

The Turnout Paradox: Why Changing Electoral Experiences Trump Changing  
Social Characteristics in Driving Voter Turnout in Advanced Democracies

by

Mark Franklin (Trinity College, Hartford), Patrick Lyons and  
Michael Marsh (Trinity College, Dublin)

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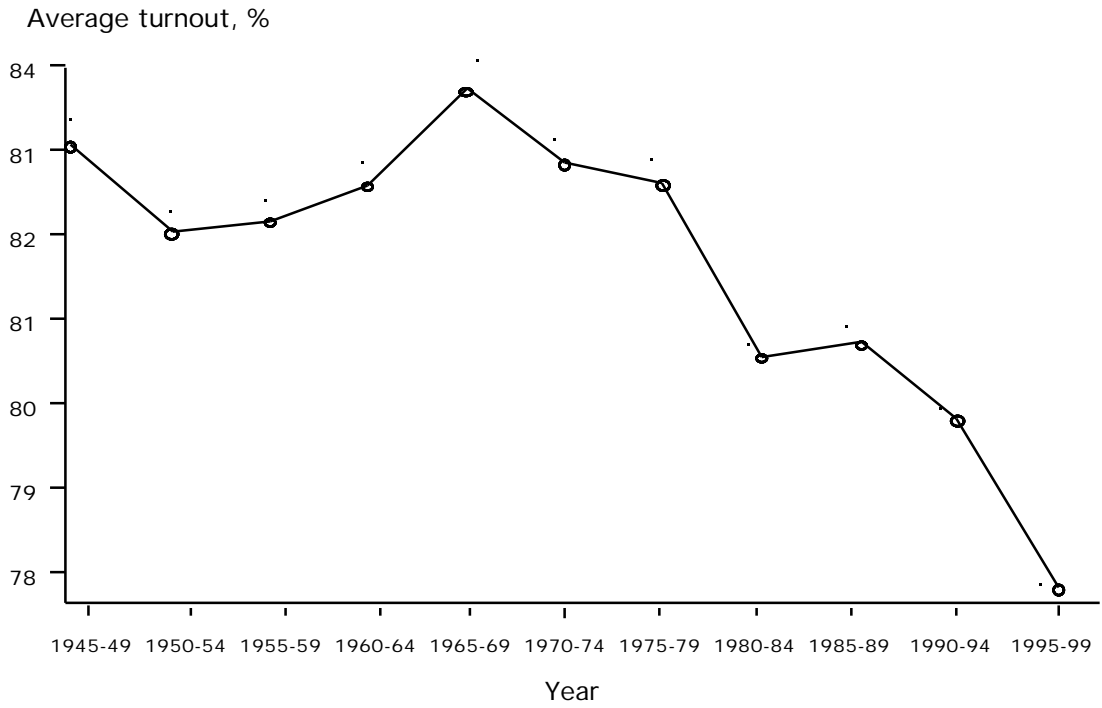
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## **ABSTRACT**

This paper challenges the dominant paradigm of turnout studies by proposing that turnout variations occur because elections differ, not because countries differ; and certainly not because people differ. Indeed, we take the radical position that what matters if we want to understand over-time and cross-national turnout variations is differences in the ways in which citizens are affected by the electoral experience at different times and in different countries. Characteristics of individuals, including characteristics that affect their responsiveness to the electoral situation and to the mobilizing efforts of parties and other organizations, determine who will vote and who will not (except in rare instances of effectively perfect turnout), but equivalent characteristics at the aggregate level cannot be expected to have similar effects. This paper sets out the theoretical basis for rejecting the dominant paradigm, and develops a parsimonious model that explains turnout variations since 1945 in a universe consisting of 21 out of the 22 advanced democracies that have held elections continuously since World War II. The model explains more than 90 percent of variance in turnout across the 354 elections concerned. More importantly, it tracks with considerable accuracy the variations in turnout that have occurred since 1945 in virtually all of the 21 individual countries. The model explains the slight decline in turnout that has recently occurred in advanced democracies – a decline that appears to be due to a contemporary reduction in the competitiveness of elections in many countries that has had the effect of reducing their importance to voters.

In recent years it has become commonplace to note declining turnout at elections worldwide and books and articles with titles like *The Disappearing American Voter* (Teixeira, 1992) or "Exploring Declining Turnout in Western European Elections." (Flickinger and Studlar, 1992) are almost commonplace. A heavily funded project at Harvard University's Kennedy School of Government during the run-up to the 2000 presidential election was entitled "The Vanishing Voter Project." In Britain, the government authorized experimental changes in the voting procedures at local elections to find ways to increase future turnout, in Ireland a minister tried placing each candidate's picture on the ballot paper to see if that would help, while in Sweden senior officials considered the drastic possibility of doing away altogether with elections to the European Parliament since turnout at these elections is so low.

There certainly appears to be some truth in the generalization that turnout is declining in advanced industrial democracies. The line in Figure 1 plots average turnout over 21 countries for elections held in each five-year period starting at the first election held after 1945, and shows graphically the decline that has occurred since the mid-1970s. This decline appears to run counter to the conclusions



**Figure 1** Average turnout over five-year periods for 22 countries since 1945

of Topf (1995) who found no evidence of any decline in turnout in European democracies.<sup>1</sup> Topf went on to suggest that, as populations aged, turnout would very likely increase. However, Topf was using data only up to 1992. The apparent picture in our data is that, while the post war era might be considered to show fluctuation around a stationary mean, the 1990s saw a departure from that baseline (though it is important not to make too much of a decline of only two or three percentage points from that mean).<sup>2</sup> What is less clear is why it has happened. There is some concern among politicians and commentators that the decline could be the result of increasing alienation of contemporary citizens from the political process in their countries, and at least one study purports to have established a link between disaffection and lower turnout (Teixeira, 1992). What is at least equally possible is that elections themselves are becoming less important, and citizens who correctly perceive this declining salience of elections are reacting rationally to their perception that the voting act has become somewhat less important. In that case we will have to address the question of whether the decline in the salience of elections is a permanent phenomenon that is likely to continue, or whether it is a temporary phenomenon, akin to the rise in turnout shown in Figure 1 to have occurred during the 1960s and early 1970s. Before we can do this we need to establish why turnout varies over time.

