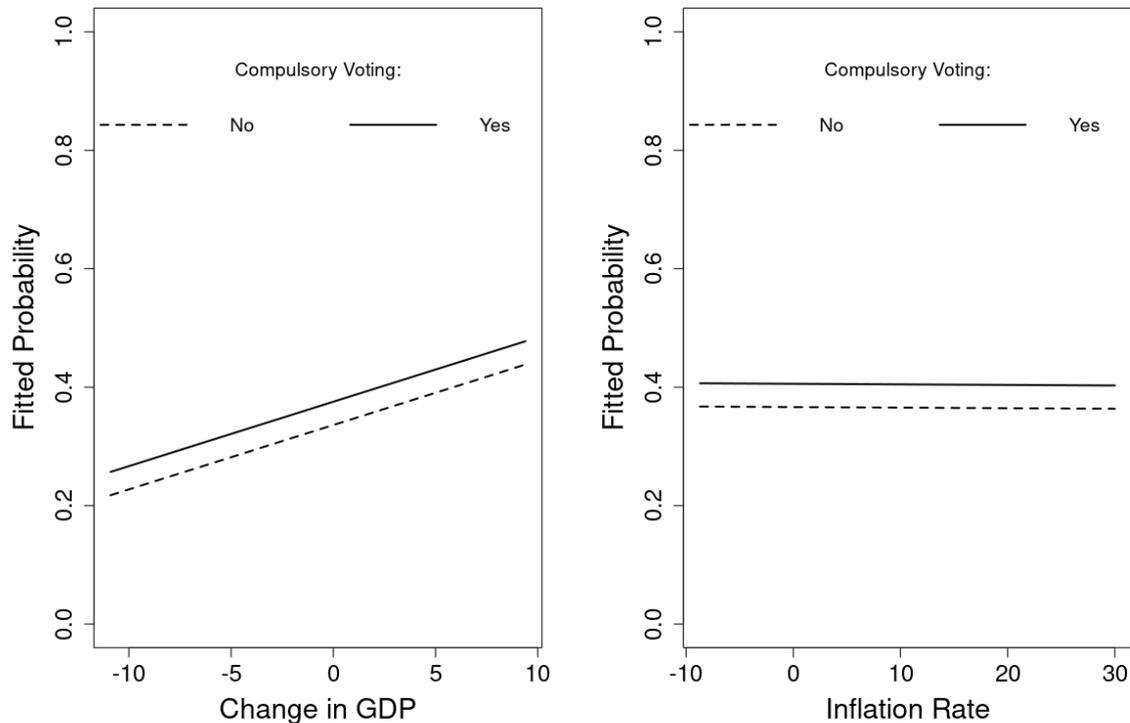
Source: Author's elaboration.

Although this comprehensive data set provides evidence that the compulsory voting law is associated with an increase in the percentage of votes for the governing party or alliance, this relation is most likely not mediated by macroeconomic factors such as changes in GDP and inflation or unemployment rates. In fact, results call into question the prevalence of the economic vote in this sample with regard to this specific dependent variable.

As mentioned above, the relations between economic factors and electoral results involve many paths and respond to several conditioning factors. Furthermore, one may argue that regardless of variances in percentages of votes, accountability (and the punishment-reward mechanism) will only be achieved on the basis of who (which party/alliance) gets elected. In this sense, it is essential to investigate whether the relation between macroeconomic factors and final electoral results in terms of victory or defeat of the incumbent is affected by compulsory voting.

2.3.2) Binary Models

Similarly to the previous analyses, I begin by exploring the raw relation between all three macroeconomic variables (change in GDP and inflation and unemployment rates) and the dependent variable, which is now the victory of the incumbent party or alliance. Figure 13, Figure 14, and Figure 15 show a box plot of each category of the dependent variable and the values of each of the macroeconomic factors.

Figure 13 – Relation between change in GDP and the turnout rule.
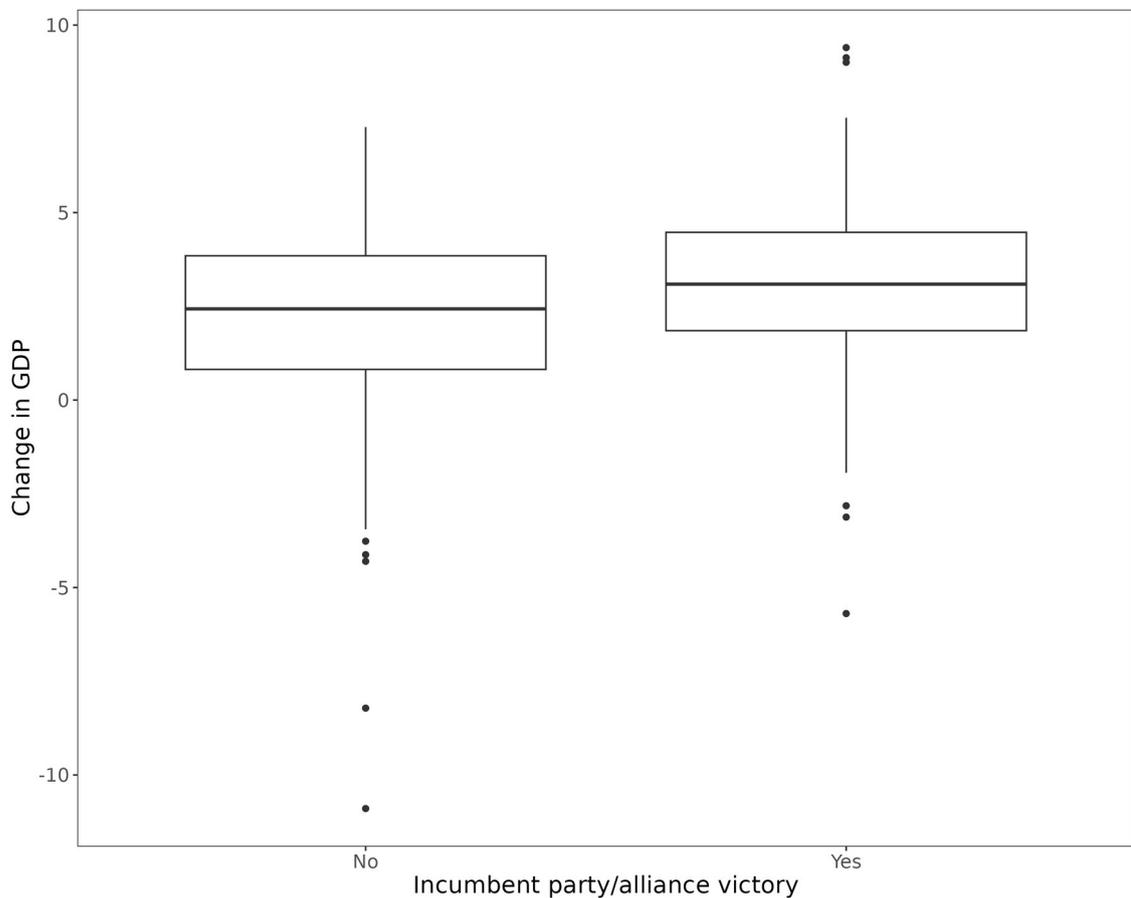
Source: Author's elaboration.

Once again, inflation rates over 30 were excluded from the plot for visualisation purposes.

Figure 14 – Relation between the inflation rate and the turnout rule.
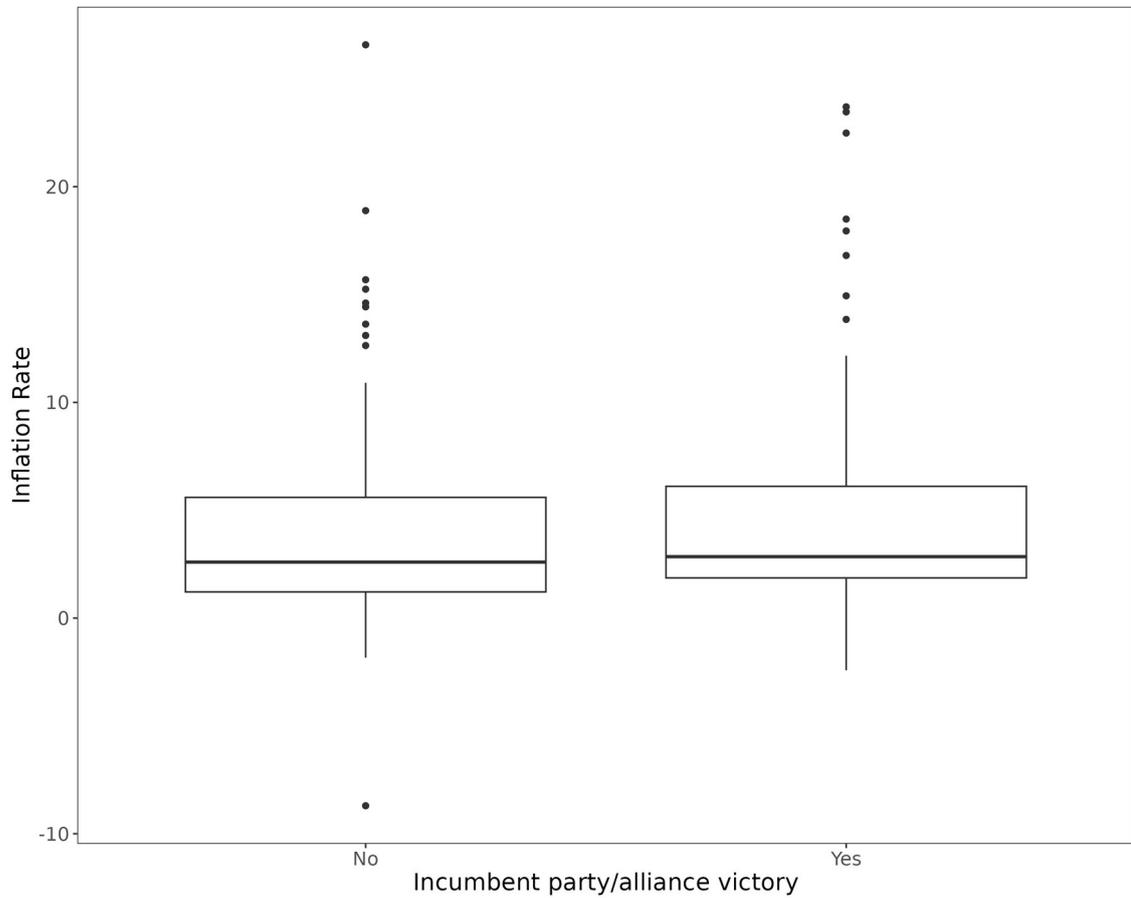
Source: Author's elaboration.

