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Why Do Voters Risk Democracy?

By

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Abstract

Democracy has allowed the understanding of citizens' Political Preferences, for then lead the implementation of Public Policy Menus consistent with those preferences. I argue that Democratic Instability may be caused in *Full-Democracies* when the Democratic Institutions fail to process most citizens' Political Preferences. I test this hypothesis by using *Voters Turnout* as a proxy of the share of citizens' *Represented Political Preferences*, and estimate its effect on *Internal Conflict* as proxy of Democratic Instability. Using a novel instrumental variable based on exogenous shock provided by *Rainfall on Election Days*, I find a positive causal effect of *Voters Turnout* in *Internal Conflict*. As my empirical strategy also corrects for mismeasurment error presented in *proxy* variables, I find a causal positive effect of the *Represented Political Preferences* in *Democratic Stability*.

1 Introduction

Since later XVIII century, democracy has gained ground as the system to process the citizens' *political preferences* in order to implement the citizens' preferred *public policy menu*. Despite democracy's expansion, some Democratic Systems have been unstable while other have been dismantled by their own citizens through (paradoxically) democratic instruments. Although it has been argued that Democratic Instability and dismantle of democratic institutions occur in States with Weak Institutions (Acemoglu et al., 2013), *recent glimpses of Democratic Unrest have also sparked in Full-Democracies*[1] with Strong Institutions, as the past Assault to the Capitol on January the 6th of 2021 in the United States, and the massive citizens protest initiated on October the 18th of 2019 in Chile. For these experiences and other similar in *Fully-Democratic* countries, the Political Economy explanation of Weak Institutions and limited Democracy falls short, since by definition in these experiences democracy is not limited and institutions are not weak.

Why Citizens of *Fully-Democratic* countries are willing to generate *Social Unrest* risking the Democratic Stability? I argue that the Democratic System has a key role in addressing *citizens' political preferences*. Democratic systems that are able to represent the majority of the *citizens' political references* may face stability, while *democratic systems that fail to represent the majority of their citizens political preferences could face democratic instability*, even though their institutions are *fully-democratic* and strong. Then, my hypothesis is that the *lower represented the citizen's political preferences are, the higher the political instability is*.

Ideally, I would test this hypothesis by estimating the effect of *Represented Political Preferences* in the political system on *Democratic Stability*. Unfortunately, *political preferences* are not directly observable (Acemoglu, 2003), and no perfect measure

[1] As define by Polity V

of *democratic stability* exists. To overcome these problems, I propose *Voting Age Population Turnout* (*VAP Turnout*) as a *proxy* variable of the share of *represented political preferences* in the democratic institutions, and a measure of *Internal Conflict* as *proxy* of *Democratic Stability*. The intuition behind the selection of *VAP Turnout* as a proxy is that as voters cast ballots for candidates that resemble their preferences, *the higher the voters turnout is, the more share of citizens' political preferences are represented* (Acemoglu, 2003; Fujiwara, 2015). For *Internal Conflict* measure, the intuition is that the more *Internal Conflict*, the higher the democratic instability. This, because there is a higher propensity to express political preferences by non-formal institutions or alternative means to democracy that causes domestic conflict when voters feel disfranchised (Machado et al., 2011).

I am aware of the problems that may arise when using *VAP Turnout* as my measure of share of represented political preferences. As a *proxy* variable, it measures the share of represented political preferences with error causing attenuation bias. Additionally, *VAP Turnout* may be endogenous to the democratic institutions. Fortunately, if *VAP Turnout* suffers from classical measurement error, then both miss-measurement and endogeneity can be tackled by using an instrumental variable approach, given that under valid instruments one may be able to get rid of both attenuation and endogeneity bias.

I exploit the exogenous variation of *Rainfall on Election Days* as a reliable source of exogeneity, by constructing a novel instrument which I call *Percentage of the Population Under Rain on an Election Day*. This instrument would be relevant, since the amount of rainfall may impact *VAP Turnout* on election days (Hansford and Gomez, 2010; Madestam et al., 2013; Fujiwara et al., 2016). In fact, the First Stage shown in Section 5 support that the instrument fulfills the relevance condition.

The exclusion restriction may also be satisfied, since election days are planned in advance without knowing the weather forecast of the election day. The Sargan Test *p-values* provide evidence in favor of the exclusion restriction. As I know that this test may not reject the null hypothesis of exclusion by construction, in Section 7 I perform two placebo tests to test the validity of the exclusion restriction. These tests perform successfully, providing additional evidence in favor of the validity of the proposed instruments.

Results suggest that *VAP Turnout* in *Fully-Democratic* countries has a positive causal effect on *Democratic Stability* measured as *Internal Conflict*, as higher *VAP Turnout* diminishes the risk of *Internal Conflict*. These results are both statistically and economically significant. Under my empirical strategy, I am able to get rid of the measurement error of *VAP Turnout*. Thus, my results suggest a positive causal effect of the *Represented Political Preferences* in the democratic institutions over *Democratic Stability*, the main hypothesis of this paper.

Some concerns have aroused because of the widespread usage of rainfall as an instrumental variable in many empirical studies. Although I believe that these concerns are valid, I do not think that these apply to my case. First, I exploit the variation in rainfall in a *specific date* and not across long-time periods. Such small time-frame shock would unlikely have an impact in democratic stability through other channels. Secondly, this small time-frame shock has persistent effects in the sense that election outcomes determines the represented political preferences for a long period. For example, Senators in Chile are eight years in office, so the effects of rain may have an eight-year impact. Finally, it is unlikely that authorities would reschedule elections because of the weather on an election day.

With this research I expect to contribute to the literature of Democratic Stability. I reconcile the Political Preferences literature with the Democratic Stability literature by providing evidence of how the voters' Political Preferences shape Stability of the Democratic Regime. More importantly, I seek to understand why countries that fulfill all the requirements to be stable may struggle -or fail- to maintain the Democratic Regime. My findings may have important implications for Public Policy. Results sheds light on what mechanisms may cause a decrease in the democratic stability in the "ideal" countries. Then, policies designed to boost *VAP Turnout* may prevent or revert a decrease in democratic stability in *Fully-Democratic* countries.

This paper is organized as follows: Section 2 presents a review on the literature of Political Stability and Citizens' Political Preferences, Section 3 presents the Causal Framework sustaining the hypothesis, Section 4 presents the Data I use. In Section 5 I discuss the proposed Empirical Strategy, Section 6 shows the Main Results under the Empirical Strategy, Section 7 presents two Placebo Tests and Robustness Checks. Section 7 concludes.

