

## TURNOUT AND FRACTIONALIZATION\*

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*Abstract:* The literature has largely shown that linguistic fragmentation is negatively correlated with social activities, and public expenditure. However, little attention has been paid the way fragmentation affects turnout. Surprisingly, fragmentation has been omitted in most influential cross-sectional studies on turnout, and when it has been included evidence is, at best, mixed. This article examines the impact of social heterogeneity on turnout in national elections, using data from 22 countries. The results show that turnout is inversely related to ethnolinguistic fractionalization, even after controlling for institutional, political and socioeconomic determinants.

*Keywords:* Fractionalization, Turnout, Heterogeneity, Civic Duty, Social Capital.

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## 1. Introduction

One of the best established propositions in the large literature on the quality of government is that “more homogeneous communities foster greater levels of social-capital production” (Costa and Kahn, 2003: 103) and consequently “ethnolinguistically homogeneous countries have better government than heterogeneous ones” (La Porta et al, 1999: 265). More homogeneous communities have a higher level of social interaction, leading to more social capital, and social capital influences economic outcomes and public policies (Alesina and La Ferrara, 2000; Alesina et al, 1999; Alesina and Zhuravskaya, 2011; Easterly and Levine, 1997; La Porta et al, 1999). Costa and Kahn (2003: 104) summarized the evidence in the following way: “over the past \*five years, at least 15 different empirical economic papers have studied the consequences of community heterogeneity, and all these studies have the same punch line: heterogeneity reduces civic engagement. In more-diverse communities, people participate less”.

Surprisingly, existing cross-country literature has never considered whether fractionalization lowers turnout. For instance, in the influential books by Blais (2000) and Franklin (2004) on the determinants of turnout, fractionalization is absent from the empirical models. Of course, race or having a religious denomination have been systematically included in models of voter turnout at the individual level, although a non-significant effect is found in most of the studies (Smets and van Ham, 2013). However, this individual evidence is not helpful as it is unable to capture the degree of heterogeneity in communities. At the same time, when Alesina et al (2003) or Alesina and Zhuravskaya (2011) study the impact of fractionalization and segregation on more than twenty dependent variables capturing economic success and the quality of democratic institutions, turnout is not considered.

The few scholars who have directly addressed the relationship between fractionalization and turnout –and mainly focused on case studies and particularly on the US case– have found mixed evidence. Some of these studies have posited that social heterogeneity will depress turnout levels (Hill and Leighley, 1999; Hero, 2007; Yamamura, 2011) whereas others do not find a clear pattern or even a positive one (Deutsch, 1961; Verba et al, 1995; Oliver 1999). While ethnic diversity has received overwhelming attention from the literature, other potential sources of social

heterogeneity have been less studied. Hence, it lacks an aggregate and cross-country comparison to capture how different types of social fractionalization affect turnout.

The purpose of this paper is to shed light on this research gap. To do so, we re-estimate Franklin's (2004) models accounting for the level of turnout in lower chamber elections in 22 countries from 1945 to 1999 but we add ethnic, linguistic and religious fragmentation to the specifications. The results indicate that turnout is negatively correlated with ethnic and linguistic fragmentation, but not with religious diversity. The article continues as follows. In the next section the arguments about how fractionalization should lower turnout are discussed. The third section describes the methods, the data and the results of the empirical analysis. The last section concludes.

## **2. Arguments**

The causal relationship between ethnolinguistic heterogeneity and political, economic or social outputs is not simple; it requires more than just one mechanism to make sense. The so-called macro-micro-macro model of collective social action by Coleman (1986) is a useful tool to disentangle the history behind fractionalization. As explained by Hedström and Swedberg (1998: 21), a proper explanation of variation at the macro-level entails showing how macro-states influence the behavior of individual actors, and how these actions generate new macro states at the later time. However, prior to the establishment of those micro-mechanisms leading the relation of social phenomena, it is necessary to clarify the extent to which the macro-macro relationship holds. There are two approaches through which we can address the relationship between social heterogeneity and turnout.

Firstly, political economy scholars have argued that ethnic and linguistic fragmentation is negatively correlated with many social phenomena such as social activities (Alesina and La Ferrara, 2000), tax morale (Lago-Peñas and Lago-Peñas, 2010), public good expenditures (Alesina et al, 1999), trust (Glaeser et al, 2000), group membership (La Ferrara, 2002), government performance and growth (La Porta et al, 1999; Alesina et al, 2003) or the size of welfare states (Alesina et al, 2001). Nevertheless, none of them have addressed turnout as dependent variable on their studies. Turnout is the mechanism that makes government representative (Manin et al,

1999), the primary channel of citizen participation in electoral democracies (Dalton and Wattenberg, 1993) and a potential source of partisan biases to the extent that some groups participate more than others (Hansford and Gomez, 2010). Thus, we find this omission puzzling, especially since political economy literature offers compelling reasons for expecting a negative relationship between heterogeneity and turnout.

