Voter Turnout among Compulsory Voting Countries: Evidence from 1973 to 2018

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ABSTRACT

Despite significant evidence that compulsory voting affects voter turnout, several compulsory voting countries had abandoned this law. It raises the query of whether compulsory voting affects voter turnout at the population level of compulsory voting countries. Additionally, how compulsory voting affects turnout also remains inconclusive, especially because most of the conclusions of previous studies were derived only from the case of parliamentary elections. Thus, this study's objectives are twofold. First, this study seeks to explicate whether or not compulsory voting affects voter turnout in the compulsory voting countries. Second, this study also intends to explain whether the effect of compulsory voting on voter turnout vary across different types of elections. This study applies the theoretical explanation on the relationship between compulsory voting and voter turnout. This study employs quantitative methods, including linear regression models and Manova test results. By utilizing panel data of voter turnouts in 34 compulsory voting countries from 1973 to 2018, I found that the effects of compulsory voting on voter turnout appear in various conditions, either with or without sanctions and enforcement. In addition to that, I also found that the effects of compulsory voting vary across two types of elections, between compulsory voting and former compulsory voting countries. In particular, the effects of compulsory voting are higher in the presidential than in the parliamentary elections, except when compulsory voting is enforced. This paper could contribute to debates on abolishing compulsory voting in former compulsory voting countries or on adopting compulsory voting in countries interested in implementing this mechanism.

Keywords: compulsory voting, voter turnout, unicameralism, proportional electoral system

INTRODUCTION

Despite significant evidence that compulsory voting affects voter turnout, several compulsory voting countries had abandoned this law.[i] It raises the query of whether compulsory voting affects voter turnout at the population level of compulsory voting countries. In relation that, most scholars agree that

compulsory voting affects voter turnout, with the predominant position being that compulsory voting is significantly associated with turnout (Blais et al., 2003; Lijphart, 1997; Robson, 1923).

Additionally, how compulsory voting affects turnout also remains inconclusive. Birch (2008) found that compulsory voting affects voter turnout only when there is enforcement. Additionally, most of the conclusions of previous studies were derived from the case of parliamentary elections[ii] (Franklin, 1999; Power & Roberts, 1995; Siaroff & Merer, 2002), from cases that combined compulsory and non-compulsory countries (Birch, 2008; Jackman & Miller, 1995; S. Singh, 2011),[iii] and focused on democratic countries (L. Hill & Louth, 2004; Jackman, 1987; Louth & Hill, 2005; Quintelier et al., 2011). This has led to the misleading conclusion that in all types of elections, compulsory voting always affects voter turnout. Thus, it is important to question whether there is a difference in the impact of compulsory voting across different types of elections.

In relation to that, the existing literature has extensively examined the effects of compulsory voting on voter turnout. Most of them find the positive impact of compulsory voting on voter turnout (Blais et al., 2003; Lijphart, 1997; Robson, 1923). Robson (1923) finds that the employment of compulsory voting leads to only 5 to 7 percent of abstentions of voters in the elections. Similar to Robson, Lijphart (1997) also discovers that compulsory voting has led to the increase of voter turnout by 7 to 16 percentage points. Blais and his colleagues (2003) agree with Robson and Lijphart in that compulsory voting laws have increased voter turnout about 13 percent.

Nevertheless, the conclusion above is also challenged by several scholars who find the relationship among these two variables to be insignificant (Crepaz, 1990; Gray & Caul, 2000). According to Crepaz (1990), compulsory voting does not have high significance impact on voter turnout when other mechanisms to boost voter turnout are also applied in a country. Similarly, Gray and Caul (2000) find that "countries that dropped compulsory voting

laws did not see a permanent impact on their level of voter turnout."

