

Does proportional representation foster voter turnout?

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Abstract. This paper examines the record of western democracies to measure the impact of differing electoral formulae on the rate of voter turnout. The record of 509 national elections in 20 countries provides the basis for a regression analysis that clearly identifies higher turnout rates in PR systems that cannot be explained by a wide variety of control variables or traditional arguments about PR. The data also reveal a marked increase in electoral turnout over the last century.

Does a country's electoral system influence the rate of voter turnout in national elections? In particular, does proportional representation really foster higher levels of turnout? This question, though often discussed, has yet to be definitively answered. This paper deals with the issue by systematically measuring the impact of the three principal forms of electoral formulae (Blais, 1988) on turnout differences in parliamentary liberal democracies. We observe turnout differences in regimes that use proportional representation (PR), plurality and majority formulae systems, and then explore the extent to which these differences can be explained by exogenous and intervening variables and how much appears to be the impact of electoral systems themselves.

It has frequently been suggested that proportional representation enhances electoral participation (Lakeman, 1974; Powell, 1980). There are three basic arguments as to why that should be so. First, PR reduces the distortions (endemic to all electoral systems) between the votes won by a party in an election and the number of seats it obtains. As a consequence voters feel more efficacious, or at least less alienated, and are thus more inclined to vote. This is especially so of supporters of small, systemically disadvantaged parties. Second, PR, with its multi-member districts, makes it less likely that some districts will be non-competitive, so that parties have more incentive to campaign everywhere and voters more incentive to turn out and vote. Finally, PR increases the number of parties and thereby the variety of options among which voters can choose. The result is that more will be inclined to vote.

But inevitably there are counter-arguments. They focus on the ideas of simplicity and decisiveness. Powell (1980) suggests that the single member plurality system is a more simple procedure and might thus contribute to greater participation. At the same time the plurality rule decreases the number of parties and also significantly increases the probability of a one-party major-

ity government (Blais & Carty, 1987). Such systems are more transparent and satisfactory for ordinary voters since it is the electoral outcome itself, not some complex private bargain amongst politicians, that determines the composition of the government. Thus the greater decisiveness of plurality elections may well increase voter turnout (Downs, 1957; Jackman, 1987).

As for the third major formula, the majority rule, a case might be made that it has advantages over both PR and the plurality system. Compared to PR it produces more decisive electoral outcomes as party coalitions (especially in the case of two ballot systems) are formed before rather than after the final ballot, so that it is the election which typically determines who will form the government. Compared to plurality systems the majority rule is not so obviously biased against minor parties, thereby providing a wider variety of options to the voter and hence encouraging higher turnout.

Only careful empirical analysis will enable us to choose which of these interpretations is correct, and how much (if any) difference the electoral system actually makes. Recent studies have begun this. Jackman (1987, 419, 415) has shown that 'cross-national variations in turnout are primarily driven by differing institutional arrangements' and, among those he considered, 'the effects of nationally competitive districts and mandatory voting laws appear to be the strongest'. Powell (1980), on whose work Jackman built, also indicated that low American voter turnout can be mainly accounted for by registration laws and other institutional and party system factors (see also Powell, 1982; Wolfinger et al. 1985).

These studies clearly establish that institutions have an impact on voter turnout. They are, however, unsatisfactory on at least three distinct grounds. They do not distinguish between the role of formal institutions (like the electoral system) *per se* and that of intervening variables which depend to a considerable degree on those very institutions. For instance, Jackman (1987) finds that electoral disproportionality and multipartyism both influence turnout. Yet those two variables are not really institutions; they are, in part, consequences of electoral systems which themselves have an effect on turnout. Secondly, these studies do not allow us to estimate in a straightforward fashion the precise impact of electoral system variables. Both Jackman (1987) and Powell (1982; 1986) employ a variable called 'nationally competitive districts' to identify the electoral system and score systems from one to four depending on the formula and the number of members elected in the constituency. The problem is that this confounds the effects of electoral formulae with those of district magnitude, two quite distinct features of any electoral regime. Finally, their data base is quite limited. They use national turnout averages for only those general elections held during the 1960s and 1970s.

This paper deals with all these shortcomings to test the arguments about the relationship between electoral systems and turnout rates. It focuses specifical-

ly on the three basic electoral formulae (Blais, 1988; 105–5) to measure, as precisely as possible, their impact on electoral turnout after taking the relevant exogenous and intervening variables into account. We do this by looking at the record of all nationally competitive democratic elections in western industrialized countries.