The role of preferences, which are affected by contexts of high racial and/or linguistic diversity (Becker, 1957) have been posited as a source of decreased social capital production. According to Alesina et al (1999: 1243-1244), ethnic groups have different inclinations over which type of public goods to produce with tax revenues and in that case representatives of interest groups with an ethnic base are likely to support only the benefits of public goods that accrue to their groups<sup>1</sup>. Simultaneously, this desire for different policy outcomes is not only related to individual interests but with group identity as well (Glaeser, 2001). Heterogeneity among individuals can lead to different preferences, but because policies affect group status, they may reflect identity concerns as well (Shayo, 2009: 168).

The implication is that, in heterogeneous societies, the utility function for participating changes depending on the group. “Individuals prefer to interact with others who are similar to themselves in terms of income, race or ethnicity. If preferences are correlated with these characteristics, then our assumption is equivalent to saying that individuals prefer to join groups composed of individuals with preferences similar to their own” (Alesina and La Ferrara, 2000: 850). The biased or non-interaction among individuals erodes social capital. On the contrary, in more homogeneous communities, the level of social interaction is higher, thus increasing social capital (Alesina and La Ferrara, 2000; Costa and Kahn, 2003). Since racial heterogeneity varies greatly across countries, through social capital it may influence economic and public policies (Alesina and La Ferrara, 2000). Therefore, in line with political economy literature, we should expect lower levels of turnout rates in those countries that are more socially heterogeneous.

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<sup>1</sup> For instance, blacks are more supportive of spending on public education than whites (Alesina et al, 1999: 1247).

The second approach to the relationship between social heterogeneity and turnout comes from the political science literature. Evidence in this case, though, is far from conclusive. At the individual level, a great group of studies show a relationship between race and turnout (Leighley and Nagler, 1992; Deufel and Kedar, 2010). However through individual characteristics it is not possible to capture the degree of heterogeneity in communities. A clear example is the study of Barreto et al. (2004) finds, using individual data on five Southern California counties, that Latinos participated more in Latino-majority than in Latino-minority districts. By showing that individual behavior is not independent of the social composition of the community, this study demonstrates that we need to take into account the heterogeneity of the electorate when addressing electoral participation.

At the aggregate level, a group of studies has shown that fractionalization is associated with lower turnout levels, considering mainly racial diversity (Hero, 2007; Hill and Leighley, 1999), income and age heterogeneity (Yamamura, 2011), or community size (Kaniowski and Mueller, 2006). As in the case of the economic literature, the erosion of the social capital is similarly used to explain the lower turnout rates. However, additional mechanisms such as the mobilization of institutions or civic duty have also been considered. In areas of racial diversity whites might increase the intentional efforts to demobilize blacks by adopting more restrictive procedures relating to voter turnout, such as the difficulty of voter registration requirements (Hill and Leighley, 1999: 280). Thus, parties may have more incentives to focus on larger groups, reinforcing the demobilization effect of the minority group (Oberholzer-Gee and Waldfogel, 2005).

Similarly, it is well known that voting might express an adherence to a social norm (Blais and Labbé, 2011; Coleman, 1990: 290-292; Mueller, 1989: 363-369; Uhlaner, 1989), although its accomplishment will depend on the extent to which communities engage in social sanctions for deviate behavior (Knack, 1992). As this social pressure is high in small and close-knit communities (Funk, 2010) individuals will have more incentives to follow this social norm and vote (Palen, 1995; Ross and Levine, 2001; Yamamura, 2011). The causal mechanism is related to a higher propensity of citizens in smaller and homogenous communities to be mobilized by

friends and neighbors and to higher levels of interest in public affairs, enfranchisement and political participation (Lowery et al, 1992; Oliver, 2000)<sup>2</sup>.