2 Literature Review

The Represented Political Preferences may affect the Implemented Public Policy Menu. Indirect rule makes Representatives more receptive to voters' than non-voters' Political Preferences (Griffin and Newman, 2005), Governments tend to reward those who vote, and the Voters' ideological biasew affect Senators' positions beyond their partisan effects (Bullock III, 1981; Hill and Leighley, 1992; Keech, 1968; Martin, 2003). However, if legislators respond to the *Median Voter Theorem* depends on how homogeneous are the Citizens' Political Preferences in their districts, as evidence points out that legislators are more constrained by the *Median Voter's Preference* in more homogeneous districts (Gerber and Lewis, 2004).

In countries with weak institutions, social unrest becomes more appealing than democratic channels given that the ability of the democratic institutions to represent the voters' political preferences is low (Machado et al., 2011). Also, there is anecdotal evidence that in "advanced democracies" political unrest is a mechanism that shapes Public Policy (Passarelli and Tabellini, 2016). Although closely related to the hypothesis, these findings do not explore specifically if the degree of representation of the citizens' political preferences affects the degree of social unrest. Additionally, none of these findings can be considered as causal.

In summary, the previous literature support that the represented political preferences may determine the implemented public policy menu (Bullock III, 1981; Griffin and Newman, 2005; Hill and Leighley, 1992; Keech, 1968; Martin, 2003) and that voters turn to non-formal institutions if their preferred public policy menu is not implemented (Machado et al., 2011; Passarelli and Tabellini, 2016). These are key assumptions of the causal framework presented in the next Section. My work aims to find causal effect of the degree of representation of the voters' political preferences in democratic stability, in *Fully-Democratic* countries with strong institutions. To my knowledge, no such work has been done.

3 Causal Framework

My hypothesis is that democratic instability may arise in *Fully-Democratic* countries with strong institutions if the democratic institutions fail to represent the majority of the Citizens' Political Preferences. The reason is simple: as Policy Makers are rent-maximizers they will implement the *Public Policy Menu* consistent with their *Median Preferences* (Black, 1948). If the policy makers' Political Preferences are not a "rep-

resentative sample"[2] of the citizens' Political Preferences, the implemented Public Policy Menu may be different from the median citizens' preferred menu, disfranchising the median citizen. Naturally, if citizens feel disfranchised they will respond by demanding their preferred Public Policy Menu through non-formal institutions (Machado et al., 2011; Passarelli and Tabellini, 2016).

In short, the proposed causal mechanism is the following:

$$\text{Represented Political Preferences} \implies \text{Implemented Policies} \implies \text{Voter's Response}$$

where I make the following assumptions: (i) Citizens are Utility-maximizers and have Complete Information, (ii) Citizens' Political Preferences are a continuum of ordered preferences over a Public Policy Menu, (iii) the Represented Political Preferences are the Citizens' Political Preferences that the Democratic Institutions are able to process, (iv) the Implemented Public Policy Menu is consistent with the Represented Political Preferences and will follow the *Median Voter Theorem* (Black, 1948) (that is, the Median Preference of the Represented Political Preferences will be implemented). Citizens will compare the Implemented Public Policy Menu to the Menu consistent with the Median Citizen's Political Preferences and will respond according to the alignment observed in this comparison.

Under my hypothesis, if the Implemented Public Policy Menu is miss-aligned with the one preferred by the Median Citizen, some citizens may choose non-formal Institutions to demand their policy *causing Democratic Instability*. Given that citizens' Political Preferences are an ordered continuum of preferences, more miss-alignment between the Implemented and the Median Citizen's preferred Public Policy Menu will incentive more voters to turn to non-formal Institutions causing greater instability.

[2]Representative in the Statistical Sense

Thus, it is expected that the degree of deviation of the Implemented Public Policy Menu from the Median Citizen's Preferred Menu will cause the degree of Democratic Instability: *higher deviation implies higher instability.*

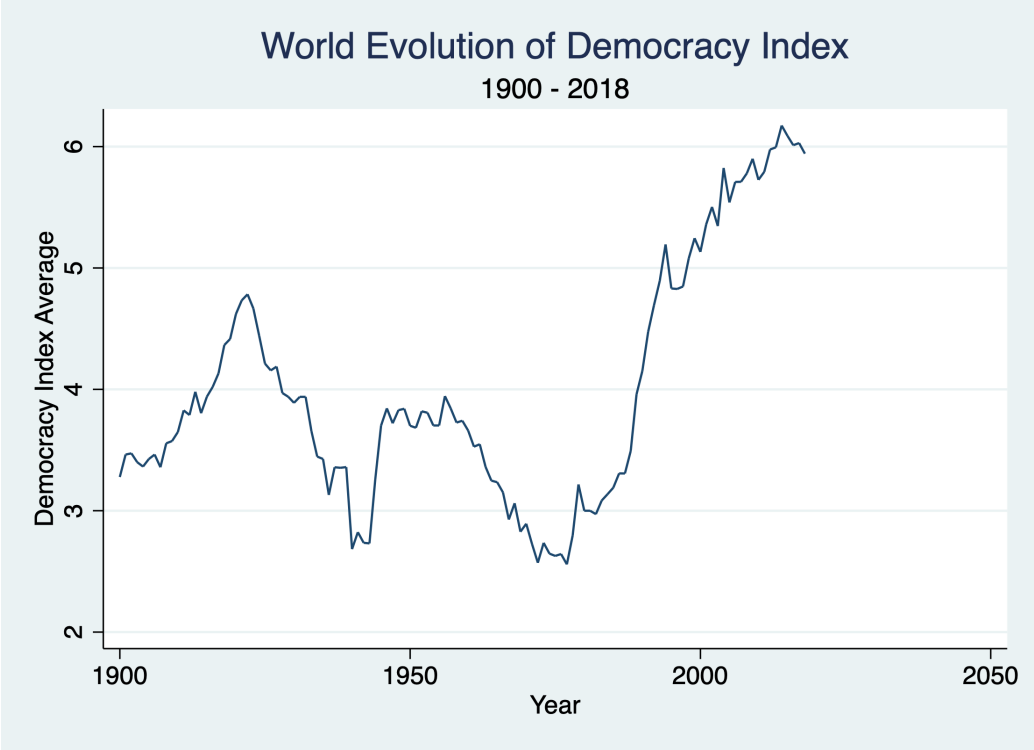
I have assumed that the Implemented Public Policy Menu will be consistent with the Represented Political Preferences. Therefore, if the Represented Political Preferences are *all* the citizens' Political Preferences, the Implemented Public Policy Menu will be the median citizens' Preferred Menu. On the contrary, if the Represented Political Preferences are a small fraction of the citizens' Political Preferences, it is highly likely that the Implemented Public Policy Menu will be deviated. This reasoning leads to the central hypothesis of this work: *the higher share of voters' Political Preferences are Represented, the lower the degree of Democratic Instability.*

To put this in perspective, please think of a standard democratic process in an election. Voters cast ballots electing *Representatives* that will *represent* the Voters' Preferences on the Democratic Institutions. Later, the Democratic Institutions will implement the Public Policy Menu consistent with the Median Preference of the *Representatives*. Assuming that this representatives effectively represent their voters Political Preferences, the Implemented Public Policy Menu will be consistent with the Median Preference of those who voted, but *will not* be consistent with the *Median Preference of the whole set of Citizens*. If this deviation is large enough, the citizens may feel disfranchised causing Democratic Instability.

