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ELECTORAL PARTICIPATION:

Replicating and extending models of voter turnout

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INTRODUCTION

"The ballot is stronger than the bullet"

Abraham Lincoln[1]

The act of "casting a ballot" represents one of the very fundamental elements of modern democracies, and a pillar of the democratic ideal of political equality. Voting is a formal expression of the individual's choice that legitimates democracy as the "government by the people".

The underlying element behind the voting institute is the concept of representativeness: this idea, traceable back to the earliest democratic institutions of the ancient Greece, aims to select the leadership of a country so that it is representative of the will of the majority of the citizens. To this purpose, voting is a fundamental instrument for people living in democratic countries to have their voice heard.

Such a picture is an highly simplified version of the complex process that goes from casting a ballot to leaders' election, nevertheless the idea behind voting is basically that one of making citizens' voice heard through elected representatives.

The importance of voting made the study of turnout levels across democracies an important aspect of political studies. This interest rose even more when, around the eighties, established democracies started to face a generalized lowering of the affluence to ballot boxes.

To identify possible reasons of the decreasing turnout trend, a country by country analysis should be conducted as the same outcome could be due to opposite

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[1] In *The Writings of Abraham Lincoln,* ed. Arthur Brooks Lapsley (1905), there is a reconstruction, forty years later, of a speech to the first Republican state convention of Illinois, Bloomington, Illinois, May 29, 1856, in which this sentence appears (vol. 2, p. 269);
Other uses of his contrast of ballots and bullets, that confirm this reconstruction, can be found in his message to Congress of July 4, 1861, "That ballots are the rightful, and peaceful, successors of bullets; and that when ballots have fairly, and constitutionally, decided, there can be no successful appeal, back to bullets" (vol. 4, p. 439); and in a letter to James C. Conkling, August 26, 1863, "There can be no successful appeal from the ballot to the bullet" (vol. 6, p. 410).

dynamics. Voters may vote less because they are critic towards politics or because they are so confident in their institutions and political class that a change in government composition would not in any case affect them in a negative way.

This is the reason why the main focus of the investigation was on explaining generally what fosters or decreases on average the level of turnout. The huge literature over the topic provides no great space for methodological novelties nevertheless, as new dataset are collected, even the update and the revision of previous works can be relatively interesting.

Therefore, to analyse the interactions between ideology, party system features and voter turnout, rely on previous works is preferable in order to reach more solid outcomes.

For this reason, this work presents the a voter turnout analysis through the replication and the revision of the research of Curini, You and Memoli in "Why Policy representation matters"(2015) and of the analysis led by Kittilson and Anderson in chapter 2 of R.J Dalton book Citizens, Context, and Choice (2011).

CHAPTER 1: THEORETICAL FRAMEWORK

The issue of voting, in opposition to the choice of abstaining, has been widely debated due to the importance it has for the legitimacy of the democratic institute. The investigation produced two main traditions that dominate the literature over the topic: each of them corresponds to a different perspective from which the analysis can be started. Similarly to the economic studies, a micro approach looks at individual level dimension while a macro one considers the phenomenon in its totality.

The rational choice approach represents the beginning of the micro level tradition: it aims to explain the aggregate turnout level looking at the single citizen and to his utilitarian calculus when choosing to vote or not. Such perspective has proved to be quite controversial both for its counterintuitive findings and for objective difficulties in its empirical applications.

Nevertheless, the inheritance of this idea over the individual level explanation of the affluence to the polls is still present in the current research, as many characteristics are considered, and proven, to be effectively explanatory variables of the voter turnout.

The macro approach uses instead the opposite perspective: taking a step back the idea is to comprehend in the analysis not only the citizens and the electoral affluence, but the whole institutions of a State that might influence the perception of citizens and so their propensity to vote.

As both traditions have been discussed and developed widely, to provide a theoretical background for the work, here it will be presented a short overview about the two stream of research originated by the turnout issue, their main development phases and the current state of literature.

1.1 The micro level

In 1957, Anthony Downs, in his "An Economic Theory of Democracy"[i], introduced the idea that behind the individual decision of voting there is a rational calculus. This innovative approach was the results of the economic framework that

Downs brought to political science: his rationale to import this analytical instrument was that, in real economy, State entity represents one of the key actor so he thought that it was necessary to investigate it from an economic perspective.

The basic comparative idea in the book is that, as the individual consumer is studied in order to have a deeper knowledge over the economy at the aggregate level, the same can be thought over politics: the individual citizen, with his actions and decisions, affects the political outcomes that in turn, determine the state policies. Furthermore, the citizen-politician relationship can be associated to the consumer-producer dynamic.

To the extent of this work, the focal element of the downsian analysis is the introduction of the rational calculus of voting choice, which represents the first attempt to formalize the individual level decision making process over voting.

The conceptualization of rationality used by the American scholar, recalls the one used in the economic field: it is a narrow concept that only evaluates the choice of the best action to reach the preferred outcome, without questioning the preferences. An every day example might be the one of a football fan that waits in line hours to get a sit next to the pitch: since his utility will be maximized watching the match from the first row, such behaviour is rational with no concerns over which outcome maximises his utility.

Such approach assumes that the political function of elections is to select a government and thus the only rational behaviour is the one oriented to this purpose. The subject of the downsian analysis is a re-edition of the "homo economicus" in a political dress, a rational citizen in a stylized model of democracy.

While the consumer's utility comes from economic transactions, the citizen will instead look at those benefits coming from the government activities that can nevertheless be assumed to be forms of utility. Different government would mean for the citizen different levels of utility: the voting calculus is focused on this aspect as the rational citizen will aim to maximize this utility like the consumer does.

The voter then chooses the party which, in his opinion, will provide him the higher level of utility, comparing expected utilities of possible alternative governments.

But what is more relevant for the topic of this work is the calculus that Down's citizen carry out once the difference, in terms of utility, between alternative

governments has been figured out. This calculus affects the decision of reaching the polls to cast a ballot or not.

Downs considered relevant for this choice: the utility gained in the case of the election of the preferred party; the probability that the single ballot casted by the citizen is decisive, that is to say the chances that the single citizen's decision of voting or not will change the electoral results; and last, the costs of the act of voting, that can be thought as time necessary to reach the polls and the related expense.

These elements are summarized by Downs in this analytical expression:

$R = P * B - C$

where R stands for the "reward" in terms of utility gained by the rational citizen from voting in a given election; P indicates the probability that the one vote casted by the single citizen is decisive, B indicates the individual's benefits if the preferred candidate wins the election and, finally, C summarizes the costs of voting (informational, physical, opportunity, etc.).

The rational citizen will decide to vote whenever $R>0$ while he will choose to abstain if it is not.

At this stage the main problematic issue arises as this formalization leads to the so called voter's paradox: according to Down's result, every citizen would in fact rationally choose not to vote. This counterintuitive finding is mainly due to the fact that the probability of a single vote to be the decisive one is a number in the order of 10^{-8} meaning that a so small number multiplied for B will never be greater than the cost linked to voting even if the estimated benefit is extremely high.

Even though Downs himself recognized his analysis to be incomplete, those paradoxical results were at the centre of the debate in the following years.

In 1968, Riker and Ordeshook, in their "A theory of the Calculus of Voting" effectively made the first step to go through it. Their main contribution to the downsian analytic framework was to introduce inside the equation of the rational calculus of voting, an element that represented the personal satisfaction for the citizen given by the act of voting its-self.

Riker and Ordeshook claimed that citizens often do not vote just with the purpose of gaining the highest level of utility from the government but they also vote to

feel fine with them selves and have some sort of satisfaction different from utility, meant in an economic way.

The possible sources of these positive spillovers of voting can be thought as the satisfaction from compliance with the ethic of voting, the sense of allegiance to the political and social system and more broadly the satisfaction of demonstrating the individual efficacy within a democratic system.

Although all these, and eventually other similar, motivation might be less straight away compared to the economic equivalence of expected utility and costs, they still play a key role in the single citizen decision making process about voting.

Riker and Ordeshook incorporate then all these behavioural and ethic sources of positive spillovers into a new factor of the downsian equation for the calculus of voting called D, coming to a new formulation that is:

$$R = P * B – C + D$$

Once this step was made, the authors themselves, pointed out that in spite of the fact that coming to a positive R was now feasible, to make their outcome convincing, the P * B - C side of the equation needed to be discussed otherwise the calculus would depend on habits and beliefs only notwithstanding judgment about the political situation.

Through out an empirical analysis of the P term and B one, Riker and Ordeshook show that the probability might be perceived to be higher than it actually is, for example when a strong mobilization campaign is led or in the case of a close race for extremely important positions as Presidency is; about B, they suppose as well that the expected benefits might be perceived as far bigger than previously supposed. In this way their refinement of the downsian equation gains strength and reliability.

“A theory of the Calculus of Voting” represents a fundamental step in the development of the analysis of the turnout phenomenon from the micro level perspective even though some problematic elements have to be pointed out.

To the extent to which voting is a political activity, and requires then a collective perspective, the voter of this model is on the contrary extremely individualistic because in his calculus no other than the effect of vote on his own is taken into account. Furthermore, what is also not considered is the collective dimensions in which the individual voter might be involved, like social groups, associations or political affiliation.

Although it is still debated from a theoretical point of view, the rational calculus of voting has been left aside in the empirical studies because it is extremely difficult to evaluate something like the expected utility of a single voter or the costs bared to be informed. Nevertheless the investigation over the individual level determinants of the voting kept on developing.

In 1971, Verba and Nie worked on a predictive model of participation based on economic situation and education finding evidence that the strongest causes of deviation were organizational membership and group consciousness, confirming the relevance of those aspects neglected by the rational calculus approach. Following studies by Verba and Nie (1976) and the analysis of other scholars, like Wolfinger and Rosenstone (1980), presented again the same indication over the relevance of the context in which the single voter is located, strengthening the idea that the social context matters for the political decisions.

Through out the analytical investigation of the individual characteristics of voters, relatively coherent results have been reached. The studies of Leighley, J Nagler (1992), RJ Timpone (1998) and then A Blais, A Dobrzynska (1998) provided a new framework for the analysis of turnout building models where the individual characteristics were analysed jointly to the systemic ones.

The main methodological stream of analysis, started with Verba and Nie in 1971 was that the individual level characteristics were captured through aggregate level variables creating a bias between the purpose of the research and the effective data used. Those researches however represent fundamentals in refining the investigation instruments for voter turnout.

1.2 The macro level

Opposite to the individual calculus approach, a different tradition over the years has tackled the turnout matter from an aggregate perspective.

Since 1982, with Powell's book "Contemporary Democracies" that identified electoral participation as an important indicator of democratic performance, a wide stream of research has developed about electoral turnout. Powell himself contributed again to the first steps of the study on this topic with an article in 1986, published on the

"American Political Science Review", and the following year another article following the same ideas, even though using a different perspective, was wrote by Jackman, on the same publication.

Powell earlier work examined the levels of turnout in a dataset of 17 countries around 1970, finding a positive relationship with "national competitive districts" and with "strong group party linkages". His main concerns were about the United States context and, in the light of the analysis, was able to claim that the American low turnout was due to the institutional context since the party-group linkages, on which the model was centred, did not show relevant differences compared to other countries.

Jackman's article, dated 1986, even though recovering Powell's path, was much more refined and, due to its convincing structure, settled the research agenda for the following analysis. The model was run on the turnout levels of 19 countries again in the seventies but produced clearer results, identifying five institutional variables that affected the electoral affluence. Nationally competitive districts, electoral disproportionality, party system structure, unicameralism and compulsory voting represented the first formalized set for the macro-level approach to the study of voter turnout.

The research from that moment on has variously investigated those institutional elements, such as the electoral system or the number of legislative chambers, that represent potential explanatory variables of the turnout level in a country.

One of the main focuses has been over the effects of the different electoral systems on the voter turnout. Scholars, like, Jackman (1987), Jackman and Miller (1995), Blais and Dobrzynsky (1998) and Franklin (2002) widely agreed over the statement that proportional electoral systems are associated to higher turnout levels. This belief has been also corroborated by Gosnell (1930), whose report showed that turnout in Switzerland rose by 20% after it changed its electoral system from plurality to PR in 1919, and by Karp and Banducci (1999) that highlighted the reversal of the downward trend in electoral turnout in the 1996 post-reform New Zealand elections.

Given these apparently unambiguous findings, what is effectively puzzling is the explication for this relation. In Selb (2009), the idea that PR systems foster turnout facilitating the emergence of parties has been proven to be empirically not sustainable,

as already claimed by Blais and Aarts' (2006), suggesting instead that the nexus could be due to district level differences.

Furthermore, what Selb also theorize is that the effect of the proportional system might be due to the higher level of competitiveness as PR electoral systems allow more competitors to be effectively present on the political scene.

This point introduces the question that electoral laws contribute too shaping a relevant determinant of the electoral turnout variance, that is the structure of the party system as supported by Rae (1967) and Lijphart (1990). This element could represent a possible issue of endogeneity because the interaction of electoral system and party system might lead to spurious effects on the voter turnout.

However the configuration of the political arena was early included in turnout studies: the party system was initially characterized by the effective number of parties and later by the polarization. The debate over the former index has been summarized by Blau (2008) while the latter is a relatively new one: polarization was in fact formalized by Dalton in 2008 with the scope of providing a better indicator of the party system features, capturing the quality of the offer instead of the quantity.

The earlier intuition about the relationship that occurs between the shape of the political system and turnout was that higher the number of parties, higher the electoral affluence: the reasons for such a statement was first that it should give voters more options to choose from and secondly, that a larger number of parties should imply a broader mobilization.

Notwithstanding, different empirical studies failed in proving this argument, coming to the negative relationship between effective number of parties and turnout, like Blais and Carty, (1990) or Brockington, (2004). This nil finding is extremely important as it does not just prove that the first hypothesis over the effect of party system was incorrect but it also highlights that if PR electoral systems foster turnout it is not through the higher number of parties effectively competing.

Polarization could instead lead to both positive or negative effect from an aprioristic point of view: it is in fact possible that more polarization means more mobilization, hence higher turnout, but it is equally reasonable to suppose that a polarized party system could rise the distance between median voters and political

debate. Here findings are more coherent showing a general negative trend that corresponds to the latter hypothesis suggested.

Bringing back the discussion over institutional variable in shaping the electoral turnout, another key element is the legislative setting: from perfect bicameralism to unicameralism, the parliamentary set up influences the perception of the relevance of elections for voters, leading to higher or lower turnout levels.

Even though the very first findings investigating the impact of unicameralism were ambiguous, as Jackman (1987) identified a positive impact while Blais and Carty (1990) found no effect, latter studies came across with strong positive correlation, thanks to an improvement of the operationalization of the concept, like Blais and Dobrzynska (1998), whose "electoral decisiveness" variable that adds also federal elections and presidential ones to the parliamentary structure.

Broadly speaking, it can be stated that the salience of an institution should increase the level of turnout for its election even though so far no unambiguous finding was presented.

Another element that is related to the parliamentary set up is the parliamentary responsibility studied by Franklin (2004). The hypothesis that the strong parliamentary responsibility fosters turnout and vice versa, seems to be corroborated by the study cases of Malta's independence, where the increase of responsibility for the new independent parliament raised the electoral turnout, and by the Swiss case, where the creation of a government cartel that made elections almost useless, depressed the affluence to the ballot.