It can be noticed that, in accordance with the specialised literature, the victory of the incumbent party/alliance is positively associated with greater variations in GDP, lower unemployment rates and lower inflation rates. These tendencies suggest that the better the economy, the higher the frequency of incumbents winning. On the other hand, if the economy is bad, the proportion of incumbents who are punished by not being elected increases.

Figure 15 – Relation between the unemployment rate and the turnout rule.
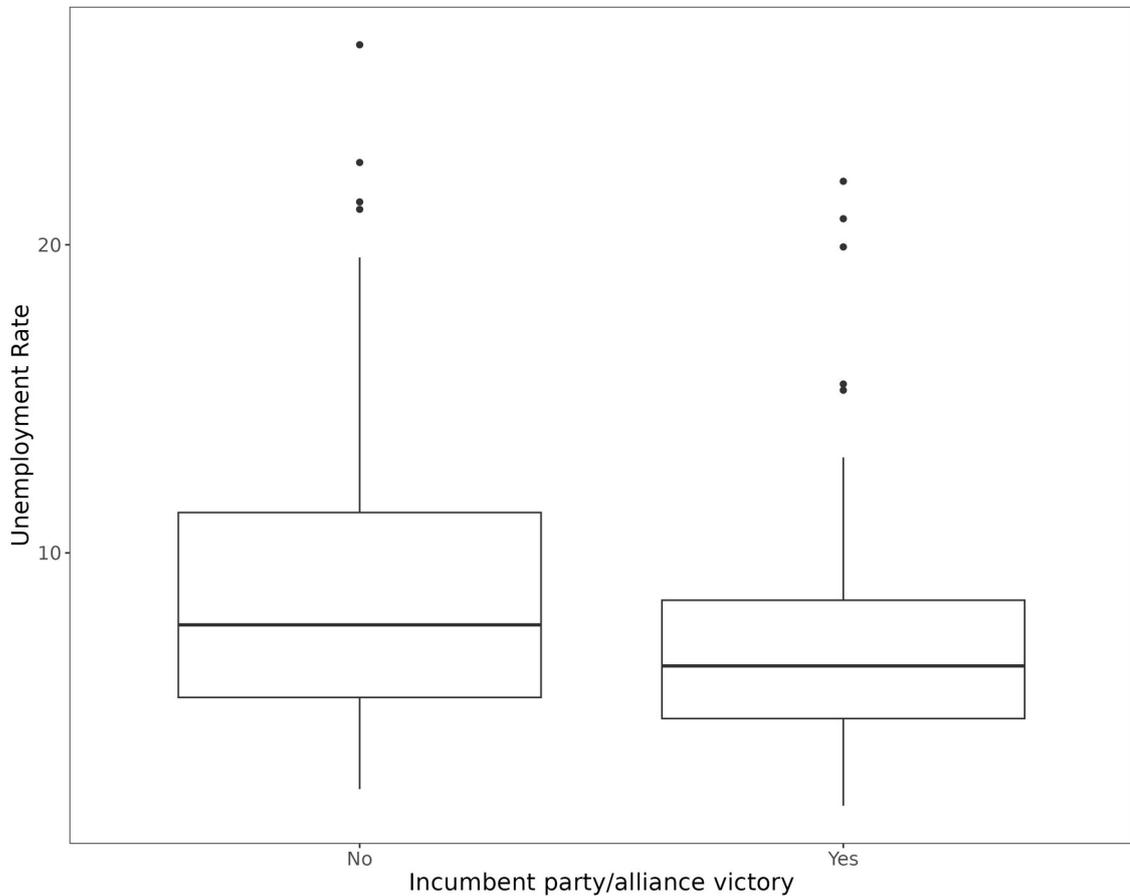
Source: Author's elaboration.

Additionally, I explored the unmediated relation between CV and the dependent variable. Table 10 presents combined frequencies for each category of the two variables, as well as row and column percentages. In accordance with the findings of the previous section, it can be noticed that in countries where voting is mandatory, the victory of the governing party/alliance is more frequent than in countries where voting is optional.

Moving forward, I modelled a few regressions in order to control these direct relations and test my second hypothesis, which states that **compulsory voting interacts with macroeconomic variables hindering their association with the probability of victory of the incumbent party/alliance.**

Table 10 – Contingency table between the turnout regime and the election result for the incumbent party/alliance, as well as respective row and column percentages.

	Incumbent lost	Incumbent won	Total
Voluntary voting	**84**	**72**	**156**
(Row percentage)	(53.85)	(46.15)	(100)
(Column percentage)	(69.42)	(63.16)	
Compulsory voting	**37**	**42**	**79**
(Row percentage)	(46.83)	(53.16)	(100)
(Column percentage)	(30.58)	(36.84)	
Total	**121**	**114**	
(Column percentage)	(100)	(100)	

Source: Author's elaboration.

Similarly to what I have done in the previous section, and considering that the dependent variable is now categorical (as well as that data are longitudinal), I ran a mixed binomial linear model (Stasinopoulos et al., 2017) selected by the algorithm "stepGAIC()" of the package "gamlss" to explain the incumbent's probability of winning:

1. $\text{incvictory}_{ij} | b_i \overset{ind}{\sim} BI(1, p_{ij})$,

2. $\log\dfrac{p_{ij}}{1 - p_{ij}} = \beta_0 + b_i + \beta_1 \text{change\_gdp}_{ij} + \beta_2 \text{unemp}_{ij} + \beta_3 \text{infla}_{ij} +$
$\beta_4 \text{bicameral}_{ij} + \beta_5 \text{presid}_{ij} + \beta_6 \text{voteinclagfirst}_{ij} + \beta_7 \text{compvoting}_{ij}$,

3. $b_i \overset{ind}{\sim} NO(0, \sigma_b^2)$,

In the model, p_{ij} is the probability that the incumbent of the i_{th} country will win in the j_{th} election, b_i is the random intercept of each country for $i = 1, \dots, 34$, and $j = 1, \dots, n_i$. As for BI(., .), it indicates the parametrised binomial distribution as in "gamlss". Table 11 presents the maximum likelihood estimates and the respective approximate standard errors of the selected model parameters. Reference categories are omitted. Categories under consideration (of value 1) are displayed in the table (the variable "presidential vs. parliamentary systems" was computed as a binary variable instead or the multinomial option presented in Table 6).

Table 11 – Estimates of the mixed binomial linear model with a logistic link to explain the probability of victory of the incumbent party/alliance.

Parameter	Estimate	Std. Error	t value	Pr(> | t|)
β_0 (Intercept)	-0.3178	0.6757	-0.4703	0.6386
β_1 Change in GDP	0.1588	0.0631	2.5166	0.0125
β_2 Unemployment Rate	-0.0999	0.0376	-2.6578	0.0084
β_3 Inflation Rate	-0.0307	0.0228	-1.3461	0.1796
β_4 Unicameral Legislature	-0.8834	0.3087	-2.8617	0.0046
β_5 Presidential System	-0.9131	0.3348	-2.7275	0.0069
β_6 Incumbent Vote Share in the first round (T_{-1})	0.0343	0.0150	2.2969	0.0225
β_7 Compulsory Voting	0.5078	0.3196	1.5889	0.1135
σ_b	0.0147			
Degrees of freedom for the fit	8.0123			

Source: Author's elaboration.

For the mixed model with a binary dependent variable, the algorithm selected all three macroeconomic variables and the institutional variables for the system of government and the organisation of the Legislature. However, it did not select the variables mode of political organisation, the effective number of electoral parties, the democratic index, and the majority of the government in the Legislature.

Similarly to Figure 11, Figure 16 shows, on the y-axis of its left panel, a scatter plot of quantile residuals of the model, while the x-axis shows the fitted values (considering the random intercept predictions). The right panel shows the normal probability plot of the quantile residuals with an empirical envelope of 99% confidence. Once again, although both plots indicate that the postulated model fits the data, due to the class of models conducted and the sample size, resampling simulations are indicated in order to get the desired results and test the hypothesis[43].

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43 The parametric bootstrap method was used to calculate the p-values of the hypothesis tests based on 500 replications. The estimates of changes in the expected values, as well as their confidence intervals, were obtained from 500 Monte Carlo simulations.