What is missing from the previous literature is that there is no study that has examined the impact of compulsory voting laws on voter turnout in compulsory voting and former compulsory voting countries at the population level. This study seeks to fill this gap by conducting an examination on this thing. Besides that, the work that examines the effect of compulsory voting on turnout across types of elections is still rare. Fornos and colleagues (2004) find that "compulsory voting boosted turnout by 11.4 percentage points in presidential elections and 16.5 percentage points in congressional elections." The more recent study is the paper by Hoffman and colleagues (2017) which find that the effect on turnout diverges across any type of election in the case of Austria. While Fornos and colleagues (2004) examine the case of Latin American countries, Hoffman and colleagues (2017) analyze only a single country: Austria. There are no previous studies that have tested this proposition among compulsory voting countries. Thus, whether this proposition is applied among compulsory voting countries is still unknown.

This article seeks to fill this gap by addressing two following questions: Does compulsory voting affect voter turnout in the compulsory voting countries? Additionally, do the effects of compulsory voting on voter turnout vary across different types of elections? I argued that compulsory voting affects voter turnout at three different conditions: without sanctions, with sanctions, and with enforcement. Likewise, I argued that the impact of compulsory voting varies across two types of elections. I employed panel data of voter turnout in 34 compulsory voting countries from 1973 to 2018 and found that the effects of compulsory voting on voter turnout appear in various conditions either with or without sanctions and enforcement. In addition to that, I have evidence that the effects of compulsory voting vary across two types of elections among compulsory voting and former compulsory voting countries where the effects of compulsory voting are higher in the presidential than parliamentary elections, except when compulsory voting is enforced.

This work contributes to literature in two prominent ways. First, this paper yields the explanation of the impact of compulsory voting on voter turnout among compulsory and former compulsory voting countries, and in what ways. Second, this work also contributes to the discussion of whether the impact of compulsory voting differs across types of elections, especially among compulsory voting countries.

This study employs the concept of voter turnout as one of the important concepts. Voter turnout in this work is defined as "the absolute number of people voting in the election or as the share of the population that has cast its vote" (Geys, 2006). Previous studies have debated that there are many factors that affect voter turnout. The first factor is compulsory voting. Compulsory voting is defined as "a legal obligation to participate in elections, with our without sanctions" (Birch, 2008). "Lijphart (1997) argues that compulsory voting can increase voter turnout because it provides a strong incentive for parties and candidates to "pay more attention and work harder to get information to previous non-voters." Align with this idea, Blais and colleagues (2003) find that compulsory voting with penalties is associated with an increase of voter turnout in 151 elections held in 61 "democratic" countries since 1990. Following what has been found by existing studies, I thereby hypothesize that a country that applies compulsory voting will have an increase in their voter turnout in the parliamentary elections (Hypothesis 1). The same logic will be applied in the case of presidential elections so that I hypothesize that a country that applies compulsory voting will have an increase in their voter turnout in the presidential elections (Hypothesis 2).

Besides that, in practice, the employment of compulsory voting is also supported by sanctions and enforcement (Birch, 2008; Robson, 1923). Therefore, I hypothesize that a country that applies compulsory voting with sanctions will have an increase in their voter turnout in the parliamentary elections (Hypothesis 3). This type of hypothesis is also applied for the presidential elections. Thus, the next hypothesis is a country that applies

compulsory voting with sanctions will have an increase in their voter turnout in the presidential elections (Hypothesis 4). With the similar logic above, I also hypothesize that the countries with the enforcement of compulsory voting as follows: a country that applies compulsory voting with enforcement will have an increase in their voter turnout in the parliamentary elections (Hypothesis 5). Likewise, for the presidential elections, the hypothesis is the following: a country that applies compulsory voting with enforcement will have an increase in their voter turnout in the presidential elections (Hypothesis 6).

Beside my main interest in compulsory voting, there are several other factors that possibly impact voter turnout. The second factor is the parliamentary type of executive. Stockemer and Calca (2014) find in 450 democratic legislative elections between 1990 and 2010 that parliamentary government has higher voter turnout than presidential government in parliamentary elections. Thereby, I hypothesize that a country that employs parliamentary government will have an increase in their voter turnout in the parliamentary elections (Hypothesis 7). Following the same basic notion above, I hypothesize that a country that employs presidential government will have an increase in their voter turnout in the presidential elections (Hypothesis 8).