4 Data

The Data Set used was constructed by myself using the free sample Data Set of the International Country Risk Guide (ICRG) constructed by the Political Risk Service Group (PRS), the full electoral data set published by the International Institute for

Figure 1: Evolution of Average *Democracy Index*



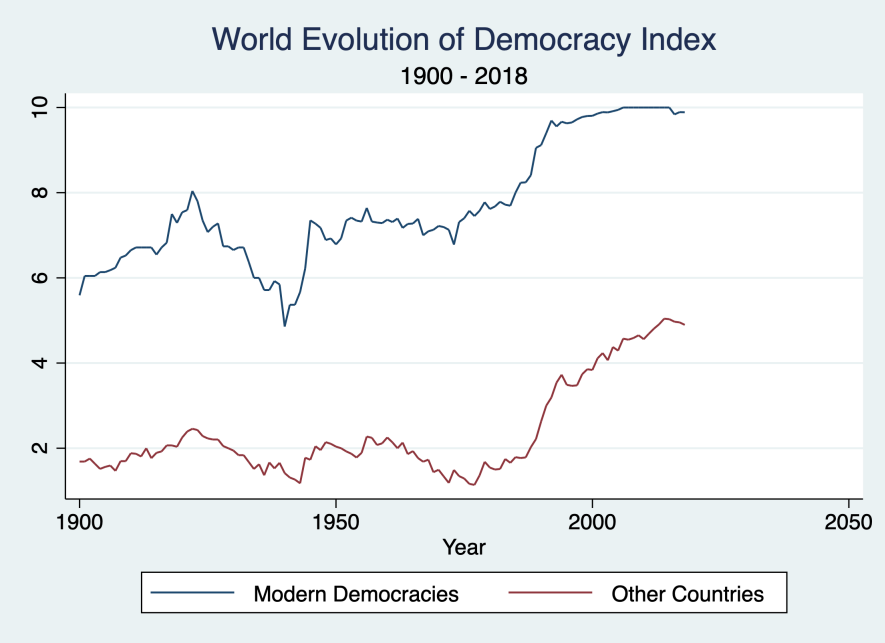
Democracy and Electoral Assistance (IDEA) and the full data set of Polity V project constructed by the Center of Systemic Peace (CSP). For the construction of my instrument that uses *rainfall on election days*, I use the weather data found in Dark Sky API. The ICRG provides us with measures of Institutional Quality and *Political Conflict* for every country, IDEA gives us the *VAP Turnout* in every election for every country while Polity V gives us a *Democracy Index*.

Democracy is on retreat. In Section 1, I stated that some democratic systems have been dismantled and that is a fact. Figure 1 presents the evolution of the *Average Democracy Index* computed by CSP from 1900 to 2018.

This *Democracy Index* takes values from 0 to 10, where countries with 0 are considered not democratic at all, while countries with 10 are considered as *Fully-Democracies*. After years of sustained increase, the *World Average Democracy Index*

Figure 2: Evolution of Average Democracy Index

Modern Democracies vs. Other Countries



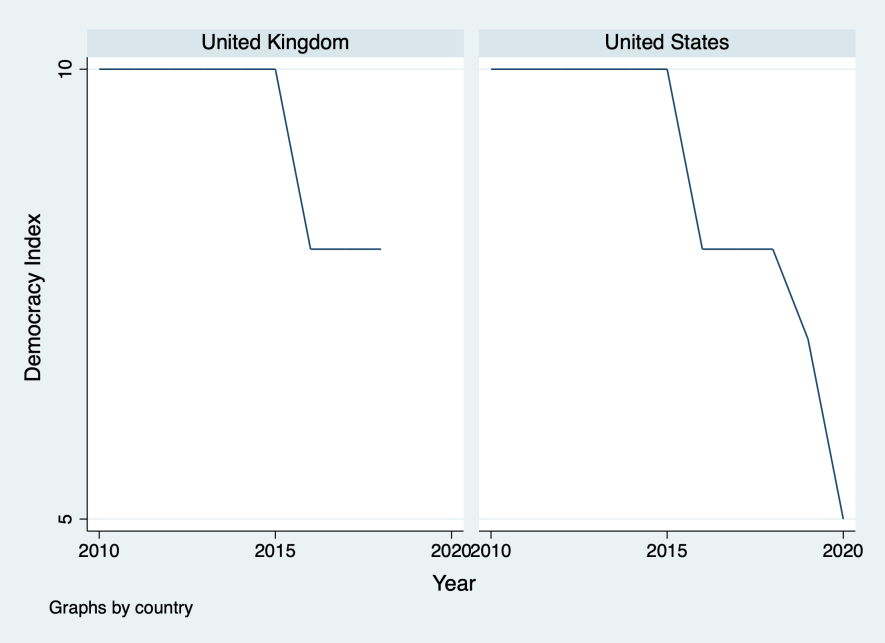
got stuck, and since 2014 it has declined. I also see that across years the World Average of the Index have suffered two large drops, showing that the retreat of Democracy is not a new phenomena.

My concern in this research is the relationship between Citizens' Represented Political Preferences and Democratic Instability in *Modern Democracies*. I define as *Modern Democracies* those countries starting on 2010 that have had 10 points in the *Democratic Index* for five or more years. Figure 2 shows the evolution of the *Average Democracy Index* separating *Modern Democracies* from the Other Countries.

Figure 2 shows that the retreat of democracy has been led by the Other Countries. In Modern Democracies the index had been stable until 2016, where a small decrease can be noticed. The small drop in *Modern Democracies* has been led by the United States, and the United Kingdom, which *Democracy Index* has drop to 5 in 2020 and to 8 in 2018 respectively. This is depicted in Figure 3.

Figure 3: Evolution of Average Democracy Index

United States and United Kingdom



Although the drop in the United States and United Kingdom are interesting, my research is about Democratic Instability. However, this shows that Democracy can retreat in *Fully-Democratic* countries with Strong Institutions as I discussed in the Introduction. This shows why my question of Why Voters Risk Democracy is relevant.