Figure 16 – Quantile Residuals vs. Fitted Values and Normal Probability Plot of the Quantile Residuals of the binary model.
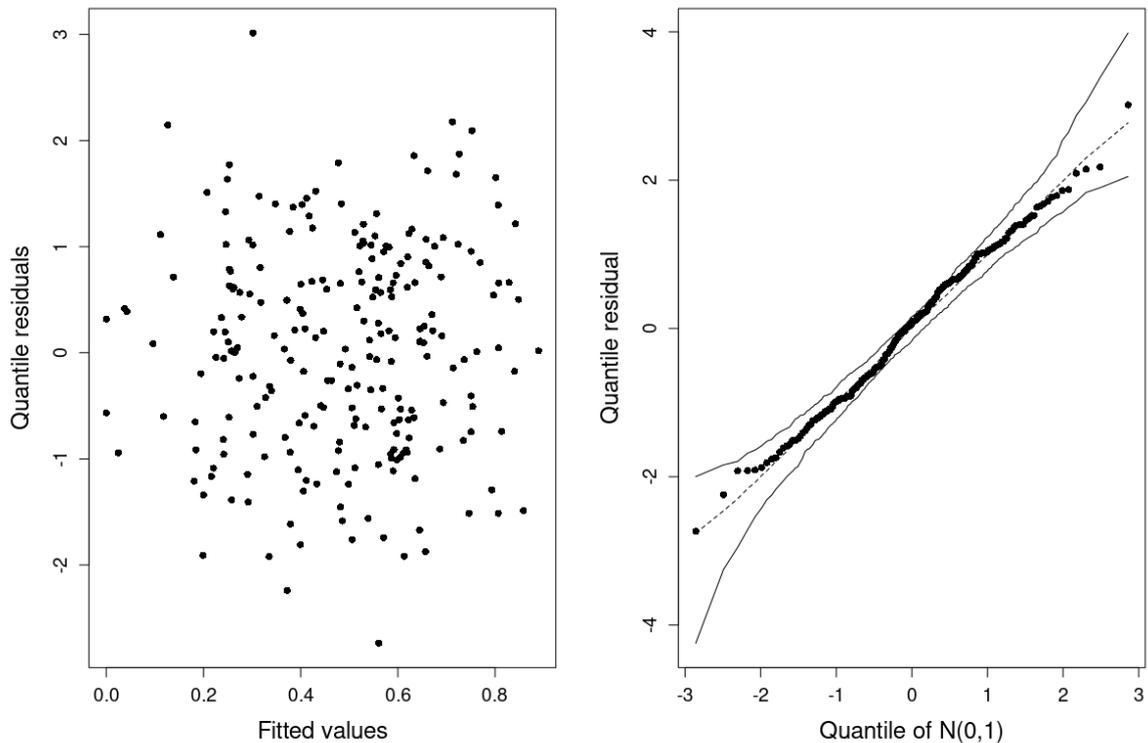
Source: Author's elaboration.

Consider a new model without the variable indicating the turnout regime, a specification necessary to test H2.1:

$$\beta_0 + b_i + \beta_1 \text{change\_gdp}_{ij} + \beta_2 \text{unemp} + \beta_3 \text{infla}_{ij} + \beta_4 \text{bicameral}_{ij} +$$
$$\beta_5 \text{presid} + \beta_6 \text{voteinclagfirst}_{ij}$$

H2.1 states that CV is positively associated with the probability of victory of the incumbent party/alliance. In terms of modelling, the test considers: $\beta_7 = 0$ versus $\beta_7 \neq 0$. That is, the model is testing whether the coefficient for the adoption of mandatory voting is null. Once again, I conducted a likelihood-ratio test between these two nested models.

The resulting bootstrap p-value of the likelihood-ratio test is 0.126, which indicates that the null hypothesis cannot be rejected with an acceptable confidence level. That is, there is evidence that there might be no association between CV and the incumbent's probability of

victory and that the average effect resulting from the regression model is restricted to this data set.

Yet, the result does suggest a positive and strong association between mandatory voting and the incumbent's probability of winning an election: CV would increase the incumbent party/alliance's chance of winning by 75%. In this sense, I do not consider that H2.1 has been rejected, but only that one must see the result cautiously. Nevertheless, as the data set is quite comprehensive, generalisability tends not to be a problem considering the existing observable data. Table 12 displays the average effect of each independent variable.

Table 12 – Average effect of the explaining variables and their respective limits, based on the binary model.

Variable	Mean	Upper limit	Lower limit
Change in GDP	1.1889	1.3274	1.0523
Unemployment Rate	0.9009	0.9840	0.8467
Inflation Rate	0.9626	1.0342	0.9429
Compulsory Voting	1.7491	2.9620	0.8231

To test H2, consider the following specification:

$$\beta_0 + b_i + \beta_1^0 \text{change gdp}_{ij} + \beta_2^0 \text{unemp}_{ij} + \beta_3^0 \text{infla}_{ij} +$$
$$\beta_4 \text{bicameral}_{ij} + \beta_5 \text{presid}_{ij} + \beta_6 \text{voteinclagfirst}_{ij} , \text{compvoting}_{ij} = 0$$
$$\beta_0 + b_i + \beta_1^1 \text{change gdp}_{ij} + \beta_2^1 \text{unemp}_{ij} + \beta_3^1 \text{infla}_{ij} +$$

Thus, this model involves interactions between mandatory voting and macroeconomic variables. H2 proposes that CV reduces the association between GDP changes/ inflation rates/ unemployment rates and the probability that the governing party/alliance will win an election. It implies that the coefficient representing the relation between each economic factor and the dependent variable is different according to the turnout regime. Yet, as a model, this statement is represented in the opposite direction: $\beta_1^0 = \beta_1^1$, $\beta_2^0 = \beta_2^1$, $\beta_3^0 = \beta_3^1$. That is, the model tests

the hypothesis that the coefficients are equal against the alternative that at least one of them differs according to the turnout system.

The resulting bootstrap p-value of 0.838 indicates that the equality hypothesis cannot be rejected at a significance level of 5%. That is, there is evidence that, with regard to compulsory voting, there is no difference in the influence of macroeconomic factors on the probability of victory of the incumbent party/alliance – and, if there is any, it cannot be generalised to other samples.

Figure 17 – Fitted location parameters of the incumbent's probability of winning as a function of the variables "Change in GDP", "Inflation Rate", and "Unemployment Rate" under compulsory and voluntary voting systems.
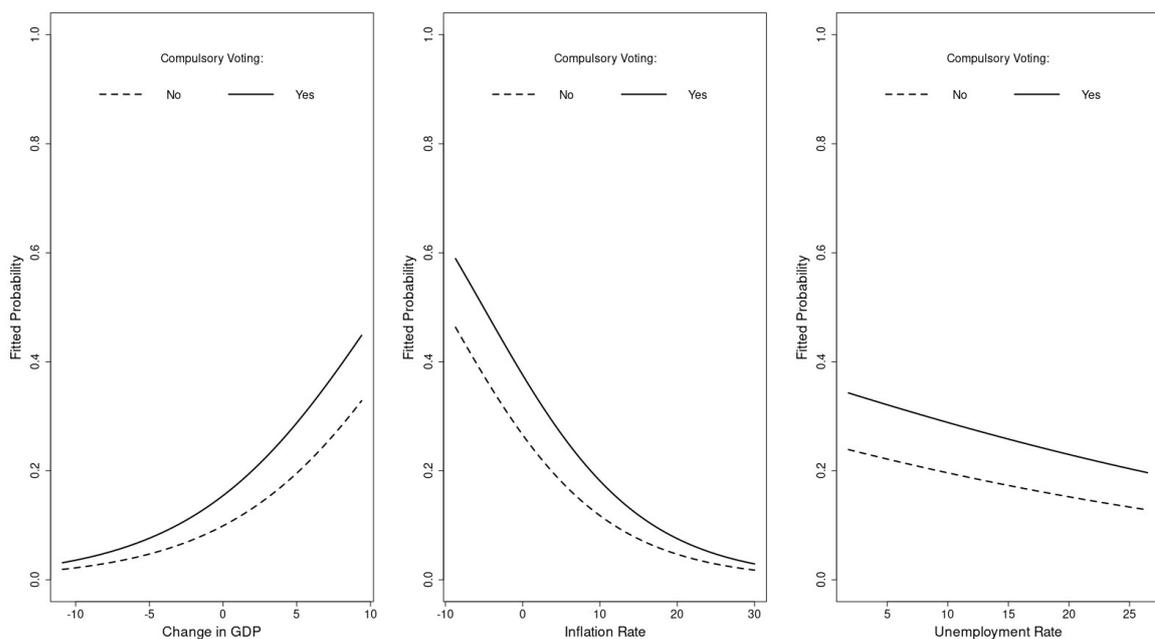
Source: Author's elaboration.

On the other hand, the size of the effects of the macroeconomic variables on the incumbent's probability of victory is not negligible, even though such effects might not differ according to the turnout rule. Ceteris paribus[44], for countries with the same random intercept value, the results suggest that: a one-unit increase in the GDP variation increases the incumbent's chance

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44 Numeric variables were fixed at their means, the system of government considered is presidential, and the Legislatures are unicameral.

of victory by 19%. As for unemployment, a one-unit increase in the annual rate decreases the incumbent's chance of winning by 10%. Finally, increasing the inflation rate by one unit decreases the incumbent's chances of winning by 4%.

Figure 17 provides the visualisation of the relation between each macroeconomic variable and the dependent variable according to whether voting is optional or required. With regard to the economic voting theory, the accountability hypothesis rests clear: the higher the GDP increase, the higher the incumbent's probability of getting elected. On the other hand, higher inflation rates decrease the incumbent's probability of winning a national election, just as it happens with unemployment rates.

However, despite a timid separation (when economic factors assume extreme values) between the lines that represent the association GDP alterations/ inflation rates/ unemployment rates and the probability that the incumbent party or alliance will win an election, the slopes of these lines follow a very similar pattern under compulsory and voluntary voting rules. Nonetheless, note that winning probabilities under mandatory voting systems (solid line in the plots) are always higher.

2.4. Concluding remarks

This chapter provides a comprehensive and thorough analysis of whether compulsory voting can undermine the quality of the political representation process if we consider accountability as a 'function' of democracy and measure it through the economics-related punishment-reward lens. As the economic voting theory encompasses distinct paths through which the economy might affect elections, this chapter addresses the topic from a global point of view: it tests macroeconomic factors and the general electoral performance of governing parties and alliances, whether as the percentage of votes they receive, whether as their probability of winning an election.