The last institutional element that is crucial to the extent of an analysis of electoral turnout is the presence of a legal enforcement to cast a ballot: the fact that compulsory voting increases the level of turnout has been strongly proved by Blais and Carty (1990) and by Franklin (1996).

As the strength of the enforcement can vary across countries, Norris (2002), then Fornos et al. (2004) and finally Blais et al. (2003) investigated the different level of punishment associated to the institute of compulsory voting finding that it is mostly effective in older democracies and in presence of effective sanctions.

What is also interesting to recall about compulsory voting is the finding of Singh (2014): the presence of such institute diminishes the effectiveness of other individual

explanatory variables; this means that if on one hand the participation will be higher, on the other hand, uninformed and disaffected citizens might cast the so called "donkey ballots"[2] or invalid ones. Referring to the conclusion of Singh, compulsory voting raise the issue of what is preferable between the "quantity" of votes and the "quality" of votes.

Two other institutional variables have to be discussed when discussing the voter turnout that are the legal age for voting and the presence of facilitating instruments for voting.

The propensity to vote is considered to increase with age as claimed by Wolfinger and Rosenstone (1980) and so the expectation over turnout should be lower when the voting age is 18 instead of 21. Past studies incorporated these variables corroborating the general belief however the actual investigation has left aside the variable of legal voting age as in mature democracies voting age is almost everywhere 18 and there is thus no variation as pointed out by Massicotte et al. (2004).

The effect of vote-facilitating rules has instead produced more limited and ambiguous evidences: Franklin's (1996) study sustains that turnout is higher when elections are held on Sunday, in order to make for citizen less costly to go to polls, and when postal voting is available. Notwithstanding these same variables proved to be incapable of predicting changes in turnout over time by the same author, in a later study. Furthermore, Norris (2002) examines the effect of specific rules (number of polling days, polling on rest day, postal voting, proxy voting, special polling booths, transfer voting, and advance voting), and she finds no significant effect.

Though it is reasonable to assume that the likelihood of voting increases as voting gets easier, no strong verdict can be given over this matter; in addition an endogeneity problem may arise since the more a country faces low levels of turnout, the more is likely that measures facilitating the vote will be adopted.

On the overall, the studies focused on the impact of institutional variables, shaped by Jackman's influential research approach, have generally produced relatively coherent explicative models of the cross-national voter turnout differences.

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[2] "Donkey Ballot" indicates the phenomenon of unaware voters that select the first alternative presented on the ballot.

1.3 A third way

The two approaches started to be mixed with analytical models using both the perspectives in the nineties, such as the already mentioned works of Leighley, J Nagler (1992), RJ Timpone (1998) and then A Blais, A Dobrzynska (1998).

Even if the individual dimension was analysed, concretely, the variables were aggregate level ones: for example to integrate the socio-economic condition it was used the average GDP per capita and its growth.

Therefore, in spite the fact that the aim is to include the individual dimension, it was not possible to effectively look at the single individual and therefore the approach was, on the overall, a macro one.

This methodological issue has been solved thanks to the creation of the Comparative Study of Electoral System (CSES) a wide dataset that collects two levels of information: there is a set of country level variables concerning institutional settings and the political system, while the other group of variables is collected through surveys and it consists of a large number of individual level variables like gender, age, income, education and the political preferences and activities.

Conducted by experts country by country, this dataset represents a unique instrument to effectively bring together the two traditions over the voting issue: it gives the possibility to build multilevel models in which electoral turnout is jointly explained by country level determinants and effective individual level variables.

1.4 Focus on replicated models

Within the micro level determinants, a growing interest has been devoted to the ideological characteristics of the individual voter. More broadly the ideology has been investigated in relation to various context of social life, starting with Lipset and Schneider (1987) and Nye et al. 1997, who examined it in relationship with the levels of political trust, then Alesina et al. (2004), who found the ideology to be linked to the perception of inequalities, up to Norris et al. (2005) who concluded that demonstrators are " drawn disproportionately from the left".

In Curini, You and Memoli's "Why Policy Representation Matters", particular attention is devoted to the relationship between ideology and political representation.

The focus is on the hypothesis that the distance between the citizen ideological position and the government one, called ideological proximity, will affect the level of participation.

The idea behind these hypothesis is that a "citizens who are located closer to the ideological position of their government participate less since their preferred policies are more likely to be promised or implemented already"[3]. Even though the author's investigation deals with participation in all its forms, as voting is one of the main political activities, clearly their conceptualization applies to the scope of this work as well.

A further element that is evaluated in Curini et al. is the status of electoral *winner* or *loser*, that identifies whether a citizen voted for the governing parties or not. This issue has been investigate in the late years by different scholar like Anderson and Tverdova (2001) and Cho and Bratton (2006) whose findings indicate that losers tends to show lower level of trust for the government institution.

Although the winner/loser status might be thought as associated to the ideological proximity, is important to keep in mind that the two might diverge: in many countries, government formation is a post-electoral process, so it is possible that a voter's preferred party ends up in government, so he should be a *winner*, but his ideological position is far from the government as a whole, since the voter's preferred party is allied with an ideologically distant party. Given this possibility, as long as it is possible, the two variables should be left separated.

In Kittilson and Anderson the focus is always on the ideological issue even though a different and less solid approach is presented. From a theoretical perspective the idea is to evaluate how the electoral supply affects the turnout and the political efficacy even though the operationalization of different objects of the investigation is not extremely straightforward.

However, the relationships occurring between the three elements considered, can be interpreted from different perspectives according to the authors: on one hand, electoral supply might have an indirect effect over voter participation while, on the other, the effect might be contingent.

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[3] Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity*. Ch 1-2, Taylor and Francis, Routledge

A deeper discussion of this work will be later presented since the replication of the model could require some changes in the variable operationalization, as it represents one of the main culprit of the analysis.

What is important to underline about the two models this work aims to replicate and extend, is how both share a multi-level design. Curini et al. as well as Kittilson and Anderson build in fact a model that jointly analyses the individual level dimension and the country one using the CSES dataset, according to the latest development of the research over voter turnout.

CHAPTER 2: CURINI, YOU AND MEMOLI

Luigi Curini, Willy You and Vincenzo Memoli in their "Why Policy Representation Matters: The consequences of ideological proximity between citizens and their governments" develop an empirical analysis over the issue of political participation in democracies. Their work originated from three research questions regarding the reasons behind participation, the ways citizens prefer to use when aiming to influence the political arena and, the most relevant one to the purpose of this analysis, the relationship that occurs among satisfaction with democracy, individual proximity to government and political participation.

The whole book aims to disentangle the concept of political proximity and its interactions with important aspects of citizens' social (political participation and support for democracy) and individual life (happiness).

To address these matters, the first step is to discuss the concept of proximity itself, which was introduced around the sixties, at the beginning of the debate over the deviation between policy implemented and citizens' preferences. The focus quickly shifted from the single legislator to parties as they represented, and still represent, policy platforms, which are easily identifiable by citizens.

The conceptualisation of this idea in spatial terms came later with the introduction of the so called left-right scale and the downsian spatial theory. The use of the labels 'left' and 'right' to describe political orientations and positions was introduced during the French Revolution, when the terms referred effectively to the sides of Parliament where deputies sat. After the evolution of party competition and the beginning of mass democracies in the first half of the twentieth century, these naming came to identify the main political conflict of that era: capital versus labour. 'Left' denoted advocacy of income redistribution to ensure greater social equality, workers' rights, regulation of business practices and welfare for disadvantaged segments of society. In contrast, a 'rightist' stance favoured individual freedom, market competition and limits on government intervention in the economy.

Even though this instrument represents a simplification as political debate, especially the modern one, can be traced back to a multidimensional space, the left-right

scale is one of the main useful instrument due to the fact that it is widely known since citizens mostly shape their political conceptualization in this terms. One key reason for the widespread usage of the left-right schema is that it can accommodate both citizens with detailed preferences on specific policies, as well as those who simply want to rely on a shortcut to save them the time and effort required to gather information about where various parties or candidates stand on different issues.

It is important to underline that the idea of proximity slightly differs from the one concept of being an "electoral winner". The fact that one citizen votes for a party that is in a coalition government does not imply that the government will implement his favourite policies. Moreover, looking at losers, the same label might apply to very far and very close parties and voters. Within a proportional system for example, if a centre-right party wins the elections then far right, centre-left and far left will all be losers even though they have different degrees of disagreement with the government positions.

The concept of proximity is operationalized by Curini and al. with this formula

$$\text{PROXIMITY}_{ij} = -|x_{ij} - P_j|$$

where x_{ij} indicates the ideal position of the voter *i* in country *j* along the left-right spectrum, and P_j is instead the position of the cabinet of country *j* along the left-right spectrum.

This measure is built with both values as they are perceived by voters. Since proximity is an individual variable, its use for the government position value, for example an expert based survey, would have been less significant because the issue of the research is to evaluate how the feeling of closeness to the executive affects the political participation. Additionally, the authors strengthened this choice with statistical evidence over the reliability of the measure.

Curini et Al. aim is to test these 4 hypothesis looking at the political participation, not only votinhg but since the electoral participation is one of the ways in which people participate to the political life, the following hypothesis are re-adaptation of the ones advanced by the authors about the political participation.

Hypothesis 1 (ideological orientation hypothesis): citizens with leftist orientations are more likely to vote due to their desire to alter the status quo.

Hypothesis 2 (ideological extremism hypothesis): citizens who place themselves toward radical ideological positions are more likely to vote due to stronger commitment to their beliefs.

Hypothesis 3 (ideological proximity hypothesis): citizens who are located closer to the ideological position of their government are less likely to vote since their preferred policies are more likely to be promised or implemented already.

Hypothesis 4 (winner/loser status hypothesis): citizens who are electoral losers are more likely to vote than winners since the government is less likely to translate their preferences into policy . . .

Hypothesis 5 (winner/loser status conditional hypothesis): . . . unless the cabinet is very close to the ideal point of an electoral loser.

It is important, however, to remember that voting undeniably the most widespread among all the different forms of participation therefore different trends could emerge since it does not only involeve political activists.

The data used are taken from the CSES dataset, in particular the third one, that collects data over the period 2001-2006, for elections held worldwide.

The CSES project owns a feature that makes it unique and extremely useful for multilevel studies: it in fact provides both individual level data survey and macro level data produced by expertise. Through the survey process it is possible to collect a wide range of information over the single citizen: from age to income, from political position on the left-right scale to the level of satisfaction with democracy. Instead, the scholars work gives information over various areas such as the institutional one or the economic one. Concretely, the CSES gives for any respondent a set of information that makes possible to see how individual and context characteristics jointly affects a phenomenon.

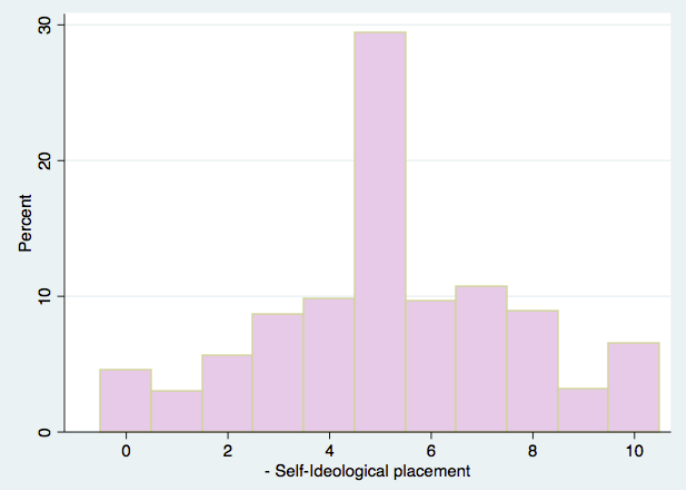
Because of the fact that Curini et al. analyse political participation, which is present in the CSES dataset and split in six different ways of participation that are: voting (cast a ballot at the last parliamentary election), contacting (contacted a politician or government official during the last five years), campaigning (supported a particular party or candidate by, for example, attending a meeting or putting up a poster), persuading (talked to other people to persuade them to vote for a given party or candidate), cooperating (worked with others who share the same political concerns) and protesting (took part in a protest, march or demonstration).

Since voting represents a particular phenomenon, Curini et al. create two different dependent variables: a super participation index, that goes from 0 to 5, as it is the sum of the five dichotomous categories (1 = yes, 0 = no), and a dependent variable for the question: 'did respondent cast a ballot?'.

The main independent variables of the model are: the self placement of the respondent, the squared value of it, in order to better account for radical positions, his political proximity to the outgoing government and whether the respondent in the previous elections voted for a party in the government or not.

The first two variables are taken directly from answers to the survey question that asks respondents to position themselves on a 0 – 10 left-right scale.

Figure 1[4]: self ideological placement distribution



For the third item, the position of each government is calculated using the way citizen places political parties (or presidential candidates) on the same left-right scale. To identify the parties belonging to the outgoing cabinet, the temporally closest cabinet preceding the survey date were considered.

The control variables cover individual level characteristics, starting with the demographic controls coming from the literature, like age, age squared[5], gender and

[4] Source: Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity.* Ch 1-2, Taylor and Francis, Routledge

[5] Age squared is introduced as control variable to account for eventual non linear relationship between age and voting

education, up to the opinion over the institutions and government, considering respondents' views on whether democracy is a better system of governance and assessment of government performance.

The statistical tool used is a multilevel model that allows, for each observation, to be correlated within countries. This is the result of the inclusion of random intercepts at the country level in the analysis, in order to capture country differences in the propensity of respondents to vote that wouldn't be picked up applying fixed variables in the model. This solution represents the most appropriate method to take both individual and country effects in consideration. Formally, the equation that stands behind this modelling is:

$$y_{ij} = \alpha + \beta X_{ij} + \delta Z_j + \zeta_j + \varepsilon_{ij}$$

where y_{ij} is the value that respondent i living in country j has for the index of political participation; X_{ij} are vectors of individual-level explanatory variables; Z_j are vectors of country explanatory variables; and β and δ describe the salience of the previous two vectors, respectively, in the respondent's choice $\zeta_j + \varepsilon_{ij}$ is the error term. More precisely, ζ_j is the country error term; it differs between countries but has a constant value for any given country; ε_{ij} is the error term unique for each respondent i living in country j that is assumed to be uncorrelated with X_{ij} , Z_j and ζ_j

All the variables previously presented are therefore evaluated through this logit model where the dependent variable consist of whether the respondent cast a ballot or not since this replicative study is centred on the voting issue, while the discussion over political participation is left aside because it involves diverse implication from the voting calculus.

The following three models differ from each other for the different set of varaibles evaluated. Model 1 is the simplest one since the interaction term between loser and proximity is left aside as well as the income and religious variable. Model 2 introduce the combined effect of loser and proximity variable and finally Model 3 includes religion variable and the income level one.

The main findings pointed out by Curini et al. regards the self-placement, the loser variable and the proximity, in addition to which a summary of the expected impact of every control variable is presented.

Table 1[6]: Determinants of Voting model presented by Curini et Al.

