

Supplementary Information for “Turnout Across Democracies”

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Empirical Test

Data Sources. We use two sets of data. First, we use data on turnout (our dependent variable) and election results at the constituency level for lower house legislative elections (which will provide a proxy for q , the competitiveness of an election). Data on district level turnout and parties’ vote shares for elections in Argentina (2005, 2007, 2009), Austria (2006, 2008), Bolivia (2009), Brazil (2006, 2010), Croatia (2007), Czech Republic (2006), Denmark (2005, 2007), Finland (2007), Germany (2005, 2009), Hungary (2006, 2010), India (2004), Ireland (2007), Japan (2005, 2009), South Korea (2004, 2008), Mexico (2009), New Zealand (2005, 2008), Norway (2009), Portugal (2009), Spain (2004, 2008), Sweden (2006), and the United Kingdom (2005, 2010) come from the Constituency Level Election Archive, 7th Release.¹ We construct a proxy of q , the competitiveness of the election in each district, using the margin between the top two parties in a district. While this is a good measure of competitiveness for FPTP, as discussed in Grofman and Selb (2009), there are reasons to believe that with PR the measure of q should be constructed differently. As a consequence, the results using PR countries are less clean than those using FPTP countries.

Second, we need proxies of γ . As discussed in the paper, many institutional features of a democracy contributes to the overall mapping from votes to policymaking power. Here we consider two characteristic of a democracy that can affect the overall degree of proportionality of the institutional systems: the electoral rule (proportional representation or first-past-the-post); and the strength of the national legislature. In particular, the electoral rule is a fundamental determinant of the mapping from votes to seats. We use the strength of the legislature as proxy for the mapping from seats in the legislature to power. Data on the electoral rule come from the Database of Political Institutions compiled by the Development Research Group of the World Bank. For the power of a legislature, we use the Parliamentary Power Index (PPI) from Fish and Kroenig (2009) who assess the strength of the national legislature of every country in the world with a population of at least a half-million inhabitants.² The PPI provides a

¹Available online at <http://www.electiondataarchive.org>, accessed on October 26, 2014.

²This includes all the countries in our dataset. The data is available online at <http://polisci.berkeley.edu/people/person/m-steven-fish>, accessed on October 26, 2014

snapshot of the state of legislative power in the world as of 2007. For this reason, we use data from elections between 2004 and 2010. The PPI is computed starting from the Legislative Powers Survey (LPS), a list of 32 items that gauges the legislature’s sway over the executive, its institutional autonomy, its authority in specific areas, and its institutional capacity. Data were generated by means of a vast international survey of experts, extensive study of secondary sources, and painstaking analysis of constitutions and other relevant documents. The PPI score, which ranges from zero (least powerful) to one (most powerful), is calculated by summing the number of powers that the national legislature possesses and dividing by 32.

Empirical Strategy and Theoretical Hypotheses. We want to test how changing the disproportionality of influence in a system (that is, changing γ), affects turnout. Since we lack a proper proxy of γ , we recur to proxies of the intermediate mappings that compose it. First, we keep the mapping from seats to power fixed (that is, we focus on elections with a similar PPI), and look at the effect of the mapping from votes to seats (the electoral rule). We argue that, keeping the other mapping constant, a higher disproportionality of the electoral rule corresponds to a higher disproportionality of influence of the political system. Using our notation, we interpret moving from PR to FPTP, while keeping the other institutional arrangements unchanged, as an increase in γ . Therefore, the hypothesis we derive from our theory is that a first-past-the-post electoral rule is associated with a larger impact of competitiveness on turnout. Second, we keep the mapping from votes to seats fixed (that is, we focus on elections with the same electoral rule), and look at the effect of the mapping from seats to power (the PPI index). We argue that, keeping the other institutional elements constant, in a parliamentary democracy or a democracy with a high PPI, the vote to elect a representative in the legislative assembly has a greater impact on the final policy outcome with respect to a presidential democracy or a democracy with a low PPI. This is because in a presidential or low PPI democracy there are more checks and balances and the legislature has less power (or jurisdiction on a smaller set of issues). Using our notation, we interpret moving from low PPI to high PPI, while keeping the other institutional arrangements unchanged, as an increase in γ . Therefore, the hypothesis we derive from our theory is that a higher PPI is associated with a larger impact of competitiveness on turnout.³

Results. We present the results of OLS regressions for the tests described above in Table 2. In Columns 1 and 2 the independent variables are the margin between the first and second party in the district (a variable which is inversely correlated with the electoral competitiveness in the district), a dummy for FPTP elections, an interaction variable between this dummy and the margin of victory, and a constant term. In these two columns, the coefficient of margin of victory tells us the marginal effect of competitiveness on turnout in PR elections when we keep our measure of the mapping from seats to votes constant (high PPI in column 1; low PPI in column 2). The coefficient of the interaction variable tells us the difference in the marginal