Since aggregate effects are the ultimate result of individual behaviours aimed at holding decision-making actors responsible for their actions, it is crucial to consider these general outcomes in order to assess the fulfilment of the premise of accountability. Yet, even though this sort of investigation considers possible confounding factors, it does not assess individual tendencies towards qualitatively examining and sentencing leaders' behaviours.

In terms of the aggregate picture, the compulsory voting law can be considered associated with pro-reward electoral behaviours. Notwithstanding, unless this kind of behaviour occurs in contexts where politicians fall short of some standard performance, there is no evidence or suggestion that keeping a party or alliance in office is a non-qualitative outcome.

With regard to the hypotheses, the only ones that were (partially) confirmed were the sub-hypothesis exclusively related to economic voting (H1.1 and H2.1):

a) The linear model indicates that one-unit increase in the GDP variation increases the expected value of the incumbent's vote share by only 0.0109 and that a negative relation between inflation rates and the incumbent's electoral performance is only perceived in controlled models, a specification under which such relation is virtually nil. Moreover, unemployment rates have also shown an almost null association with the percentage of votes received by the incumbent party or alliance.

b) The binary model suggests that the effect of the macroeconomic variables on the incumbent's probability of victory is expressive: while a one-unit increase in the change of GDP increases the incumbent's chance of victory by 19%, a one-unit increase in the unemployment rate decreases the incumbent's chance of winning by 10%. The smallest effect concerns inflation rates, whose increase of one unit provokes a 4% decrease in the incumbent's chances of winning.

On the other hand, the main hypotheses (H1 and H2) were rejected not only because of the likelihood-ratio tests, which showed a high probability that CV and macroeconomic variables do not interact when associated with the incumbent's electoral performance (p-values do not allow the rejection of the respective null hypotheses) but also because the predicted effects are minimal, as evidenced in Figure 12 and Figure 17.

To further explore the possible relation between compulsory voting and the quality of the political representation process as measured by the so-called economic vote, the next chapter investigates individual perceptions about the economy and their association with electoral behaviour.

3. CHAPTER 3: DOES MANDATORY TURNOUT HINDER ELECTORAL ACCOUNTABILITY? AN INDIVIDUAL-LEVEL APPROACH

In this chapter, I analyse economic voting as a measure of accountability and, thus, as a means to asses quality in the political representation process based on individual-level data provided by all five waves of the Comparative Study of Electoral Systems (CSES). This data set offers information on people's assessment of the state of the economy, as well as their vote choice and overall electoral behaviour (e.g., whether they voted or not and whether they cast an invalid or blank vote).

Duch and Stevenson (2006, p. 529-530) argue that "economic voting is an individual level phenomenon that is reflected in the relationship between a person's perception of the economy and the probability with which she votes for each of the available parties or candidates in an election". In this study, authors point out that it is important to address economic voting beyond probabilities of voting for the incumbent candidate or party and, thus, also consider other competing actors.

Yet, two points have impacted the choice of the dependent variable used in this chapter: i) CSES provides data on the vote choice between the candidate who represents incumbency and the opposing candidate; ii) since my goal is to address the accountability hypothesis, my focus is not directly on economic voting *per se*, but on the extent to which economic voting works as a dimension of accountability. To that end, I focus on whether people's perceptions of the state of the economy correspond to the overall economic situation and whether such perceptions lead them to act by holding incumbents responsible for their actions. Furthermore, given that my main interest lies in the possible effects of compulsory voting on the quality of the political representation process as measured by the accountability hypothesis, the mobilisation process assumes a central position in my research problem, as mentioned earlier. Therefore, I also consider the decision (not) to vote in my hypotheses.

It is important to note that this chapter assesses a different path in the economic voting chain mentioned in Chapter 1. Here, people's perceptions and actions are the focus, not aggregate results or the macroeconomic picture (even though I control the latter in this chapter's models).

Finally, by bringing up the issue of electoral mobilisation, I also seek to contribute to a specific discussion within the economic voting theory: the asymmetry hypothesis. It refers to

suggestions in the literature that the relation between economic factors and electoral outcomes is not linear, as voters would tend to punish the incumbent party/alliance more than they would reward them, which means to say that voters would tend to respond more to bad times than to contexts in which economy is good (Lewis-Beck & Stegmaier, 2013, Park, 2019).

This topic has been addressed in the literature and has raised ambiguous answers. Although Lewis-Beck & Stegmaier, 2013 (p. 371) remark that evidence on this proposition – that negative outcomes galvanise the electorate more than positive results – remains mixed, they highlight possible causal chains through which negativity would stand out:

> If voters tend to be averse to risk, then they will pay more attention to bad news (Lau 1985; Soroka 2006). To the extent that bad news, such as a flagging economy, makes the economic issue itself more salient, it may weigh more heavily on the vote (Bélanger and Meguid 2008; Fournier et al. 2003). When the economy goes bad, more people may know about it, because of discussion in the media (Singer 2011).

As far as I know, Radcliff (1994) was one of the few authors who raised the abstention problem related to the asymmetry hypothesis. Considering Rosenstone's (1982) findings that worse economic times tend to decrease electoral turnout, he claimed that:

> Given that (a) those personally affected by economic adversity are more prone to vote for the opposition, and (b) that it is precisely these same people that are also less likely to vote, then clearly many of the people who otherwise would have 'punished' government will not turn out. In this way, economic conditions affect not only how people vote but whether they vote, such that during periods of poor economic performance much of the public resentment toward the in-party will be not voiced electorally (Radcliff, 1994, p 723).

In this sense, he used aggregate data on US presidential elections to test the hypothesis that at least a large part of the impact of any possible asymmetry in the electoral effect of macroeconomic factors would be muted by systematic tendencies towards abstention, coming to a conclusion that

> […] however opaque the individual-level processes, the collective implications are clear. The administration is more readily rewarded for a strong economy than punished for a weak one. […] Thus, whatever the psychological dispositions of citizens, there exists a "positivity bias" at the aggregate level (Radcliff, 1994, p. 729).

Aiming at clarifying inconsistent results about the asymmetry hypothesis, Park (2019) conducted a cross-national study using four CSES modules. He came to the conclusion that the asymmetry hypothesis holds under certain institutional contexts and is probably related to topics more "directly and acutely felt by voters" (p. 10), such as inflation and unemployment, instead of GDP variations (which shows stronger impacts under times of economic bonanza).

The author also controlled individual psychological and attitudinal characteristics, such as partisanship, which also seem to favour asymmetric responses to economics.

However, Park (2019) nor any of these authors did not consider the particular institution which most strongly directly affects mobilisation: the CVL. As can be seen, there are frequent suggestions in the literature that economic factors might influence electoral behaviour differently – at least under specific circumstances. Moreover, as aforementioned, the economy influences not only who a person votes for but whether they vote. Finally, it can be noticed that psychological and other individual-level processes involved in the asymmetry hypothesis of economic voting are not usually investigated with regard to the electoral mobilisation mechanism.

Therefore, the following hypotheses take into account these findings (and unanswered hypotheses), as they seem to combine when economic voting is used as an approach to electoral accountability and, thereupon, as a measure of quality in the political representation process, subject to be influenced by compulsory voting.

3.1. Hypotheses

My main hypothesis states that **compulsory voting interacts with one's economic perception on impacting electoral behaviour** in a way that:

> **H3** – When someone's perception about the state of the economy is mild, they tend not to show up to vote (a decision that is possible or more frequent under voluntary voting laws) at higher rates than those who evaluate the economy as good or bad.

Additionally, based both on the asymmetry hypothesis and on the idea that uninterested voters will assess the government's performance less accurately, H4 states that:

> **H4** – People with mild perceptions about the economy (as they would tend not to vote if they could choose according to H3), when obliged to vote, tend to reward rather than punish the incumbent.

This leads to the following sub-hypothesis:

> **H4.1** – CV hinders the economic vote by bringing people with mild perceptions of the state of the economy to the polls.

Moreover, still in line with the asymmetry hypothesis, I also aim at testing the hypothesis that:

H5 – People who perceive the state of the economy as worse tend to vote more frequently than those who perceive it as equal or better.

H5.1 – CV weakens the punishment balance by mobilising groups of electors who would tend not to vote otherwise and are more prone to rewarding the incumbent (those who evaluate the economic state as better or about the same compared to the year before).

3.2. Data and Methods

The Comparative Study of Electoral Systems (CSES) is a collaborative program that includes worldwide post-electoral research data consisting of common questions. To date, it has already launched five modules: Module 1, with data collected from 1996 to 2001; Module 2, whose data were collected between 2001 and 2006; Module 3 (2006 – 2011); Module 4, which contains data collected between 2011 and 2016; and, finally, Module 5 (2016 – 2021).

All five modules were used in the analysis that follows[45], and the selection of variables was often dictated by their availability in all modules for the most part of the countries included in them. Moreover, I narrowed the data down to the countries included in the analyses carried out in the previous chapter when data were available for them. In this sense, the database used in this chapter includes 51,220 observations (after excluding all cases with missing data) distributed in 18 countries and five waves. Although the data is longitudinal, the same person did not respond to the questionnaires in all modules. In spite of any chance that some people were interviewed in more than one wave, no one can say what these cases are and how many people were actually interviewed in all. Therefore, I will call the observations individuals.

a) Dependent variable

Two questions were used to structure the response variable into three categories: one considering whether the person cast a vote[46], and the other dividing those who cast a valid

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45 CSES provides an integrated data set for Modules 1 to 4, which was merged into the fifth module's database with minimal adaptations.
46 Modules 1-4: IMD 3001; Module 5: variable E3012.

ballot between the ones who voted for the incumbent candidate and the ones who supported the opposition[47]. Table 13 describes the variable's distribution.

Table 13 – Descriptive statistics of the electoral behaviour.