	Model 1	Model 2	Model 3
PROXIMITY	0.005	0.047+	0.062+
	(0.022)	(0.027)	(0.033)
LOSERt-1	0.235***	0.065	0.104
	(0.052)	(0.082)	(0.105)
PROXIMITY* LOSERt-1		−0.077**	−0.082*
		(0.029)	(0.036)
SELF	−0.141**	−0.143**	−0.186**
	(0.049)	(0.049)	(0.059)
SELF squared	0.014**	0.014**	0.016**
	(0.005)	(0.005)	(0.005)
Democracy better	0.332***	0.330***	0.330***
	(0.072)	(0.072)	(0.090)
Gender	0.049	0.048	0.074
	(0.046)	(0.046)	(0.059)
Age	0.096***	0.095***	0.083***
	(0.009)	(0.009)	(0.011)
Age squared	−0.001***	−0.001***	−0.001***
	(0.000)	(0.000)	(0.000)
Education	0.108***	0.108***	0.104***
	(0.015)	(0.015)	(0.020)
Government performance	−0.130***	−0.133***	−0.137**
	(0.034)	(0.034)	(0.043)
Income			0.054*
			(0.024)
Religious attendance			0.111***
			(0.020)
New democracies	−0.244	−0.247	−0.506
	(0.311)	(0.311)	(0.308)
Institutional Quality	0.090	0.089	0.069
	(0.069)	(0.069)	(0.069)
Average GDP growth	−0.069	−0.067	-0.154*
	(0.071)	(0.070)	(0.064)
Gallagher index	−0.025	−0.025	−0.046*
	(0.024)	(0.024)	(0.022)
Checks and balances	−0.017	−0.025	0.137
	(0.102)	(0.102)	(0.098)
Polarization	−0.094	−0.099	−0.064
	(0.095)	(0.095)	(0.096)
Compulsory voting	0.637**	0.647**	0.386+
	(0.200)	(0.200)	(0.234)
Constant	0.670	0.649	0.398
	(0.651)	(0.649)	(0.638)

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[6] Source: Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity.* Ch 1-2, Taylor and Francis, Routledge

Self-placement, on the overall, affects voting in a negligible way, however evidences emerge supporting the idea that people placing them-selves on the extremes of political spectrum are more inclined to vote. In spite of the significance, the substantial impact is quite small because the effect of checking for a switch from 0 to 1 on the political spectrum, while keeping all the other variables fixed, is of 0.5% only. Being an electoral loser and the proximity to government have small impact when separately used, while they have a stronger impact when jointly introduced as an interaction term. This suggests that the impact of being a loser changes according to the distance from the government, as one would reasonably think: the status of electoral loser increases the probability of voting the more the citizen is far from the government.

Summing up the findings about the control variables at the individual level, higher education and better opinion over democracy encourage voting, though gender has no significant impact; turnout also increases with positive opinions on government performance. The variable age presents a curvilinear relationship, with the oldest and youngest cohorts least likely to vote.

The macro-level variables show first of all an obvious strong tendency to vote in countries where turnout is compulsory, while the likelihood of voting decreases when the economy is doing well and when the Gallagher index increases. This last finding supports the idea that majoritarianism outperforms consensualism because, under the former, political participation is more common.

Looking at the initial hypothesis, the third and the fourth one are not confirmed when applied to the voting phenomenon only, while they prove to be correct when looking at Curini et Al.'s super participation variable. For the time being it is relevant to highlight that the authors them-selves did not find an homogeneous effect between the relationship of proximity with voting and participating.

2.1 Replication of Curini et Al. work

As a pure replication of the model, thanks to the availability of the data and thanks to the solid research designs was quickly done, the further step was to look for possible development.

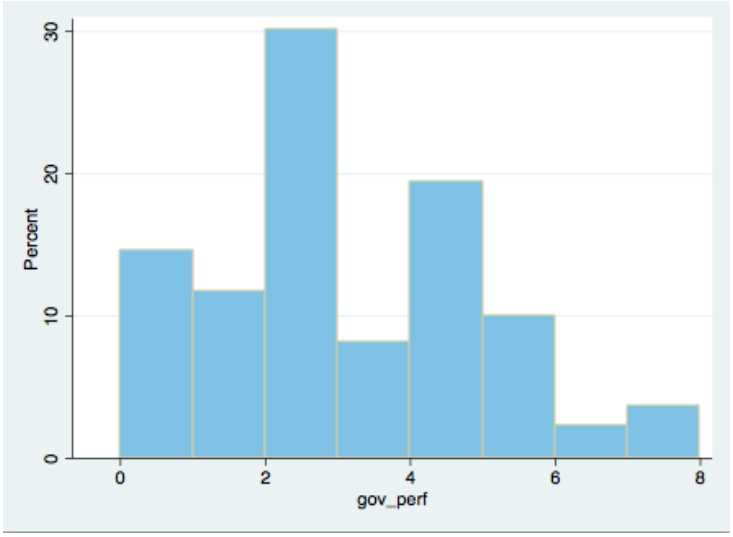
The analysis of Curini et al. covers a temporal interval that goes from 2001-2006 so the very first point was to update the dataset. CSES released a third and a fourth version of their electoral data collection, covering on the overall the elections held from 2006 to 2013. In order to provide more meaningful results the temporal interval choice is based on the us of the recent economic crisis as break point: on one hand Curini et al. work covers the pre-recession elections while this new results aims to provide findings over the post-crisis situation. For this reason, the dataset here analysed collects elections from 2008 up to the most recent ones collected in CSES 4 (2013).

Table 2: comparison between elections comprehended in the two studies.

CSES 4 post 2008		CSES 2 used by Curini et al.	
AUSTRALIA	2013	CHILE	2005
AUSTRIA	2013	CZECH REPUBLIC	2002
FRANCE	2012	DENMARK	2001
GERMANY	2013	FINLAND	2003
GREECE	2012	FRANCE	2002
ICELAND	2013	GERMANY	2002
IRELAND	2011	HUNGARY	2002
JAPAN	2013	ICELAND	2003
MEXICO	2012	IRELAND	2002
NEW ZEALAND	2011	ISRAEL	2003
POLAND	2011	ITALY	2006
SERBIA	2012	JAPAN	2004
SWITZERLAND	2011	MEXICO	2003
UNITED STATES	2012	NETHERLANDS	2002
CSES 3 post 2008 crisis		NEW ZEALAND	2002
BRAZIL	2010	NORWAY	2001
CHILE	2009	PERU	2006
CZ REPUBLIC	2010	PHILIPPINES	2004
GERMANY	2009	POLAND	2001
ESTONIA	2011	PORTUGAL	2002
FINLAND	2011	PORTUGAL	2005
GREECE	2009	ROMANIA	2004
ICELAND	2009	SLOVENIA	2004
LATVIA	2010	SOUTH KOREA	2004
MEXICO	2009	SPAIN	2004
NETHERLANDS	2010	SWEDEN	2002
NORWAY	2009	SWITZERLAND	2003
PERÙ	2011	TAIWAN	2001, 2004
PHILIPPINES	2010	GREAT BRITAIN	2005
PORTUGAL	2009	UNITED STATES	2004
ROMANIA	2009		
SLOVAKIA	2010		
TURKEY	2011		
URUGUAY	2009		
SOUTH AFRICA	2009		

The economic perspective of this replicative analysis is also present in the definition of one of the control variables. The government performance question present in CSES 2 and CSES 3 has been split in different question over the government expenditure in different sectors. In order to bring them back to a unique variable, respondent's level of agreement with the level of government expenditure in each field is made dichotomous using the half of the scale as threshold to distinguish agreement/disagreement; finally, every different question result is added to obtain an aggregate level of agreement with the government expenditure.

Figure 2:distribution of government performance variable



The use of the level of agreement with the government expenditure as proxy of the government performance is based on the idea that the post-crisis economic debate has been (and still is) widely dominated by the economic issue: even though other instruments can be used by government to intervene in the economy, citizens' opinion over how public expense is structured is one of the most reliable proxy of government performance, among the ones present in CSES4 survey questions.

Figure 3: proximity distribution in CSES3/4

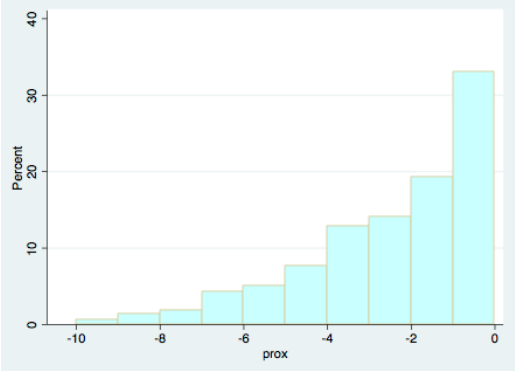
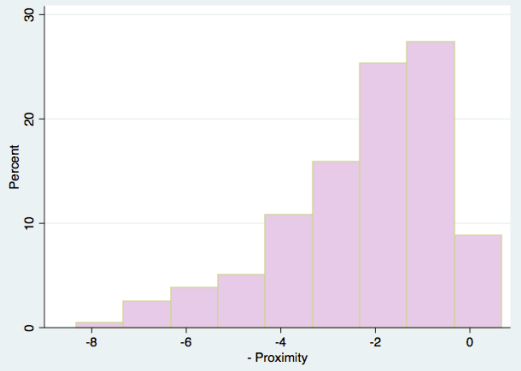


Figure 4[7]: proximity distribution in CSES2



All the others variables at this stage of the replicative study are exactly the same of Curini et Al. model, even though differently named in same case. From the comparison of figure 3 and figure 4 it is possible to check that the distribution of one of the main variable, proximity, remains stable between the two dataset .

Likewise, the ideological position present a similar distribution in the updatated dataset, as figure 5 and 6 show.

Figure 5: self placement variable distribution

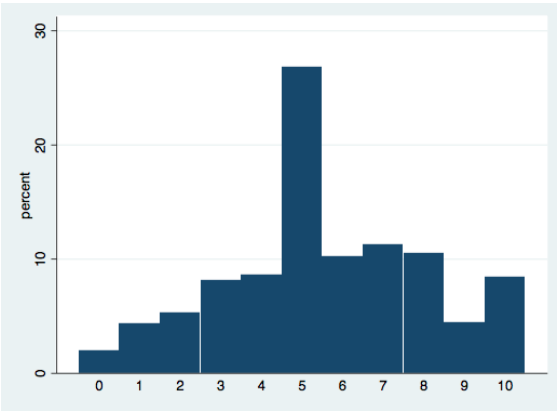
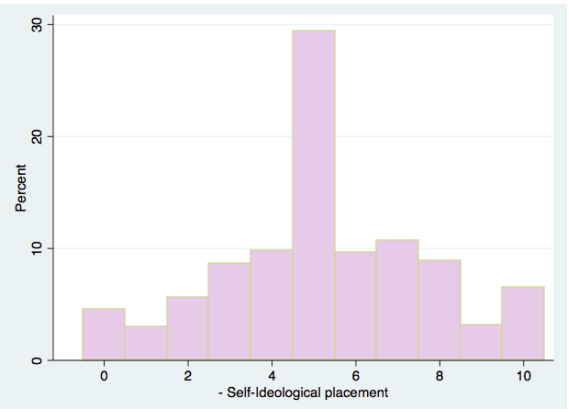


Figure 6[8]: self placement variable distribution



Since the control variables are the same from one study to the other, the three models investigating the determinants of voting, presented in *Why Policy Representation Matters*, are therefore replicated.

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[7] Source: Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity.* Ch 1-2, Taylor and Francis, Routledge

[8] Source: Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity.* Ch 1-2, Taylor and Francis, Routledge

Table 3: replication of Curini et Al. model on the updated dataset.

	Model 1	Model 2	Model 3
prox	0.00451	0.105***	0.151***
	(0.50)	(4.41)	(4.45)
loser_	-0.404***	-0.666***	-0.881***
	(-7.35)	(-8.08)	(-6.68)
c.loser_#c.prox_		-0.113***	-0.163***
		(-4.52)	(-4.56)
self_plac	-0.228***	-0.232***	-0.264***
	(-8.17)	(-8.33)	(-6.57)
c.self_plac#c.self_plac	0.0260***	0.0261***	0.0281***
	(10.28)	(10.33)	(7.57)
sat_dem	0.105***	0.107***	0.0392
	(3.29)	(3.34)	(0.88)
gender	-0.0527	-0.0520	-0.0373
	(-1.78)	(-1.75)	(-0.92)
age	0.0636***	0.0633***	0.0463***
	(14.24)	(14.17)	(7.43)
c.age#c.age	-0.000466***	-0.000463***	-0.000288***
	(-10.05)	(-9.99)	(-4.50)
education	0.180***	0.179***	0.141***
	(20.50)	(20.42)	(11.36)
gov_perf	0.0404***	0.0402***	0.0854***
	(4.90)	(4.88)	(7.49)
religious			0.0518***
			(3.99)
income			0.163***
			(10.38)
new_democ	1.396***	1.398***	1.516***
	(15.82)	(15.80)	(13.35)
inst_qual	5.939***	5.935***	8.379***
	(17.22)	(17.19)	(16.13)
gdp_grow	0.0186*	0.0179*	0.0382**
	(2.47)	(2.37)	(2.99)
disprop	0.0123**	0.0124**	0.0283***
	(2.84)	(2.85)	(4.88)
checks	0.163***	0.163***	0.243***
	(10.02)	(10.07)	(10.38)
polar_	-0.0395	-0.0365	-0.118**
	(-1.94)	(-1.79)	(-2.65)
comp_voting	1.067***	1.062***	1.073***
	(24.78)	(24.69)	(17.74)
_cons	-5.933***	-5.686***	-7.373***
	(-13.59)	(-12.93)	(-11.87)
_cons	-1.975**	-1.997**	-1.368*
	(-3.06)	(-3.09)	(-2.11)
N	42767	42767	26427

Standard errors in parentheses; $^{+}p < 0.10$, *$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

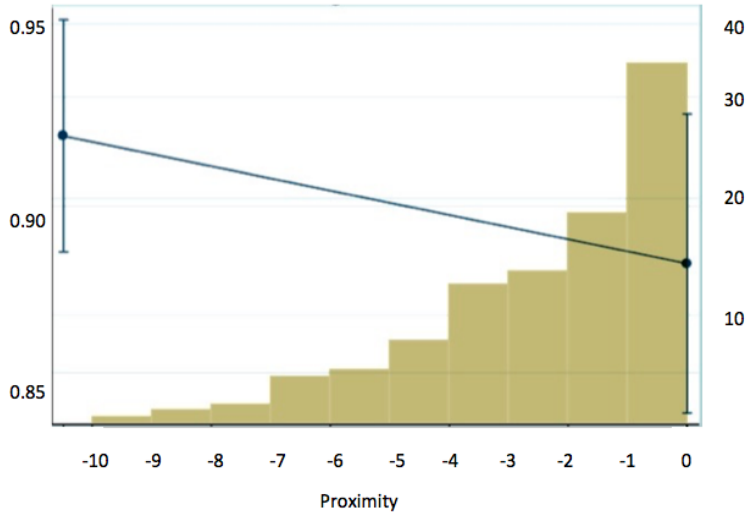
On the overall findings can be considered satisfactory. The three models show coefficients with coherent signs and in the case of the macro level variables, coefficients are here significant while in Curini et al. were not. Even though each model differs for the number of control variables used, orientation and magnitude of the coefficients is largely stable so variables can be discussed one by one with no concerns of variations due to the model design.