However, other authors have pointed out exactly the reverse trend. Communitarian scholars have shown the existence of a positive relationship between heterogeneity and participation (Crenson, 1983; Barber, 1984; Elkin, 1987; Blomquist and Parks, 1995). According to these authors, it is heterogeneity and conflict which stimulates electoral participation. If contention between competing interests raises the stakes of citizens in policy outcomes and increases the incentives of political leaders to mobilize their supporters, then participation should be high in demographically heterogeneous communities (Deutsch, 1961; Verba et al, 1995). Oliver (1999: 191) expressed the core of this conflict hypothesis as follows: “Local politics should be more contentious (and participation highest) in economically diverse cities as these places have more groups pursuing contradictory goals. Conversely, a greater consensus over local policy in economically homogeneous cities should limit competition, citizen interest, and participation”.

Finally, Campbell (2006) tries to explain why the literature has found this conflicting evidence and presents a novel theory for the relationship between social heterogeneity and turnout. The author claims that both in those communities characterized by ideological consensus and in those marked by conflict, the expected level of turnout would be high. It is only in between the two extremes that participation is expected to be lower. The causal mechanism explaining why we would find participation to be high in these two extremes differs. Within homogeneous societies voter turnout is motivated by a sense of civic duty. In contrast, within highly heterogeneous societies the mechanism that drives electoral participation is the level of political motivation. Even though individuals in these societies are less likely to trust their neighbors, the level of political conflict generates incentives for individuals to vote. Nevertheless, when the author checks the robustness of his hypotheses using racial

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<sup>2</sup> These initial arguments could be supported by descriptive evidence from countries with different internal levels of heterogeneity. For instance, this is the case of Spain and Canada. In the former one, the Spanish-speaking society of Madrid registers higher levels of civic duty (68.9%) than in Catalonia (63.9%), where the society is halved between Spanish- and Catalan-speakers. In contrast, in Canada the level of civic duty is equivalent in the English-speaking province of Ontario (70.6%) and the French-speaking province of Quebec (71.8%), since the two regions are internally homogeneous (Source: Making Electoral Democracy Work, <http://electoraldemocracy.com>).

or ethnic heterogeneity as the independent variable, the impact of these variables is inconsistent with his theory<sup>3</sup>.

To summarize our arguments, political economy literature presents clear but untested arguments concerning the relationship between social heterogeneity and electoral participation, whereas political science theories have different expectations and mixed evidence at best. Given the lack of cross-country studies and the issue that individual studies are not able to capture social group interaction, a macro-macro analysis is needed to show how social heterogeneity affects electoral participation.

### 3. Data, methods and results

In considering the relationship between social heterogeneity and turnout, our analytical strategy is to look at the same data as Franklin (2004) but to add a variable tapping into social heterogeneity. Our purpose is to offer clarification and correction of previous models on electoral turnout and for this reason we have decided to adhere to the data and design of previous research. Franklin's (2004) study on the determinants of turnout in lower house elections in 22 countries from 1945 to 1999 provides a suitable setting for testing the impact of fractionalization. Apart from being widely read and cited by electoral politics researchers<sup>4</sup>, the precise nature of the original study and the thorough description of the data and variables facilitate replication<sup>5</sup>.

Franklin's dependent variable is the level of turnout –measured in percentages– in elections to the lower house of the national legislature in twenty-two countries that have a record of elections held continuously since within one electoral cycle (generally four years) of the end of World War II. The independent variables are divided into groups: variables that have their effects mainly on new cohorts of population –the short-term factors– and variables whose effects on new cohorts are amplified by being repeated for cohort after cohort, eventually affecting the entire electorate –the cumulative factors– (Franklin 2004: 122). The former group includes the *majority status*

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<sup>3</sup> It is not the case when Campbell considers political heterogeneity, measured as the county's mean level of electoral competition in presidential elections over multiple elections beginning at 1980.

<sup>4</sup> According to Google Scholar (<http://scholar.google.com>), it has been cited in 719 academic articles (last accessed July 1, 2013).

<sup>5</sup> Our strategy is similar to Benoit (2002), for instance, when he examines the endogeneity of Duverger's mechanical effect.

*of the government* –the absolute difference between the size of the largest party and 50 percent–, the *margin of victory* – as a percent –, the *mean margin of victory* – as a percent – and the *cohesiveness of parties in the legislature* –whether effective party discipline is maintained. The latter group includes the existence of *compulsory voting* – whether a sanction is applied for failure to vote–; the availability of *absentee voting* – generally postal–; the *responsiveness of the executive* to changes in the balance of legislative forces –i.e., whether the legislature can dismiss the executive–, *female empowerment* – $((\text{election-franchise})/50 + I2/50)/2$  if (franchise-I) [where franchise is the year women gained the franchise]–, the *size of the electorate* –absolute, in millions– and *young initiation* –the extension of the franchise to eighteen-years-old:  $\text{young}_{t-1} + \text{new}$  if voting at age eighteen. In addition, how much time has elapsed since the most recent election of the same type is included in the model<sup>6</sup>.