To take this step, our first task must be to bring some order to the plethora of models that have been used to investigate turnout variations and to find a basis for deciding which variables would be expected for theoretical reasons to be responsible for turnout change. As we shall see, it matters greatly that the large number of proposed causes be whittled down to a more parsimonious set because the number of sequences of elections available to us for investigating turnout change is finite and small and encompass an even smaller number of common patterns, while the number of

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<sup>1</sup> The line in Figure 1 uses the entire height of the graph to depict the fluctuations that occurred. If the left axis were to start at 0 instead of at 78, the line showing the evolution of turnout would appear almost flat, emphasizing that a decline of 3 percentage points from the pre-1990 average is small in overall perspective.

<sup>2</sup> Our data appear inconsistent with those of Wattenberg (2000) who reports a decline in turnout since the 1950s in OECD countries excluding Scandinavia. Our own Figure 1 remains much the same, whether or not we include Nordic countries. But Wattenberg does not graph his data, he merely reports 1950s and 1990s turnout. As a result, he apparently misses the turnout peak during the 1960s. He also uses a slightly larger set of countries than ours, and a different definition of turnout -- percent of voting age population. We follow Mackie and Rose (1991) in using percent of registered voters, though with a different definition for the U.S. (see below).

plausible causes of turnout variations is large and appears to increase with the publication of each new article on the subject. Given the limited basis for selecting between them, it is inevitable that many of these proposed causes will be found to fit the data on the basis of chance alone. One object of the present paper is to rule out a priori most of the lines of enquiry that engage current research and reduce to manageable proportions the number of variables that compete for inclusion in models that purport to explain turnout variations.

### **A theoretical basis for focussing on how voters experience elections**

Bernard Groffman (1992) once argued in his aptly titled “Is Turnout the Paradox That Ate Rational Choice Theory?” that rational choice theorists would do well to emulate economists in focussing not on why the level of a variable (turnout, in this case) was what it was, but rather on why it varied over time. To the best of our knowledge no rational choice theorist ever took up this suggestion. In this paper, however, we do follow Groffman’s advice and develop a theory that focuses uniquely on turnout’s over-time variations.

This may seem a quixotic task, given that most of the literature on turnout variations has in the past focussed primarily on turnout differences between countries. Those who investigated multiple time-points have generally used the additional time-points as replications of each country (what might be called quasi-countries) with the object of increase their study’s N.<sup>3</sup> After all, between country variations in turnout have, at least in advanced democracies since the second world war, been far greater than turnout variations within any one country over time,<sup>4</sup> so between-country turnout variations appear able to provide more leverage in assessing the effects of independent variables. Powell’s seminal article attempting to explain low voter turnout in the United States was of course entitled “American Voter Turnout in Comparative Perspective.”

However, our primary objective in this paper is to take issue with the comparative perspective and to turn the dominant research paradigm of the recent past on its head by using multiple

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<sup>3</sup> Important exceptions are found in Gray and Caul (2000), and in Franklin (2001) which we will refer to below. To the best of our knowledge, the only other studies of multiple time-points have focussed on single countries (for example Franklin and Hirczy de Mino, 1998; Franklin and Evans, 2000).

<sup>4</sup> This timespan deliberately excludes the spectacular case of Australia where turnout rose from 55.3 percent in 1922 to 90.5 percent in 1925, after the introduction of compulsory voting there.

countries in order to acquire more quasi-time-points rather than by using multiple time-points to acquire more quasi-countries. Our argument is that variations over space are only interesting to the extent that they stand in for variations that would or could occur over time. We generally study cross-sections because we do not have adequate time-points to bring to bear the number of independent variables needed to properly specify our models. In studying turnout we do not need to do this. If we look at enough countries over enough elections we acquire a large enough N to test a model of the kind presented in this paper (though the N is still small enough to require special care, as we shall see).

This change of approach is important because an enormous number of variables potentially bearing on turnout levels have different levels in different countries: far more variables than we have countries to compare. Even pooling the cases from multiple elections in each of these countries does not greatly improve the situation because, as already mentioned, turnout varies much more between countries than over time, so the replications are not really independent of one-another. The effects of independent variables calculated in such pooled analyses will be dominated by differences between countries even though these are not the differences that really interest us. For example, if turnout is seen to be higher in countries that vote at the weekend this might be because weekend voting really raises turnout, or it might be a happenstance that among the twenty or so countries in our study the high turnout ones have weekend voting. The relationship between countries is only of interest if it tells us that countries that change their election day to a weekend do achieve higher turnout. We gain far more direct information on this point if, instead of looking at countries that hold their elections on different days we instead look at countries that changed the day of the week on which they hold their elections. If changing the day of the week does not cause a rise in turnout, then the association between weekend voting and higher turnout observed between countries must be spurious or contingent. Similarly with every other variable considered important in turnout studies.

By focussing on over-time variations we largely overcome the small N problem that plagues studies dominated by country differences. By leaving country differences out of account, and focusing only on variations that arise from one election to the next in each country, we do not

find our analyses dominated by country differences and each case counts equally towards establishing the true correlates of turnout variations.<sup>5</sup>

Our objection to the dominant paradigm is more than methodological. We believe that in developing theories that focus on differences between countries we base those theories on a counterfactual. Change in turnout happens *within* a country. It may have a given value in a given country because of the accumulation of prior changes in that country, but turnout only changes in each country separately and it is those variations that we should be trying to explain. When we frame our theories with these exigencies in mind, we may rule out a priori theories that would appear plausible when these exigencies are ignored.