As I pointed out in Section 1, the first-best would be to test the hypothesis by estimating the effect of the Share of Citizens' Represent Political Preferences on Democratic Instability. Following the Causal Framework presented in Section 3, the "Share of the Citizens' Represented Political Preferences" are the "Represented Political Preferences" while "Democratic Instability" is the "Voter's Response".

Unfortunately, citizens' Political Preferences are no directly observable (Acemoglu, 2003) and there is not a cleaned-cut measure for Democratic Instability. To deal with this, I propose *VAP Turnout* as a *proxy* for "Share of the Citizens' Represented Political Preferences" and *Internal Conflict* as proxy for "Democratic Stability". The

intuition behind these proxies comes from the discussion of the Causal Framework in Section 3, where I argued that the citizens' Political Preferences are represented by the Representatives the citizens voted for. Hence, it is likely that some citizens who did not cast ballots would not find their Political Preferences Represented in the Democratic Institutions. In the other hand, I argued that citizens turn to non-formal Institutions to demand their preferred Public Policy Menu if they feel disfranchised. Since *Internal Conflict* consider the usage of non-formal means by citizens, higher values of *Internal Conflict* variable imply a higher Risk for Democracy.

The variables I chose as proxies for Democratic Instability were obtained from ICRG, the *VAP Turnout* variable was extracted from IDEA and the *rainfall amount on election days* was extracted from the weather data found in Dark Sky API. Table 1 presents the Descriptive Statistics of these variables.

Table 1: Raw Summary Statistics

	Mean	Stand. Dev.	Min.	Max	N
Democracy Index	-0.07	18.70	-88.00	10.00	13336
VAP Turnout	0.62	0.20	0.02	2.24	3100
Internal Conflict	8.84	1.50	5.00	12.00	151
Perctg. of Pop. Under Rain $>$ 0 inches	0.09	0.18	0.00	0.99	286
Observations	14005				

Democracy Index is the Index with range values 0 - 10. *VAP Turnout* is the "*Voting Age Population Turnout*", which corrects the cases where it is required to register in any electoral agency, and *Internal Conflict* is an index with range values 0 - 12, where 0 indicates the highest risk of *Internal Conflict* while 12 the lowest risk of *Internal Conflict*. The variable *Percentage of Population Under Rain* $>$ 0 *inches* (abbreviated as Perctg. of Pop. Under Rain $>$ 0 inches) is my proposed Instrumental Variable. This variable measures the Percentage of Population that had *rainfall on an election date*. Then, a mean of 9% of the World's population had *rainfall in the last*

election day before 2016, while the minimum are countries where 0% of the population had *rainfall in the last election day before 2016* and the maximum are countries where 99% of the population had *rainfall in the last election day before 2016*. The details of how this instrumental variable is build and used are on Section 5.

One can note that the minimum and maximum values of *Democracy Index* and *VAP Turnout* are out of rank. For *Democracy Index*, values below 0 indicate change of regimes or international intervention. Attributing a value within 0 - 10 to those cases is hard, so I decided not to take into account the cases where those values appear. *VAP Turnout* also shows a maximum which is out of the possible range: 224% of Voting Age Population should have voted on that election. All values greater than 1 come from countries under authoritarian regimes. I suspect that those elections are fraudulent, hence the atypical values. For this reason, I do not take into account the cases were *VAP Turnout* is greater than 1 (100% of the Voting Age Population). Table 2 shows the Summary Statistics with this corrections.

Table 2: Corrected Summary Statistics

	Mean	Stand. Dev.	Min	Max	N
Democracy Index	6.45	3.69	0.00	10.00	2355
VAP Turnout	0.62	0.19	0.02	1.00	2998
Internal Conflict	9.17	1.41	5.00	11.00	50
Perctg. of Pop. Under Rain > 0 inches	0.09	0.18	0.00	0.90	250
Observations	2998				

On Table 3 I split the Summary Statistics between the Modern Democracies and the Other Countries. The goal is to have a better understanding of the evolution of Modern Democracies given that they are the main object of interest of this research.

In average, Modern Democracies perform better than the Other Countries in every area. An interesting fact is that for Modern Democracies the total average of the *Democracy Index* is above 9.5, implying that most of the Modern Democracies have

Table 3: Summary Statistics

Modern Democracies vs. Other Countries

	Mean	Stand. Dev.	Min	Max
Other Countries				
Democracy Index	4.71	3.44	0.00	10.00
VAP Turnout	0.60	0.19	0.02	0.99
Internal Conflict	8.78	1.42	5.00	11.00
Perctg. of Pop. Under Rain > 0 inches	0.03	0.09	0.00	0.67
Modern Democracies				
Democracy Index	9.57	1.34	0.00	10.00
VAP Turnout	0.67	0.17	0.13	1.00
Internal Conflict	10.27	0.56	9.50	11.00
Perctg. of Pop. Under Rain > 0 inches	0.22	0.23	0.00	0.90
Observations	2998			

had higher values of *Democracy Index* than the Other Countries consistently since 1900. This could be a signal of the persistence of Institutions: countries that today are not *Full-Democracies* have been stuck in lower levels of Democracy since 1900, while Modern Democracies may have inertia to stay as *fully-democracies* once reached that status. Not surprisingly, Modern Democracies rank higher in *Internal Conflict*, which is my variable of interest. This means that Modern Democracies have less risk of having *Internal Conflict* in 2016, year in which almost all Modern Democracies exhibited *Democracy Index* of 10.

5 Empirical Strategy

I have made clear that *VAP Turnout* is a *proxy* for *Represented Political Preferences* and I have also stated that *VAP Turnout* is likely endogenous. Naturally, this implies that OLS estimators would have both *attenuation bias* and *endogenous bias*, and so could not be interpreted as a causal effect. Given that my goal is to identify causal effects, I exploit exogenous variation of *rainfall in the election days*. This instrument

is relevant since it has been shown that rainfall has an impact in people attendance to political events, such as demonstrations (Madestam et al., 2013) and elections (Hansford and Gomez, 2010). As with most instrumental variable, the exclusion restriction is my major concern. Rainfall has been widely used as instrumental variables in several papers. However, I believe that it is unlikely that the instrument violates the exclusion restriction. First, elections are scheduled in advance without knowing the weather forecast and it is unlikely that they would be reschedule because of a rainy day. Second, I exploit exogenous variation of a specific short time-frame and it is doubtful any correlation with other variables that may affect *Democratic Stability* such as inflation or unemployment. Finally, this short time-frame shock has persistent effects since elections are held at least two-years apart, being then a reliable exogenous shock for Public Policy Decisions for at least two years.