The first column of Table 1 reports the basic set of estimates by Franklin and corresponds to model A in his Table 5.1 (p. 133). Here, turnout is regressed on the short- and long-term factors in Franklin’s terminology. In his book this is the specification that attempts to explain turnout over the longest possible period for the largest possible number of countries and produces the best fit among those models without lagged variables or country dummies. The model shows the effects that derive from estimation procedures that retain cross-country effects: GLS regression model with panel corrected standard errors that are further corrected for time-series dependencies (AR1 correction).

All variables have the expected sign and, with the exception of *short-term mean margin* and *cumulative female empowerment*, are statistically significant at the 0.05 level or better. On the one hand, three variables having to do with electoral competition have short-term effects on turnout: the size of the largest party, the margin of victory and party cohesiveness. Similarly, turnout is greater in countries with compulsory voting, postal ballots, those that have an executive that is fully responsive to shifting majorities in the legislature, and is depressed when enlarging the electorate and lowering the voting age. The overall fit of the model is respectable, with an  $R^2$  of 0.72.

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<sup>6</sup> See the appendix B (Franklin, 2004: 231-235) for further details.

The estimates in Models 1 to 5 in Table 1 correspond to those in Franklin's model, except that they include social heterogeneity. The most commonly used measure of aggregate social heterogeneity is *Fractionalization*, defined as the probability that two individuals selected at random from a country will be from different ethnic, linguistic or religious groups. The formula is as follows:

$$FRACT_j = 1 - \sum_{i=1}^N s_{ij}^2$$

where  $s_{ij}$  is the proportion of group  $i$  ( $i = 1 \dots N$ ) in country  $j$ . The higher the value of  $F$ , the higher fractionalization will be. Ethnic, linguistic and religious fragmentation will be included in the models. The source is Alesina et al (2003). The descriptive statistics of the three measures of fractionalization are displayed in Table 3 in the Appendix.

Our hypotheses derive from the argument that was outlined in the previous section. We expect a negative effect from ethnic, linguistic and religious fractionalization on turnout. This effect should be particularly important in the case of ethnic and linguistic fragmentation according to the existing research on the determinants of the quality of government.

In the analysis of turnout, we run five specifications in which ethnic (model 1), linguistic (model 2), and religious fragmentation (model 3) are individually added to Franklin's model. Finally, in models 4 and 5 ethnic and religious fragmentation ( $r = 0.227$ ) and linguistic and religious fragmentation ( $r = 0.174$ ) are included at the same time, respectively. The high correlation between ethnic and linguistic fragmentation ( $r = 0.755$ ) generates problems of multicollinearity when both variables are included in the same model.

Model 1 explains about 75% of the variance in turnout values, i.e., three more points than the Franklin's model. Ethnic fragmentation has a negative sign and is significant at the 0.05 level, while the coefficients of the remaining variables show some change and the significance of *cumulative absentee* drops from the 0.01 to the 0.1 level. The second model, in which ethnic fragmentation is replaced with linguistic fragmentation, produces a slightly better fit. Linguistic fragmentation is statistically significant at the 0.01 level and also has a negative sign. However, as can be seen in

model 3, although negative, the coefficient for religious fragmentation is not statistically significant. This result is in line with what Alesina et al (2003), Alesina and Zhuravskaya (2011) or La Porta et al (1999) have found when explaining the quality of government. Finally, in the fourth and fifth models the coefficients are largely unchanged and confirm the negative impact of ethnic and linguistic fragmentation on turnout. In sum, turnout is negatively correlated with ethnic and linguistic fragmentation, but not with religious fragmentation.