We take issue with the dominant paradigm in another way as well. While voting is a matter of individual decisions, turnout is an aggregate-level phenomenon. It is a feature of an electorate not of a voter. And while it is true that electorates are made up of aggregations of voters, the process of aggregation is not simply a process of adding up the relevant features of the individuals who form part of it. An electorate is not just a voter writ large any more than an economy is a consumer writ large. When we take the aggregate view we need not be surprised by things that are often considered paradoxes in the extant literature: for example the fact that, though education at the individual level is strongly linked with propensity to vote, societies that achieve a more highly educated population do not generally see higher turnout.

### **Towards an aggregate level theory of turnout change**

That individuals who are well-endowed with resources and who are more tightly embedded in social structures are more readily induced to vote has been argued persuasively by those whose focus has been upon individual-level voting behavior (Verba and Nie, 1972; Verba, Nie and Kim, 1978; Wolfinger and Rosenstone, 1980; Parry, Moiser and Day, 1990; Rosenstone and Hansen, 1993; Verba, Schlozman and Brady, 1995). It also seems clear that voters respond to the salience of an election, turning out in larger numbers when the race is a close one and when it

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<sup>5</sup> The same benefits may perhaps be obtained by treating additional time-points as replications and computing panel corrected standard errors, as we shall see; but only to the extent that the pooled analysis models in some way the cross-time dependencies in the data.

offers the opportunity for consequential departures in public policy (Franklin and Hirczy de Mino, 1998; Blais, 2000; Franklin, 2001). At the aggregate level these two sets of findings do not necessarily combine in a straightforward manner.<sup>6</sup> Combining them requires that we take account of the fact that those most likely to be aware of the political situation at the time of an election (the fact that the race is close and that matters of importance are being decided, for example) are going to be the same people as those most likely to vote in the first place: those with greatest resources who pay most attention to public affairs. Consider the effect of rising levels of resources in a country with elections of low salience. There, the increase in resources need have no effect on turnout because newly resourced individuals might be quite aware that there was no point in voting, and might indeed fail to do so. An increase in social resources might also have no effect in a country with elections so salient that people with low resources were already voting in large numbers. In between these two levels it is possible that increasing resources might raise turnout levels, but the extent to which this would happen in practice is an empirical question. What is unquestionable is that effects of changes in resources at the individual level will be dampened at the aggregate level by the interaction of resources with the salience of elections. At any given level of turnout (below perfect turnout) resources will be seen to distinguish those individuals who are more likely to vote from those less likely to vote, but this difference need play no role in turnout variations, even over long periods of time. Although we need to allow for the possibility of residual effects, these are unlikely to be more than barely significant traces of the strong effects found at the individual level.<sup>7</sup>

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<sup>6</sup> At the individual level the two sets of findings combine even more perversely when we consider turnout change over time. Because the voting population is more likely to include highly resourced individuals, it follows that to increase the size of the voting population (to raise the level of turnout) less well-resourced individuals must be induced to vote. Conversely, when turnout goes down (perhaps because the electorate is faced with an election of lesser salience), the last people to leave the pool of voters are likely to be those with most resources. Since the structure of the electorate in terms of resources and embeddedness must remain fairly constant in the short term, even while the salience of elections can change quite radically from one election to the next, higher turnout elections will see more people voting who are poorly resourced while lower turnout elections will see a larger proportion of highly resourced people voting. So, ironically, if we look at the characteristics of voters as compared with abstainers, and relate those characteristics to change over time in the decision to vote by looking at repeated cross-sections of the electorate, what we would tend to observe would be an inverse relationship across time between turnout and resources even while, within any given country at any given time, the relationship would be positive.

<sup>7</sup> Another reason for this is that social changes generally affect only small portions of an electorate. Thus, for example, increases on the proportion of the college-age population who obtain a higher education may be quite large, while still constituting a small portion of the total electorate. If the chances that a person will vote increases by 20 percent when they go to college (which would be a very powerful effect at the individual level) an increase in 10 percent in those who attend college (which would be a huge increase) would result in only a 2 percent increase in

There is one interesting exception to the general rule that changes in social characteristics will not have strong effects on turnout. Increases in the size of the electorate, it has been argued (Blais, 2000; Gray and Caul, 2000) affect turnout by bringing in new people who are harder to mobilize (whether because they are young or because they are newcomers to the society) and whose stake in the society is less than average. It may be true that such people are harder to mobilize, but the fact that this will also make them less responsive to changes in electoral salience does not prevent this variable from having a direct effect on turnout. This is because this variable constitutes the denominator in the calculation of turnout itself. Changes in the size of the electorate MUST have immediate effects on turnout unless new voters vote at the same rate as existing voters.<sup>8</sup>

If resources and social embeddedness cannot be primary causes of turnout variations over time, what are the variables that will play a dominant role? Apart from the interesting variable just mentioned, we believe these will be the ones that encapsulate the experience voters have of an election. Turnout will be higher in elections whose outcome might result in policy change because the race is a close one and the winning party is likely to enjoy the opportunity to put its policies into practice (as opposed to being thwarted by the need to achieve support from other parties or cooperation of the executive), where the electoral system ensures that few votes are wasted, where impediments to voting are few, and especially where there is some possibility of legal sanction for not voting. The variables concerned are a subset of those used in past research, with a small number of additions that arise from our focus on the experience of elections. They fall into two sets, as follows.

The first set has to do with the institutions that govern the way elections are held: the type and

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turnout – a change well within the range of sampling error even in samples far larger than those available to us when studying turnout variations. See Franklin (1996, 2001) for an elaboration of this argument.