To construct the instrumental variable, I follow Madestam et al. (2013) and adapt it to the nature of the database. Madestam et al. (2013) uses as instruments a *dummy* variable that indicates if there was more than 1 inches of rainfall in a demonstration day of the Tea Party movement, plus a variable that indicates the weather forecast for that day. Madestam et al. (2013) uses data at a county level, since they can clearly identify the cities in which the demonstration happened. My case is different, since both *Internal Conflict* and *VAP Turnout* are aggregated at a national level forcing me to adapt the instrument through the following procedure:

1. First, I identified elections day per country
2. Second, I collected information of precipitations of every city available for every election day for every country
3. Third, I follow Madestam et al. (2013) and create a *dummy* variable that takes

value 1 if a city had more than 0 inches of precipitation on an election day, and 0 if no precipitation happened

4. Fourth, I multiply this *dummy* variable by the share of the country's population living in every city of the country, for every country.

5. Fifth, I do a summation of the variable obtained in the fourth step, for every election day for every country. This gives me the *Percentage of the Population Under Rain on an Election Day*, for every election day and every country

6. Finally, I normalize the *Percentage of the Population Under Rain on an Election Day* by diving this variable by the Percentage of the country's population represented by the aggregation of all the cities available for the computation of the *dummy* indicating precipitation. This gives me *Percentage of Adjusted Population Under Rain > 0 inches*, the instrumental variable I use

The assumption I do when I use this instrumental variable is that the more population of a country is under rainfall in an election day, the lower the total *VAP Turnout*. This allows me to consider the variation within a country that may be lost by using other method such as weighted averages. Additionally, it permits me to not worry about changes in the distribution of the population that had rain on an election day. If one wanted to use a weighted average of rainfall per country as instrumental variable one should worry about changes in distributions, given that the weighted average may not change while the distribution did, leading to misguided conclusions since the variation produced by the change in the distribution of the population under rain in an election day is not captured.

For the implementation of the instrumental variable, I follow a similar approach as Madestam et al. (2013). In their First Stage, Madestam et al. (2013) control for

Rainfall Forecast on the demonstration day. I do something similar by controlling for the *forecast of the percentage of the population under rainfall in an election day*, variable that I call *Percentage of Population under Rain* > 0 *inches, Forecast*. This variable is the average of *Percentage of Adjusted Population Under Rain > 0 inches* across all election days that are related, for every country. The Summary Statistics of this instruments are shown in Table 4.

Table 4: Rainfall Instruments Summary Statistics

	Mean	Stand. Dev.	Min	Max
Other Countries				
Perctg. of Adj. Pop. Under Rain > 0 inches	0.09	0.24	0.00	1.00
Perctg. of Adj. Pop. Under Rain > 0 inches, For.	0.10	0.24	0.00	1.00
Modern Democracies				
Perctg. of Adj. Pop. Under Rain > 0 inches	0.44	0.39	0.00	1.00
Perctg. of Adj. Pop. Under Rain > 0 inches, For.	0.45	0.28	0.00	1.00
Observations	1483			

The Table shows that the Mean of both Adjusted Instruments for *Modern Democracies* and *Other Countries* are not statistically different. This means that for the population of the covered cities, on average both groups of countries have the same share of population under rainfall in election days. This may provide evidence that, on average, if there are any differences on the average *VAP Turnout* between this two groups of countries is not because their population face consistent differences on rainfalls on election day, but rather structural differences. I believe that this boost the main hypothesis of testing the impact of *VAP Turnout* on *Internal Conflict* for *Modern Democracies* separated from the *Other Countries*, given that the structural differences between the two groups are almost certainly because one group if fully democratic while the other is not.

The ideal model to test is the following:

$$LogIC_{i,t} = \mu + \delta VAPT_{i,t-1} + X'_{i,t}\phi + \nu_{i,t} \tag{1}$$

where $LogIC_{i,t}$ is the natural logarithm of *Internal Conflict* od country i in year t, and $VAPT_{i,t-1}$ is the *VAP Turnout* of the country i in the election $t-1$ which is the *closest* past election to the measure of *Internal Conflict*, which is only available for time $t = 2016$. Hence, if an election was held on 2016 I do not use the *VAP Turnout* of that election, but the *VAP Turnout* of the closest past election. Finally, $X_{i,t}$ is a vector of controls and $\nu_{i,t}$ the error term.

The ideal would be to estimate this only for the countries I considered as *Modern Democracies*, but given the small amount of observations there would be no statistical power. To face this, I adjust model (1) as follows:

$$LogIC_{i,t} = \mu + \delta VAPT_{i,t-1} + \theta VAPT_{i,t-1} \times MD + X'_{i,t}\phi + \nu_{i,t} \tag{2}$$

Where the new variable $VAPT_{i,t-1} \times MD$ is the interaction between $VAPT_{i,t-1}$ and the *dummy* that indicates if a country is *Modern Democracy*. Then, my coefficient of interest will be θ, which is the effect of *VAP Turnout* in *Modern Democracies* over *Democratic Stability* measured as *Internal Conflict*. Given that higher values of the variable *Internal Conflict* mean lower risk of *Internal Conflict*, I expect $\theta > 0$ to found evidence in favor of the hypothesis.

As $VAPT_{i,t-1}$ may measure the *Represented Political Preferences* with error and may also be endogenous, so may be $VAPT_{i,t-1} \times MD$. To face this, I propose to instrument $VAPT_{i,t-1} \times MD$ with the instruments I have discussed in this Section.

Thus, the First Stage Equation is as follows

$$VAPT_{i,t-1} \times MD = \pi_0 + \pi_1 PAPUR_{i,t-1} + \pi_2 PAPUR\_Fi, t-1 + \epsilon \tag{3}$$

Where $PAPUR_{i,t-1}$ is the *Percentage of Adjusted Population Under Rain* > 0 *inches* in election day on $t-1$ and $PAPUR\_Fi, t-1$ is the *Percentage of Population Under Rainfall* > 0 *inches, Forecast Adjusted*. Table 5 shows the results of the First Stage:

Table 5: First Stage of proposed instruments over *VAP Tournout* × *Modern Democracies*

	(1) Past VAP Turnout × MD	(2) Past VAP Turnout × MD
Past Perctg. of Adj. Pop. Under Rainfall > 0 inches	-0.178	-0.564***
	(0.154)	(0.136)
Perctg. of Pop. Under Rainfall > 0 inches, For. Adj.	0.753***	0.634***
	(0.180)	(0.145)
Past Perctg. of Adj. Pop. Under Rainfall > 0 inches × MD		0.733***
		(0.108)
Constant	0.0639*	0.0683***
	(0.0323)	(0.0259)
Observations	83	83
F-Statistic of Excluded Instruments	22.13	38.31
Anderson Canon. (Underidentification Test)	29.567	49.191
Cragg-Donald (Weak Identification)	22.134	38.315

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Equation (1) shows that *Percentage of Adjusted Population Under Rain* > 0 *inches* has a negative effect over *VAP Turnout* $\times$ *Modern Democracies* as expected, although it is not statistically significant different from zero. The variable *Percentage of Population Under Rainfall* > 0 *inches, Forecast Adjusted* has a positive and statistically significant coefficient. Despite the no-significance of the main instrument, both instrument together show a strong First Stage. The F-Statistic of Excluded Instruments is 22.13, showing the relevance of both instruments. The Anderson Canon Statistic for Underidentification is 29.567, which allows to reject the null of underidentification. Finally, the Cragg-Donald Statistic is 22.134 showing evidence that the instruments are not weak.