The main independent variables are *proximity* and *loser* that represent, likewise in Curini et al, the ideological distance of the citizen from his perception of the government position and whether or not in the previous elections the respondent vote went to a government party. The former has a positive coefficient that in the second and third model is significant albeit in the first one is non significant; from the first to the last model it also increases is magnitude. These evidence indicates that the closer a citizen feels to the former government the more likely is that he will vote again because of the feeling of having acted effectively.

The latter independent variable is *loser* that is negatively related to the probability of voting in all the models in a significant way. To understand the relationship behind this coefficient it has to be underlined how it has been coded: 1=loser while 0=winner. Therefore, a negative coefficient means that it is less likely that electoral losers in the previous elections have voted in the one analysed.

Likewise in *Why Policy Representation Matters*, proximity shows again positive coefficient, which goes against the authors' initial hypothesis over the relationship between proximity and participation: the idea that the more a citizen is close to the incumbent government the less is likely to vote here it is not supported. Furthermore, evaluating the marginal effect that loser_ have compared to the distribution of participation, the idea of an increasing probability of voting due to the proximity to the government is strengthened. In figure 7 it is possible to see how the effect of being an electoral loser diminishes its effect as the closeness to the government increases.

Figure 7: marginal effect of loser_



Generally, individual level control variables show coherent and expected results in spite a couple of puzzling elements that diverges from the original findings.

Self placement and self placement squared, as Curini et al. suggest and prove, are negatively related to the voting engagement, that is to say that on average, leftist citizens are more likely to vote than rightist ones because to the left correspond 0 while to the right 10.

Figure 8: Marginal effect of self placement

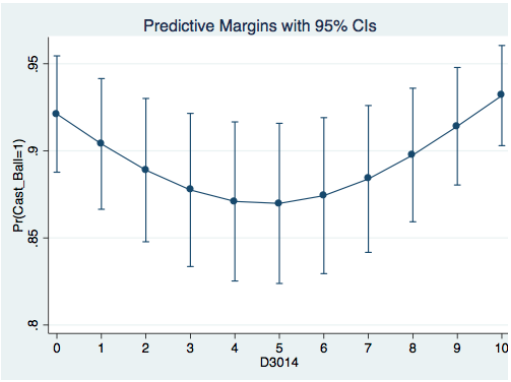
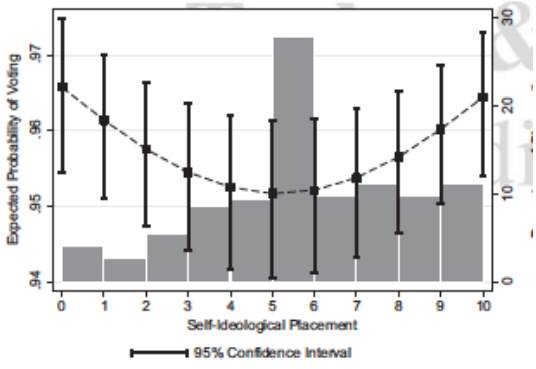


Figure 9[9]: Marginal effect of self placement (Curini)



Looking at marginal effect of self placement it is confirmed the finding over the different inclination to vote across the left-right scheme. Like Curini et al. find out, the

[9] From: Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity.* Ch 1-2, Taylor and Francis, Routledge.

centre of the spectrum presents lower probability of voting while what differs from the original results is the fact that the marginal effect seems to be, on average, higher for the rightist people. Because of the negative coefficient that emerges in our model it is reasonable to assume that it is due to the fact that average values are evaluated to produce the margins plot and it might as well be due to a sample bias.

Figure 10: self placement variable distribution

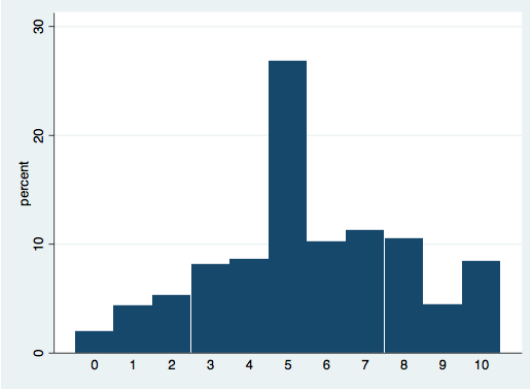
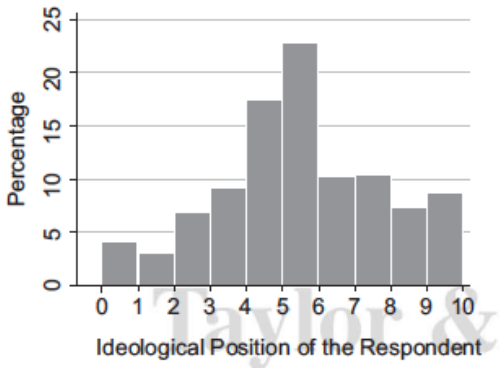


Figure 11[10]: self placement distribution (Curini)



From figure 10 and 11 it is possible to infer that the extreme leftist respondent are less than the rightist ones therefore the difference with Curini et Al. could be explained in this way- however within confidence intervals the relationship might still be opposite as the model suggests.

Furthermore education, age and satisfaction with democracy show positive and significant coefficient confirming the literature assumptions that the more an individual is educated and the older he is, the more is satisfied with democracy, the more probable is that he will vote. When income and religious attendance variable are introduced, satisfaction with democracy loses explanatory, facing a reduction of the magnitude of its coefficient.

It is interesting to note that the gender is not significant as control variables bringing support to a rising equality between genders at least from the point of view of the political interest and engagement.

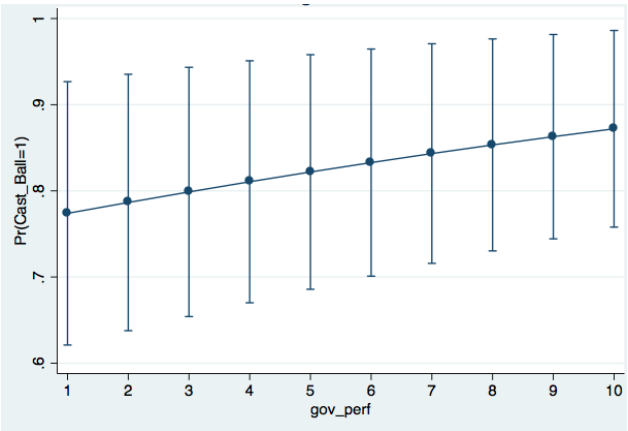
Income and religious attendance show positive and significant coefficients as largely claimed by the literature: wealthier people are confirmed to be more likely to

[10] Source: Curini, L. You, W and Memoli, V. 2016, *Why Policy Representation Matters: The Consequences of Ideological Proximity.* Ch 1-2, Taylor and Francis, Routledge

vote because they have larger economic incentives; religious attendance is considered to be the closest proxy of the religiousness of a citizen and therefore the positive relationship is due to the fact that moral incentives should be higher for people with a stronger faith.

The questioning finding that emerges from the individual level control variables is the one related to the government performance opinion: while Curini et al. observe a negative, significant relationship, here positive and still significant coefficients are present. Even though the magnitude of the coefficient is lower in this new analysis, the opposite sign raise a relevant puzzle. It has to be noticed that while the opinion over government performance is directly asked in CSES 2, for the CSES 4 elections this variable has been built aggregating the level of agreement over public expenditure. This clearly weakens the variable its-self, nevertheless what might be expected is a lack of significance or a smaller magnitude and not a reversed relationship. Such an outcome should suggest that the better a citizen considers the government performance, the more like it is that he will vote while the theory claims that when a government performs badly, citizens are more likely to vote in order to change the status quo. A possible explanation for this puzzling result could come from the effect of the recession. In such a context uncertainty dominated the economic outlook therefore a citizens that considers the government performing well, despite the crisis, could be willing vote again as the system was able to produce a positive government. The analysis of the marginal effect of the government performance confirms that the probability is increased by the growth of the positivity of the opinion over the government performance.

Figure 12: Marginal effect of government performance variable

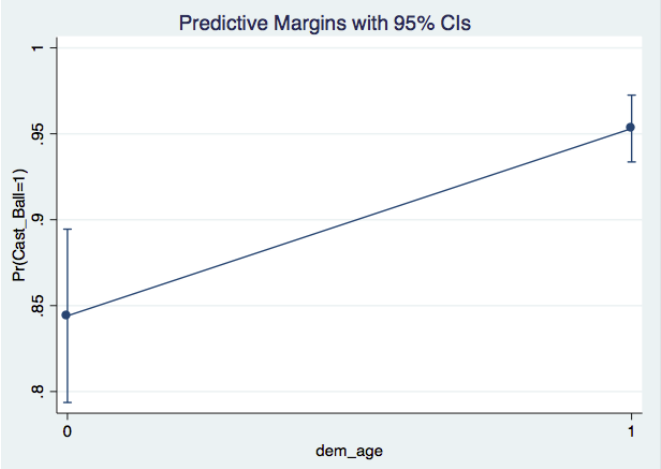


However, this is just a hypothesis whose aim is to justify a counterintuitive finding that could however be due to operationalization issues and that does not invalidate all the other findings.

Coming to the country level variables, the first highlight is that, despite the lack of significance in Curini et al. here the coefficients of every variable are significant even though some of them show opposite sign. Given that in the original research the findings about the macro variables lack of significance and they present coefficient with small magnitude, the hypothesis is that these new results might show trends that were weaker in the period analysed by Curini et al.

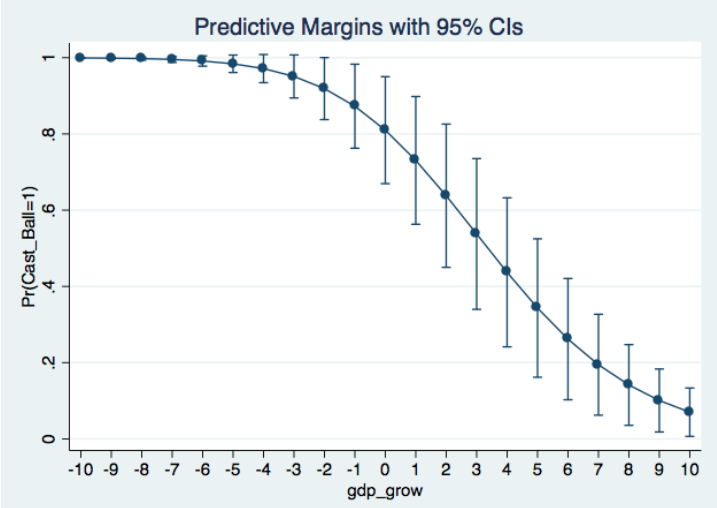
New Democracies variable has been operationalized in the same way as in Curini et Al. that is with a dichotomic threshold at 25 years: if democratic institutions have been adopted later than 25 years ago the country scores 1 and it is considered as a new democracy. This means that the younger a democracy is, the more likely is that citizens will decide to cast a ballot since the variable shows a positive and significant coefficient. This contrasts with the original research hypothesis but it is straight forward to be justified because in presence of a regime change towards democracy two possible mechanism can start and they are both plausible. On one hand, people not used to voting might simply ignore the regime change and therefore choose to not cast a ballot just keeping his previous practice; on the other hand the regime change could create as well an enthusiastic compliance to the new duties, how this findings seems to support.

Figure 13: marginal effect of new democracies



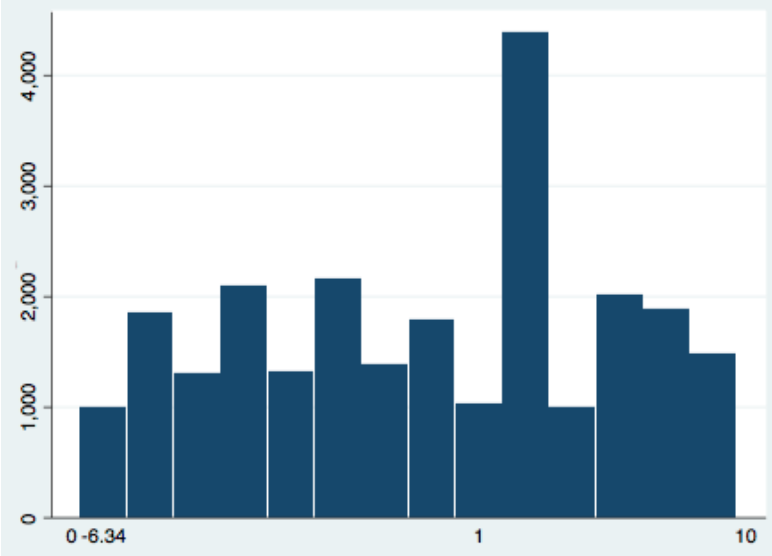
The main puzzle in this set of control variables regards the effect of the average gross domestic product growth of three previous years that is positive while it should be negative as it is logical to assume that the less country grows the more citizens will be willing to vote in order to change executive. The coefficients for this variable are small in magnitude and have smaller significance level which makes the findings after all not so debilitating for the overall model. Again, however, a possible explanation might come from the economic side of the political debate. Post-crisis economy has been characterised by extremely low gdp growth rate, when not negative, therefore it might be thought that the cases in which a government has been able to maintain a positive growth have been sufficient to make people willing to vote again as the political system was able to keep the economy growing in such a period. On the opposite, a low or negative gdp growth would make people negatively oriented towards politics as it has shown incapable of facing economic challenges.

Figure 14: Marginal effect of the gdp average growth



Evaluating the marginal effect of the *gdp_growth* it is possible to check that the prevalent effect is the negative one therefore the positive coefficient is probably due to the frequency of the cases: figure 14 shows how the positive gdp growth of Australia might affect in this direction the findings over the effect of gdp average growth.

Figure 15: Distribution of the gdp average growth variable



Electoral disproportionality shows positive and significant coefficients supporting the pro majoritarian argument: the more an electoral system is disproportional higher it is the probability that the single citizen will vote. This finding can be interpreted as a preference for systems with larger accountability: citizens prefer to vote in presence of disproportional system because it brings to stability and to accountability of the executive.

The goodness of the checks and balances system and the institutional quality, indicated with *checks* and *inst_qual*, enhance the probability that individuals will vote: the positive and significant coefficients confirms that if institutions are well structured citizens are more likely to believe in the political system and therefore more inclined to vote.

Polarization, measured through Dalton's Index, shows a negative coefficient even though it gets significant in the third model only. Nevertheless, as the trend is coherent, it can be thought that citizens vote more in presence of a low polarized system, finding that easily matches with the Downsian theory about the voters' distribution.

Unsurprisingly, compulsory voting show an elevated, positive and highly significant coefficient.

2.2 Focus on European countries

The second replicative step is to focus on the European countries only because the European continent has been hardly struck by the economic crisis and secondly it represents a set of countries that are all linked and mostly associated by being part of the European Union. Such a set of countries represents a unique source as at the same time different countries share similar dynamics and face common issues.

The European countries present in CSES 3 and CSES4 are presented in table 4.