<sup>8</sup> The variable will have a particularly marked effect on turnout when calculated as a proportion of the voting age population, since the new immigrants are not permitted to vote, thus raising the denominator without having any possibility of raising the numerator equivalently (see Macdonald and Popkin, 2000) – one reason for avoiding this measure of turnout (see below).

proportionality of the electoral system,<sup>9</sup> whether elections are held on a working day or at the weekend (or other holiday),<sup>10</sup> the type of legislature (unicameral or bicameral – see Gray and Caul, 2000; Powell, 2000) and, above all, whether or not voting is compulsory.<sup>11</sup> These are the sorts of variables found to be most important in the seminal study by Powell (1986) that we have already referred to – findings echoed by Jackman (1987), Jackman and Miller (1995), and Franklin (1996). These variables have also been used as control variables in most other studies.<sup>12</sup> In addition to these variables employed in past research, we include among variables having to do with the institutional setting a variable indicating whether postal or other absentee ballots are permitted in the election concerned. Absentee ballots evidently reduce the costs of voting for people who would have been away from home. The importance of this variable was suggested (but not tested) by Black (1991) and it was found by Franklin (1996, 2001) to have significant effects even when other variables were controlled.

All of these studies were concerned with establishing why different countries saw different levels of turnout, not why turnout changed from one election to the next in the same countries. But because countries seldom change the institutional setting within which they conduct elections, these variables do not show much promise of explaining turnout change.<sup>13</sup> The theoretical basis for understanding the importance of institutional settings is quite simple. Institutions affect the costs and benefits of voting, either quite literally (as in the case of compulsory voting where a fine may be levied on non-voters) or psychologically (as in the case of the proportionality of the electoral system, which is seen

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<sup>9</sup> Blais and Dobrzynska (1998) suggest proportionality helps by reducing alienation, increasing choice and making elections more competitive – though Blais and Carty (1990) found the use of a PR system to be associated with higher turnout but found no evidence that any of these mechanisms accounted for the association.

<sup>10</sup> Countries that vote on Saturdays or Sundays (or on national holidays) generally seem to find it easier to get their citizens to the polls, perhaps because no working time is lost by those who vote.

<sup>11</sup> In a few countries failure to vote is punishable by law, even if the law is seldom enforced. In our data these countries are Australia, Belgium, Greece, and Luxembourg. Italy has generally been considered to be a compulsory voting country because, while there has never been a legal requirement to vote there, failure was until 1993 noted on citizens' identity papers with possible employment and other repercussions. Since 1993 the practice of recording failures to vote has been discontinued, but turnout in Italy has hardly declined in consequence. One possible reason is that the change in the law was not much publicized and is not widely known. Another possible reason is that the high turnout in Italy never was the result of this quasi-compulsion. If we code Italy as a non-compulsory voting country, the effect we measure for compulsory voting is reduced, but our findings are otherwise unchanged.

<sup>12</sup> Automatic voter registration, a variable that is often blamed for low voter turnout in the United States, has sometimes been included among these institutional variables (Franklin 1996, 2001) but has never proved significant.

<sup>13</sup> Though in practice there has been a surprising amount of such change, especially in recent years, so changes in these variables should not be ruled out as causes of recent turnout decline.

to govern the likelihood of a wasted vote). Most features of the institutional setting affect the costs of voting (and, moreover, these costs vary relatively little over time, as already noted). To measure the benefits of voting we need to look beyond institutions to a second set of variables which have to do with features of particular elections. The closeness of the race, the size of the largest party, the polarization of the party system and other features affecting the competitiveness of the election have been found to have strong effects on over time turnout variations (Crepaz 1990, Jackman and Miller 1995, Blais and Dobrzynska 1998, Gray and Caul, 2000; Wattenberg 2000, Franklin 2001). Such variables make elections more or less important to voters, and thus alter the benefits they gain from voting. Along with some of the institutional factors listed above, they contribute to what Franklin (1996, 1999, 2001) has called the 'instrumental motivations' of voters.<sup>14</sup> Instrumental motivation will be high when there is a strong possibility that one government will be replaced by another with different policies, and when the issues at stake are important to voters,<sup>15</sup> especially if the most recent previous national election in the same country occurred some years in the past.<sup>16</sup>

An additional variable of this type was used implicitly by Powell (1986) and Jackman (1987) – see also Blais and Dobraynska (1998) -- and explicitly by Franklin (1996). This is a variable that picks out Switzerland and the United States as two countries where instrumental motivations for turnout at national elections are particularly low.<sup>17</sup> In this study that dummy variable is replaced by a more

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<sup>14</sup> Blais (2000) has pointed out that certain presidential systems in which presidents almost totally lack real power see turnout only slightly below the level of Parliamentary elections in those countries, and he feels this demonstrates the importance of publicity as opposed to the "objective importance" of elections. We do not doubt the importance of publicity in raising an election's salience, but we think that in legislative elections this publicity will be given to objectively important elections – one reason for not including Presidential elections in the data.

<sup>15</sup> The importance of issues has been something of a residual category in past research, except to the extent that important issues can be inferred from the fact that political parties are very polarized in a particular country at a particular election, or on average over a series of elections (Crepaz 1990; Wattenberg 2000).

<sup>16</sup> This variable has, in the context of elections to the European Parliament (van der Eijk, Franklin, et al. 1996), been conceived of as a surrogate measure of the importance of the election: the closer to an upcoming national election, the more attention the EP election result gets as an indicator of the likely outcome of a forthcoming national election. In this study we see the variable rather as a measure of 'election fatigue' (cf. Van Egmond, de Graaf and van der Eijk, 1998), though the two concepts are clearly related.