Given that my interest is the effect of *VAP Turnout* in *Modern Democracies*, the variable of interest is the interaction *VAP Turnout* $\times$ *Modern Democracy*. I take advantage of this, and create a third instrument by interacting *Percentage of Adjusted Population Under Rain* > 0 *inches* with the *dummy Modern Democracy*, which is the third variable in the Table and it is denoted by $PAPUR_{i,t-1} \times MD$. I include this instrument on specification (2). With this addition, *Percentage of Adjusted Population Under Rain* > 0 *inches* has a negative and significant effect as one would expect, but the interaction of this variable with *Modern Democracy* is positive, implying that the overall effect of *Percentage of Adjusted Population Under Rainfall* has a positive impact on *VAP Turnout* $\times$ *Modern Democracy*. The addition of this third Instrument gives better performance in every statistic, suggesting that the three instruments together are relevant and not weak.

In summary, the First Stage of the proposed instruments over the variable of interest shows strong results, suggesting that the condition of relevance is fulfilled.

6 Results

I follow the preceding section, but first estimating the model (2) by OLS. Table 6 shows the results.

Table 6: OLS estimators of *VAP Tournout* × *Modern Democracy* over *Log Internal Conflict*

	(1) Log IC	(2) Log IC	(3) Log IC	(4) Log IC	(5) Log IC	(6) Log IC
Past VAP Turnout × MD	0.296***		0.276***	0.258***		0.231***
	(0.0540)		(0.0539)	(0.0518)		(0.0516)
Past Election VAP Turnout		0.235***	0.171**		0.276***	0.205**
		(0.0815)	(0.0753)		(0.0839)	(0.0792)
Unemployment Rate (%)				0.145	0.287	0.156
				(0.297)	(0.312)	(0.290)
Inflation Rate (%)				-0.0933*	-0.133**	-0.0980*
				(0.0553)	(0.0577)	(0.0540)
Constant	2.108***	2.013***	2.008***	2.120***	1.990***	2.001***
	(0.0175)	(0.0520)	(0.0474)	(0.0265)	(0.0569)	(0.0527)
Observations	125	125	125	118	118	118

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The OLS estimators show that there is a positive correlation between *VAP Turnout* × *Modern Democracy*, *VAP Turnout* and *Log Internal Conflict*. Given that higher values of *Internal Conflict* mean lower risk of *Internal Conflict*, the positive correlation implies that an increase in *VAP Turnout* × *Modern Democracy* decreases the risk of *Internal Conflict*, which is in favor of my hypothesis. Specification (3) includes the variable of interest and *VAP Turnout*. The variable of interest remains positive and significant, while *VAP Turnout* is also positive and significant. The magnitude of these estimation suggest that in *Modern Democracies* an increase of one percent point in *VAP Turnout* lower the risk of *Internal Conflict* by an extra 0.276%. Considering the base effect, the total effect of an increase of 1 percent point in *VAP Turnout* for *Modern Democracies* lower the risks of *Internal Conflict* by 0.447%, all other things

equal.

All these correlations cannot be interpreted as causal effect given the problems of measurement error and endogeneity. In fact, when controling for observable that may correlate with *Internal Conflict*, the coefficient of *VAP Turnout* × *Modern Democracy* drops from 0.296 to 0.231, showing that the estimation is sensible to the addition of controls, probably because there is *omitted variable bias*. Under the proposed empirical strategy, I may get rid of *endogeneity, omitted variable and attenuation bias*. The results following the empirical strategy discussed in Section 5 are presented in Table 7.

Table 7: IV estimators of *VAP Tournout* × *Modern Democracy* over *Log Internal Conflict*

	(1) Log IC	(2) Log IC	(3) Log IC	(4) Log IC	(5) Log IC
Past VAP Turnout × MD	0.307***	0.344***	0.302***	0.327***	0.301***
	(0.105)	(0.0814)	(0.0789)	(0.0757)	(0.0764)
Past Election VAP Turnout			0.306***		0.188*
			(0.0986)		(0.103)
Unemployment Rate (%)				-0.195	-0.204
				(0.325)	(0.316)
Inflation Rate (%)				-0.0803	-0.0845
				(0.0549)	(0.0535)
Constant	2.116***	2.109***	1.938***	2.141***	2.036***
	(0.0268)	(0.0239)	(0.0582)	(0.0339)	(0.0647)
Observations	83	83	83	79	79
Instruments					
$PAPUR_{i,t-1}$	Yes	Yes	Yes	Yes	Yes
$PAPUR\_Fi, t-1$	Yes	Yes	Yes	Yes	Yes
$PAPUR_{i,t-1} \times MD$	No	Yes	Yes	Yes	Yes
Sargan Test *p-value*	0.2525	0.4476	0.5188	0.2924	0.3483

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The IV results show that the coefficients are also positive and statistically significant. For my preferred combination of instruments $PAPUR_{i,t-1}$, $PAPUR\_Fi, t-1$ and $PAPUR_{i,t-1} \times MD$, the magnitude of the coefficient of the variable of interest is greater than in their OLS equivalent, which may be suggesting the reduction of the *attenuation bias* given that *VAP Turnout* is measuring *Represented Political Preferences* with error. This result show that under the assumptions of the instruments, an increase in the *Represented Political Preferences* reduces the risk of *Internal Conflict* in *Modern Democracies*, which is evidence towards the hypothesis of higher Democratic Stability when the *Represented Political Preferences* increase.

On Section 5 I show the strong of the First Stage, which should clear out doubts about the relevance of the instruments. All tests performed successful, providing evidence to reject underidentification and weak instruments null hypothesis. Thus, I have to take care about the validity of the exclusion restriction. The first approach is to check the Sargan Statistic of Overidentification, which I can do given that I have more instruments than endogenous variables. The *p-values* of the test are provided on Table 7. The null hypothesis of the Sargan Test is that the instruments are valid. Thus, rejecting the null provides evidence against the exclusion condition of the instruments. In contrast with the OLS estimation, the IV result of my variable of interest does not show statistically significant changes.