The third factor is unicameralism. Logically, unicameralism can decrease voter turnout because the number of chambers to be selected in the unicameralism is less than in the bicameralism system. Nevertheless, Jackman (1987) finds that unicameralism fosters voter turnout in Finland and Norway. One of the reasons why unicameralism increases voter turnout is because this system produces a more decisive government than bicameralism (Jackman, 1987). I, therefore, hypothesize that a country that employs unicameralism will have an increase in their voter turnout in the parliamentary elections (Hypothesis 9). Following the same logic, I hypothesize that a country that employs unicameralism will have a decrease in their voter turnout in the presidential elections (Hypothesis 10).

The fourth factor that can influence voter turnout is a proportional electoral system. Specifically, I expect that the employment of a proportional electoral system can increase voter turnout. Franklin (1996) finds that in twenty well-established democracies "a proportional voting system helped to increase voter turnout." The study by Jackman (Jackman, 1987) also shows that a proportional electoral system has a correlation with an increase of voter turnout. Therefore, I expect and hypothesize that *a country that employs a proportional electoral system will have an increase in their voter turnout in the parliamentary elections* (Hypothesis 11)*.* Following the same logic, I hypothesize that *a country that applies a proportional electoral system will have an increase in their voter turnout in the presidential elections* (Hypothesis 12).

This paper will proceed as follows: The second section presents the research methods. The third section explicates the results and the results discussion, and then followed by conclusions.

RESEARCH METHODS

This study applied unbalanced panel data.[iv] This type of datum was chosen because it is challenging to acquire a complete dataset for all 34 countries.[v] In order to have the robust results, I also included the data from other sources so that I could minimized the number of missing data. The unit of analysis in this study was countries with compulsory voting laws in their elections from 1973 until 2018. Since this study applies unbalanced panel data, not all the observations are included in the analysis. For parliamentary elections, this study includes 343 elections from a total of 355 elections. In the case of presidential elections, it includes 182 elections from a total of 183 elections.

This study applied secondary data from various sources. The data of voter turnout, compulsory voting, sanctions, and enforcement in two types of elections—parliamentary and presidential—is drawn from The International IDEA.[vi] The data source of the electoral system, unicameralism, and type of executive is the Inter-Parliamentary Union Parline database.[vii] The data source of the degree of freedom is the Freedom House Index,[viii] and GDP and

population data is from the World Bank.[ix] All data were collected from January to July 2019. This study employed all data above because the variables (except the control variables) are related to voter turnout, according to previous theories.[x]

This study employed a single regression model equation used in both types of elections. This regression model is chosen because it follows the model of the panel data method that is used in this study. This model is appropriate for addressing the research questions because it contains longitudinal data that is better than cross-sectional data. This model also strengthens the validity of my analysis by incorporating several independent variables and a few control variables. The regression equation of each model of either parliamentary or presidential elections is as follows:

$$Y_{cy} = \beta_0 + \beta_1 CV_{cy} + \beta_2 TE_{cy} + \beta_3 Uni_{cy} + \beta_4 Prop_{cy} + \mathbf{Z}_{cy} + \mathcal{E} \qquad (1)$$
$$Y_{cy} = \beta_0 + \beta_1 CVS_{cy} + \beta_2 TE_{cy} + \beta_3 Uni_{cy} + \beta_4 Prop_{cy} + \mathbf{Z}_{cy} + \mathcal{E} \qquad (2)$$
$$Y_{cy} = \beta_0 + \beta_1 CVE_{cy} + \beta_2 TE_{cy} + \beta_3 Uni_{cy} + \beta_4 Prop_{cy} + \mathbf{Z}_{cy} + \mathcal{E} \qquad (3)$$

Where c indexes country, y indexes year, and Y is a continuous latent representation of the c and yth voter turnout, Y. While CV represents compulsory voting, CVS represents compulsory voting with sanction and CVE means compulsory voting with enforcement. TE represents the type of government, either parliamentary or presidential. Uni represents unicameralism in the sense of the number of chambers in the legislative body. Prop represents the proportional electoral system. The vector given by $\mathbf{Z}_{cy}$ represents three control variables: the Freedom House Index, population (logged), and GDP (logged). In addition, I also include $\mathcal{E}$ that represents the errors.