Category	Frequency	Percent
Did not vote	5136	10.03
Voted for the opposition	29435	57.47
Voted for the incumbent	16649	32.50
Total	**51220**	**100**

Source: Author's elaboration.

b) Individual-level explaining variable

As for the variable conveying perceptions about the economy, it asks respondents to evaluate whether the state of the economy in their country over the past twelve months has gotten better, stayed about the same or has gotten worse[48]. Thus, this database addresses only retrospective and sociotropic evaluations of the economy. Yet, this is in line with the theoretical perspective about the accountability hypothesis being measured in this chapter, as discussed in Chapter 1. Table 14 details the distribution of the individual-level independent variable.

Table 14 – Descriptive statistics of the perception about the state of the economy.

Category	Frequency	Percent
Gotten better	14286	27.89
Stayed the same	19976	39.00
Gotten worse	16958	33.11
Total	**51220**	**100**

Source: Author's elaboration.

47 Modules 1-4: IMD3002_OUTGOV. Module 5: E3013_OUTGOV
48 Modules 1-4: variable IMD3013_1; Module 5: E3011.

c) Aggregate-level explaining variable

The turnout rule is measured by the categorical variable constructed for the aggregate-level database used in the analyses in the previous chapter. CSES does have a variable for compulsory turnout, which is divided into four categories: voting is optional; voting is mandatory and strictly enforced; voting is mandatory and weakly enforced; and voting is mandatory but not at all enforced. However, in accordance with the conceptual discussion presented in the introduction, some cases which I consider to be voluntary voting systems (in line with Birch (2009) and, especially, with Bóveda (2013)) are placed in the third and fourth categories in the CSES tabulation. In this sense, in order to provide uniformity between the tests carried out in Chapter 2 and the analyses undertaken for the individual-level data, I opted for proceeding with my own categorisation of CV. Table 15 shows how observations are distributed between contexts where voting is optional or mandatory.

Table 15 – Descriptive statistics of the explaining variable.

Is voting compulsory?	Frequency	Percent
No	36662	71.58
Yes	14558	28.42
Total	**51220**	**100**

Source: Author's elaboration.

• Controlling variables

The controlling variables of my models are divided into three blocs: psychological attitudes, sociodemographic variables and aggregate-level contextual factors. Inasmuch as it is hard to know what affects both the decision to turn out to vote *and* the decision for whom to cast a ballot in terms of the punish-reward mechanism, as Park (2019) highlights, I followed his own proposition by including variables known to affect at least one of these aspects: mobilisation and economic voting.

Moreover, as mentioned before, the decision on the variables included in the analyses was heavily influenced by their availability in the databases. For example, the well-known effect

of race on turnout has not been controlled because most countries in Western Europe do not gather information about this topic in their electoral studies – at least the ones used in CSES. Had I used it, I would have lost nearly half of the remaining sample. Likewise, political information was not included in the analyses because it is not present in Module 5.

d) Psychological variables

This first set of factors includes three ordinal variables and an originally ordinary variable modified into categorial. Table 16 summarises two assessments of political efficacy and one evaluation of satisfaction with democracy. Please note that satisfaction with democracy was reordered so 1 becomes "not at all satisfied" and 5 means "very satisfied"[49].

As for the political efficacy variables, the first one questions whether the respondent believes that who is in power makes a difference, while the second one asks respondents whether they believe that who people vote for makes a difference. Note that both variables provide an approach to the external facet of political efficacy (Almond & Verba, 1963), as only Module 5 includes a variable for internal/subjective political efficacy[50].

Table 16 – Descriptive statistics of the psychological attitudinal controlling variables.

Score	Political Efficacy 1 No. Obs. (%)	Political Efficacy 2 No. Obs. (%)	Satisf. with Democracy No. Obs. (%)
1	2739 (5.35)	3284 (6.41)	5721 (11.17)
2	3605 (7.04)	3981 (7.77)	14344 (28.00)
3	8397 (16.39)	9018 (17.61)	818 (1.6)
4	14979 (29.24)	15141 (29.56)	24625 (48.08)
5	21500 (41.98)	19796 (38.65)	5712 (11.15)
Total	51220 (100.00)	51220 (100.00)	51220 (100.00)

Source: Author's elaboration.

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49 Modules 1-4: variable IMD3010; Module 5: E3023.
50 For the variable "efficacy 1", variables IMD3011 (Modules 1-4) and E3016_1 (Module 5) were used. For the second efficacy variable, IMD3012 (Modules 1-4) and E3016_2 (Module 5) were used.

Finally, to check the possible consequences of CV on the ideological extremism of *de facto* voters (Jensen and Spoon, 2011; de Leon and Rizzi, 2016), self-placement ideology[51] was modified from a numeric scale ranging from 0 (left) to 10 (right) into seven categories. Table 17 details the ideological distribution of the sample.

Table 17 – Descriptive statistics of the ideological self-placement.

Ideology	Frequency	Percent
Extreme-left (0)	2299	4.49
Left (1-2)	4876	9.52
Centre-left (3-4)	10553	20.60
Centre (5)	13669	26.69
Centre-right (6-7)	10623	20.74
Right (8-9)	5735	11.20
Extreme-right (10)	3465	6.76
Total	51220	100.00

Source: Author's elaboration.

Although I have not formulated any specific hypothesis about the second-order effects of CV on the ideological profile of voluntary voters, I would expect extremism to play an important mobilising role. In this sense, I would expect CV to decrease electoral extremism by bringing to the polls voters who are not ideologically affiliated or who have mild ideological preferences. How this assumption relates to economic voting is still unclear, however.

e) Sociodemographic controls

Education and age are well known for impacting who votes (Verba, Scholzman and Brady, 1995; Wattenberg, 2007). Besides, in the absence of a comparable measure of income, employment status is a variable not only capable of providing a measure of socioeconomic

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51 Modules 1-4: variable IMD3006; Module 5: variable E3020.

status – a factor that directly affects *who votes,* but it is also a factor found to be related to economic voting (Rosenstone, 1982). Table 18, Table 19 , and Table 20 detail the sample distribution by each group of these variables.

Table 18 – Descriptive statistics of age groups.

Age group	Frequency	Percent
Youngest – 24 years	4453	8.69
25 – 34 years	8043	15.70
35 – 44 years	9231	18.02
45 – 54 years	9413	18.39
55 – 64 years	8899	17.37
64 years – Oldest	11181	21.83
Total	51220	100.00

Source: Author's elaboration.

Table 19 – Descriptive statistics of education.

Education	Frequency	Percent
None (no education)/illiterate	1548	3.02
Primary education/lower secondary education	14072	27.48
Higher secondary education	13893	27.12
Post-secondary (non-university) education	7504	14.65
University education	14203	27.73
Total	51220	100.00

Source: Author's elaboration.

Table 20 – Descriptive statistics of employment status.

Employment Status	Frequency	Percent
Employed	29019	56.65
Unemployed	2518	4.92
Student	2135	4.17
Retired	11708	22.86
Home-maker	4168	8.14
Disabled	815	1.59
Other	857	1.67
Total	51220	100.00

Source: Author's elaboration.

f) Aggregate contextual factors

Finally, the contextual variables included in the models carried out in this chapter were present in the previous tests: degree of democracy; margin of majority of the government in the Legislature; and the number of effective parties, besides the three macroeconomic variables (change in GDP and unemployment and inflation rates). Data do not have cases of countries with only one chamber in their Legislature that adopt compulsory voting. Moreover, parliamentary and unitary systems have scarce data for mandatory voting regimes. On that account, they were not included in this chapter's tests.

Figure 18 summarises which countries were included in the remaining sample and the number of observations by each of them. Additionally, it also informs whether CV is adopted in the country. Note that Chile is only mentioned as a voluntary voting system, as it was added to CSES only in the last wave (compulsory voting was abolished there in 2012). In line with Table 15, Figure 18 evidences that the sample is unbalanced in favour of voluntary voting regimes. Although the real world also has a sheer presence of optional turnout systems, in terms of individual observations grouping, the presence of only four second-level observations within which voting is compulsory might affect the possibility of running statistical models with this particular country-level variable included.

Figure 18 – Observations per country in the sample, grouped by turnout system.
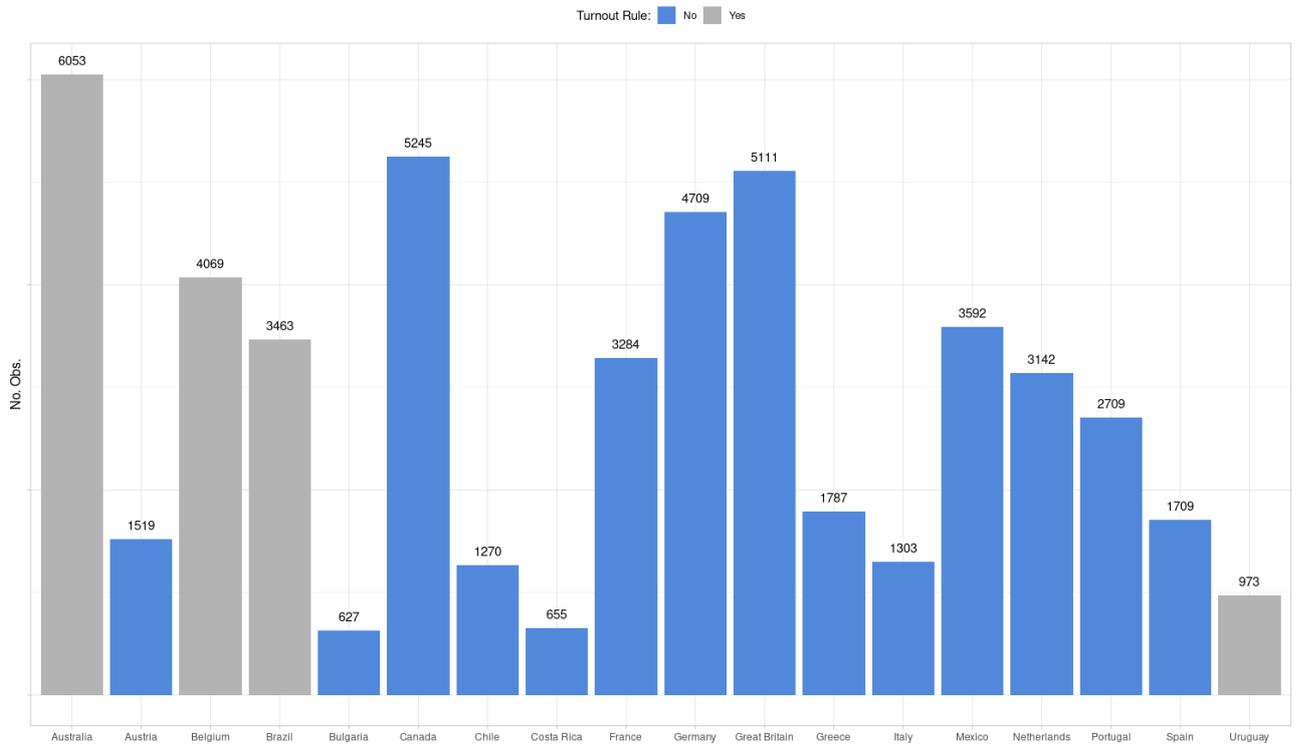
Source: Author's elaboration.