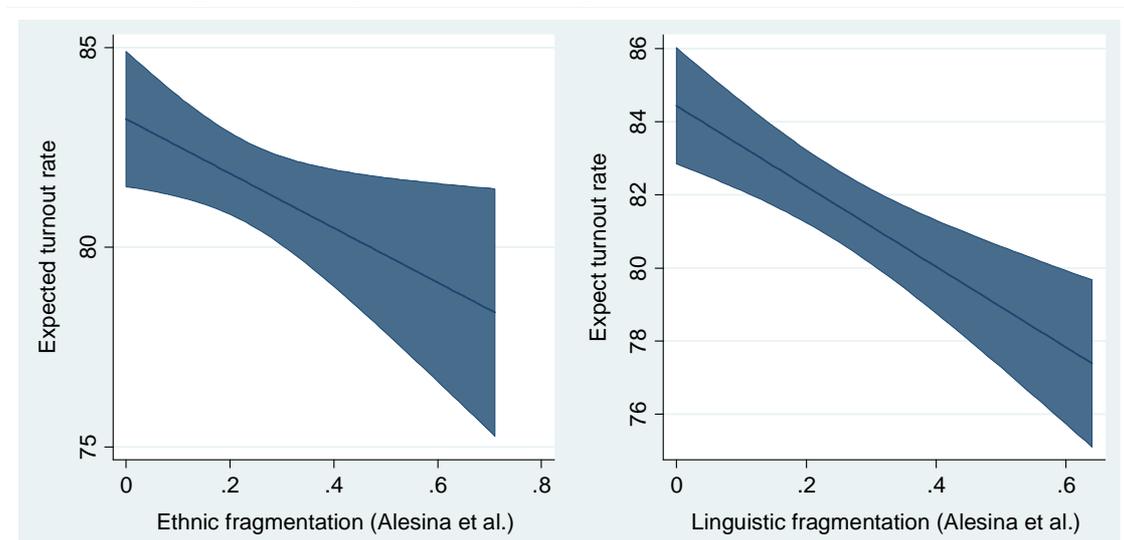
Table 1: Models explaining turnout in twenty-two countries, 1945-1999, using AR1 correction for autocorrelation (panel corrected standard errors in parentheses)

	Franklin's model	Model 1	Model 2	Model 3	Model 4	Model 5
Time since previous election	0.547** (0.162)	0.556** (0.160)	0.545** (0.159)	0.531** (0.166)	0.545** (0.163)	0.538** (0.161)
Short term majority status	-0.523** (0.146)	-0.460** (0.144)	-0.419** (0.138)	-0.589** (0.146)	-0.517** (0.144)	-0.449** (0.138)
Short term margin of victory	-0.484** (0.149)	-0.461** (0.147)	-0.455** (0.144)	-0.520** (0.153)	-0.488** (0.149)	-0.468** (0.145)
Short term mean margin	-0.282 (0.317)	-0.288 (0.329)	-0.396 (0.316)	-0.166 (0.323)	-0.199 (0.332)	-0.367 (0.317)
Short term cohesiveness	9.972** (2.801)	9.819** (2.802)	10.203** (2.768)	10.525** (2.780)	10.520** (2.768)	10.741** (2.746)
Cumulative compulsory voting	12.304** (0.895)	12.779** (1.055)	14.351** (1.188)	12.350** (0.832)	12.749** (0.964)	14.278** (1.106)
Cumulative absentee	3.301** (1.059)	2.337† (1.218)	2.472* (1.107)	3.268** (0.970)	2.388* (1.102)	2.534* (1.037)
Cumulative executive responsiveness	7.864** (0.999)	7.009** (1.057)	6.856** (1.024)	7.774** (0.950)	6.980** (1.005)	6.853** (0.993)
Cumulative female empowerment	6.632 (5.056)	7.841 (5.104)	9.437† (4.908)	6.907 (4.713)	7.847 (4.845)	9.342* (4.753)
Cumulative electorate size	-0.070** (0.023)	-0.078** (0.025)	-0.085** (0.024)	-0.068** (0.022)	-0.078** (0.024)	-0.086** (0.023)
Cumulative prop. of young initiation	-4.662* (1.904)	-4.775* (1.994)	-5.013** (1.941)	-4.569* (1.820)	-4.669* (1.908)	-4.952** (1.882)
Ethnic fragmentation		-6.827* (3.080)			-6.624* (2.663)	
Linguistic fragmentation			-11.008** (2.650)			-10.849** (2.437)
Religious fragmentation				-2.173 (1.896)	-1.034 (1.976)	0.035 (1.959)
Constant	81.556** (2.346)	83.551** (2.792)	85.354** (2.674)	82.619** (2.398)	84.019** (2.805)	85.308** (2.722)
Observations	336	336	336	336	336	336
R-squared	0.720	0.748	0.753	0.745	0.753	0.755

Note: Significant at † p<0.10, \*p<0.05, \*\* p<0.01 (one-tailed).