Table 4: elections present in the restricted dataset over Europe

CSES 4	
AUSTRIA	2013
FRANCE	2012
GERMANY	2013
GREECE	2012
ICELAND	2013
IRELAND	2011
POLAND	2011
SERBIA	2012
SWITZERLAND	2011
CSES 3	
CZ REPUBLIC	2010
GERMANY	2009
ESTONIA	2011
FINLAND	2011
GREECE	2009
ICELAND	2009
LATVIA	2010
NETHERLANDS	2010
NORWAY	2009
PORTUGAL	2009
ROMANIA	2009
SLOVAKIA	2010

On this set of electoral survey, the same modelling structure is run leading to a confirmation of the previously presented results, with only a few remarks that need to be done.

The results of this analysis generally confirms the findings of the worldwide dataset and when it is not so, however it confirms the model as the variations are the expected ones.

Table 5: replication of Curini et Al. models on the European countries only dataset

	Model 1	Model 2	Model 3
prox	0.00307	0.145***	0.164***
	(0.24)	(4.71)	(4.07)
loser_	-0.389***	-0.751***	-0.777***
	(-5.94)	(-7.44)	(-5.28)
1.loser_#c.prox		-0.160***	-0.181***
		(-5.05)	(-4.39)
self_plac	-0.277***	-0.291***	-0.330***
	(-7.44)	(-7.81)	(-6.77)
c.self_plac#c.self_plac	0.0318***	0.0325***	0.0331***
	(9.09)	(9.28)	(7.33)
sat_dem	0.190***	0.191***	0.0943
	(4.78)	(4.81)	(1.84)
gender	-0.0495	-0.0484	-0.0377
	(-1.38)	(-1.35)	(-0.82)
age	0.0549***	0.0544***	0.0441***
	(10.05)	(9.96)	(6.22)
c.age#c.age	-0.000380***	-0.000376***	-0.000255***
	(-6.73)	(-6.66)	(-3.51)
education	0.232***	0.231***	0.176***
	(20.43)	(20.33)	(12.00)
gov_perf	0.0588***	0.0575***	0.0867***
	(5.47)	(5.35)	(6.58)
religious			0.102***
			(6.59)
income			0.179***
			(10.10)
new_democ	0.371**	0.359**	0.527**
	(3.10)	(2.99)	(3.19)
inst_qual	2.545***	2.564***	3.017***
	(5.31)	(5.35)	(4.03)
gdp_grow	-0.0606***	-0.0624***	-0.276***
	(-4.73)	(-4.89)	(-9.36)
disprop	0.0639***	0.0648***	0.160***
	(6.37)	(6.48)	(10.25)
checks	0.171***	0.170***	0.346***
	(7.25)	(7.18)	(9.28)
polar_	-0.00398	0.00127	0.633***
	(-0.08)	(0.02)	(6.45)
comp_voting	0.163	0.154	-0.162
	(1.89)	(1.80)	(-1.21)
_cons	-3.453***	-3.105***	-7.275***
	(-6.00)	(-5.35)	(-8.43)
_cons	-2.170***	-2.232***	-0.618
	(-3.34)	(-3.43)	(-0.93)
N	26852	26852	17393

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** p < 0.001

Loser and proximity variables maintains their direction and effect (fig. 16 and fig-17) once more indicating that the hypothesis made by Curini et Al. about the relationship that occurs between this two variables and participation does not hold when looking at voting only.

Figure 16: marginal effect proximity worldwide

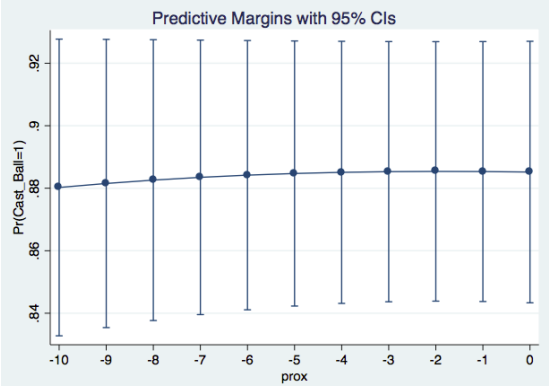
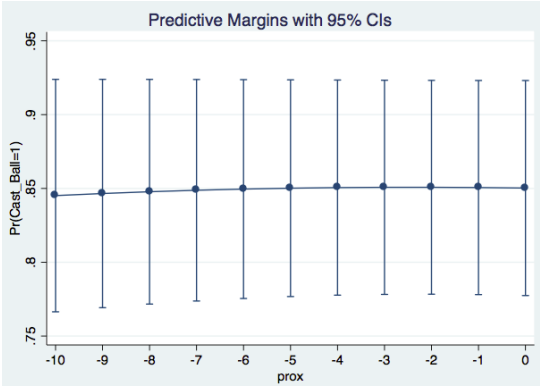


Figure 17: marginal effect proximity EU



Divergent element that emerges in this analysis are somehow confirmative of the model because they shows the expected trend. At first, the democratic age that loses relevance within the model: this is a consequence of the lower variance of these variables among the European countries (only 25% of the observations regards "young democracies") therefore such a difference is coherent and strengthens the model.

The second element that matches up with expectations is the negative coefficient that the average gdp growth coefficient has. Since it has been previously identified the high number of respondents from Australia as possible explanation for the counterintuitive finding about this variable at the world level, within this subset of countries that have gone through a more homogeneous economic pattern it was more likely to encounter the expected coefficient.

A last divergence is present and it is quite similar to the one associated to democratic age as compulsory voting loses its explanatory power due to the fact that small variance is present in the European dataset.

On the overall these two analysis based on Curini et al. modelling confirm the robustness of their research design and strengthen their findings suggesting as well that updated versions of the same models could provide a useful insight over the turnout trends during time. It is important, in fact, to underline that these operationalization covers two elections only, so the one studied by CSES 3 or 4 and the previous one so it

is not possible to generalize this finding as election time by time the trend of the relationship might change.

2.3 Introducing corruption

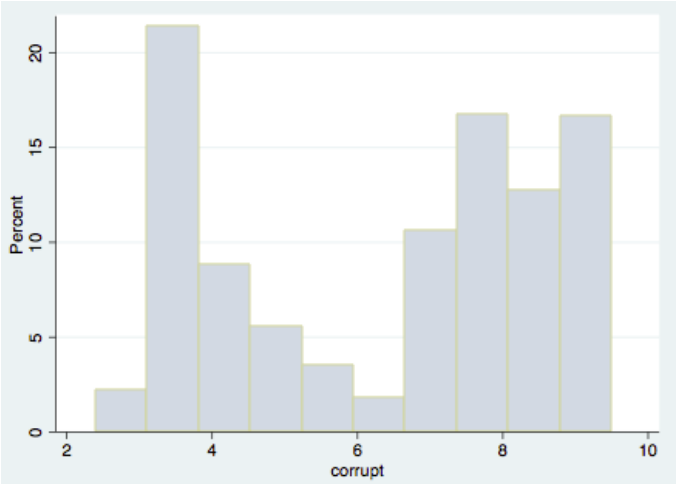
After this replicative analysis, an interesting challenge is to try to introduce some novelty. It has been repeatedly pointed out that the model is convincing and robust therefore the addition of something new from the modelling perspective is would be senseless. Turning the attention to the variables used instead other indexes or other operationalization of elements like the effects of the electoral law or the structure of the party system might be used but, as already pointed out in the early discussion of Curini et al.'s work, the one used are quite convincing. Therefore a possible novelty could only be the introduction of a new variable, not previously considered.

The common wisdom over the reason of the general disaffection towards politics strongly claims that people do not vote anymore as the political elite is perceived as far from citizens and corrupted. Since the perception towards the political class is somehow already captured by the satisfaction with democracy variable, it could be interesting to introduce the corruption as well.

To best fit the aim of this process however it would be optimal to use the CSES 3 question over the opinion about corruption level in the respondent country but, unfortunately, the same question was not asked in CSES 4; therefore it is necessary to rely on the Transparency International Corruption Perception index that measures experts opinion about the corruption level in their own country providing an aggregate level variable.

The set of control variables is so enlarged with the score from 0 to 10 associated to each country by Transparency International, where 0 represent the highest level of corruption while 10 corresponds to the absence of corruption.

Figure 18: distribution of Corrupt variable (Transparency International Index)



For each model presented by Curini et al. the effect of corruption is checked both on the worldwide dataset and on the European one with overall satisfactory results. corruption might end up conflicting with institutional quality as they are correlated in a stronger way.

Table 6: Model 1 by Curini et Al. is replicated introducing Corruption

	Curini basic (without corrupt)	Worldwide Corrupt	EU only Corruption model
prox	0.00451	0.00388	0.00251
	(0.50)	(0.43)	(0.19)
loser_	-0.404***	-0.400***	-0.406***
	(-7.35)	(-7.28)	(-6.18)
self_plac	-0.228***	-0.228***	-0.271***
	(-8.17)	(-8.16)	(-7.31)
c.self_plac#c.self_plac	0.0260***	0.0258***	0.0312***
	(10.28)	(10.19)	(8.92)
sat_dem	0.105***	0.0810*	0.187***
	(3.29)	(2.50)	(4.71)
gender	-0.0527	-0.0555	-0.0525
	(-1.78)	(-1.87)	(-1.46)
age	0.0636***	0.0643***	0.0565***
	(14.24)	(14.38)	(10.32)
c.age#c.age	-0.000466***	-0.000474***	-0.000397***
	(-10.05)	(-10.21)	(-7.01)
education	0.180***	0.177***	0.225***
	(20.50)	(20.13)	(19.86)
gov_perf	0.0404***	0.0365***	0.0571***
	(4.90)	(4.40)	(5.32)
new_democ	1.396***	1.315***	0.0937
	(15.82)	(14.81)	(0.74)
inst_qual	5.939***	3.603***	-6.588***
	(17.22)	(6.05)	(-4.76)
gdp_grow	0.0186*	0.0178*	-0.0568***
	(2.47)	(2.38)	(-4.19)
disprop	0.0123**	0.0132**	0.0837***
	(2.84)	(3.02)	(7.93)
checks	0.163***	0.146***	0.100***
	(10.02)	(8.81)	(3.90)
polar_	-0.0395	-0.0632**	-0.117*
	(-1.94)	(-3.00)	(-2.13)
comp_voting	1.067***	1.039***	0.0906
	(24.78)	(23.76)	(1.01)
corrupt		0.128***	0.423***
		(4.80)	(7.17)
_cons	-5.933***	-4.769***	1.642
	(-13.59)	(-9.74)	(1.77)
_cons	-1.975**	-2.264***	-1.830**
	(-3.06)	(-3.48)	(-2.79)
N	42767	42767	26852

Standard errors in parentheses; $^{+}p < 0.10$, *$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In the first model corruption presents positive significant coefficient that, given the operationalization of the variable, means an increase in the probability of voting when the country scores better in the Transparency index. The introduction of corruption subtracts explicative variance only to satisfaction with democracy in the worldwide dataset, where sat_dem in fact loses strength: it is reasonable to assume that the corruption index overlaps to some extent with the satisfaction with democracy because it is hard to imagine high level of satisfaction in presence of widespread corruptive practises. Excluding this point, the model confirms the previous findings.

When the dataset is restricted to the European countries, findings are slightly less convincing because, despite the significance and the positive direction of the coefficient of corruption and the confirmation of almost every other coefficient, institutional quality has instead a negative and significant coefficient. Due to the fact that previously this control variable had a positive effect and to the fact that this new negative direction would imply a counterintuitive relationship, it is likely that in the European sample.

The second and the third models outcomes present the same questioning point of the first one, for both the world and Europe based dataset, but the others variables and corruption one confirm previous findings with good level of significance.

Table 7: Model 2 by Curini et Al. replication introducing Corruption

	Curini basic (without corrupt)	Worldwide Corrupt	EU only Corruption model
prox	0.105***	0.109***	0.153***
	(4.41)	(4.57)	(4.93)
1.loser_	-0.666***	-0.672***	-0.789***
	(-8.08)	(-8.16)	(-7.76)
1.loser_#c.prox	-0.113***	-0.118***	-0.170***
	(-4.52)	(-4.72)	(-5.30)
self_plac	-0.232***	-0.232***	-0.286***
	(-8.33)	(-8.32)	(-7.71)
c.self_plac#c.self_plac	0.0261***	0.0258***	0.0320***
	(10.33)	(10.24)	(9.13)
sat_dem	0.107***	0.0818*	0.189***
	(3.34)	(2.53)	(4.73)
gender	-0.0520	-0.0547	-0.0514
	(-1.75)	(-1.85)	(-1.43)
age	0.0633***	0.0640***	0.0560***
	(14.17)	(14.31)	(10.23)
c.age#c.age	-0.000463***	-0.000471***	-0.000392***
	(-9.99)	(-10.16)	(-6.94)
education	0.179***	0.176***	0.224***
	(20.42)	(20.03)	(19.74)
gov_perf	0.0402***	0.0362***	0.0559***
	(4.88)	(4.36)	(5.20)
new_democ	1.398***	1.314***	0.0732
	(15.80)	(14.77)	(0.57)
inst_qual	5.935***	3.509***	-6.794***
	(17.19)	(5.88)	(-4.90)
gdp_grow	0.0179*	0.0170*	-0.0587***
	(2.37)	(2.28)	(-4.32)
disprop	0.0124**	0.0132**	0.0851***
	(2.85)	(3.04)	(8.05)
checks	0.163***	0.146***	0.0966***
	(10.07)	(8.82)	(3.73)
polar_	-0.0365	-0.0610**	-0.114*
	(-1.79)	(-2.90)	(-2.07)
comp_voting	1.062***	1.033***	0.0801
	(24.69)	(23.66)	(0.89)
corrupt		0.133***	0.434***
		(4.97)	(7.33)
_cons	-5.686***	-4.466***	2.139*
	(-12.93)	(-9.05)	(2.29)
_cons	-1.997**	-2.305***	-1.825**
	(-3.09)	(-3.53)	(-2.77)
N	42767	42767	26852

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.001$

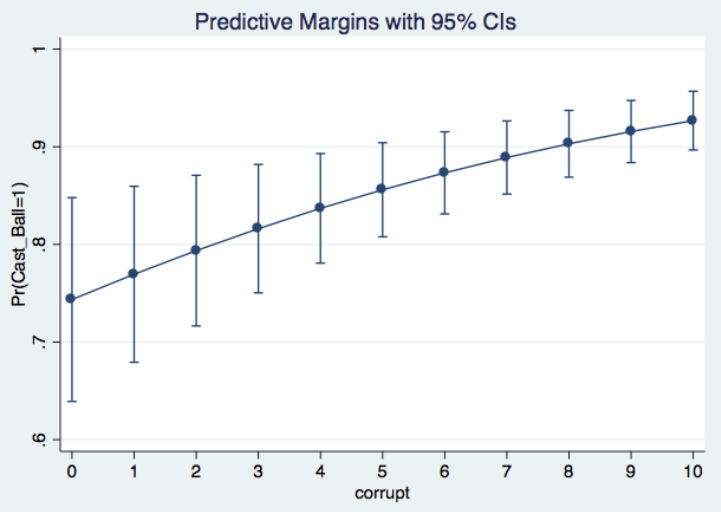
Table 8: Model 3 Introducing Corruption

	Curini basic	EU only	Worldwide
prox	0.151***	0.168***	0.151***
	(0.000)	(0.000)	(0.000)
1.loser_	-0.849***	-0.780***	-0.881***
	(0.000)	(0.000)	(0.000)
1.loser_#c.prox	-0.160***	-0.181***	-0.163***
	(0.000)	(0.000)	(0.000)
self_plac	-0.271***	-0.337***	-0.264***
	(0.000)	(0.000)	(0.000)
c.self_plac#c.self_plac	0.029***	0.034***	0.028***
	(0.000)	(0.000)	(0.000)
sat_dem	0.011	0.095	0.039
	(0.801)	(0.063)	(0.376)
gender	-0.038	-0.038	-0.037
	(0.346)	(0.412)	(0.357)
age	0.047***	0.044***	0.046***
	(0.000)	(0.000)	(0.000)
c.age#c.age	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)
education	0.138***	0.175***	0.141***
	(0.000)	(0.000)	(0.000)
gov_perf	0.082***	0.088***	0.085***
	(0.000)	(0.000)	(0.000)
religious	0.056***	0.103***	0.052***
	(0.000)	(0.000)	(0.000)
income	0.164***	0.180***	0.163***
	(0.000)	(0.000)	(0.000)
new_democ	1.432***	0.270	1.516***
	(0.000)	(0.202)	(0.000)
inst_qual	4.753***	-3.536	8.379***
	(0.000)	(0.292)	(0.000)
gdp_grow	0.017	-0.305***	0.038**
	(0.198)	(0.000)	(0.003)
disprop	0.024***	0.174***	0.028***
	(0.000)	(0.000)	(0.000)
checks	0.248***	0.302***	0.243***
	(0.000)	(0.000)	(0.000)
polar_	-0.078	0.627***	-0.118**
	(0.081)	(0.000)	(0.008)
comp_voting	1.008***	-0.275	1.073***
	(0.000)	(0.060)	(0.000)
corrupt		0.253*	0.166***
		(0.045)	(0.000)
_cons	-5.752***	-3.582	-7.373***
	(0.000)	(0.079)	(0.000)
_cons	-1.537*	-0.388	-1.368*
	(0.018)	(0.567)	(0.035)
N	26427	17393	26427

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.001$

The test of the marginal effect of corruption underlines the positive relationship showing that the less a country is corrupted (higher score on the TI index) the more is likely that citizens will vote, as fig 19 shows.