Our data base includes 509 elections – large enough for careful statistical analysis – and because it includes all the cases we can be confident about the generality of the findings. The data source is Mackie and Rose's *International Almanac of Electoral History* (1982) as updated by the *European Journal of Political Research* to 1985. Of the 24 countries reported there we exclude Greece, Portugal and Spain because of their interrupted electoral history, and the United States which does not have a parliamentary system.¹ In all cases the elections recorded are those to the lower house.

The starting point in each of the twenty countries covered is the first election in which the great majority of seats in the national parliament were contested, and most candidates fought on cross-local party labels. This gives us a set of elections that cover almost a century and a half, the earliest being Belgium in 1847. As all are western industrialized states the universe is relatively homogeneous. The population does, however, contain sufficient variation among both dependent and independent variables to permit a comparative assessment of the impact of electoral formulae on voter turnout. About half of the elections in the data base were held in a PR system and another quarter each under the plurality and majority rules.

The Analytic Framework

The analysis starts with some simple descriptive findings about the general pattern of electoral participation over time, across countries and under distinct electoral systems. In order to sort out the specific impact of electoral systems we then present the results of a regression analysis which includes three types of control variables. Finally we repeat the regression including a series of intervening variables to determine to what extent they can explain the differences observed among electoral systems.

The dependent variable is voter turnout, measured as the total votes cast divided by the size of the electorate. In 66 of our cases the data available report valid rather than total votes. When subjected to a multivariate analysis a dummy variable that identified these cases proved to be non-significant so we have treated the proportion of valid votes as equivalent to turnout in those instances. We do not use national averages; each election is treated as a separate case.

The independent variable is the electoral formula. It has three categories:

plurality, majority and proportional. In several countries mixed systems, in which different formulae are used in different sets of constituencies, have been used at various times and those elections have been excluded from this analysis.² We do, however, include the post-1945 West German mixed system which uses both plurality and PR rules but operates, in the aggregate, as a pure PR system.

Control variables

Three sets of control variables are included in the regression analysis. We first consider another element of the electoral system which has been shown to interact with the formula; then a number of institutional and socio-economic variables which the literature suggests facilitates or hinders participation; and finally we are concerned with potential time and/or country specific effects.

Electoral systems are made up of three basic dimensions: the ballot form, the constituency structure, and the formula (Rae, 1967; Blais, 1988). While this paper is concerned primarily with the impact of electoral formulae it is likely that its impact depends upon the *constituency structure*, for both Rae (1967) and Taagepera (1986) have demonstrated that the vote-seat relationship under PR varies according to district magnitude. The constituency structure variable distinguishes between single and multi-member districts. While it would have been preferable to treat the variable as a numerical one and use the effective average district magnitude (Taagepera, 1984; 1986), detailed district magnitude data is not available for the whole period covered by our study and so we have had to resort to this cruder indicator. There is, of course, a strong correlation between the electoral formula and the constituency structure. All PR elections are held in multi-member districts, and the great bulk of plurality and majority elections use single-member constituencies. But our study also includes 21 multi-member district plurality elections (all in Japan), as well as 37 multi-member district majority elections – Belgium 1847–1898 and Switzerland 1896–1917. Given that the former are confined to a single country we distinguish by district magnitude only in the majority rule cases.

Voter turnout is undoubtedly influenced by other institutional variables. Jackman (1987) identifies two of these: *compulsory voting* and *unicameralism*. One would naturally expect compulsory voting laws to increase turnout and Jackman's study indicates that, everything else being equal, turnout is thirteen percentage points higher with compulsory voting, which is by far the largest of his 'institutional' effects. Powell (1982) reports a similar effect. In our analysis, like Jackman, we represent compulsory voting by a dummy variable which equals one where such laws exist. The argument about the impact of uni-

cameralism is more problematic. Jackman suggests it ought to enhance turnout because governmental decision-making in unicameral systems should be more decisive since two chambers do not need to agree. In that case elections can themselves be more decisive, hence the expectation of higher turnouts. Utilizing Lijphart's (1984) classification, Jackman (1987, 414) uses a five point scoring system to rate the degree of effective bicameralism and finds that unicameralism had the 'smallest net effect' of any of his variables. We cannot use such a complex scoring system over the long period covered by our data and so merely distinguish between unicameral and bicameral countries (see Matias and Grange, 1987).