This study employed panel data methods, as this empirical technique can reduce the impact of omitted variables that are different across the entities being observed, but are stable over time and over the region (Stock & Watson, 2018). The key explanatory variables or variables of interest in this study is "compulsory voting," "compulsory voting with sanctions," and "compulsory

voting with enforcement." The dependent variable or the outcome variable is voter turnout. The data related to voter turnout were expressed as a percentage. The data of voter turnout were measured by the number of registered voters divided by the number of voters who vote in the election day.[xi] There are four independent variables, the first of which is compulsory voting. Compulsory voting was measured by looking at whether a country applies compulsory or mandatory voting laws in each type of election, The variable of compulsory voting was measured using a binary number, either 1 or 0. The second independent variable was compulsory voting with sanctions. It was measured by examining whether a country implements compulsory voting with sanctions. It is a binary variable. The third independent variable is compulsory voting with enforcement. Similar to the two previous variables, it is a binary variable. It was measured by examining whether a country implements compulsory voting with enforcement.

The fourth independent variable was the type of executive. The type of executive system was measured by the system for the executive body applied in a country. In parliamentary elections, one is used in those cases where a country employs a parliamentary government system, and zero is used otherwise. In presidential elections, one is used if a country applies a presidential government system.[xii] The fifth independent variable is unicameralism, which was measured by the number of chambers in the national parliament of a country. This variable employs a binary indicator set equal to one if a country has a unicameral system in its national parliament, and zero otherwise.[xiii] The sixth independent variable is the proportional electoral system. This measured the type of electoral system applied in national parliamentary elections.[xiv]

In addition to the independent variables, this study also has three control variables. The first is freedom, the measurement of which uses the Freedom House Index.[xv] The second control variable in this study is population. The population was measured by the log of the total population in a country in a

particular year. The value of the population provided is per one million persons. The third control variable is Gross Domestic Product (GDP), measured by the log of the value of GDP of a country in a particular year. The value of GDP provided is in billions of dollars. The selection of these control variables is consistent with those used in previous studies on compulsory voting and voter turnout.

RESULTS AND DISCUSSION

This section presented the analysis of the summary statistics sample, the regression results, and the discussion of my findings. The means for voter turnout in both types of elections are quite similar. The mean of voter turnout in parliamentary elections is 75.7%.[xvi] Meanwhile, the mean of voter turnout in presidential elections is 72.4%. In parliamentary elections, the minimum voter turnout is 21.01%, while the maximum voter turnout is 99.83%. In the case of presidential elections, the minimum voter turnout is 22.95% and the maximum voter turnout is 99.95%. (See Table 1 for details).

Table 1. Descriptive Statistics

	Variable	Mean	Min.	Max	Standard Deviation
Dependent Variables	Voter Turnout in Parliamentary Elections	75.7 %	21.01%	99.83 %	16.12 %
	Voter Turnout in Presidential Elections	72.4 %	22.95%	99.95 %	14.82 %
Independent Variables	Compulsory Voting	0.783	0	1	0.412
	Compulsory Voting with Sanctions	0.521	0	1	0.499
	Compulsory Voting Enforced	0.432	0	1	0.495
	Proportional Electoral System	0.852	0	1	0.354
	Type of Executive	0.411	0	1	0.492
	Unicameralism	0.558	0	1	0.496
Control Variables	Freedom House Index	1.609	1	3	0.698
	Population (logged)	15.774	8.843	19.160	2.091
	GDP (logged)	24.281	16.832	28.592	1.929