3.3. Results

Once again, let us start by exploring the elementary relationship between our variables of interest. First, let us look at how each of the explaining variables (perception about the economy and turnout rule) relates to the dependent variable (electoral behaviour). The two following contingency tables depict these relations, adding the number of observations for each combination of categories, and also row and column percentages.

In Table 21, for instance, column percentages in the first row of the second column with data indicate the proportion of citizens, among those living in a compulsory system, who did not vote. As expected, this is a small number, as mandatory voting has an important impact on turnout and abstention. The majority of obliged electors voted for the opposing candidate (60% of these voters opted for punishing the governing party or alliance, against 35% who cast a ballot for the candidate representing the incumbent). These proportions are slightly greater than in voluntary voting systems. Inasmuch as this is a first look at the direct relation

between these two variables, the hypothesis about the positive influence of CV on electoral rewarding tendencies is challenged.

Table 21 – Contingency table between the turnout regime and the electoral behaviour, as well as respective row and column percentages.

	Voluntary Voting	Compulsory Voting	Total
Did not vote	**4393**	**743**	**5136**
(Row percentage)	(85.53)	(14.47)	(100)
(Column percentage)	(11.98)	(5.10)	
Voted for the opposition	**20709**	**8726**	**29435**
(Row percentage)	(70.36)	(29.64)	(100)
(Column percentage)	(56.49)	(59.94)	
Voted for the incumbent	**11560**	**5089**	**16649**
(Row percentage)	(69.43)	(30.57)	(100)
(Column percentage)	(31.53)	(34.96)	
Total	**36662**	**14558**	**51220**
(Column percentage)	(100)	(100)	(100)

Source: Author's elaboration.

Moving forward, Table 22 represents the raw relation between individuals' perceptions about the state of the economy in the previous 12 months and their voting behaviour. Column percentages indicate the proportion of voters who, according to a given assessment of the economy, decided not to vote or to cast a ballot for the opposition or the incumbency. For instance, most of the citizens who consider that the economy has stayed the same declared to have cast a ballot for the opposition, which calls into question H4.

Yet, if we turn our look to the row percentages, we have information about the proportion of the absentees (first row with data) who evaluates that economy has gotten better, stayed about the same or has gotten worse. Among this group, those with mild perceptions about the economy are indeed the majority, giving some support to H3. However, citizens who evaluate the state of the economy negatively also do not attend the polls at high rates, which challenges H5.

Table 22 – Contingency table between perceptions about the economy and electoral behaviour, as well as respective row and column percentages.

	Perception about the state of the economy:			
	Got better	**Stayed the same**	**Got worse**	**Total**
Did not vote	**1097**	**2090**	**1949**	**5136**
(Row percentage)	(21.36)	(40.69)	(37.95)	(100)
(Column percentage)	(7.68)	(10.46)	(11.49)	
Voted for the opposition	**6554**	**11294**	**11587**	**29435**
(Row percentage)	(22.27)	(38.37)	(39.36)	(100)
(Column percentage)	(45.88)	(56.54)	(68.33)	
Voted for the incumbent	**6635**	**6592**	**3422**	**16649**
(Row percentage)	(39.85)	(39.59)	(20.55)	(100)
(Column percentage)	(46.44)	(33.00)	(20.18)	
Total	**14286**	**19976**	**16958**	**51220**
(Column percentage)	(100)	(100)	(100)	(100)

Source: Author's elaboration.

Even though the above elucidation on how each of the explaining variables relates to the response variable, my main interest, as well as the intricate (sub)hypothesis H3 to H5.1, lies in the combination of the three of them. However, considering three categorical variables at once builds up a complex chain of relationships within which simultaneous comparisons occur. Albeit more complex, the contingency table (presented in Table 23) for this structures association follows the same interpretation.

Because of my hypotheses, I am especially interested in the column percentages of Table 23. It shows no particular tendency of voting for the incumbent candidate or for not showing up at polling stations among those with mild perceptions about the state of the economy (those who declared it stayed the same), regardless of the turnout rule (although the punishing behaviour is somewhat more frequent in compulsory than in voluntary voting regimes). Nevertheless, considering CV contexts, among those who vote for the incumbent candidate, people with mild perceptions about the economy, in fact, are the majority (and under VV contexts, they are way more frequent than those with mild perceptions about the economy).

Furthermore, people who evaluate the economy as worse than in the previous year do seem to vote at higher rates than people who evaluate the state of the economy positively – especially when they can choose whether to participate. Nonetheless, they also usually abstain at higher

rates than people whose assessment of the economy is positive or indifferent – especially under compulsory voting. Yet, Table 23 provides no evidence that people who are unsatisfied with the economy have a special tendency to vote.

Table 23 – Contingency table between the turnout regime, perceptions about the economy, and electoral behaviour (as well as respective row and column percentages).

Turnout Rule	Electoral Behaviour	Perception about the state of the economy:		
		Gotten better	Stayed the same	Gotten worse
CV	**Did not vote** (Row percentage) (Column percentage)	**161** (21.67) (4.20)	**237** (31.90) (4.12)	**345** (46.43) (6.95)
VV		**936** (21.31) (8.95)	**1853** (42.18) (13.03)	**1604** (36.51) (13.38)
CV	**Voted for the opposition** (Row percentage) (Column percentage)	**1831** (20.98) (47.78)	**3445** (39.48) (59.82)	**3450** (39.54) (69.46)
VV		**4723** (22.81) (45.18)	**7849** (37.90) (55.21)	**8137** (39.29) (67.86)
CV	**Voted for the incumbent** (Row percentage) (Column percentage)	**1840** (36.16) (48.02)	**2077** (40.81) (36.07)	**1172** (23.03) (23.60)
VV		**4795** (41.48) (45.87)	**4515** (39.06) (31.76)	**2250** (19.46) (18.76)

Source: Author's elaboration.

Therefore, although a few partial comparisons may support some of my hypotheses, cross-comparisons of the proportional distribution of the observed data, albeit uncontrolled regarding possible influencing factors, have challenged the initial statements of this chapter. To finish the descriptive exploration of the data, Figure 19 illustrates column percentages of Table 23. That is, it plots the percentage of people who, according to their assessment of the economy, decided not to vote, to vote for the opposition or to cast a ballot for the incumbent candidate and compares these proportions between compulsory or voluntary voting contexts.

Figure 19 – Relationship between perceptions about the economy and electoral behaviour grouped by the turnout regime.
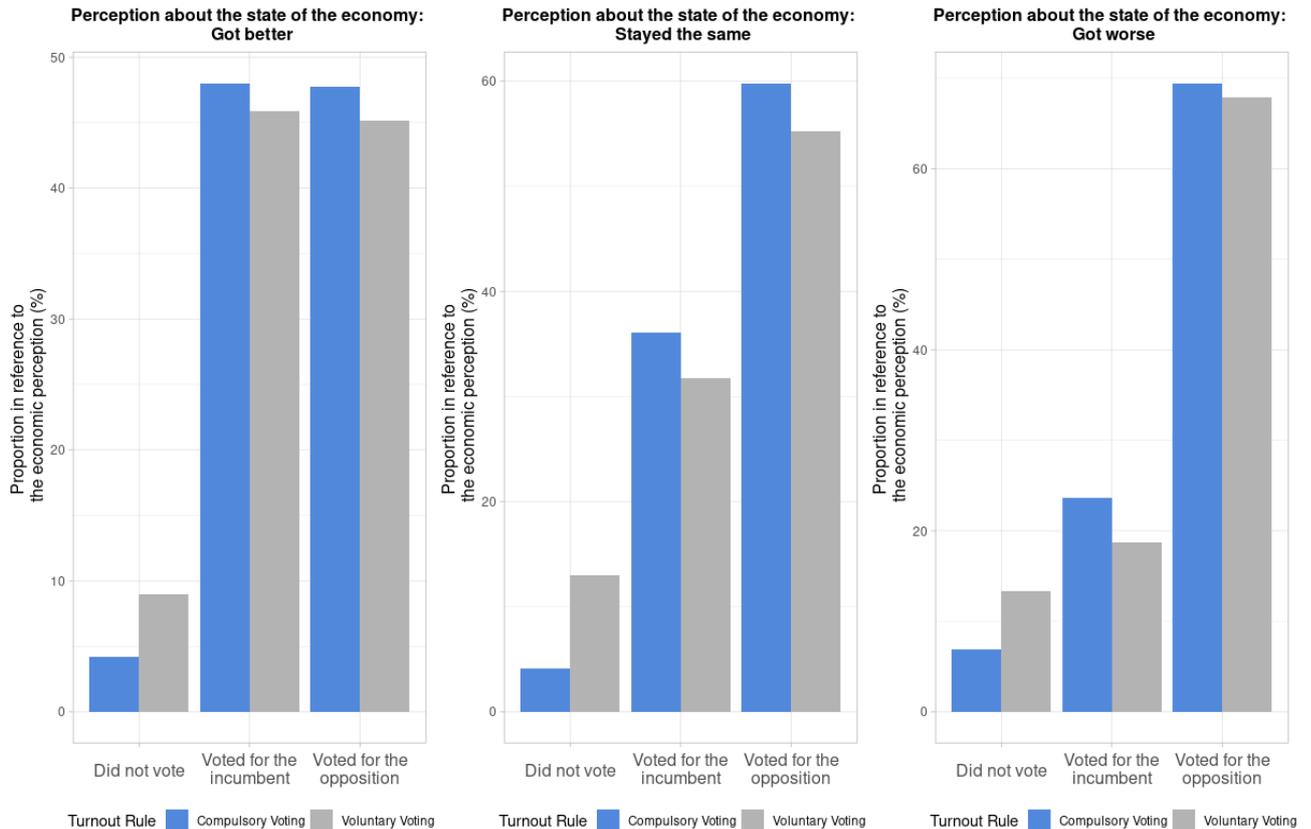
Source: Author's elaboration.