In this study we include four additional variables that may govern turnout rates.³ First is the existence of *universal male suffrage*. To the extent that turnout is strongly and positively related to the level of education (Wolfinger and Rosenstone, 1980), we might expect the adoption of universal male suffrage to have depressed electoral participation by decreasing the proportion of highly educated in the electorate. The variable is a dummy, with a score of one corresponding to an election held under universal male suffrage.

The second, and closely related, institutional factor is *female suffrage*. Lower levels of political participation by women have been documented in many studies (Lipset, 1983; Verba et al., 1978; Wolfinger and Rosenstone, 1980), so that the incorporation of this less politically active group may have contributed to a decline in turnout. We have constructed three different measures in order to explore this possible effect. The first is a simple dummy variable distinguishing those elections in which women had a right to vote from those in which they were not enfranchised. There is some indication that the gender-based participation gap may be narrowing (see Black and McGlen, 1979; Uhlaner, 1984; but also Kay et al. 1987), which suggests that female suffrage could have depressed turnout at a diminishing rate. We thus constructed two other indicators which focused on only the first five elections after the introduction of female suffrage. In one the dummy variable was given a score of one only for those initial elections; in the other the score was five for the first election in the set decreasing to one for the fifth, with zero for all successive elections.

The third of the institutional variables is *federalism*. Federal institutions might decrease participation for two reasons. In such systems the national legislative assembly has less power than do those in unitary systems since authority is divided and shared with provincial or state legislative assemblies. National elections in a federal country are therefore less decisive for the very same reason that they may be less decisive in a bicameral system and we expect turnout to be generally lower in less decisive contexts. The other reason turnout may be lower in a federal system is that such countries typically have

more elections and more frequent elections may depress turnout (Crewe, 1981). We represent the presence or absence of federal institutions by a dummy variable.

The last institutional factor, again represented by a dummy variable, is the existence of *direct presidential elections*. Jackman (1987: 414) thinks 'presidentialism' as a governing form (which he recognizes only in France and the USA) is not likely to influence turnout, but as direct presidential elections (which occur in six of our countries) do increase the frequency of voting opportunities they may reduce the likelihood of a voter using the opportunity in any particular instance.

Turnout could also be affected by socio-economic factors as implied in the two considerations about suffrage impacts. However Jackman (1987) did not include any in his analysis, and Powell (1986) found that age structure was not statistically significant. Thus available evidence gives little indication that socio-economic variables substantially alter aggregate turnout: we have no data for these variables. We will consider whether electoral participation tends to decrease as the *size* of the legislative assembly increases. The size of the assembly is used as a proxy for the size of the population, a strong link between the two having been noted by Taagepera (1972). We would hypothesize that the smaller the country the greater the sense of community and so the greater the participation (see Dahl and Tufte, 1973; Verba et al., 1978).

Though we are able to consider all elections, our approach has the potential drawback of using elections over a relatively long period of time. It is therefore important to control for *period effects* which could not have been discovered in Jackman's data. This is done through the construction of a set of dummy variables. Initially we focus on longer periods and distinguish between pre-World War I, interwar and post-World War II elections. Then we move on to explore the possibility of shorter (decennial) period effects.

Much the same approach is used to look for *country effects*. We first resort to groupings of countries that have been used in previous research: European, Scandinavian and English-speaking countries (Rose, 1983; 1984; Rose and Mackie, 1980; Powell, 1982; Blais and Carty, 1987). We then test for the existence of any country-specific forces. In doing so we hope to control for those social, economic or cultural factors that are common to a group of countries or specific to any one of them.

Intervening variables

After the basic regression analysis we will then include four intervening variables through which electoral formulae (or for that matter other institutions) may affect turnout. The first is *competitiveness*. As Crewe (1981, 256)

notes, 'other things being equal, one would expect turnout to be high when the chances of the opposition's supplanting the government seem strong, to be low when the chances seem slim'. As yet there is not much empirical support for that proposition as Powell (1982) found competitiveness to have no significant impact. Our measures of competitiveness are the differences, in seats and votes, between the largest party and its closest challenger.

The second intervening variable is *electoral disproportionality*. As Rae (1967) has shown, all electoral systems produce a bias in favour of larger parties, giving them a seat share larger than their vote share; but that disproportionality varies across systems. Greater electoral disproportionality should lower voter turnout as it lowers the benefits for supporters of minor parties which are strongly underrepresented in the legislature. And indeed Jackman (1987) found that disproportionality was negatively related to turnout in the 1960s and 1970s. We employ two measures of disproportionality: the first is the deviation index developed by Loosemore and Hanby (1971) which appears to be the best aggregate measure (see Taagepera and Shugart, 1989); the second, the difference between votes and seats obtained by third parties. As the above discussion suggests, it may well be that it is only any systemic bias against third parties, rather than overall disproportionality, that hampers participation.