<sup>17</sup> In the work of Powell (1980; 1986) Jackman (1987) and Blais and Dobraynska (1998) these countries were picked out by two separate dummy variables. However, Franklin (1996) argued that Switzerland and the United States, for different reasons, share the fact that their elections do not normally decide policy issues (Franklin 1996, 2001). This argument has been supported in the case of the United States by a study of all Presidential elections since 1840, whose findings imply that separated powers are bad for turnout (Franklin and Hirczy de Mino, 1998). In Switzerland the argument is based on the fact that the Swiss government has been a cartel since 1947, unaffected by election results at least since 1959 when the Socialist Party was finally given its proportional share of ministries.

theoretically-grounded variable suggested by Arthur S. Banks and included in the successor to the *Political Handbook of the World* (1997) dataset.<sup>18</sup> This is a variable that measures the extent to which Chief Executives are responsible to the legislatures whose elections are the subjects of our study. Parliaments that do not give rise to and control the executive will be like legislatures in Presidential systems, where voters in legislative elections know that the outcome of that election cannot be to change the government, whose policies are thus insulated from the outcome of the election in question. In the United States parliamentary responsibility is coded as absent in all elections, as it is in Switzerland in most elections. But the variable is more general than our dummy variable that picks out Switzerland and the United States (see above) since certain other elections are also coded as giving rise to a parliament where parliamentary responsibility was absent or limited – notably following elections to certain constituent assemblies, or following elections to the French Assembly in 1958 and 1960. Evidently this variable speaks to precisely the reasoning behind our US and Swiss dummy variable, but in a more general way; and we choose to use it in place of the dummy for that reason.

In addition to variables used in past research, we include among the instrumental motivations a measure of how close the winning party is to receiving 50% of the seats in the legislature. The reasoning behind this ‘majority party’ measure is that if a party is in the running to receive an overall majority, potential voters for and against that party will be motivated by the fact that, should that party achieve an overall majority, they would have the power to put their electoral program into effect without the need to bargain with other parties for the necessary parliamentary support. This variable is related to a variety of variables used in past research: in particular the size of the largest party, the type of electoral system and the frequency of coalition governments are subsumed in this measure in the sense that it focuses on the motivational basis for supposing that these systemic features would be important. Of course, if a party is felt sure to achieve much more than 50 percent of the seats in the legislature, then the outcome of the election is a foregone conclusion and this motivating factor will be absent. The variable is related to the idea of the ‘decisiveness’ of an election, suggested by Jackman (1987) and also tested and found to be significant by Blais (2000). That variable, however, has to do with the nature of the contest in relation to other electoral contests

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<sup>18</sup> Now the Cross-National Time Series Data archive (<http://www.databanks.sitehosting.net>)

(whether the lower house shares power with a directly elected upper house or president) and is included in our dataset as such.

In this research we take costs and instrumental motivations together in one model which we refer to as the electoral experience model. This is the model that focuses on the way in which elections are experienced by voters and non-voters, which we believe to be the only effective driving force behind turnout change over time.

### **Testing the model**

In the remainder of this paper we first describe the universe of our concern and then summarize the remaining variables employed in past research, whose importance we test only in order to validate our own approach. We then establish a methodology for investigating turnout change, and use it to show that the model we believe appropriate cannot be improved through incorporating variables proposed in past research (we will also show that starting with a different model could well yield different conclusions). Our model is then tested for its ability to explain turnout variations over time (deviations from country means) and in a pooled model that uses panel-corrected standard errors to address the lack of independence of successive elections in each country. Predictions from the two models will be compared with each other and evaluated in terms of their ability to correctly track turnout variations in each of the 20 advanced industrial democracies investigated in this research.

The countries included in this study are all those that have held elections continuously since within five years of the end of World War II: all the countries included in Mackie and Rose's *International Almanac of Electoral History* (1991)<sup>19</sup> with the exception of Greece (which had a period without elections during the 1960s),<sup>20</sup> Spain (whose first post-WWII election was not held until 1977) and Portugal, whose first post WWII election was not held until 1975). Iceland (which is included in the Almanac) is excluded from this study because of the difficulty of obtaining certain statistics for that country. The countries that we study are listed in Table 1, together with five statistics that show the

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<sup>19</sup> Data from 1990 to 2000 is provided in supplements to the *Almanac* in the *EJPR* annual Data Issues.

<sup>20</sup> Because our analyses incorporate lagged versions of several variables (see below) it was of critical importance that each time series include no gaps.

**Table 1 Turnout in 21 advanced democracies, 1945 to 1999**

Country	1945 - 1979		1980 - 1999		Change
	Turnout	Std Dev	Turnout	Std Dev	
Australia	94.4	2.2	95.0	0.8	0.6
Austria	94.0	1.7	87.8	4.1	-6.2
Belgium	92.5	1.8	92.8	1.6	0.3
Italy	92.4	1.6	87.2	3.0	-5.2
Netherlands	91.5	5.9	81.0	5.1	-10.5
Luxembourg	90.9	1.5	87.8	1.0	-3.1
New Zealand	89.7	4.2	87.3	3.1	-2.3
Germany	87.1	3.8	83.5	4.8	-3.6
Denmark	85.9	2.7	85.0	2.0	-0.9
Sweden	85.5	5.2	87.3	3.8	1.9
Malta	84.0	8.2	95.8	0.8	11.8
Israel	81.4	3.7	78.8	1.0	-2.6
Norway	80.7	3.0	80.6	3.4	-0.1
France	79.5	3.9	70.6	5.0	-8.9
Finland	78.6	4.2	70.0	4.2	-8.6
UK	77.1	3.8	74.5	2.6	-2.6
Canada	75.9	3.7	71.8	3.4	-4.1
Ireland	74.7	2.3	71.4	3.5	-3.2
Japan	72.9	2.9	67.7	5.9	-5.3
Switzerland	62.8	8.7	46.3	3.1	-16.5
USA	56.4	4.2	50.0	3.4	-6.4
Average	82.3	3.8	78.7	3.1	-3.6

pattern of turnout for each country over the period of our concern: the mean and standard deviation for 1945 to 1979, the mean and standard deviation for 1980 to 2000, and change in average turnout between those two periods.<sup>21</sup> As can be seen, turnout decline was not a universal phenomenon in these countries over this period. Turnout actually rose on average in Australia, Malta and Sweden; and only in six countries (Austria, Finland, France, Netherlands, Switzerland and the US) was there an average turnout decline of more than 6 percent.