Source: Author's own calculation

Table 2 shows the regression results of both parliamentary presidential elections. The first model, Model 1, depicted that a country that applies

compulsory voting is associated with a 8.12 percentage points increase in their voter turnout in the parliamentary elections, holding all else equal. In Model 2, compulsory voting with sanctions is also statistically significant, but the increase in voter turnout is slightly more at 10.63 percentage points. Besides that, compulsory voting with enforcement, as shown in Model 3, is also associated with a 15 percentage points increase in voter turnout in parliamentary elections. Moving to the presidential elections, in Model 4, the impact of compulsory voting on voter turnout is higher than in the parliamentary elections, with a 14-percentage point increase in voter turnout. Interestingly, in Model 5, when sanctions are applied, the coefficient of compulsory voting with sanctions decreases to 11.73 percentage points. Similarly, the effect of compulsory voting with enforcement on voter turnout in the presidential elections is also positive, with a 14.82 percentage point increase. Therefore, we can conclude that all six first hypotheses, H1 to H6, are proven. Likewise, this study also finds that the effects of compulsory voting on voter turnout are higher in the presidential than parliamentary elections, except when compulsory voting is enforced.

Table 2. OLS Regression Models of the Impact of Compulsory Voting on Turnout in Parliamentary and Presidential Elections in Compulsory Voting Countries 1973-2018

VARIABLES	Parliamentary Elections			Presidential Elections		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent Variables						
Compulsory Voting	8.126***			14.05***		
	(-2.04)			(-2.78)		
Compulsory Voting with Sanctions		10.63***			11.73***	
		(-1.484)			(-1.949)	
Compulsory Voting Enforced			15.00***			14.82***
			(-1.386)			(-1.96)
Type of Executive	8.324***	8.207***	9.082***	3.353	-0.106	0.395
	(-1.788)	(-1.688)	(-1.564)	(-3.687)	(-3.401)	(-3.24)
Unicameralism	-9.090***	-7.921***	-8.815***	-6.017***	-6.945***	-8.128***

	(-1.676)	(-1.599)	(-1.474)	(-1.959)	(-1.901)	(-1.819)
Proportional Electoral System	-1.936	0.834	1.136	11.88***	10.13**	9.944***
	(-2.399)	(-2.334)	(-2.122)	(-4.083)	(-3.924)	(-3.735)
Controls						
Freedom House Index	-6.443***	-6.599***	-4.488***	-2.842	-3.638**	-1.663
	(-1.373)	(-1.309)	(-1.223)	(-1.782)	(-1.727)	(-1.67)
GDP (logged)	0.891	0.0582	-0.713	2.329**	0.723	0.184
	(-0.734)	(-0.709)	(-0.664)	(-1.023)	(-1.008)	(-0.97)
Population (logged)	-2.744***	-1.673**	-0.89	-3.742***	-3.609***	-3.588***
	(-0.785)	(-0.769)	(-0.717)	(-1.305)	(-1.271)	(-1.212)
Constant	103.4***	104.7***	106.7***	61.39***	108.0***	118.1***
	(-12.22)	(-11.32)	(-10.39)	(-16.64)	(-15.48)	(-14.95)
Observations	343	343	343	182	182	182
R-squared	0.342	0.402	0.489	0.276	0.313	0.376

Note: Standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Source: Author's own calculation

Regarding the remaining independent variables, employing a parliamentary government in a country with compulsory voting is associated with a 8.3 percentage points increase in voter turnout in the parliamentary elections, holding all other variables constant. This significant relationship is also applied in the countries with compulsory voting with sanctions and countries with compulsory voting with enforcement. Meanwhile, in the presidential elections, the variable of type of executives is not statistically significant.

Likewise, contrary with my expectations, applying unicameralism in the parliament is associated with about a 9 percentage points decrease in voter turnout in the parliamentary elections and about 6 to 8 percentage points decrease in voter turnout in the presidential elections. In addition, applying the proportional electoral system has no association with voter turnout in the parliamentary elections. Interestingly, on the contrary, applying the proportional electoral system is associated with about 9 to 11 percentage point increase in voter turnout in presidential elections.