The *p-values* of all specifications are greater than 0.10, so I cannot reject the null hypothesis of valid instruments at a 10% level of significance. Thus, there is no statistical evidence to say that the instruments would be violating the exclusion restriction. Also, notice that the preferred combination of instruments ($PAPUR_{i,t-1}$, $PAPUR\_F_{i,t-1}$ and $PAPUR_{i,t-1} \times MD$) gives a higher *p-value*, which reinforces my

preference.

Not rejecting the null hypothesis in the Sargan Test for overidentification may not be enough evidence towards the validity of the propose instruments, since the Sargan Test may fail to reject the null by construction. Therefor, I believe I should provide more evidence that suggest the validity of the instrument. For this, in Section 7 I present a Placebo/Falsification Test, an additional regressions with other variables that may be related to *Democratic Stability*.

7 Placebo Test and Robustness Checks

I begin by performing a Placebo Test in Subsection 7.1 and then I finish by replicating in Subsection 7.2 the regressions presented in Section 6. In this replication, I replace *Log Internal Conflict* by other dependant variables that may also be related with *Democratic Stability*.

7.1 Placebo Test

I assume that the *VAP Turnout* of an election is a *proxy* of the *Represented Political Preferences* that will later decide the *Implemented Public Policy Menu* according to the median *Represented Political Preference*. Also, I have shown evidence that *Percentage of Adjusted Population Under Rain > 0 inches* in an election day has a strong effect on the *VAP Turnout* of the same election day. Then, the causal scheme that supports the use the proposed instruments is that the *Percentage of Adjusted Population Under Rain > 0 inches* of the election in $t-1$ affects the *Log Internal Conflict* in t only through *VAP Turnout* in $t-1$.

Given the sequence of the events, a natural placebo test would be to instrument *VAP Turnout* in $t-1$ with the *Percentage of Adjusted Population Under Rain > 0 inches* of the election in $t+1$. Since the *Percentage of Adjusted Population Under Rain > 0 inches* in $t+1$ have not occurred in $t-1$, then I should find that the effect of *VAP Turnout* in $t-1$ over *Log Internal Conflict* in t is not statistically different from zero. If I find that there is statistically significance, then using the instrument would be wrong, as future rain cannot impact previous *VAP Turnout* because of the sequence of the events. The results of this placebo test are shown in Table 8.

Table 8: Placebo test using *Percentage of Adjusted Population Under Rain > 0 inches* in $t+1$ as instrumental variable

	(1) Log Internal Conflict
Past VAP Turnout × Modern Democracy	0.169
	(0.127)
Constant	2.161***
	(0.0443)
Observations	27

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The result using my preferred combination of instruments is as expected, that is, I find no statistically significance effect of *VAP Turnout* of the elections before 2016 on *Log Internal Conflict* when I instrument *VAP Turnout* of the elections before 2016 with the *Percentage of Adjusted Population Under Rain > 0 inches* in an election day after 2016. I believe this support the validity of the proposed instrument.

Another placebo test I propose is estimating the effect of *VAP Turnout* in $t+1$ on *Log Internal Conflict* in t, instrumenting *VAP Turnout* in $t+1$ with the *Percentage of Adjusted Population Under Rain > 0 inches* of that election day. The *Percentage of Adjusted Population Under Rain > 0 inches* of the election day of the *VAP Turnout* in

$t+1$ is a relevant instrument, as I showed that the *Percentage of Adjusted Population Under Rain > 0 inches* of the election day of the *VAP Turnout* in $t-1$ is relevant. If *Percentage of Adjusted Population Under Rain > 0 inches* truly identifies causal effects, then it should identify the causal effect of *VAP Turnout* in $t+1$ over *Log Internal Conflict* in t. Given that *VAP Turnout* in $t+1$ occurs *after Log Internal Conflict* in t, I should find no statistically significant effect. This test result is shown in Table 9.

Table 9: IV estimators of *VAP Tthenout* × *Modern Democracy* over *Log Internal Conflict*

	(1) Log Internal Conflict
Past VAP Turnout × Modern Democracy	
Future VAP Turnout	1.231 (0.762)
Constant	1.462*** (0.460)
Observations	27

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results show that the effect is not statistically different from zero, providing another piece of evidence in favthe of the proposed instruments.

7.2 Robustness Checks

In this Section, I replicate the estimations of Section 6 but using alternative measures to *Internal Conflict*, that may also be a measure of *Democratic Stability*. The variables I use are *Log of Law and Order*, *Log Risk Rating* and *Log Gov. Stability*. All these variables are provided by the free sample of the ICRG provided by PRS, and so they

are also only available for $t = 2016$.

Table 10: IV estimators of *VAP Tthenout* × *Modern Democracy* over alternative measures of *Democratic Stability*

	(1) Log L & O	(2) Log Risk Rating	(3) Log Gov. Stability
Past VAP Turnout × MD	0.763***	0.470***	-0.155**
	(0.157)	(0.0746)	(0.0730)
Constant	1.145***	4.103***	2.000***
	(0.0461)	(0.0219)	(0.0215)
Observations	83	83	83
Instruments			
$PAPUR_{i,t-1}$	Yes	Yes	Yes
$PAPUR\_Fi, t-1$	Yes	Yes	Yes
$PAPUR_{i,t-1} \times MD$	Yes	Yes	Yes
Sargan Test *p-value*	0.5038	0.8762	0.4342

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10 reports the replications of the specification (2) found in Table 7 for *Log of Law and Order*, *Log Risk Rating* and *Log Gov. Stability*. First, note that the Sargan Test *p-value* provide evidence in favor of the exclusion restriction.

As with *Internal Conflict*, all these indexes mean that a higher value imply better performance, so a positive effect of the variable of interest provides additional evidence in favor of the hypothesis. Specifications (1) and (2) report that the variable of interest has a positive an statistically significant effect over *Law and Order* and *Risk Rating*. In particular, a one percent point increase in the interaction between *VAP Turnout* and *Modern Democracy* increases *Law and Order* by 0.763%, while a one percent point increase in the interaction between *VAP Turnout* and *Modern Democracy* increases *Risk Rating* by 0.47%. Thus, higher an increase in the variable of interest implies better *Law and Order* enforcement and lower *Risk Rating*, in line with the results of Section 6. This means that the identification strategy is robust to

alternative measures of *Democratic Stability*, providing additional evidence in favor of the hypothesis. Specification (3) of Table 10 shows that the variable of interest have a negative impact over *Government Stability*. This means that higher *VAP Turnout* in *Modern Democracies* causes lower levels of *Government Stability*. Although this could look counterintuitive, it is not. *Government Stability* is constructed by looking at parliament dissolution or call to elections in countries that are *Modern Democracies*, as the cases of the parliamentary government system. Thus, this *Government Stability* would not be a measure of *Democratic Stability*, as changes in parliament are in fact part of the democratic system.