³Countries with FPTP are India, South Korea, and United Kingdom; countries with PR are Argentina, Austria, Bolivia, Brazil, Croatia, Czech Republic, Denmark, Finland, Germany, Hungary, Ireland, Japan, Mexico, New Zealand, Norway, Portugal, Spain, and Sweden. The PPI ranges from 0.44 to 0.84. We divide countries among High PPI or Low PPI depending on whether their PPI is above or below the median PPI of 0.63. The index is computed for 2007 and is not time varying. Considering the high degree of institutional inertia in the mature democracies in our sample, when using this variable, we focus on elections held between 2004 and 2010.

effect of competitiveness on turnout between PR and FPTP elections. The comparative static is the predicted one: the coefficients are positive and significantly different than zero, meaning that the competition effect is stronger in FPTP elections. In countries with a high PPI, a 1% increase in the margin of victory reduces turnout of 0.1% in PR elections and of 0.17% in FPTP elections. In countries with a low PPI, a 1% increase in the margin of victory increases turnout by 0.15% in PR elections but it decreases turnout by 0.05% in FPTP elections. In Columns 3 and 4 we look at how the power of the legislature affects the impact of competitiveness on turnout, keeping the mapping from votes to seats (that is, the electoral rule) fixed. Column 3 shows that, in PR elections, a 1% increase in the margin of victory increases turnout by 0.15% in states with a not so powerful legislature but it decreases turnout by 0.10% in states with a powerful legislature. Finally, Column 4 shows that, in FPTP elections, a 1% increase in the margin of victory reduces turnout by 0.6% in states with a low PPI and it decreases turnout by 0.18% in states with a high PPI. In all these regressions, the difference between the two institutional groups is statistically significant at the 1% level.

Discussion. This is a simple empirical test which tries to capture, with data readily available, the crucial elements of our theory. The empirical proxies we adopt here are certainly imperfect but are based on the plausible assumption that voters are ultimately interested in determining policy rather than seats, and they provide a sense of how one can construct a proper test of our theoretical predictions. There is a large scope for better empirical tests of this theory and we believe this offers a fruitful avenue for future research in comparative politics.

In particular, there is no existing measure of the overall degree of disproportionality of power sharing in a political system (our γ), that is, the mapping from votes to power (beyond the mere mapping from votes to seats). The route we followed here is to unpack two components of this overall mapping: we used the electoral rule as a proxy of the mapping from votes to seats, and the Parliamentary Power Index as a proxy of the mapping from seats to power. A proxy of the mapping from seats in a legislature to the ability to steer policy is not straightforward to construct. The PPI captures some important aspects of this mapping but it is an imperfect proxy of what we would like to capture empirically. A high PPI index means that a legislature has many powers. This increases the value of controlling the legislature, but does not necessarily mean that the γ is higher: a very powerful legislature where the largest party controls 50% of the seats and can only exert partial influence on policy (for example, proportional to its seat share) is actually a political system with a low γ , even in a country with a high PPI.

Our model suggests the importance of constructing a better empirical measure of the mapping from seats to power. We suggest here one potential way of doing this: researchers could analyze the texts of the bills passed in a legislature, and the texts of the main parties' platforms at the time of the legislative elections with the intent to measure the "distance" from each party's proposed platform on the issues tackled by those bills and the actual policy implemented by the bills. The relative power of one party could then be calculated as the relative closeness of the implemented policy to its ideal point (as reflected in its platform) with respect to the opponent's ideal point. Endowed with this variable, researchers could then construct a mapping from seats to power as a measure of how much a marginal seat gain for a party translates into a lower distance of the implemented policy from the party's ideal policy. While this exercise would provide a more accurate proxy of γ and would allow us to perform a more direct test of the model, it is a challenging endeavor and it is left for future research. Finally,

Dependent Variable: Turnout				
	(1)	(2)	(3)	(4)
Margin	-0.10*** (0.02)	0.15** (0.07)	0.15** (0.07)	-0.06** (0.03)
FPTP	7.99*** (0.43)	1.80 (1.37)		
Margin*FPTP	-0.07*** (0.02)	-0.20*** (0.08)		
High PPI			19.22*** (1.31)	9.43*** (0.57)
Margin*High PPI			-0.25*** (0.07)	-0.12*** (0.03)
Constant	74.71*** (0.34)	55.50*** (1.27)	55.50*** (1.27)	57.29*** (0.50)
Countries	High PPI	Low PPI	PR	FPTP
Years	2004-2010	2004-2010	2004-2010	2004-2010
Observations	2980	1587	2216	2351
R-Squared	0.3379	0.0089	0.2495	0.1710

Table 1: OLS Regressions of district-level turnout in legislative elections. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

one should explore how alternative measures of closeness such as the ones proposed by Blais and Lago (2009) and Grofman and Selb (2009) affect our results. While these measures of competitiveness are theoretically well suited for a comparative study of different electoral systems, they are difficult to obtain as they need to be constructed country by country. We leave this important task to further research.