It can be noticed that compulsory voting is related to higher rates of votes regardless of the evaluation of the economy and for whom votes are cast. Although this might sound obvious or even tautological, it is crucial to note that even among the group of citizens who evaluate the economy negatively, CV is associated with higher shares of votes for the incumbent candidate if compared to contexts where voting is optional. In this sense, the main hypothesis of this chapter will be tested by comparing the difference between CV's improvement of votes for the opposition in relation to VV contexts and CV's increment in the average probability to vote for the incumbent candidate when compared to VV.

However, the structure of the hypothesis itself has normative consequences regarding the core topic of this dissertation: compulsory voting does bring to the polls people who cast votes which apparently contradict their own assessment of the state of the economy (let us put aside for a moment the fact that there is a whole universe of issues on which someone bases their

electoral decision). Nevertheless, the share of voluntary voters who evaluate the economy negatively and still vote for the incumbent candidate is not only not negligible (18.76%) but is also somewhat comparable to that of obliged voters (23.60%).

It might appear to be the case of investigating whether the increase in votes for the opposition promoted by CV is capable of neutralising or overcoming the so-called contradictory votes for the incumbent it promotes (so that the punishing side of the accountability balance is preserved). Again, we would be looking at the aggregate picture in order to assess the quality of the political representation process. However, in terms of individual behaviour and psychological attitudes, it is necessary to point out that a notable share of all voters, obliged to attend polling stations or not, cast ballots in disagreement with what would be considered qualitative votes.

In order to clarify the assumptions and hypotheses raised in this chapter and nuanced by the evaluation of Table 21, Table 22, Table 23, and Figure 19, I ran a mixed multinomial regression model to predict one's electoral behaviour based upon their evaluation of the state of the economy and the turnout regime within which they live. Due to the structure of the data and the fact that my dependent variable has three categories, a variety of functions in R failed to converge the necessary iterations to fit the model. Therefore, I opted for running a Bayesian regression model with the function "brm" of package "brms" in R (Bürkner, 2017) as follows:

$$Y_{ij} \sim \text{Multinomial}(\mathbf{p}_{ij})$$

$$\log\frac{p_{1ij}}{p_{3ij}} = \mathbf{x}_i\boldsymbol{\beta_1} + b_{1j}$$

$$\log\frac{p_{2i}}{p_{3ij}} = \mathbf{x}_i\boldsymbol{\beta_2} + b_{2j}$$

where $i = 1, \dots, n_j$ is the *i-th* observation, $j = 1, \dots, J$ represents country j, and $\mathbf{P}_{ij} = (p_{1ij}, p_{2ij}, p_{3ij})$ is the vector containing the probabilities of individual i in country j, X_i is the vector of variables of individual i and b_{1j} and b_{2j} the random effects of country j on logits 1 and 2 respectively.

Because many variables are categorical and due to the multinomial dependent variable, the table with all parameters of the model is too extensive to be included here. Thus, the parameters for the variables of interest are reported in Table 24, and the <u>online supporting</u>

material includes the complete table of results. By calculating the respective odds ratios from the model parameters, we can highlight the following results:

- The estimated chance of someone who considers that the state of the economy stayed the same voting for the incumbent candidate rather than voting for the opposition is multiplied by 2.54 in countries where voting is compulsory. However, the probability that this chance is multiplied by a number greater than 1 is only 0.674 (which means that in Bayesian parameters, this result cannot be generalised to other samples with standard confidence levels).

- The estimated chance of someone who considers that the state of the economy has gotten worse voting for the opposition instead of not voting is multiplied by 15.20 times in countries where voting is mandatory. The probability that this value is greater than 1 equals 0.99.

- The difference between these two odds is equal to 0.71, while the probability of this value being greater than 1 is 0.42. In this sense, it cannot be said that there is a significant difference between these two behaviours.

- In countries where voting is compulsory, the estimated chance of someone who considers that the state of the economy has gotten better voting for the incumbent candidate instead of not attending the polls is 2.04 times greater than that of someone who considers that the state of the economy has gotten worse (voting for the incumbent instead of not voting). The population value for this estimation is in the interval 1.595918 – 2.494206 with 95% probability.

- In countries where voting is voluntary, the estimated chance of someone who considers that the state of the economy has gotten better voting for the incumbent candidate instead of not attending the polls is 2.69 times greater than that of someone who considers that the state of the economy has gotten worse (voting for the incumbent instead of not voting). The population value is in the range 2.405908 – 2.943528 with 95% probability.

- In countries where voting is compulsory, the estimated chance of someone who considers that the state of the economy has gotten better voting for the incumbent instead of not voting is 1.08 times greater than the chance of someone who believes

that the economy has stayed about the same voting for the incumbent. The population value is in the range 0.860751 – 1.344739 with 95% probability. As this interval crosses 1, we cannot tell which of these chances is greater.

Table 24 – Multinomial mixed logistic model to predict individual electoral behaviour.

Population-Level Effects:

Logit 1 (Voted for the opposition/Did not vote)

	Estimate	Credible interval	
μ_1 (Intercept)	-1.82	-3.32	-0.36
μ_2 (Intercept)	-4.55	-6.41	-2.82
μ_1 Economic evaluation: stayed the same	0.12	0.03	0.21
μ_1 Economic evaluation: gotten worse	0.44	0.34	0.53
μ_1 Compulsory Voting (yes)	1.89	0.88	2.90
μ_1 Economic evaluation: stayed the same*Compulsory Voting (yes)	0.31	0.06	0.54
μ_1 Economic evaluation: gotten worse*Compulsory Voting (yes)	-0.06	-0.30	0.17

Logit 2 (Voted for the incumbent/Did not vote)

|	Estimate	Credible interval	
μ_2 Economic evaluation: stayed the same	-0.65	-0.74	-0.56
μ_2 Economic evaluation: gotten worse	-0.99	-1.09	-0.89
μ_2 Compulsory Voting (yes)	2.82	1.10	4.55
μ_2 Economic evaluation: stayed the same*Compulsory Voting (yes)	0.58	0.33	0.81
μ_2 Economic evaluation: gotten worse*Compulsory Voting (yes)	0.28	0.04	0.53

Source: Author's elaboration.

- The estimated chance of someone who believes that the economy has stayed about the same voting for the opposition instead of casting a ballot for the incumbent is 2.35 times greater in countries where voting is compulsory than in countries where voting is optional. The population value of this odds ratio is in the interval from 0.02327825 to 7.047754 with 95% probability, while the probability of this ratio being greater

than 1 is 0.636. Thus, despite the high estimate, it is not possible to conclude which of these chances is greater with a standard degree of confidence. Yet, we can tell that there is an unconfirmed trend in the data.

Finally, in order to provide a visual comparison between the probabilities of a given person in a certain country[52] voting for the opposition or for the incumbent candidate according to their personal evaluation about the state of the economy, Figure 20, Figure 21, Figure 22, and Figure 23 show the distribution of the posterior probabilities provided by the regression model.

Note that in a compulsory voting system the overall probabilities of this given individual voting for the incumbent are high regardless of their assessment of the economic situation. Interestingly, this "average" individual also shows overall low probabilities of voting for the opposition across the three categories of economic evaluation.

**Figure 20 – Posterior probability distribution of voting for the incumbent where voting is voluntary.**
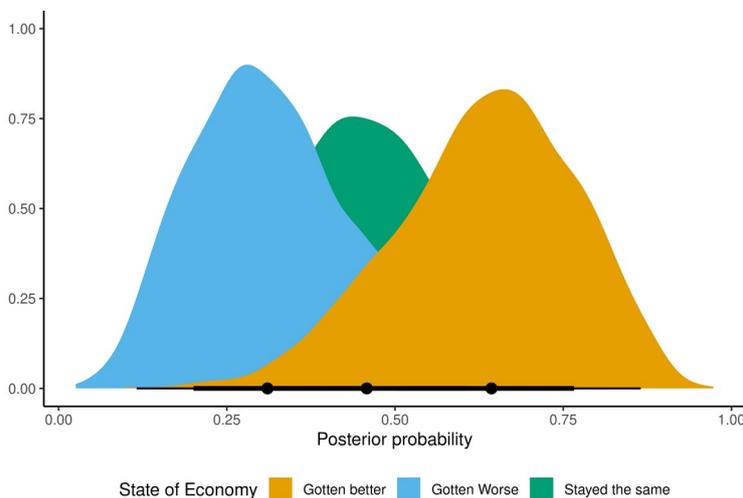
Source: Author's elaboration.

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52 All other variables were fixed at their means or at the category with the highest number of observations.