Figure 19: Marginal effect of Corruption



A further step in the analysis of the corruption variable is to test for eventual interactions between corruption and proximity, since is the main independent variable, and between corruption and satisfaction with democracy, which is the variable that mostly lose explanatory power once corruption is introduced.

Table 9: Model Corruption with interaction terms

	Corruption basic	Corruption#Proximity	Corruption#Satisfaction
prox	0.151***	0.229***	0.152***
	(4.41)	(4.67)	(4.46)
loser_	-0.849***	-0.835***	-0.884***
	(-6.43)	(-6.34)	(-6.70)
c.prox#c.loser_	-0.160***	-0.162***	-0.163***
	(-4.48)	(-4.58)	(-4.57)
self_plac	-0.271***	-0.246***	-0.264***
	(-6.71)	(-5.88)	(-6.57)
c.self_plac#c.self_plac	0.0286***	0.0268***	0.0281***
	(7.67)	(7.01)	(7.59)
sat_dem	0.0113	0.00932	
	(0.25)	(0.21)	
sex	-0.0382	-0.0386	-0.0371
	(-0.94)	(-0.95)	(-0.92)
age	0.0472***	0.0474***	0.0463***
	(7.55)	(7.59)	(7.43)
c.age#c.age	-0.000297***	-0.000299***	-0.000287***
	(-4.64)	(-4.67)	(-4.49)
education	0.138***	0.138***	0.141***
	(11.13)	(11.12)	(11.35)
gov_perf	0.0816***	0.0823***	0.0852***
	(7.13)	(7.19)	(7.47)
religious	0.0555***	0.0562***	0.0518***
	(4.25)	(4.30)	(3.99)
income	0.164***	0.163***	0.164***
	(10.38)	(10.34)	(10.39)
corrupt	0.166***	0.133***	
	(4.48)	(3.32)	
c.corrupt#c.prox		-0.0127*	
		(-2.19)	
c.corrupt#c.sat_dem			0.00243
			(0.40)
dem_age	1.432***	1.451***	1.517***
	(12.54)	(12.62)	(13.35)
inst_qual	4.753***	4.823***	8.395***
	(4.97)	(5.03)	(15.75)
gdp_grow	0.0173	0.0138	0.0389**
	(1.29)	(1.02)	(3.04)
disprop	0.0241***	0.0230***	0.0285***
	(4.11)	(3.90)	(4.92)
checks	0.248***	0.252***	0.243***
	(10.58)	(10.71)	(10.38)
polar_	-0.0783	-0.0746	-0.116**
	(-1.75)	(-1.66)	(-2.61)
comp_voting	1.008***	1.028***	1.074***
	(16.59)	(16.67)	(17.72)
_cons	-1.537*	-1.503*	-1.370*
	(-2.36)	(-2.31)	(-2.11)
N	26427	26427	26427

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.001$

What emerges from this test of possible interactions with corruption is poorly significant for the variable of interest therefore corruption effect is not related with other variables presented in the model. To some extent however, the introduction of corruption diminishes the variance explicated by the satisfaction variable but this can be explained by their correlation as corruption explains around the 28% of the variance of satisfaction with democracies.

2.4 General remarks

This replication work has mainly pointed out that Curini et al. model represents a robust instrument to approach the issue of individual voting decision. It confirms in fact that a single citizen is both affected by his own situation likewise the country features that he faces.

On one hand, the test over the European countries restricted dataset confirms that the model has wide applicability and can be used on different samples providing always reliable and coherent results.

On the other hand, the introduction of corruption and the following findings opens to the possibility of manipulating the model in order to focus on different aspects of the individual or country determinants.

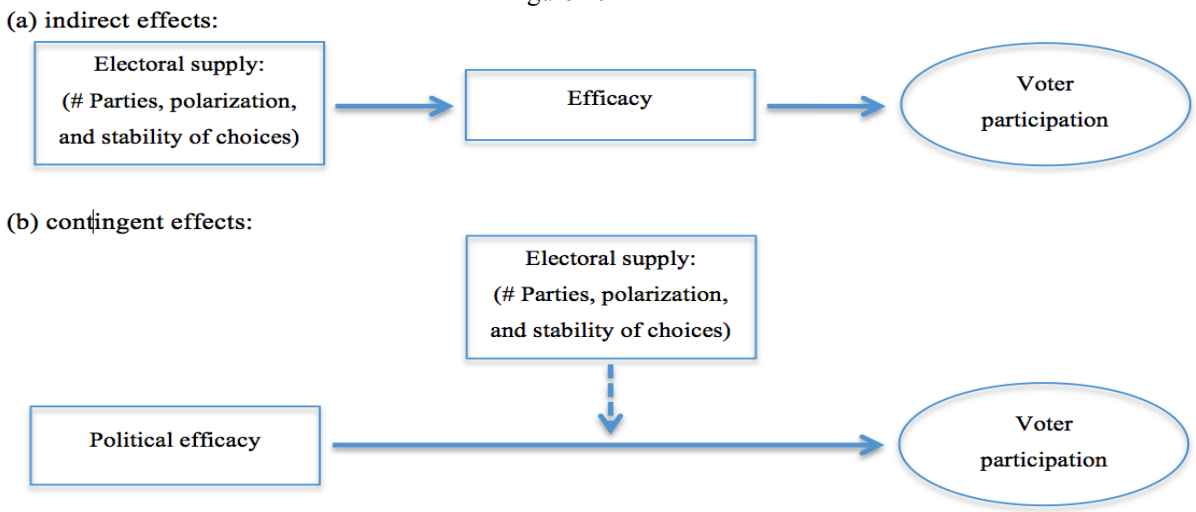
An additional test was also conducted leading to unsatisfactory results that enforced once more the choice of Curini et Al. On of the first assumptions they make presenting their work is that proximity might affect participation and voting in a non linear way: despite the theoretical discussion over the assumption of linear and non linear functions, the same models were run introducing proximity squared instead of proximity. Nevertheless results were not significant and showed extremely small coefficients therefore the goodness of the linearity assumptions seems to be confirmed.

CHAPTER 3: KITTILSON AND ANDERSON

In the chapter the authors wrote for R.J Dalton book "Citizens, Context, and Choice" their focus is on "Electoral supply and Voter Turnout", as the title itself points out. Like previously observed in this work, the authors as well agree with the relevance of the voter participation within the evaluation of the democratic process.

They build their theoretical framework on the widely discussed distinction over micro and macro foundations of turnout even though they devote particular attention to three elements. Kittilson and Anderson in fact focus on electoral supply and perception of the efficacy of political system claiming that these variables have a key role in the variance of the level of voter turnout. They address the issue of the causal chain that links the independent variables to voter participation, with three different structures of it: the first model is based on a direct effect structure where both electoral supply and impact of perceived efficacy are checked for their effect on voter participation; the second one accounts for an indirect effect structure where the electoral supply influences the efficacy which in turns affect voter participation; the third model finally evaluates a possible contingent effect where the electoral supply intervene partially in the direct relationship through which efficacy affects voter participation.

Figure 20[11]



[11] Source: Kittilson, M, and Anderson, C. 2010, *Electoral Supply and Voter Turnout,* in *Citizens, [see ref.]*

The data used by Kittilson and Anderson are taken from CSES 2 therefore, according to what has been previously discussed, it is possible to implement a multi level research design and this is the reason why the authors applies a logit model likewise Curini et al. do. Such a statistical tool has already been presented in chapter 2, therefore for eventual clarifications it is possible to refer to the previous discussion.

The dataset used covers elections from 2001 to 2005 in these countries, indicated in table 10.

Table 10[12]

CSES 2 used Kittilson and Anderson	
ALBANIA	2005
AUSTRALIA	2004
BRAZIL	2002
BULGARIA	2001
CANADA	2004
CZECH REPUBLIC	2002
DENMARK	2001
FINLAND	2003
FRANCE	2002
GERMANY	2002
HUNGARY	2002
ICELAND	2003
IRELAND	2002
ISRAEL	2003
ITALY	2006
SOUTH COREA	2004
MEXICO	2003
NEW ZEALAND	2002
NORWAY	2001
PHILIPPINES	2004
POLAND	2001
PORTUGAL	2005
ROMANIA	2004
SLOVENIA	2004
SPAIN	2004
SWEDEN	2002
SWITZERLAND	2003
TAIWAN	2004
GREAT BRITAIN	2005
UNITED STATES	2004

[12] Source: Kittilson, M, and Anderson, C. 2010, *Electoral Supply and Voter Turnout,* [see ref.]

The main independent variables are operationalized through different sub-variables that capture the main characteristics of the element they represent, according to Kittilson and Anderson.

The citizen's perception over the efficacy of the political system is introduced using two answers from the individual CSES survey about how much voting makes the difference and how much who is in power can make the difference, both operationalized from 0 to 5 where 5 represents the believe in the possibility to make the difference.

The electoral supply features are instead captured through three different variables that are the effective number of electoral parties, the average age of the parties and the polarization of the party system. These three variables should capture the different characteristics of the political system but a deeper discussion of them will be later presented because they seem not completely convincing.

The control variables for the individual level are the classic ones, therefore gender, age, education and income, to which an expanded set of variables regarding the individual political situation is added: the standard left-right self placement is supported with operationalized variables indicating whether the respondent is member of a union or not, whether he feels close to a party or not and whether he has been contacted or not during the electoral campaign. At the country level instead, the control elements are the value scored on the Freedom House index, the presence of legal enforcement of voting and the type of election.

Three different models are built in order to outline the different effects pointed out but the authors. The first one tests the direct effect hypothesis using as dependent variable if the respondent cast a ballot while jointly evaluating both the variables that indicates the level of political efficacy and the electoral supply.

Table 11: Direct Effect model from Kittilson and Anderson[13]

	Direct
peop_diff	0.199***
	(0.16)
who_diff	0.109**
	(0.016)
gender	-0.030
	(0.038)
age	0. 393***
	(0.020)
Education	0.184***
	(0.028)
Income	0.115***
	(.016)
self_plac	0.006
	(0.008)
union_mb	0.273***
	(0.053)
close_party	0.747**
	(0.041)
camp_invl	0.427**
	(0.053)
Enep	-0.040
	(0.074)
polar_	-0.006
	(0.122)
age_party	-0.000
	(0.004)
free_house	-0.193
	(0.250)
comp_voting	0.424
	(0.335)
type_elect	-0.437
	(1.14)
_cons	-0.601
	(1.74)
N	29182

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, $*** p < 0.001$

None of the party system features appears to be relevant in this case why the individual indicators of the perceived level of efficacy of the political system are significant.

[13] Source: Kittilson, M, and Anderson, C. 2010, *Electoral Supply and Voter Turnout,* in *Citizens, Context, and Choice: How Context Shapes Citizens' Electoral Choices,* Dalton, R.J and Anderson, C. 2010, Oxford University Press

The second model presents instead the analysis of indirect effects using distinctly the answers about the efficacy of voting and the efficacy of who is in power. The usual micro and macro controls are displaced in order to better account for the effect of the electoral system variables.

Table 12: Indirect Effect model from Kittilson and Anderson[14]

	(1)	(2)
	peop_diff	who_diff
main		
gender	0.039**	0.025
	(0.014)	(0.015)
age	0.001	-0.001
	(0.008)	(0.008)
education	0.060**	0.073**
	(0.010)	(0.010)
income	0.016*	0.020**
	(0.006)	(0.006)
self_plac	0.016**	0.011**
	(0.003)	(0.003)
union_mb	0.085**	0.019
	(0.020)	(0.020)
close_party	0.320**	0.374**
	(0.015)	(0.016)
camp_invl	0.109**	0.099**
	(0.018)	(0.019)
enep	0.033	0.040
	(0.028)	(0.029)
polar_	0.038	0.094*
	(0.047)	(0.048)
age_party	0.000	-0.001
	(0.002)	(0.002)
free_house	0.105	0.114
	(0.096)	(0.100)
comp_voting	-0.120	-0.111
	(0.128)	(0.132)
type_elect	1.03	-0.100
	(0.443)	(0.458)
_cons	1.93*	2.72**
	(0.672)	(0.695)
N	29673	30368

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[14] Source: Kittilson, M, and Anderson, C. 2010, *Electoral Supply and Voter Turnout,* in *Citizens, Context, and Choice: How Context Shapes Citizens' Electoral Choices,* Dalton, R.J and Anderson, C. 2010, Oxford University Press

On the overall the findings over this indirect effect are weak and polarization only seems to have effective relevance. Age of party system and number of parties poorly contributes to the explanation of the level of perceived efficacy while polarization has a positive and significant coefficient which means that citizens are more inclined to think of their political system as efficient when they are able to clearly outline the alternative sides.

So far the direct and indirect effect hypothesis have not be proven therefore the contingent hypothesis is tested in the third model. In order to account for this kind of effect, micro-macro interaction terms are introduced to outline possible contingent effect and they are added to the model structure that disentangled the direct effect.

Likewise the previous attempt, on the overall, findings are not robust and only two interactions terms present significant coefficients. They are the separate interactions of polarization and party age with the variable "who people vote for makes the difference".