Based on models 1 and 2 in Table 1, Figure 2 simulates the level of turnout as ethnic and linguistic fragmentation increase and the other variables are set at their mean values. As can be seen, the higher the fragmentation, the lower the turnout is. The negative impact of fragmentation on turnout is particularly important in linguistic heterogeneous countries. As an illustration, all else equal, the level of turnout predicted by model 1 in the most ethnically homogenous country in the sample, Japan, is 4.78 points higher than in the most heterogeneous, Canada. Similarly, according to model 2 the most linguistically homogeneous country in the sample, Japan, is predicted to have a level of turnout 6.89 points higher than the most heterogeneous, Canada.

Figure 2: The impact of ethnic and linguistic fractionalization on turnout\*



\*The upper and lower lines show the 95% interval of confidence

We have explored the robustness of our results with three alternative measures of the variable tapping ethnolinguistic heterogeneity. The first measure, *EPR fractionalization*, comes from the Ethnic Power Relations dataverse<sup>7</sup>. The variable captures the existence of minorities and particularly whether they are concentrated in specific regions. More specifically, *EPR fractionalization* is the size of regionally based ethnopolitically relevant groups relative to total population in a country. A group is regionally based when it is located in a particular region(s) that is easily distinguishable on a map. Regional base is defined as a spatially continuous region larger than an urban

<sup>7</sup> See <http://dvn.iq.harvard.edu/dvn/dv/epr>. The measure based on this dataset is not available for all the countries in our sample. This explains the lower number of observations in Models 1 and 2 in Table 2.

area that is part of a country, in which 25 percent or more of the group lives. We only take into account politically relevant ethnic groups. The definition of ethnicity includes ethnolinguistic, ethnosomatic (or “racial”), and ethnoreligious groups, but not tribes and clans that conceive of ancestry in genealogical terms, nor regions that do not define commonality on the basis of shared ancestry. An ethnic category is politically relevant if at least one significant political actor claims to represent the interests of that group in the national political arena, or if members of an ethnic category are systematically and intentionally discriminated against in the domain of public politics. A ‘significant’ political actor is a political organization (not necessarily a party) that is active in the national political arena. When there are two or more groups in a country, their populations are added. The measure in our sample goes from 0, where there is no relevant population from a different ethnic group than the larger one (e.g. Germany or Denmark) to 0.89 (Israel). The source is Lars-Erik Cederman; Brian Min; Andreas Wimmer, 2009-05-01, Ethnic Power Relations dataset<sup>8</sup>.

The second measure, *EPR number of ethnic groups*, is also based on the Ethnic Power Relations dataverse<sup>9</sup>. It reflects the (log of the) number of ethnopolitically relevant groups in a country. This is a manual codification that avoids excluding any group from consideration based only on size, since even very small groups can be politically significant in national politics. The measure in our sample ranges from 0, where all the population belongs to the same ethnopolitical group (e.g. Germany or Denmark), to 7, when fractionalization prevails (UK).

Finally, we also employ the *Ethnolinguistic Fractionalization (ERF) Indices*, 1985. The measure is calculated from population estimates (in year 1985) and provides a value of ethnolinguistic fractionalization in every country. The variable in our sample ranges from the least divided society (Japan, 0.14) to the most ethnolinguistically divided (Canada, 0.77). The source is Philip G. Roeder (2001) *Ethnolinguistic Fractionalization (ELF) Indices, 1961 and 1985*<sup>10</sup>. The descriptive statistics of the measures tapping social heterogeneity in this paper are displayed in Table 3 in the appendix.

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<sup>8</sup> See <http://hdl.handle.net/1902.1/11796>.

<sup>9</sup> See <http://dvn.iq.harvard.edu/dvn/dv/epr>.

<sup>10</sup> See <http://weber.ucsd.edu/~proeder/elf.htm>.

The three specifications in Table 2 replicate Franklin's model (in Table 1), but with the three alternative measures of ethnolinguistic fractionalization. The results remain qualitatively the same than in Table 1 and again provide compelling evidence in favor of the negative impact of ethnolinguistic fractionalization on turnout. We found that the three measures again have a negative sign and are statistically significant at the 0.01 level: the more ethnolinguistically fragmented a country, the lower the level of turnout in national elections. The three models show little change in the coefficient of the variables originally included by Franklin.