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<sup>21</sup> One reason for restricting our universe to these countries is because we want the largest possible number of consecutive elections for purposes of time-series estimation. We want the series to start within one electoral cycle of the end of World War II because there is no other natural starting point in recent history that puts all countries even remotely on the same footing. Another reason for focussing on the 21 countries with a continuous record of free elections since World War II is because in countries that acquired democratic institutions more recently, the pattern of recent turnout evolution has been quite different. In contemporary emerging democracies, turnout increases have been more usual than declines (Norris, 2002). It is possible that forces are at work in new democracies that have run their course or been superseded in more mature democracies. Since it is also more difficult to acquire relevant data for many of the newer democracies it seemed best to focus on the cases that are most comparable, best documented, and for which data on the greatest number of consecutive elections was available.

The measure of turnout that we employ, following Mackie and Rose (1991), is percent of the registered electorate. The exception is the United States where Mackie and Rose employ a surrogate measure derived from the voting age population (1991: 457-8). Because of the difficulty of obtaining validated turnout figures for the United States on a basis comparable to those for other countries, recent studies have sometimes measured turnout on the basis of voting age population (VAP), instead of on the basis of the registered electorate. This procedure has the advantage of putting figures for the United States onto the same footing as figures for other countries, but brings with it several grave disadvantages (cf. Blais 2000). In the first place, turnout based on Voting Age Population has declined more in most advanced democracies than has turnout based on registered electorate. This is presumably because of the greater population mobility seen in most countries in recent years (cf Putnam, 2000). Different countries have put different amounts of effort into keeping track of their increasingly mobile populations, so turnout as a percent of voting age population reflects in part the relative success of these efforts. But the success of these efforts is impossible to quantify other than with reference to turnout – precisely the phenomenon we are trying to measure. Another source of error in turnout as a percent of VAP comes from the fact that in most countries the official turnout figures are given in terms of registered electorate, and when corrections are made (a frequent occurrence) these corrections are reported in terms of the registered electorate. Turnout as a percent of VAP, by contrast, has to be constructed by the researcher. Figures are seldom issued by government offices, and those that are issued may not be corrected when the official figures are corrected. Above all, the size of the voting age population is not known in most countries other than in census years (and even then the accuracy is questionable in many countries). So the VAP in election years has to be extrapolated using assumptions that could differ from researcher to researcher. For all of these reasons turnout as a percent of VAP contains an unknown amount of additional error, over and above the error contained in official turnout figures, making it more difficult to decide on a properly specified model. The problem of obtaining turnout figures for the United States in terms comparable to those obtained for other countries is a difficult one, but it has been addressed by Mackie and Rose (1991: 458) and there is no reason to suppose that the turnout figures we obtain from that source are deficient in any way.

We study elections to the lower house of the national legislature in each country. We do not study presidential elections (where they occur) or midterm elections in the United States. Including such

data would increase the weight of certain countries (and the United States in particular) in our analysis, and might introduce anomalies if Presidential and Midterm elections do not respond to the same forces as elections to the lower houses of other national legislatures. Of course, elections to the US House of Representatives might also fail to respond to the same forces as elections to the lower house in Parliamentary regimes. Blais, (2000) excludes the United States from his comparative analyses for this reason, but we include it and use diagnostic tests to ascertain whether the determinants of turnout there are significantly different from the determinants found elsewhere.

### **Alternative approaches**

Apart from the variables we have already introduced as particularly relating to the experience of elections, past studies have focussed on two other sets of variables. The first consists of aggregate-level versions of the personal characteristics thought to represent the resources an individual brings to the political realm: GDP per head, proportion college educated, proportion young, proportion retired, and other similar variables have shown themselves to be significant predictors of turnout in some past research (Blais and Dobrzynska 1998, Blais 2000) and their force has been attributed to the idea that economic development fosters turnout (Blais 2000: 24). No similar effects were found for the same variables over the countries that are members of the European Union (Franklin, van der Eijk and Oppenhuis, 1996); and in a dataset consisting primarily of advanced industrial democracies we do not expect to find such effects either.

A rather different set of reasons why turnout has been thought to vary is because of variations in the efforts made by parties and other groups to ‘get out the vote’ and because of variations in the extent to which voters are going to be responsive to such efforts. Differences in the mobilizing efforts of parties and other groups will tend to follow from and reinforce the workings of instrumental motivations (see Franklin 2001 for an elaboration of this argument). In important elections we will be particularly likely to see mobilizing efforts reach a frenzy of activity in trying to get to the polls those who are not already sufficiently motivated on their own account. However, the susceptibility of potential voters to the efforts of the would-be mobilizers is something that might indeed vary across countries and across time. Powell (1986) included in his analysis a variable that he referred to as ‘party embeddedness’ (often referred to as party-group linkages) which he derived from Richard Rose’s *Electoral Behavior* (1974) where it takes the form of the proportion of variance in electoral

choice explained by social structure. Other authors have followed Powell in supposing that closer ties to social groups will enable parties to be more successful in getting out the vote, but have used different measures of party-group linkage (Franklin, van der Eijk and Oppenhuis 1995; Gray and Caul 2000). Mobilization has also been thought to be affected by the age structure of the electorate (older people are more responsive to the mobilizing efforts of political parties and other groups) and the legal voting age (since by including more young people in the electorate one includes more people not readily reached by party and other group appeals). The age structure of the electorate, of course, was also important for the resources model (see above). Two variables that bridge the gap between mobilization and motivation are district magnitude and the size of the electorate and/or population. Large districts (Powell 1986) and large electorates (Blais and Dobrzynska 1998; Blais 2000) have been thought to be more difficult to mobilize and they also dilute the importance of each individual vote. We have already pointed out that the size of the electorate can also be expected to have a quite mechanical effect by changing the denominator in the calculation of turnout.