Table 11: IV estimators of *VAP Tournout* × *Modern Democracy* over alternative measures of *Democratic Stability*

	(1) Log L & O	(2) Log Risk Rating	(3) Log Gov. Stability
Past VAP Turnout × MD	0.800***	0.452***	-0.133*
	(0.161)	(0.0760)	(0.0736)
Past Election VAP Turnout	-0.266	0.131	-0.159*
	(0.201)	(0.0949)	(0.0919)
Constant	1.294***	4.029***	2.089***
	(0.118)	(0.0560)	(0.0543)
Observations	83	83	83
Instruments			
$PAPUR_{i,t-1}$	Yes	Yes	Yes
$PAPUR\_Fi, t-1$	Yes	Yes	Yes
$PAPUR_{i,t-1} \times MD$	Yes	Yes	Yes
Sargan Test *p-value*	0.5744	0.9331	0.4992

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11 replicates the results shown in Specification (3) in Table 7. Again, the addition of *VAP Turnout* does not produces statistically significant changes of the effect of the variable of interest. Also, the Sargan Test *p-values* also provides evidence

in favor of the exclusion restrictions.

Table 12: IV estimators of *VAP Tournout* × *Modern Democracy* over alternative measures of *Democratic Stability*, adding controls

	(1) Log L & O	(2) Log Risk Rating	(3) Log Gov. Stability
Past VAP Turnout × MDy	0.764***	0.452***	-0.141**
	(0.152)	(0.0753)	(0.0697)
Past Election VAP Turnout	-0.145	0.124	-0.253***
	(0.205)	(0.0943)	(0.0938)
Unemployment Rate (%)	0.170	-0.364	
	(0.629)	(0.309)	
Inflation Rate (%)	-0.406***		-0.156***
	(0.106)		(0.0486)
Constant	1.249***	4.062***	2.162***
	(0.129)	(0.0620)	(0.0552)
Observations	79	83	79

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In Table 12 I control for the same observables I used on Section 6, to check the robustness of the coefficient of *VAP Turnout* in *Modern Democracy*. The results show that all coefficient do not have changes that are statistically significant compared to the estimators in Table 11.

I believe that all the evidence that I provide in this Section reinforces the evidence in favor of the hypothesis, as well as the selected instrumental variables in order to find causal effects. Given this, the empirical strategy finds evidence of a positive effect of *VAP Turnout* in *Modern Democracy*. *VAP Turnout* measures *Represented Political Preferences* with error. Under the empirical strategy, I get rid of the mismeasured variable problem, implying that there is evidence suggesting a causal effects that the

more *Political Preferences* that are represented in the Democratic Institutions, the higher the *Democratic Stability* will be.

8 Conclusion

Democratic Instability is frequently associated with non *Fully-Democratic* countries that also have Weak Institutions. I have argued that *Democratic Instability* can also arise in *Fully-Democratic* countries, and that the explanations cannot be lack of Democracy or Weak Institutions since by definition these countries are *Fully-Democratic* and their institutions are strong. Instead, I claimed that if the democratic institutions fail to represent the majority of the citizens' Political Preferences the citizens' will turn to non-democratic channels to demand their preferred Public Policy Menu causing Democratic Instability, even if Institutions are *fully-democratic* and strong.

To test this hypothesis, I estimated THE impact of *Voting Age Population Turnout (VAP Turnout)* as *proxy* of *Represented Political Preferences* over *Internal Conflict* as a measure of *Democratic Instability*. The estimates under the empirical strategy suggest causal evidence that *VAP Turnout* in *Modern Democracies* may increase the level of *Democratic Stability*. Under the empirical strategy I get rid of the measurement error of *VAP Turnout*, and so the estimates suggest a causal positive effect of the *Represented Political Preferences* in the Democratic System over *Democratic Stability*.

I performed two placebo test to provide evidence of the validity of the empirical strategy, which were successful. Additionally, I checked the robustness of the results by estimating the causal effect under the empirical strategy of *VAP Turnout* and other measures of *Democratic Sstability* provided by ICRG. All alternative estimations show results consistent with Section 6 and therefore with my hypothesis.

My hypothesis could sound somewhat contradictory to many readers, since they would expect that in *Fully-Democratic* countries citizens reveal their Political Preferences by electing Representatives. That is not totally correct. I have shown that *Fully-Democratic* countries have on average a *VAP Turnout* of 67%. Given that *VAP Turnout* may be a reliable set of the Represented Political Preference (Acemoglu, 2003; Fujiwara, 2015), an average of 37% of the citizens' Political Preferences are not being represented in *Full-Democracies*' Democratic Institutions. Even if the institutions are *Fully-Democratic*, this 37% of Political Preferences may not be considered when implementing the Public Policy Menu. At some point, those citizens' will turn to non-democratic channels that may cause Democratic Instability.

Other readers may ask the obvious: why do not those citizen vote? The answer is beyond the scope of thia paper, although evidence shows that there may be exogenous obstacles (Fujiwara, 2015), that voting is an habit that has to be formed (Fujiwara et al., 2016), and also it could be the response to citizens' emotions (Passarelli and Tabellini, 2016). Additionally, this question and the evidence available allows to make a clear distinction between two closely related concepts that are often confused: the *weight* that the Democratic Institutions put in the voters' Political Preferences and the *scope* of the citizens' Political Preferences that are represented in the Democratic Institutions. If the Democratic Institutions are designed to favor certain group by giving a weight to their preferences in the Democratic Institutions that is higher than the share these preferences have in the whole society, no matter if 100% of the citizens vote, the implemented Public Policy may never be the median citizen's preferred menu. This in turn may lead citizens to cause Democratic Instability, since they are facing *Captured Democracy*. Conversely, no matter how well the Democratic Institutions were designed to give equal weight to every vote. If the majority or a great minority of the citizens do not vote, the Implemented Public Policy Menu could

also differ from the median citizen's preferred menu, which in turn may push citizens to produce Democratic Instability as in the Captured Democracy case, even though the institutions are *Fully-Democratic*.

These results may suggest that there are important Public Policy implications. *Fully-Democratic* countries should aim to increase the scope of Political Preferences that the Democratic Institutions are representing. Lowering the cost of voting, improving the information about elections, or making vote compulsory are policies that may be considered if Voters Turnout is low.

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