Table 13: Contingent Effect from Kittilson and Anderson[15]

	Contingent
peop_diff	-0.079
	(0.060)
gender	0.027
	(0.039)
age	0.394**
	(0.020)
education	0.193**
	(0.028)
income	0.116
	(0.016)
self_plac	0.008
	(0.008)
union_mb	0.275**
	(0.053)
close_party	0.772**
	(0.041)
camp_invl	0.432**
	(0.053)
enep	-0.011
	(0.081)
polar_	-0.313*
	(0.129)
age_party	-0.006
	(0.004)
free_house	-0.175
	(0.249)
comp_voting	0.409
	(0.334)
type_elect	-0.410
	(1.14)
c.enep#c.peop_diff	-0.004
	(0.009)
c.polar_# c.peop_diff	0.087**
	(0.012)
c.age_#c.peop_diff	0.001**
	(0.000)
_cons	0.411***
	(10.19)
_cons	0.635
	(1.74)
N	29673

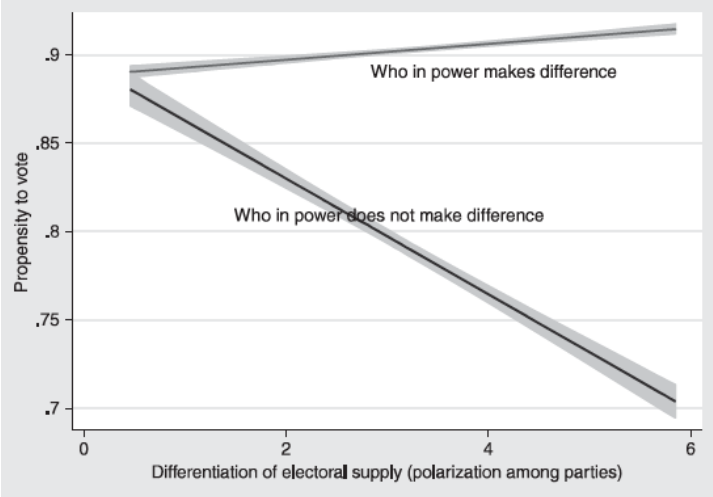
Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.001$

[15] Source: Kittilson, M, and Anderson, C. 2010, *Electoral Supply and Voter Turnout,* in *Citizens, Context, and Choice: How Context Shapes Citizens' Electoral Choices,* Dalton, R.J and Anderson, C. 2010, Oxford University Press

What the Kittilson and Anderson concludes after the design of this three models is that electoral supply plays a contingent role in influencing voter participation: where the party system connects citizens to a more ideologically polarized set of choices, citizens convinced of the efficacy of the system are more likely to vote, while those believing the political institutions are inefficacious are less likely to vote. It is important however to underline that the "quality" (polarization) of the party system in spite the "quantity" (enep) is far more relevant because the effective number of parties has very little impact.

The authors's main finding is here summarized with this pictures that clarifies how opposite trends are originated by polarization once it is jointly evaluated with the perceived efficacy.

Figure 21[16]: contingent effect of perceived efficacy and differentiation of electoral supply



More polarization means higher propensity to vote among those who believes that people in power can make the difference, while it strongly depress the probability of voting of citizens feeling that elected people are not able to affect their situation.

[16] Source:Kittilson, M, and Anderson, C. 2010, *Electoral Supply and Voter Turnout,* in *Citizens, Context, and Choice: How Context Shapes Citizens' Electoral Choices,* Dalton, R.J and Anderson, C. 2010, Oxford University Press

3.1 Discussion of Kittilson and Anderson work

Unless noted in Curini et Al. the work of Kittilson and Anderson comes to less robust conclusions. The contribution over the contingent effect of polarization on the relationship between trust in who is in power and the propensity to vote seems a bit poor compared to the initial goal of presenting the different interactions of party system offer, perceived efficacy of political system and electoral participation.

The most problematic issue is the lack of importance of the aggregate political variables that makes the political offer looking irrelevant in such relationship.

To discuss this research, first of all, the analysis has been run in the most faithful way possible only extending the 2008-2013 dataset. In this case the reproduction of the variables was more complicated as the authors did not provide the same amount of information as Curini et al. did. Nevertheless the design of the model and the operationalization of the variables is the most similar possible to the original one, replicating the multilevel mixed effect structure, evaluating electoral participation considering the political offer and the perceived efficacy of the system. The two macro variables are decomposed, in this initial step, using Kittilson and Anderson variables therefore political systemic features are captured by the effective number of party, the average age of the parties and the polarization of the system while the perceived efficacy of the political system is isolated through the two survey variables question about the difference that can be made by voting and by the people in political offices.

Table 14: Direct Effect model run on the updated dataset

	Direct
peop_diff	0.0376***
	(25.64)
who_diff	0.0000491
	(0.03)
gender	-0.00211
	(-0.60)
age	0.00187***
	(17.31)
education	0.0153***
	(15.56)
income	0.0128***
	(9.40)
self_plac	0.00134
	(1.81)
union_mb	0.0253***
	(5.23)
close_party	0.00643
	(1.71)
camp_invl	0.00322
	(0.86)
enep	0.00560***
	(4.23)
polar_	0.0197***
	(6.94)
age_party	0.00145***
	(16.75)
free_house	0.0180***
	(5.32)
comp_voting	0.0458***
	(18.34)
type_elect	-0.148***
	(-20.12)
_cons	0.430***
	(23.10)
_cons	-1.201***
	(-290.18)
N	29182

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.001$

Despite the significance of the political offer indicators that was not present in the analysis the coefficients are still not large enough to support the hypothesis of the direct effect of the political offer on the electoral participation. On the opposite, the individual perception indicators present a prevalent incidence of the variable over effectiveness of people instead of the one of those in power.

Table 15: Indirect Effect model run on the updated dataset

	peop_diff	who_diff
gender	-0.0153	-0.0174
	(-1.09)	(-1.21)
age	0.00261***	0.000427
	(6.10)	(0.98)
education	0.0320***	-0.00215
	(8.20)	(-0.54)
income	0.0462***	0.0171**
	(8.56)	(3.11)
self_plac	0.0304***	0.0164***
	(10.41)	(5.52)
union_mb	0.0510**	0.104***
	(2.65)	(5.34)
close_party	0.0119	0.519***
	(0.81)	(34.79)
camp_invl	0.0621***	0.213***
	(4.18)	(14.02)
enep	-0.00751	0.0381***
	(-1.43)	(7.03)
polar_	0.115***	0.0330**
	(10.22)	(2.90)
age_party	0.0000848	-0.000376
	(0.25)	(-1.14)
free_house	0.252***	0.0753***
	(18.96)	(5.48)
comp_voting	0.00579	-0.0662***
	(0.58)	(-6.51)
type_elect	0.214***	0.264***
	(7.34)	(8.80)
_cons	2.274***	2.639***
	(32.02)	(36.74)
_cons	0.184***	0.216***
	(44.75)	(53.30)
N	29673	30368

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.001$

In this case, the findings are interestingly significant and relevant for the effect of party system features over *peop_diff* variable, especially for the polarization and the Freedom House score. The effect of the political offer indicators on the *who_diff* variable instead, though effective number of parties is significant on the contrary to the previous model, on the overall have lower impact.

It is possible then to asses that political offer probably interacts on the perception of citizens over the difference that can be made by people when voting while the same is less convincing over the perceived efficacy of people in political roles.

The last model, dealing with the contingent effect, does not provide further insights on the issue because no relevant effect emerges.

Table 16: Contingent effect model run on the updated dataset

	Contingent
peop_diff	0.0431***
	(4.74)
gender	-0.00302
	(-0.86)
age	0.00189***
	(17.65)
education	0.0153***
	(15.62)
income	0.0128***
	(9.48)
self_plac	0.00127
	(1.73)
union_mb	0.0261***
	(5.43)
close_party	0.00649
	(1.77)
camp_invl	0.00316
	(0.85)
enep	0.000405
	(0.09)
polar_	0.0230**
	(2.67)
age_party	0.00209***
	(8.33)
free_house	0.0186***
	(5.55)
comp_voting	0.0451***
	(17.95)
type_elect	-0.150***
	(-20.50)
c.enep#c.peop_diff	0.00120
	(1.12)
c.polar_#c.peop_diff	-0.000804
	(-0.39)
c.age_part~f	-0.000166**
	(-2.76)
_cons	0.411***
	(10.19)
_cons	-1.201***
	(-292.67)
N	29673

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.2 Focus on European countries

The model has been run, likewise done in Curini et al. discussion, on a sample restricted to European countries only because of the unique source that such a subset represent as at the same time different countries share similar dynamics and face common issues. In this case however, no particular finding needs to be highlighted as the results follow the scheme of the worldwide based analysis.

Table 17: Direct effect model run on the European countries only dataset

	Direct
peop_diff	0.0465***
	(23.33)
who_diff	-0.000473
	(-0.24)
gender	0.000210
	(0.04)
age	0.00227***
	(15.63)
education	0.0215***
	(15.38)
income	0.0185***
	(9.90)
self_plac	0.000286
	(0.27)
union_mb	0.0353***
	(5.70)
close_party	0.00509
	(1.01)
camp_invl	0.00606
	(1.19)
enep	0.0188***
	(7.15)
polar_	0.0167***
	(3.80)
age_party	0.00109***
	(9.15)
free_house	-0.00878
	(-0.98)
comp_voting	0.0763***
	(10.82)
type_elect	-0.159***
	(-19.19)
_cons	0.322***
	(11.43)
_cons	-1.129***
	(-214.69)
N	18068

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** p < 0.00

Table 18: Indirect effect model run on the European countries only dataset

	peop_diff	who_diff
gender	-0.00518	0.00405
	(-0.29)	(0.23)
age	0.00324***	0.000780
	(6.04)	(1.46)
education	0.0599***	0.0187***
	(11.57)	(3.61)
income	0.0387***	0.00924
	(5.60)	(1.34)
self_plac	0.0169***	0.0187***
	(4.34)	(4.80)
union_mb	0.0777***	0.133***
	(3.38)	(5.80)
close_party	-0.0161	0.528***
	(-0.88)	(28.98)
camp_invl	0.0986***	0.262***
	(5.23)	(13.90)
enep	-0.109***	0.00763
	(-11.20)	(0.77)
polar_	0.0601***	0.0639***
	(3.69)	(3.88)
age_party	-0.00162***	-0.00169***
	(-3.71)	(-4.09)
free_house	0.209***	0.257***
	(6.35)	(7.64)
comp_voting	-0.430***	-0.443***
	(-16.69)	(-16.82)
type_elect	0.318***	0.325***
	(10.43)	(10.49)
_cons	2.995***	2.330***
	(29.80)	(23.16)
_cons	0.188***	0.207***
	(35.91)	(40.52)
N	18320	19093

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** p < 0.001

Table 19: Contingent effect model run on the European countries only dataset

	Contingent
peop_diff	0.0407**
	(2.61)
gender	-0.00111
	(-0.23)
age	0.00230***
	(15.96)
education	0.0216***
	(15.51)
income	0.0183***
	(9.90)
self_plac	0.0000792
	(0.08)
union_mb	0.0350***
	(5.69)
close_party	0.00459
	(0.94)
camp_invl	0.00624
	(1.23)
enep	-0.0243**
	(-2.89)
polar_	0.0622***
	(4.43)
age_party	0.00111***
	(3.29)
free_house	-0.00403
	(-0.45)
comp_voting	0.0721***
	(10.19)
type_elect	-0.159***
	(-19.30)
c.enep#c.peop_diff	0.0108***
	(5.34)
c.polar_#c.peop_diff	-0.0118***
	(-3.42)
c.age_part#c.peop_diff	-0.00000791
	(-0.10)
_cons	0.347***
	(5.22)
_cons	-1.130***
	(-216.37)
N	18320

Standard errors in parentheses; $^{+}p < 0.10$, *$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.3 Restyled model

This first replicative study reproduced as close as possible the original research design, running it on more recent data. The results are not univoque likewise they were in the original model. Since the scope of Kittilson and Anderson research is extremely interesting, the attempt to differently operationalization some of the variables seems to be a good starting point to address to problematic outcomes.

On the overall, individual level variables are less questionable with respect to the macro ones because of one main reason: they are linked to the questions asked in the CSES individual survey so they are fixed and less possibility to choose among them is given. For this reason, in spite the fact that the perceived efficacy of the political system might be better captured through other instruments or questions, the chances that people and who is in power can make the difference, represent the best proxies for this research purpose. However, it raise some doubt the choice of including as control variables in addition to self placement the union membership, whether the respondent feels close to a party and the dichotomous variable over the contact with politicians: self placement already provides information that are somehow conductible to the other variables so the first revisive decision of Kittilson and Anderson model is to exclude all the other individual level political variable in favour of the classic left right self-placement.

At the macro level, a wider analysis is required because the set of variables chosen by the authors to operationalize the features of the political offer is not particularly convincing.

The use of the effective number of electoral parties indicates a characteristic of the political offer that is not univocal: completely different parties configuration and distribution can potentially lead to the same *enep* score therefore it is a measure that can draw similar results from extremely divergent situations. Since the idea behind this variable is to capture the features of the electoral offer, the first choice is to change the effective number of electoral parties with the simple number of electoral parties: the rationale is that in order to capture the context that a citizen faces during the elections, the weights linked to the enep are useless because the important element is the number of alternatives more that the strength of such alternative parties.

This last reasoning applies similarly to the polarization index since it includes party position weighted for their electoral consensus: again, the interest is on the

possible choice and not on the choice made therefore the size of the range covered by the parties that compete in the elections is introduced in substitution of polarization.

Table 22: distribution of n of parties

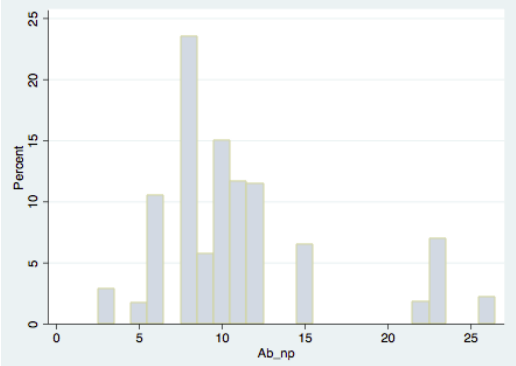
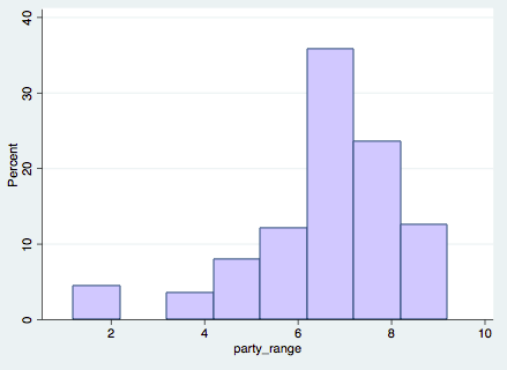


Table 23: distribution of parties' range values



To address the issue of the stability of the political system, Kittilson and Anderson make use of the average age of the parties present in the political arena: this variable again captures something that is slightly different from the stability of the party system as many different brand new parties plus an old one might score the same average than three mature parties. Furthermore it does not really deals with the political arena features because creating new parties might not effectively change the situation of the political offer.