Figure 21 – Posterior probability distribution of voting for the incumbent where voting is compulsory.
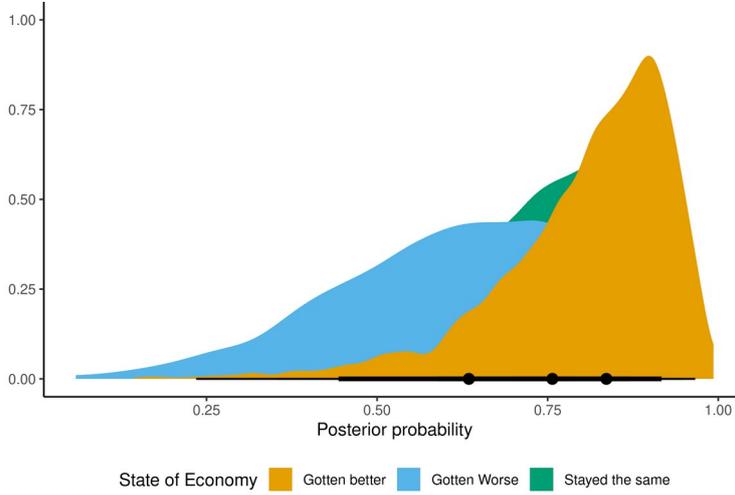
Source: Author's elaboration.

Figure 22 – Posterior probability distribution of voting for the opposition where voting is voluntary.
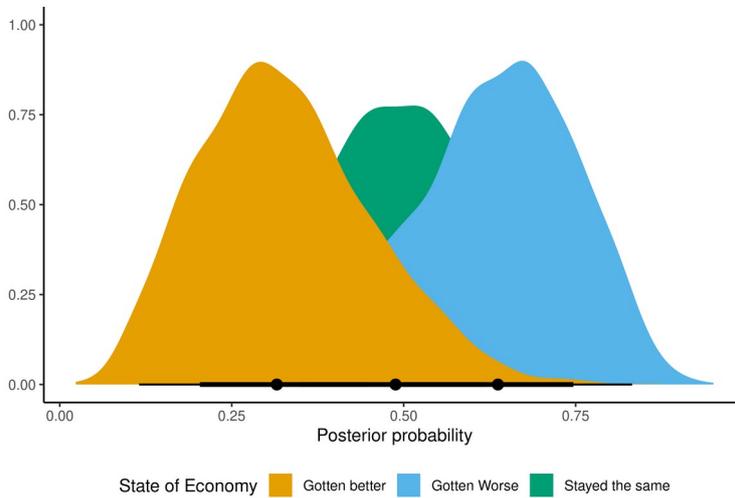

Source: Author's elaboration.

Figure 23 – Posterior probability distribution of voting for the opposition where voting is compulsory.
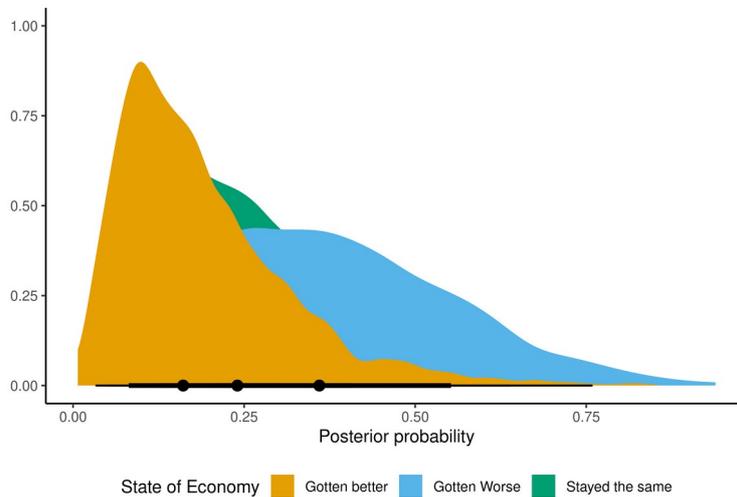
Source: Author's elaboration.

3.4. Concluding remarks

As in the previous chapter, the results of the tests with individual-level data provide little support for the hypotheses on the association between the compulsory voting law and the (lower) quality of the political representation process. Once again, results generally confirm the sub-hypothesis strictly related to the economic voting theory: voters who are satisfied with the state of the economy show more electoral support for the incumbent, while people dissatisfied with the state of the economy tend to vote for the opposition. In this sense, although negative assessments of the economy seem to increase abstention even where voting is required, results do not validate the asymmetry hypothesis. Yet, this particular trend rejects H5, since dissatisfaction is not a mobilising factor under voluntary voting.

However, the clearest evidence is the rejection of H3 and H4, since mildness in the evaluation of the economy does not alienate electors. On the contrary, results suggest that this is a strong mobilising factor. Moreover, H4.1 is also rejected, as the results suggest that people with an indifferent perception of the state of the economy tend to vote for the opposition. The probability that this group of people vote for the incumbent instead of abstaining is higher in compulsory voting systems because all probabilities of casting a valid ballot are higher in mandatory voting contexts.

CONCLUSIONS

This dissertation set up a simple query about an institution widely applied but not very often studied. It is not surprising that most of the approaches to compulsory voting are placed on normative grounds. An institution directly related to *how many* people vote, *who* votes and *whether* they vote is intimately related to the core conceptions of democracy, the most accepted functions of elections and, ultimately, to the political elites who govern democracies.

Despite the profusion of opinions about CV, this rule has been loosely conceptualised, and the investigations on its so-called secondary effects do not match regarding the concept of quality or even to which aspect of the political representation process each of these investigations refers. Therefore, part of my work was attempting to organise this literature according to these points of reference: notions of quality and the parts of the process of political representation. Moreover, I also aimed at being clear about the normative background behind these discussions and my own insights.

Such straightforward steps made it possible to dialogue with theories of electoral behaviour and select a prominent approach to a qualitative process of political representation. The Economic Voting Theory relies upon the paradigms of the Rational Choice Theory but also relates intimately to the psychological topics addressed by the Michigan School. Besides, economic voting naturally refers to individual processes and/or general outcomes. In this sense, this approach was eminently appropriate to the overall theoretical problem under discussion.

Therefore, I built up a comprehensive cross-national and longitudinal aggregate-level database on national elections, macroeconomic factors, and institutional and contextual variables. In addition, I leveraged the existence of another comprehensive cross-national and longitudinal database conveying information on individual-level aspects of the "voting facet" of the political representation process.

Precisely because of the cross-national and longitudinal characteristic of both data sources, the observations were grouped by these characteristics (time and country). Because of that, I carried out rigorous statistical models in order to test the general hypothesis, as stated in the literature, that compulsory voting hinders the quality of the political representation process. Regarding the measure of quality used here, these hypotheses were stated in relation to the economic voting process:

a) CV was expected to interact with macroeconomic factors reducing their association with the percentage of votes for the governing party/alliance and the probability of victory of the incumbent party/alliance;

b) CV was expected to interact with individuals' economic perceptions and impact electoral behaviour accordingly – not only the vote decision but also the decision to vote.

In this sense, this dissertation provides three important contributions: it provides a structured scrutiny of the literature on the second-order effects of compulsory voting, hands over a thorough empirical assessment of it, and offers new evidence on a relevant topic of the economic voting theory: including *whether* people vote on the analyses. Indirectly, the asymmetry hypothesis also gained additional evidence.

The general hypothesis set-up based on the specialised literature is not supported by the data: there is no evidence that compulsory voting hinders the accountability process. In various ways, data indicate that compulsory voting systems do not weaken the link between economic factors and electoral outcomes. Whether at the macro or micro level, assessed objectively or subjectively, economic issues relate to the process of political representation in the same way under compulsory and voluntary voting systems.

The availability of data and information processing technicalities constrained the empirical analyses (for instance, the Bayesian model takes over 7 hours to fit in computers that are usually inaccessible). Nevertheless, both data sets used in the tests and the coding procedures are publicly available in order to contribute to open science and ensure replicability. Furthermore, distinct operationalisations of the concepts discussed throughout the dissertation may also be contributions to the research agenda on CV's secondary effects. For instance, CSES's Modules 1 – 4 include varying questions about political information to a given sample share. Providing tests about possible associations between compulsory voting and political sophistication might be the next step in pursuing cross-sectional evidence about the ultimate effects of CV on the quality of the political representation process.

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APPENDIX

Table A1 – Additional estimates of the linear Gumbel mixed model (including the unemployment rate) to explain the percentage of votes received by the incumbent party/alliance.

Parameter	Estimate	Std. Error	t value	Pr(> | t|)
β_0 (Intercept)	0.2755	0.0440	6.2585	0
β_1 Change in GDP	0.0103	0.0020	5.2512	0.000000
β_2 Inflation Rate	-0.0001	0.00003	-3.3270	0.0010
β_3 Unemployment Rate	-0.0025	0.0014	-1.7946	0.0742
β_4 Incumbent Vote Share in the first round (T_{-1})	0.0060	0.0005	11.0816	0
β_5 Democratic Index	-0.0741	0.0364	-2.0361	0.0430
β_6 Government Margin of Majority	-0.0934	0.0401	-2.3308	0.0207
β_7 ENEP (national)	-0.0118	0.0021	-5.7010	0.000000
β_8 Compulsory Voting	0.0349	0.0115	3.0355	0.0027
σ_b	0.0352			
Degrees of freedom for the fit	28.4762			

Table A2 – Average effect of the explaining variables and their respective limits, based on the linear model with the unemployment rate.

Variable	Mean	Upper limit	Lower limit
Change in GDP	0.0103	0.0146	0.0053
Inflation Rate	-0.0011	-0.0002	-0.0014
Unemployment Rate	-0.0026	0.0009	-0.0056
Compulsory Voting	0.0339	-0.0248	-0.0902

Figure A1 – Fitted location parameters of the incumbent's vote share as a function of the variables "Change in GDP", "Inflation Rate", and "Unemployment Rate" under compulsory and voluntary voting systems.