In sum, on one hand, I have shown the evidence above that some hypotheses are proven (H7, H10, and H12). On the other hand, I also have explained that three hypotheses are not proven (H8, H9, and H11).

Figure 1. MANOVA Test Results of The Effect of Compulsory Voting Across Two Types of Elections

```
        Number of obs =        134

        W = Wilks' lambda    L = Lawley-Hotelling trace
        P = Pillai's trace   R = Roy's largest root

 Source | Statistic      df    F(df1,    df2) =   F    Prob>F

     CV |W   0.8380        1     2.0     131.0   12.66 0.0000 e
        |P   0.1620              2.0     131.0   12.66 0.0000 e
        |L   0.1933              2.0     131.0   12.66 0.0000 e
        |R   0.1933              2.0     131.0   12.66 0.0000 e

Residual|              132

   Total|              133

        e = exact, a = approximate, u = upper bound on F
```

Source: Author's own calculation

After we know that compulsory voting in various ways, either with or without sanctions and enforcement, has positive impacts on voter turnout in both parliamentary and presidential elections, we turn into the next inquiry regarding the impact of compulsory voting differs across types of elections. In Figure 1, we can see that the MANOVA Test Results show that the p-values of the impact of compulsory voting on voter turnout in the parliamentary and presidential elections are less than 0.05. It means that the impact of compulsory voting is different across types of elections.

Figure 2. MANOVA Test Results of The Effect of Compulsory Voting with Sanctions Across Two Types of Elections

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           Number of obs =          134

           W = Wilks' lambda      L = Lawley-Hotelling trace
           P = Pillai's trace     R = Roy's largest root

  Source | Statistic        df    F(df1,    df2) =   F    Prob>F
---------+---------------------------------------------------------
    CVS  |W   0.8791          1     2.0     131.0    9.00 0.0002 e
         |P   0.1209                2.0     131.0    9.00 0.0002 e
         |L   0.1375                2.0     131.0    9.00 0.0002 e
         |R   0.1375                2.0     131.0    9.00 0.0002 e
---------+---------------------------------------------------------
 Residual|                   132
---------+---------------------------------------------------------
   Total |                   133
---------+---------------------------------------------------------
           e = exact, a = approximate, u = upper bound on F
```

Source: Author's own calculation

Similar to Figure 1, in Figure 2, we can see that the MANOVA Test Results show that the p-values of the impacts of compulsory voting with sanction across two types of elections are less than 0.05, or statistically significant. In other words, we can conclude that the effects of compulsory voting with sanctions are different across two different types of elections.

Figure 3. MANOVA Test Results of The Effect of Compulsory Voting Enforced Across Two Types of Elections

```
           Number of obs =          134

           W = Wilks' lambda      L = Lawley-Hotelling trace
           P = Pillai's trace     R = Roy's largest root