Two variables suggested in past research that are related to the second set listed above – alienation and lack of trust in government (Teixeira, 1992; Dalton, 2000) and decline in party attachment (Wattenburg, 2000) – are not available over a sufficient period to be included in our data, but we can investigate the relationships between these variables and the 1990s decline in turnout by using residuals from the model that we generate over the entire period (see below).

### **Methodological concerns**

Figure 1 showed mean turnout varying only over a six-point range, on average, with the 1990s decline involving a range only half that great. Table 1 confirmed the average decline in turnout to be only 3.6 percent. To be confident that changes of three or four percentage points in turnout are not simply due to random fluctuations, we need to include a lot of cases in our study: many more than could be provided by the record of elections in any single country. Our 21 countries have between them held 354 elections since 1945, with an average of 32 each five-year period – enough for us to be able to detect significant changes. But to employ a sequence of national elections in each of a set of countries we need to address a number of somewhat thorny methodological issues.

The major problems are, first, whether to count successive elections in the same country as independent replications of the workings of our model (a new throw of the dice, as it were, for each election) or whether (and how) to allow for the fact that successive elections in the same country might not really be independent of each other. The second problem (which is linked closely to the first) is how to take account of any possible (indeed likely) time-serial dependencies between one election and the next in the same country.

Ideally, each election in each country would be a totally independent event. There would be no time-serial dependencies and the time-points available for each country would be equivalent to additional countries. Such a model would be, in the jargon of time-series research, a random effects model (Green, 1990, has a good description in chapter 16 of the various models mentioned here). We can test our data for conformity with such a model by partitioning the error term from a regression analysis involving all the variables of interest into a component specific to the successive cases in one country and a residual component. If the country error terms are not serially correlated, then all the error is residual and our data perform in this respect as though the separate elections from each country provided independent replications.<sup>22</sup> In fact the raw data for our study do not conform to this ideal, though they can be made to conform if an additional variable is included, which is turnout at the previous point in time (the dependent variable lagged by one case). This specifies the cross-time dependency in the data instead of leaving it to fall into the error term. We can alternatively correct for the time-serial dependency without including an additional variable, by estimating the model with the help of an autoregressive (AR1) analysis, and use panel corrected standard errors (Beck and Katz 1995) to take account of the lack of independence in the observations within each panel (country, in our study).<sup>23</sup>

Of course, the problem that arises from having data that varies over both space and time can be eliminated by averaging the dependent variable across either space or time. Averaging turnout across time (and taking as independent variables features of the country that are either invariant or are

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<sup>22</sup> Because the country error terms are not zero we cannot say the replications are completely independent (see below).

<sup>23</sup> Since we have no theoretical basis for assuming different AR1 processes in different countries, we assume a common AR1 process, the same process in each country.

averaged across the same period of time) is the procedure implicitly or explicitly adopted in many previous studies. By ignoring between election variation, researchers could focus on explaining differences between countries. We have already explained why we believe this approach to be problematic, and we do not employ it in this study. An alternative method, adopted by Gray and Caul (2000) and by Franklin (2001), is to standardize the data across countries (thereby ignoring between country variation) so as to focus on explaining differences over time.<sup>24</sup> This is the method we prefer for theoretical reasons explained at the outset of this paper, but it does not by itself take care of over-time dependencies.

We have said that one way to handle over-time dependencies is to include among the independent variables the dependent variable lagged by one case. This procedure, though for many years almost a standard one, has recently become somewhat controversial because of the realization that the lagged dependent variable will be ascribed some share of effects that otherwise might have been seen to generate the new value of the dependent variable, supposing that it is close to the previous value. In other words, in the presence of time serial autocorrelation (precisely the circumstance that leads us to make use of the lagged dependent variable) use of this stratagem will tend to depress the apparent effects of other independent variables (Achen 2000). But the reverse argument can also be made. Since inertia is a powerful force in the affairs of men, leaving it unspecified can spuriously inflate the apparent effects of other independent variables.

The critical question appears to be whether it makes theoretical sense to specify the connection between the previous case and the present case. When we consider turnout in consecutive elections, most of those voting in the second election had the opportunity to vote in the first election. Since the habit of voting is one of the most powerful predictors of whether someone will vote (Verba and Nie, 1972; Schmitt and Mannheimer, 1992) turnout in the second election should be linked to turnout in

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<sup>24</sup> Gray and Caul do this in a quite unusual fashion, by taking the mean of the first two elections in their series as the baseline against which later elections are compared. A more usual method is to standardize on the basis of the mean for the whole series. Even using their method, however, we are unable to replicate their findings with our data. The main difference between their analysis and ours is that they focus on turnout as a percentage of the voting age population whereas we focus on turnout as a percentage of registered voters (with special treatment for the United States). Earlier, we listed a number of ways in which turnout as a percentage of VAP would be contaminated in practice. None of this contamination is allowed for in the model estimated by Gray and Caul, so factors like changes in labor mobility and the size of the adult but non-voting population are free to be capitalised upon by variables in their model that ostensibly measure other things.

the first election. Leaving this link unspecified will spuriously inflate effects that would have predicted constancy in voter turnout. Moreover, when turnout is evaluated after an election, the evaluation is almost invariably made by comparison with turnout at the most recent previous election of the same type. Commentators and analysts are interested in whether turnout has increased or decreased. The previous value of turnout is a reference point which is used in real life and so should be used in the models we evaluate. However, when we include the lagged version of the dependent variable in our model we will include lagged versions of the independent variables also, following the advice of Johnson and DiNardo (1997). In principle this should prevent us from underestimating the power of independent variables that are themselves correlated over time (1997: 194). Moreover, it permits us to include in our model of electoral experiences the experiences of the recent past as well as of the present. Since it may take time for voters to become accustomed to changes (particularly in electoral arrangements such as compulsory voting or proportionality of the electoral system), it makes sense to allow past experiences to show their reinforcing effects if those are present.