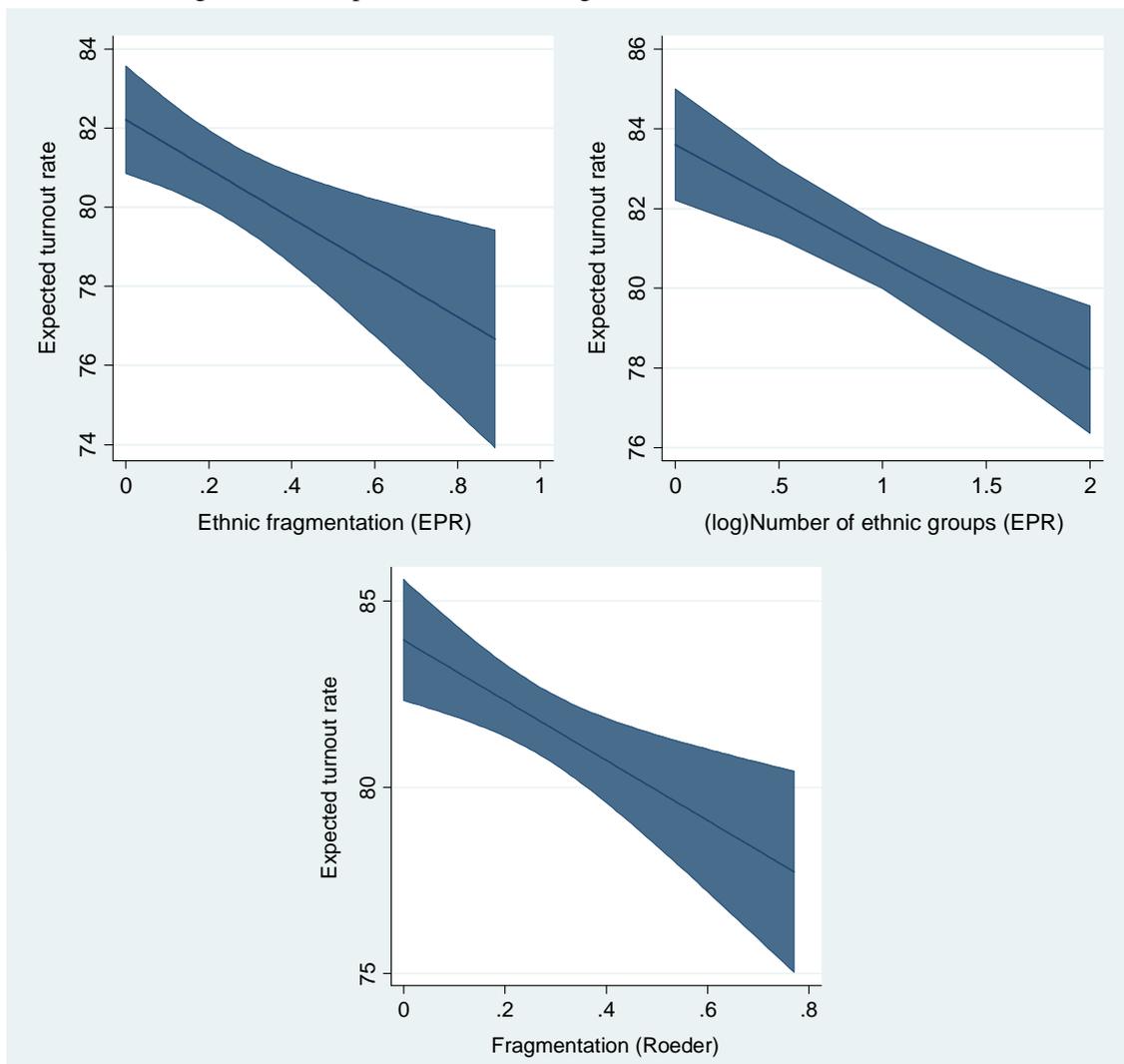
Table 2: Robustness checks, using AR1 correction for autocorrelation (panel corrected standard errors in parentheses)