The third intervening variable is the *number of parties*. Though many would expect it to be important, there are clearly contradictory predictions in the literature. On the one hand, the greater the number of parties, the richer the choice offered the electorate and thus the higher the turnout ought to be (see for instance Mueller and Murrell, 1986: 139). On the other hand, multipartyism tends to produce coalition governments, the composition of which depends on many factors besides the electoral outcome itself. Multiparty systems should therefore have less decisive elections which we posit will depress turnout. There is some recent support for this latter argument in Jackman's data which show that participation decreases by three percentage points for each new effective party in the legislature. To explore this variable we try four separate measures of the number of parties using the actual number, and the effective number, of parties both running in the election and winning seats in the legislature. Effective numbers are computed with the Laasko and Taagepera (1979) formula which gives greater weight to the largest parties.⁴

The last intervening variable is the presence of *one-party majority government*, or more accurately a one-party majority in the legislature. Elections that produce one-party majority governments are inherently more decisive and should therefore foster participation. Jackman, who refers to this possibility, does not test for it as he only takes into account the number of parties, which of course affects the probability of a majority government. With our data base it is possible to determine whether elections in which the largest party obtained a

majority of the seats tend to be characterized by a higher turnout. We use a dummy variable with a score of one indicating an election in which a party obtained a majority of seats.

This framework and data set gives us a powerful array of variables and measure. There are ten separate control variables (several with more than one measure) that will allow us to sort out the specific impact of electoral systems on voter turnout. Having done that we then have a further four intervening variables that may help us explain the differences that exist. We start with a basic description of the record of voter turnout in our 509 elections.

The Findings

The average turnout across all the elections in our data set is 78%. And turnout has been increasing over time: it averaged around 70% in elections before World War I but in the contemporary period it is typically nearly 84% which represents a twenty per cent growth (Table 1). The standard deviations indicate that variations around those averages have also diminished substantially. In addition, there are considerable differences across countries. The highest mean turnout is found in Luxembourg, the lowest in Switzerland (Table 2).⁵ Institutions rather than time may be the more important, since variations over time within a country tend to be smaller than those across countries within a given time period.

It is of course the link between the electoral system and voter participation that is the main concern of this paper. Table 3 reports the basic pattern: turnout tends to be higher under PR than under either plurality or majority rule elections: the gap is in the order of ten percentage points. There are, however, marked differences within the majority category with multi-member districts producing the lowest turnout levels of any of the systems. Here is *prima facie* evidence that electoral formulae do make a difference for turnout.

Regression analysis tells us if these effects reflect real differences or if they disappear when we control for our exogenous control variables. Table 4 reports the basic equation. It reveals that, everything else being equal, turnout is seven percentage points lower in a plurality system, and five percentage

Table 1. Turnout by period.

Period	Mean	St. dev	Number
-> 1919	69.6	15.4	150
1920-1944	78.7	11.8	113
1945->	83.7	9.3	246

Table 2. Turnout by country.

Country	Mean	St. dev	Number
Australia	83.6	16.8	34
Austria	92.6	3.7	17
Belgium	84.9	11.0	58
Canada	78.4	9.9	30
Denmark	80.6	8.1	33
Finland	68.6	9.7	29
France	78.8	4.5	15
Germany	77.9	10.7	32
Iceland	90.4	0.9	8
Ireland	73.7	4.4	21
Israel	80.9	3.4	11
Italy	77.8	16.6	18
Japan	73.5	3.7	21
Luxembourg	94.6	4.9	16
Netherlands	84.7	11.1	26
New Zealand	85.2	10.7	31
Norway	73.9	10.2	22
Sweden	67.6	17.8	34
Switzerland	62.5	12.1	26
United Kingdom	70.7	9.8	27

points lower in a majority system, compared with PR. The zero order differences we observed in Table 3 are hardly reduced by taking all the control variables into account, strong support for the argument that PR does foster turnout.

The results also provide striking evidence that a number of the control variables do not have an impact on turnout levels. There is no support for the hypotheses that participation increases with unicameralism, is limited in federal systems, or is reduced by the existence of direct presidential elections. District magnitude (within majority systems) does not seem to make marked

Table 3. Turnout by electoral system.