  Source | Statistic        df    F(df1,    df2) =   F    Prob>F
---------+----------------------------------------------------------
    CVE  |W   0.8196          1     2.0     131.0   14.41 0.0000 e
         |P   0.1804                2.0     131.0   14.41 0.0000 e
         |L   0.2201                2.0     131.0   14.41 0.0000 e
         |R   0.2201                2.0     131.0   14.41 0.0000 e
---------+----------------------------------------------------------
 Residual|                   132
---------+----------------------------------------------------------
   Total |                   133
---------+----------------------------------------------------------
           e = exact, a = approximate, u = upper bound on F
```

Source: Author's own calculation

In addition to that, in Figure 3, we can find the same results. The p-values of the effects of compulsory voting with enforcement are less than 0.05. It means that we can find that the impacts of compulsory voting with enforcement are different across two different types of elections.

The findings of the study reveal that the impact of compulsory voting varies across two different types of elections. Specifically, this study finds that effects of compulsory voting are higher in the presidential than parliamentary elections, except when compulsory voting is enforced. This finding, in compulsory voting countries, is consistent with other scholarly conclusions regarding how different electorate salience affects voter turnout in elections (Franklin, 1996); the differences between countries in the way in which compulsory voting is implemented (Lundell, 2012); and on how the effect on turnout diverges across any type of election in the case of Austria (Hoffman et al., 2017). Therefore, this study contributes to the debate on the impact of compulsory voting, as well as other institutional factors, on voter turnout. This paper is the first to consider evaluating voter turnout in 34 compulsory voting countries from 1973 to 2018 in two types of elections.

In addition, the results imply that the application of compulsory voting plays a vital role in enhancing voter turnout in both parliamentary and presidential elections (Fornos et al., 2004; Hirczy, 1994; Irwin, 1974; Jaitman, 2013). This result could be correlated with countries that have abolished compulsory voting laws. Given these findings, this study suggests that countries that have abandoned compulsory voting laws may want to reconsider the re-installment of compulsory voting laws. Nevertheless, it has been realized that this suggestion has complexities in the practical and the academic realm. On the practical level, the belief that powerful compulsory voting increases voter turnout has led Britain (Birch, 2009; Birch & Lodge, 2015) and Poland (Czesnik, 2007) to begin considering compulsory voting as a leading mechanism to boost voter turnout. In the compulsory voting countries themselves, such as Greece, Belgium, and Australia, there remains

contention on the issue of whether compulsory voting is democratic, from politicians (Birch & Lodge, 2015; Malkopolou, 2007), from scholars who advocate for compulsory voting (Engelen, 2007; Lisa Hill, 2002; L. Hill, 2010a, 2010b, 2011, 2013, 2015; L. Hill & Louth, 2004; Hooghe & Pelleriaux, 1998; Lacroix, 2007; Louth & Hill, 2005; Machin, 2011) and from opponents of the measure (Lever, 2007, 2010; Saunders, 2010).[xvii]

CONCLUSION

The topic of voter turnout is usually related to the discussion of high levels of voter turnout to strengthen the legitimacy of elected officials.[xviii] A high percentage of voter turnout is salient in the sense that it increases the legitimacy of the governing regime, with more citizens participating in the election of candidates to fill public office. It has been demonstrated that, the impact of compulsory voting on voter turnout differs across parliamentary and presidential elections. In particular, this study discovers than the effects of compulsory voting are higher in the presidential than parliamentary elections, except when compulsory voting is enforced. By analyzing all compulsory voting countries (with various regime types), the main finding of this study confirms the proposition of (Norris, 2004) who claims that "(i)n established democracies, the use of compulsory voting laws is associated with higher turnout, whereas this is not evident among the broader comparison of elections worldwide."

In terms of the type of executive body, I arrive at two contradictory results: a parliamentary government positively increases voter turnout in parliamentary elections, yet a presidential government does not have an impact on voter turnout in presidential elections. This study finding contradicts Norris (2004) , who argues that the presidential type of election could maximize political participation. I assume that my findings may occur due to the difference of character in both types of elections, especially when presidential elections are not salient (Franklin, 1999; Franklin et al., 2004),

and when individuals calculate the significance of voting in a different type of election(Stockemer & Calca, 2014). Another possible reason for this finding is the diversity among the countries (democratic and non-democratic, various applications of sanction and enforcement) included in the study.