For all these points, in order to account for the level of stability of a political system the variable chosen here is the electoral volatility that considers the average variation of the vote share of a party from an election to the following one. Accounting for this measure related to the election that occurred at time t-1 and t-2, the model will reflect the situation that citizens faced when deciding whether or not in the election object of the survey. Higher electoral volatility means that the citizen votes to define a liquid system that often assumes different configuration while in case of lower volatility the political system will always stick to a constant scheme in spite equilibrium changes.

The Freedom House score, although it is widely used and certainly unquestionable, has been replaced with the variables used in Curini et al. to capture the institutional features that are the DPI institutional quality score and the checks and balances one in order to better evaluate the institutional design effect.

Type of election variable has been substituted with the disproportionality of the electoral system as such feature summarize in a closer way the perception of citizen over the effect of their vote: all the psychological aspects of the vote are linked to that characteristics therefore studying the inner interactions of the effect chain that goes from perceived efficacy of the political system to the voting activity must take it into account.

Compulsory voting is kept as control variable and to it has been added the democratic age in order to control for new established democracy that can potentially express peculiar trend.

Table 20: Direct effect restyled model

	Direct effect
peop_diff	0.0424***
	(20.56)
sex	0.00221
	(0.45)
age	0.00203***
	(13.86)
education	0.0165***
	(11.44)
income	0.0180***
	(9.60)
self_plac	0.000763
	(0.68)
inst_qual	-0.0358
	(-0.19)
checks	0.0131***
	(4.85)
new_dem	0.126
	(0.42)
comp_voting	0.00524
	(0.25)
Ab_np	*-0.0104****
	(-10.12)
party_range	*-0.00585****
	(-4.25)
volat_	*0.00384****
	(10.56)
disprop	0.00831***
	(7.45)
_cons	-1.215***
	(-210.78)
N	15054

Standard errors in parentheses; $^{+}p < 0.10$, *$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results of the direct effect model run with a different operationalization of the variables provides significant results the indicates on the overall that both the perceived efficacy of the political system and the electoral offer affects the electoral participation.

The peop_diff variable shows a positive and significant coefficient that indicates that the more people trust the political system, the more likely they are to vote. If such result was already present in the previous analysis, through this new variable operationalization significant results emerge for the electoral supply. All the three new indexes, number of parties present on the ballot, range of the parties position and volatility, show significant coefficients although their magnitudes are not particularly big. While volatility has a positive sign, that implies that the more the electoral offer changes the more people vote, on the other hand the number of parties and the range of the political supply have negative coefficients. According to the path indicate by this results, citizens seems to prefer to vote when choices are restricted to a smaller number and when parties do not differentiate among each other too much.

Figure 24: marginal effect parties' position range

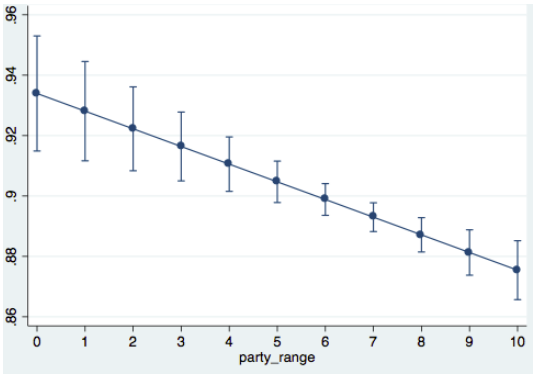
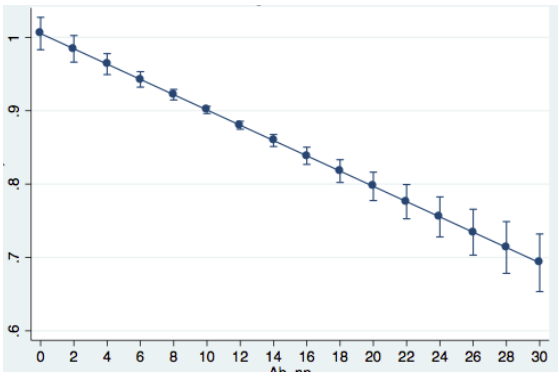


Figure 25: marginal effect of n of parties



Evaluating their marginal effect for both what comes out is that the impact of the number of parties and of the parties' position range decrease as the two variable increase in their value therefore adding one more party to the political offer will produce much more effect if it is from 3 to 4 than to 14 to 15; the same reasoning applies to a marginal increase for the party_range variable.

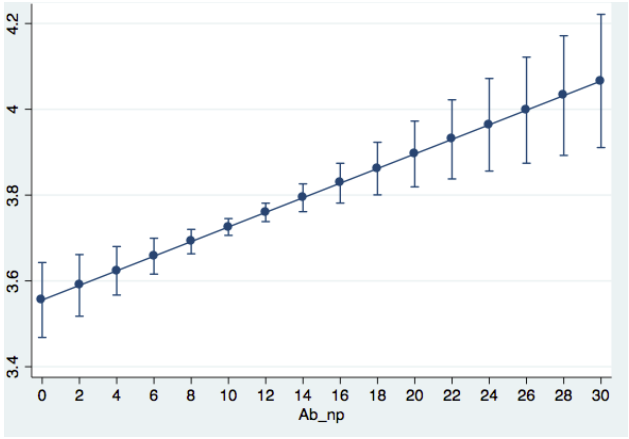
Table 21: Indirect effect restyled model

	Indirect Effect
	peop_diff
sex	0.0230
	(1.19)
age	0.00313***
	(5.42)
education	0.0436***
	(7.67)
income	0.0422***
	(5.71)
self_plac	-0.0138**
	(-3.12)
inst_qual	5.495***
	(7.54)
checks	-0.0980***
	(-9.17)
dem_age	-0.421
	(-0.36)
comp_voting	0.449***
	(5.40)
Ab_np	0.0170***
	(4.18)
party_range	-0.0480***
	(-8.84)
volat_	-0.0000485
	(-0.03)
disprop	-0.0101*
	(-2.30)
_cons	0.161***
	(27.88)
N	15054

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** $p < 0.00$

The indirect effect model presents expected significant variables at the individual level while the three re-operationalized variables shows the same significance and direction of the coefficient for the party_range variable only. On one hand volatility is not significant in spite maintaining a positive coefficient, on the other hand, the number of parties shows a positive relation instead of the negative one showed in the direct effect model.

Table 26: marginal effect of n of parties (indirect effect)



This implies that, since such coefficient of Ab_np emerges in the indirect effect model, which represents how the electoral supply affects the perceived efficacy of the political system, a larger number of parties increase the trust in the political system. This positive indirect effect of Ab_np is confirmed looking at the marginal effect of this variable which shows how the effect gets stronger jointly with the increase of the number of parties.

The last model presents the contingent effect analysis which should disentangle possible interactions of the electoral supply on the effect that links the perceived efficacy of the political system and the probability to cast a ballot. This latter relationship is confirmed by the peop_diff variable showing a positive and significant coefficient which confirms that the perceived efficacy positively affects the probability of voting.

Table 22: Contingent effect restyled model

	Contingent Effect
peop_diff	0.0387***
	(4.24)
sex	0.00196
	(0.40)
age	0.00202***
	(13.81)
education	0.0165***
	(11.51)
income	0.0178***
	(9.51)
self_plac	0.000718
	(0.64)
Country level variables	
inst_qual	0.0289
	(0.16)
checks	0.0135***
	(4.99)
dem_age	0.133
	(0.45)
comp_voting	0.0112
	(0.53)
Ab_np	-0.0115***
	(-4.28)
party_range	-0.0190***
	(-4.04)
volat_	0.00824***
	(7.87)
c.Ab_np#c.peop_diff	0.0000521
	(0.08)
c.party_range#c.peop_diff	0.00353**
	(3.10)
c.volat_#c.peop_diff	-0.00116***
	(-4.59)
disprop	0.00892***
	(7.96)
_cons	-1.216***
	(-211.01)
N	15054

Standard errors in parentheses; $^{+}p < 0.10$, $*p < 0.05$, $** p < 0.01$, *** p < 0.00

The set of three variables that accounts for the features of the political offer presents coefficients similar to the direct model ones, though slightly less large in terms of magnitude as expected since part of their explicative power is captured by the interaction terms that accounts for the contingent effect.

In fact, each of these three variable is present also interacted with the peop_diff variable presenting positive but non significant coefficient in the case of the number of parties, significant and positive coefficient for the parties' position range and, last but not least, negative and significant one for the volatility. However, all of these interaction terms present quiet small magnitude coefficient therefore it is reasonable to think that the contingent effect could have a secondary role and that the stronger effects are the direct and the indirect ones.

3.4 General remarks

The application of the modelling structure of Kittilson and Anderson to the updatet dataset, both on the worldwide and on the European sample, provide stronger indications over the effect of the electoral supply variables on the voting participation with respect to the original findings. In particular, within the two direct effect model these set of variable shows significant results, with larger magnitude in the European sample analysis.

Indirect effect models are less coherent and univoque in their results at this stage: among the political offer variables, polarization that is the only one that shows constantly a positive and significant coefficient, indicating that parties weighted position influences how citizens perceive the efficacy of the political system.

Contingent effect models finally shows contrasting coefficient from one dataset to the other, and even though they are in some cases significant, the magnitude is always small, indicating that among the three effect it is probably the weakest.

In spite of the findings of these analysis, the issue of the variable choice is central since the indexes selected by Kittilson and Anderson do not really measure what the authors indicate in their theoretical presentation of the scope of the work. For this reason, the further step of the discussion has been to test the original model design using a different set of variables that might better capture the features of the political supply.

The results presented in chapter 2.4 indicates once more that the direct effect model shows the most convincing results among the three while the less reliable is the contingent effect one. In this case, differently from the previous outcomes, indirect effect seems to be relatively satisfying even though the size of the magnitude relegates it to a secondary role with respect to the direct effect.

CHAPTER 4: CONCLUSIONS

The aim of this work was to explore the phenomenon of voter turnout accounting for both the country and the individual level determinants of electoral participation. Starting from this initial idea soon the literature showed different examples of analysis with the same scope and the same structure. Nevertheless, since such models represent a relatively innovative typology of study, they have been able to analyse only a narrow temporal period. For this reason a replicative study could be meant not only as a faithful replication of the original model to check its own validity but could be meant as quasi self-standing research as the different time range of data implies the possibility diverse trends from the ones showed in the original researches.

Why policy Representation Matters consists of a wide analysis of the effect of the perceived distance between the individual and the government position. Among all the interactions presented, the most interesting to the extent of this work is the analysis of the propensity to participate to the political life and especially the propensity to vote, in light of the concept of proximity.

The model built for this purpose by Curini, Memoli and You accounts for both the individual and the country determinants of voting producing findings that confirm authors' intuitions over proximity and self-placement effect on the electoral participation. The same results are on the overall present in this updated dataset, confirming the core results over self placement of citizens and the effect of being an electoral loser. Moreover, the marginal effect analysis of self placement confirms the findings of Curini et Al. strengthening their finding over the lower likelihood to vote of people located in the centre of the political spectrum compared to extremists one, with an higher propensity of citizens on the left extreme.

The country level variables, instead, in the original work lacked of significance while in this update analysis are statistically significant in spite some puzzling counterintuitive direction of coefficients. The main questioning finding is the one over the effect of the gdp growth that is positive therefore should imply that the more a country grows, the higher the probability of higher turnout: this impact however clashes with the expectations of voters more interested in inducing a change in the government

when economy is performing badly. An analysis of the marginal effects and of the distribution of cases however reveals the origin of this misleading finding; it is in fact due to the presence of a large number of respondent from Australia, whose economy has been performing well and where voting is legally enforced. A double proof of this explanation is provided by the second step of the replicative study, that is based on the analysis of the European countries only, where the direction of the effect of gdp growth is negative as expected.

This choice is related to the fact that the dataset is built using the economic crisis of 2006-2008 as turning point and therefore it considers post crisis elections only. It is undeniable that Europe has been hardly struck by the last recession and that at the same time it represents a peculiar set of heterogeneous countries sharing homogeneous questions within a common framework therefore it was straight forward to be curious about the specific trend of this area.

What comes out from this restricted dataset confirms the previous findings and presents the expected variations like the loss of strength of both the democratic age variable and the compulsory voting one because of the lower variance of the two within the European dataset.

The last element of the discussion and replication of Curini et Al. model is the introduction of a further variable at the country level, that is the index of perceived corruption. The choice of the Transparency Index is based on the fact that corruption is largely considered one of the main problems among those democracies facing an increasing disaffection. The findings once this new element is introduced do not vary substantially indicating that corruption perception contributes to explain the likelihood of voting. Furthermore, the fact that a new element does not subvert the previous outcomes, gives strength to the model and suggests that it is open to further manipulation and re-evaluation in order to focus and investigate on different issues related to the voting participation issue.

On the overall, working over the model over the determinants of voting presented by Curini, Memoli and *You in Why Policy Representation Matters* convinces that it is an extremely useful tool for the analysis of the contemporary trend of electoral participation determinants and as well for the construction of historical series to

evaluate the evolution of the relations that occur between the variables and the propensity to vote.

The chapter of Kittilson and Anderson, written for Dalton's *Citizens, Context, and Choice,* addresses the issue of voting determinants from a different perspective, aiming not only to describe the phenomenon but to provide also explanation of the casual chain that links the different determinants of voting.

Authors built three different models in order to for the possible effect of electoral supply and perceived efficacy of political institutions over the voter turnout.

The original empirical findings are in this case less convincing since the only statement that the authors infer is over the different effect that the differentiation of the political offer has according to the fact that citizens believe or not that who is in power can make the difference.

The basic replication of their model over the updated dataset provides the same non decisive outcomes as the model that shows some coherent trend is the regards the direct effect. Likewise in Curini et Al. discussion, the geographical based distinction has been also applied coming to the same weak findings.

Since the modelling of Kittilson and Anderson did not prove to be particularly robust, the following step taken was more substantial than the one done discussing Curini et Al. analysis. Many of the variables where not convincing in light of which aspect t they should have captured therefore, holding the same three multilevel model structure of the research, new operationalization mainly of the electoral supply have been provided.

Once this new set of variable is used, the model that shows the most interesting outcomes is the one built for the direct effect, while the indirect and contingent one show less convincing findings. Therefore, according to these discussed models, the more convincing hypothesis is that both electoral supply and perceived efficacy of the political institutions directly affect the voting probability, and that their reciprocal interactions have a small and neglegible impact.

In spite the wider discussion of this second study, it is important to stress that the intuition of disentangling the diverse interactions of the elements presented by Kittilson and Anderson is interesting and challenging. Addressing a causal interaction presents

many difficulties that begin with operationalization matters. For this reason, possible development should address this issue starting eventually from a wider perspective and discussing step by step how each independent macro variable should be captured instead of already presenting a large number of variables that ends up being not efficacious.

New indexes might be necessary to better capture the features of the political supply that effectively affects how citizens shape their opinion over the political system and their idea over voting. For example the feature that Kittilson and Anderson try to capture through polarization while is later operationalized using the range of the political parties position, in both cases is only partially captured since what really affects citizen's perception is the position of the single party within the overall parties disposition. This measure should accounts for both the overall distribution of the parties and their distance in order to represent the distribution of the political alternatives that citizens face.

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