Electoral system	Mean	St. dev	Number
Plurality	73.6	15.0	129
Proportional representation	82.1	11.5	269
Majority			
single-member	77.6	13.8	74
multi-member	70.7	13.8	37

difference, and the adoption of universal manhood suffrage does not appear to have had any depressing effect on turnout.

Yet, some other variables do emerge as quite important. The most crucial of all, not surprisingly, is compulsory voting which increases turnout by twelve percentage points. This figure is virtually identical to that obtained by Jackman (1987), particularly noteworthy given that our findings differ from his in a number of other respects. The two other significant control variables are system size and female suffrage. The data confirm that electoral participation tends to be somewhat higher in smaller polities, the regression indicating that we should expect, everything else being equal, electoral turnout to be seven points higher in Luxembourg (our smallest country) in the 1980s than in Britain (the country with the largest legislature).⁶ Our regression suggests that turnout is six percentage points lower under female suffrage, a considerable difference and one rather greater than expected.⁷ We do not have an explanation for it.

There are also some substantial country specific effects. The most striking case is Switzerland where electoral participation is extremely low. Several explanations exist, the most basic being the apparently deliberate demobilization of the national electorate by the parties themselves (Przeworski, 1975; Powell, 1982; Jackson, 1987). Two of the Scandinavian democracies have lower than expected turnouts but New Zealand has noticeably high turnouts even though it was the first nation to extend the franchise to women and has never used PR! Finally we note some strong period effects, participation being substantially higher in the more recent periods, the ones with the widest

Table 4. The determinants of turnout.

Variables	Coefficients
Compulsory voting	+ 11.8 (10.0)
Size of legislature (logarithm)	- 2.8 (4.2)
Female suffrage	- 6.4 (4.5)
Switzerland	- 19.3 (9.6)
Sweden	- 9.3 (5.6)
New Zealand	+ 11.9 (5.8)
Norway	- 5.3 (2.6)
1919-1944 period	+ 9.9 (6.9)
1945-> period	+ 15.6 (10.5)
Plurality	- 7.4 (6.2)
Majority	- 4.6 (3.6)
Majority (multi-member)	+ 1.3 (0.6)
Constant	+ 89.9 (24.5)
	R ² = 0.56
	N = 509

franchise. This may indicate that as electoral democracy has become more legitimate there has been increased acceptance of a norm that all citizens should vote.

Having established that PR electoral systems have higher turnout, we need to ask why that is so. As we saw above, three reasons are usually offered: PR expands the number of parties, increases competitiveness, and reduces distortions. If those arguments are sound, PR's positive impact on turnout should vanish when we include these intervening variables in a regression. It turns out, however, that most of the intervening variables do not have the effect predicted by proponents of PR (Table 5).

Most importantly, the extent of disproportionality does not appear to have any significant impact. These findings are at odds with Jackman's and at first glance one might attribute the difference to our use of a different measure: we employ the deviation index; he uses the vote-seat share deviations of the two largest parties. In fact the explanation lies in the time period covered by the data sets. We ran the same regression as that reported in Table 5 but restricting the analysis to elections held after World War II. In that regression (not shown here), disproportionality (and also bicameralism, the other variable for which our results are inconsistent with Jackman's) was statistically significant. But disproportionality is not significant when we consider the whole population of elections. We conclude from this that Jackman's time-bound finding is not

Table 5. The determinants of turnout, including intervening variables.

Variables	Coefficients
Compulsory voting	+ 11.2 (9.7)
Size of legislature (logarithm)	- 2.4 (3.6)
Female suffrage	- 6.0 (4.3)
Switzerland	- 16.9 (20.1)
Sweden	- 9.4 (5.8)
New Zealand	+ 11.5 (5.7)
Norway	- 5.2 (2.6)
1919-1944 period	+ 9.8 (6.9)
1945-> period	15.1 (10.2)
Plurality	- 11.2 (8.0)
Majority	- 5.7 (4.5)
Majority (multi-member)	- 3.0 (1.4)
Effective number of parties (legislative)	- 0.8 (4.7)
Effective number of parties (squared)	+ 0.0 (4.1)
Vote gap (squared)	- 0.0 (2.4)
Constant	+ 106.8 (21.0)
	R ² = 0.58
	N = 509

robust and that there is no compelling evidence that electoral disproportionality depresses turnout.