While in most previous studies (Fornos et al., 2004; Jackman, 1987; Jackman & Miller, 1995; Stockemer & Calca, 2014) unicameralism is considered to be a factor that could contribute to voter turnout, our findings differ. Unlike Jackman's (1987) argument that unicameralism has a positive correlation with voter turnout because the single body does not have to contend with other chambers, in our sample unicameralism exacerbates voter turnout in both types of elections. A possible explanation for this finding is the logic of the number of chambers, where fewer chambers imply that fewer people are willing to participate, especially in democratic countries with a high level of trust in government.

Another difference between the study findings and those of the literature is in regard to the relationship between the proportional electoral system and voter turnout in both types of elections. The proportional electoral system has long been considered a powerful mechanism to increase voter turnout (Blais & Carty, 1990; Karp & Banducci, 1999; Ladner & Milner, 1999; Lijphart, 1997; Norris, 1997, 2004). The study finding supports Powell (1980), who suggests that the reason why a non-proportional electoral system (especially a majoritarian electoral system) is more effective than a proportional system in increasing voter turnout is because of its simplicity. Another possible argument is that the motivation of people to vote in a majoritarian system is underscored by the higher responsiveness of constituents in majoritarian electoral systems than in proportional electoral systems (Endersby & Krieckhaus, 2008).

The practical implication of the finding is that compulsory voting could be considered as a mechanism to boost voter turnout, but it should not be considered a single "medicine" to cure the problem of low voter turnout.

Additionally, it should be noted that the impact of this mechanism is different among two types of elections. In addition to this practical application, our findings also have theoretical implications. While Singh (2014) suggests that we should look more deeply at how compulsory voting affects individual behavior, this implies that there is still space for future research in examining the impact of compulsory voting at the aggregate level. In addition, previous studies have employed counterfactuals in analyzing how compulsory voting was simulated in countries, which had abolished compulsory voting (Birch, 2008; Hoffman et al., 2017). Future research may apply a qualitative method to explore the deeper explanation of why compulsory voting was abolished.

[i] The countries that have abandoned compulsory voting are Austria (since 1981), Chile (since 2010), Fiji (since 2014), Guatemala (since 1986), Italy (since 1993), the Philippines (since 1979), and Venezuela (since 1994).

[ii] There are a few authors who combine presidential and parliamentary elections, but they focus on countries in specific regions (Fornos et al., 2004; Pacek et al., 2009), not on compulsory voting as the main variable of interest (Norris, 2004), or treat voter turnout in two types of elections as a single variable of turnout and specific only to major elections (Kamath, 2016).

[iii] There are many authors who are interested in analyzing only compulsory voting countries (Hirczy, 1994; Irwin, 1974), but the number of countries in their studies is relatively small or even limited to a single country.

[iv] This study considers that the application of unbalanced panel data has an impact on the absence of several data of GDP, which has also caused the decrease in the number of countries in the analysis in the fourth model, as one of the drawbacks of this study.

[v] Limited resources restricted our access to the data of GDP in the countries as follows: Bulgaria 1973-1979, Cyprus 1973-1974, Lebanon 1973-1987, Liechtenstein 2017-2018, Nauru 1973-2006, and Venezuela 2015-2018.

[vi] See www.idea.int/data-tools/data/voter-turnout to acquire the details.

[vii] See archive.ipu.org/praline/parlinesearch.asp for the details.

[viii] See freedomhouse.org for the details.

[ix] See data.worldbank.org for the details.

[x] I choose to focus on institutional factors (compulsory voting, unicameralism, type of executive, and proportional electoral system) because institutional factors have a greater influence than sociological or economic factors. (see Blais & Carty, 1990; Jackman, 1987; Jackman & Miller, 1995; Powell, 1980).

[xi] I follow Jackman (1987) and Jackman & Miller (1995) for this choice. Other authors use different choices by employing data of the voting-age population. The strengths and weaknesses of both options are discussed in Blais et al., (2003) and Geys (2006).

[xii] This treatment is chosen to create a linear relationship between the type of election and the type of executive body as the reference group.

[xiii] Jackman and Miller (1995) use different ways of coding. I chose a binary method because it enables us to interpret the regression results.

(xiv) The codes for a proportional electoral system variable are one if a country applies a proportional system and zero otherwise.

(xv) The codes for the Freedom House Index variable are one for Free, two for Partly Free, and three for Not Free.

(xvi) I dropped the data of Bolivia's parliamentary and presidential elections in 1978 because the data, which refer to voter turnout in the parliamentary election being more than 100 percent, does not make sense.

(xvii) The more comprehensive debates about compulsory voting are discussed in Birch (2008) and (Brenann & Hill, 2014).

(xviii) Hill (2010a) questions the difference in the legitimacy between the election with 60 percent in voter turnout in comparison to another election with 95 percent in voter turnout. See also Lacroix (2007) who urges the significance of political participation in this issue.

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