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Time since previous election	0.512** (0.186)	0.488** (0.188)	0.543** (0.163)
Short term majority status	-0.375** (0.144)	-0.443** (0.145)	-0.505** (0.139)
Short term margin of victory	-0.434** (0.165)	-0.468** (0.167)	-0.497** (0.150)
Short term mean margin	-0.002 (0.335)	0.301 (0.374)	-0.107 (0.331)
Short term cohesiveness	9.434* (3.809)	9.735* (3.806)	10.350** (2.793)
Cumulative compulsory voting	14.402** (0.939)	13.725** (0.836)	13.530** (1.037)
Cumulative absentee	1.307 (1.135)	1.429 (1.052)	2.872** (1.062)
Cumulative executive responsiveness	7.277** (1.020)	7.988** (0.973)	6.990** (1.014)
Cumulative female empowerment	10.780* (5.340)	7.719 (5.053)	7.601 (4.853)
Cumulative electorate size	-0.069** (0.024)	-0.054* (0.024)	-0.079** (0.023)
Cumulative prop. of young initiation	-6.473** (2.257)	-6.598** (2.186)	-4.713* (1.911)
EPR fractionalization	-6.224** (2.024)		
(log) EPR number of ethnic groups		-0.751** (0.268)	
Roeder's measure			-8.069** (2.575)
Constant	82.490** (2.690)	83.007** (2.411)	84.913** (2.679)
Observations	295	295	336
R <sup>2</sup>	0.795	0.805	0.761

Note: Significant at \*p<0.05, \*\* p<0.01 (one-tailed).

The impact of the three measures of ethnolinguistic fractionalization on turnout, when all the other variables in the model are set at their mean values, is shown in Figure 3. The three simulations look remarkably similar, although the operationalization of the key independent variable is different.

Figure 3: The impact of ethnic and linguistic fractionalization on turnout\*



\*The upper and lower lines show the 95% interval of confidence

#### 4. Conclusions

Voting is the mechanism that makes government representative and the primary channel of citizen participation in democracies. Not surprisingly, the question of why citizens participate in elections has received unabated attention in empirical research and, as Smets and van Ham (2013) point out, almost every possible factor explaining voter turnout seems to have been explored. However, social fractionalization has been largely omitted when explaining turnout in cross-national studies (Blais, 2000; Franklin, 2004) and those scholars who have addressed this relationship have found conflicting results. At the same time, the practitioners of political economy have addressed fractionalization but have only emphasized its impact on the differential demand for

public goods, without studying turnout as dependent variable (Alesina et al, 2003; Alesina and Zhuravskaya, 2011).

This paper makes a contribution in the two fields as it connects turnout and fractionalization through a macro-macro analysis. Using aggregated data from 22 countries we have replicated Franklin's model (2004), but introduced fractionalization as a new covariate. In order to have more robust empirical evidence we have included different measurements of social heterogeneity. In line with previous quality of government studies, irrespective of the indicators utilized, our results show that ethnic and, above all, linguistic heterogeneity are negatively correlated with turnout.

Moreover, the empirical evidence has shown that religious fragmentation plays no role in explaining turnout. This is in line with previous studies (Alesina et al, 2003; Alesina and Zhuravskaya, 2011; La Porta et al, 1999). According to Alesina et al (2003: 158), the reason is that "measured religious fragmentation tends to be higher in more tolerant and free societies, like the United States, which in fact displays one of the highest levels of religious fragmentation". Additionally, it could be that the process of secularization in Western societies undermines the role played by religion as a divisive social factor.

However, our analysis of how fractionalization lowers turnout opens up three important research questions. First, the existence of minorities and particularly whether they are concentrated in specific regions might play a role. It could be hypothesized that, all else equal, when minorities are geographically concentrated, social interaction and social capital should be higher than when they are spread across the nation. This idea is in line with other studies that have suggested a conditional relationship between heterogeneity and the degree of concentration of the population (Kelleher and Lowery, 2004). Second, the composition and degree of heterogeneity of the community might change depending on the level of government or aggregation of votes. For instance, the impact of heterogeneity on the feeling that voting is a duty might be different in national and regional elections.

Finally, it is necessary to address the individual level mechanisms that make heterogeneous societies less prone to participate in elections, or the micro-micro links in

Coleman's approach (1986). For instance, according to the empirical evidence provided by Blais, the feeling that voting is a duty is the overriding motivation for about half of those who vote and a clear majority of regular voters (2000: 112). Therefore, since civic duty fosters participation it remains to be explored the extent to which heterogeneity in preferences is connected to different adherence to social norms.

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## APPENDIX

Table 3. Descriptive statistics for the different measures of fractionalization

Variable	N	Mean	Std. Dev.	Min.	Max.
Ethnic fragmentation	358	0.218	0.205	0.012	0.712
Linguistic fragmentation	358	0.244	0.202	0.018	0.644
Religious fragmentation	358	0.440	0.248	0.091	0.824
EPR fractionalization	314	0.234	0.250	0.000	0.884
(log) EPR number of ethnic groups	314	1.003	0.723	0.000	2.079
Roeder's measure	358	0.273	0.220	0.014	0.769