Our results coincide with those of Jackman with respect to the impact of multipartyism: the greater the number of parties, the lower the turnout. But note that the effect is opposite that assumed by the argument in favour of PR (which is that by increasing the number of parties PR fosters participation). The regression indicates that the relationship is curvilinear though the nonlinear effect is quite small. Jackman hypothesized that multipartyism depressed turnout by leading to less decisive elections and if that is so we would expect turnout to be higher in elections that produce one-party government. This prediction is not borne out by our data. It may be that it is too difficult for voters to know whether a specific election is likely to produce a majority government. That being so, Jackman's argument that the number of parties is an appropriate proxy for decisiveness would hold.

Finally, we did find some evidence that competitiveness promotes participation: the greater the vote gap between the two leading parties, the lower the turnout level. But the impact is very weak and non-linear, which may be why Powell (1982) did not find any in his study. The vote gap measure of competitiveness is not, however, correlated with the electoral formulae.

We examined for potential interaction effects among the variables but did not discover any. There is, for instance, no evidence that the independent, control or intervening variables have a greater impact in elections where voting is not compulsory as compared to those in which it is. Neither is there any evidence that their effects are felt only in plurality, majority or PR elections.

Conclusion

Jackman (1987) made a strong case that institutional factors have a strong impact on electoral turnout in contemporary western democracies. In our study we have been able to overcome some of the shortcomings of his analysis by defining precisely electoral system variables and by expanding the data set to cover the universe of western electoral history.

Our evidence supports Jackman's argument that turnout is influenced by institutions though not quite in the way he thought. Unicameralism and electoral disproportionality have not been important over the whole range of electoral experience, while system size and female suffrage apparently have made a difference. Beyond some country specific forces there is also evidence of powerful time period effects. The latter raise interesting questions that need to be explored by students of electoral history and they also suggest that future

studies of electoral systems must be sensitive to the long run. We must be cautious of studies whose data base covers only relatively short periods.

Our principal concern has been to estimate, as precisely as possible, the impact of electoral formulae. Our evidence indicates that, everything else being equal, turnout is seven percentage points lower in a plurality system, and five percentage points lower in a majority system as compared with PR. This is a substantial impact: in relative terms turnout is over eight percent higher in a PR election than in a plurality one. And we have discovered that this higher turnout is not explained away by factors such as competitiveness or disproportionality induced by PR. Indeed the turnout gap between the two systems is somewhat greater when we incorporate the intervening variables.

The findings are both comforting and puzzling. It is comforting that we have been able to establish the validity of arguments in the literature that electoral systems make a difference, and more particularly that PR increases participation. The puzzle is that the factors usually adduced as responsible for this greater participation under PR do not seem to operate as expected.

This leads us to argue that electoral systems have a direct, proximate impact on turnout rather than simply an indirect effect. It may be that what encourages electoral participation is not the degree of disproportionality but the mere fact that voters have an electoral procedure that assures some proportionality between votes and seats. Such an interpretation is supported by the fact that in all the equations we ran the plurality and majority rule variables had the appropriate (negative) statistically significant signs, and that within PR systems disproportionality did not seem to matter. This suggests that it is the 'symbolic effects' of electoral systems rather than either their consequences for seat-vote relationships or the number of parties, that matter to potential voters. PR does foster higher turnout.

Notes

1. Note that Jackman (1987) excludes the USA because its turnout rates stand distinctly apart because of 'other institutional patterns.' We include his other exceptional case, Switzerland, but note its significant country effect in our analysis.
2. There are twenty cases in the full data set that we have excluded for this reason. The largest number are from Iceland between 1916 and 1959.
3. Powell's (1989) comparative analysis includes automatic registration but as the critical distinction is between the voluntary registration (essentially used only in America) and state managed systems, and as we do not include American electoral experience, we have no use for this variable. Rosenstone and Wolfinger (1978) have clearly demonstrated how important it is in the American case. The basic source for our institutional variables is Mackie and Rose (1982).
4. Jackman used the same formula but considered only the legislative parties in his single indicator of this variable.

5. Jackman (1987) found Swiss politics to be so idiosyncratic that he excluded the case from his substantive regression analysis.
6. Given the very crude indicator one might want to be cautious about interpreting this finding. It does suggest, however, that more work needs to be done by political scientists with size variables, especially where institutions are concerned.
7. Of the three measures we employed for this variable the simple dummy variable proved to be the most significant.

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