However, because we do not want to run the risk of ruling out variables that would have predicted constancy in turnout by ascribing their effect to the lagged dependent variable, in the initial test of our model that seeks to establish whether any variables should be added beyond those giving rise to the electoral experience, the AR1 procedure with panel corrected standard errors will be used. Later we will show that the two procedures yield very much the same findings.

The total list of variables summarized above and presented in Appendix A is a long one. Lagged versions of all the variables double their number. Even with 354 cases, including all the variables in any one analysis invites the possibility of capitalizing upon chance. To reduce this possibility, variables from each of the three models outlined above are analyzed separately and variables from the models that do not focus on the experience of elections are included in a combined model only if they prove significant in the separate analyses. As regards lagged versions of independent variables, these are only included in models where they prove significant.

## Initial Findings

Before we present our findings let us review our expectations. Variables that have to do with the electoral experience should show stronger effects than those having to do with social resources or the ease with which populations are mobilized to vote; and because of the way in which experiences override social characteristics in aggregate changes over time, we do not expect variables from the resource or mobilization models (with one important exception) to add anything to the model that encapsulates electoral experiences. That model, with the addition of size the electorate if it proves significant (see above), should provide good tracking of changes in turnout over time, even within individual countries.

Tables 2 to 4 use GLS regression analysis with panel corrected standard errors and assuming an (AR1) autoregressive process (common to all countries) to test the relative power of each of the three sets of variables discussed earlier. Coefficients in the three tables are derived from analyses each of which focuses on variables taken from one specific set (experiences, resources , or mobilization). Each table contains two models, the first showing coefficients for all variables ever suggested as being relevant to the set of effects concerned, and the second showing coefficients for a reduced form equation consisting only of the variables that proved significant after other variables had been removed.<sup>25</sup> In these tables we do not include the dependent variable lagged by one case (or any other lagged variables) because we are trying to show the effects of potential independent variables to maximum advantage. We want to give as many of them as possible a chance to be included in the final model. Instead the procedure takes account of a common autogressive (AR1) process. Later we will see whether any of the included variables drop out of an equation that includes lagged turnout.

Table 2's Model A shows the effects of all variables in the set concerned with electoral experiences.<sup>20</sup> Model B shows the effects of those found to be significant at the 0.05 level (one-

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<sup>25</sup> The procedure followed was of backward elimination, one by one in order of their significance, of all variables that proved not significant in the first model, followed by stepwise addition, one by one in order of their significance, of variables that showed themselves significant once the deletions had taken place.

<sup>20</sup> This model has fewer cases than model B (some subsequent models have fewer cases still) because of missing data. Generally, the effect of smaller N is to enhance the chances of a variable proving significant, so we do not believe we have given these variables an inadequate opportunity to show their importance. One advantage of Model

tailed). Only four variables dropped out of the set because of lack of statistical significance. Size of largest party turned out to be largely interchangeable with majority status, but proved marginally less significant (and is less pleasing theoretically, since it does not take account of the possibility of the largest party receiving more than 50 percent of the vote). When it was removed, majority status gained significance. Bicameralism decisiveness, and polarization also failed to reach statistical significance.

**Table 2** The Experience of Elections Model (panel corrected standard errors in parentheses)

Independent variable	Model A (All variables)	Model B (Reduced form)
Margin of victory	-0.133 (0.065)*	-0.126 (0.063)*
Time since last election	0.582 (0.313)*	0.605 (0.313)*
Size of largest party	0.018 (0.169)	(dropped)
Majority status	-0.122(0.181)	-0.130 (0.068)*
Bicameralism	-1.286(2.935)	(dropped)
Decisiveness	0.046(2.170)	(dropped)
Compulsory voting	11.459(1.586)***	11.262 (1.460)***
Disproportionality	-0.325(0.079)***	-0.331 (0.080)***
Polarization	0.023(0.041)	(dropped)
Absentee voting	7.150(1.338)***	6.931 (1.254)***
Weekend voting	2.074(1.228)***	1.960 (1.169)*
Legislative responsibility	9.147(0.891)***	9.481 (0.675)***
Constant	41.398(11.116)	50.576 (2.643)***
N	318	353
Adjusted R <sup>2</sup>	0.799	0.785

Significant at \* 0.05; \*\* 0.01; \*\*\*0.001, one-tailed.

Turning to the variables included in the Resources set, Table 3 shows many fewer significant effects than Table 2. This is partly because it contains fewer variables, but we believe it is also because resources will not show themselves in an aggregate-level analysis, as explained at the outset of this paper. Two variables have effects more than 1.6 times their standard deviations (the cut-off for a one-tailed test) but one of those (GDP per head) has the wrong sign, as does percentage literate (though the latter variable would not have been significant even with the correct sign). After eliminating all variables that fail to pass the one-tailed significance test, only percent of the population over 65 is left. It has the correct sign, but a very small effect of less than 1 percent in turnout

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B is that almost all variables are readily obtained from the record of election outcomes (absentee voting is the primary exception).

for every 10 percent increase in the proportion of the population of retirement age. Note that this is a variable that also occurs in the mobilization model, which we now turn.

**Table 3** The Resources Model (panel corrected standard errors in parentheses)

<u>Independent variable</u>	Model A <u>(All variables)</u>	Model B <u>(Reduced form)</u>
Percent under 30	-0.042(0.052)	(dropped)
Percent over 65	0.119(0.042)***	0.078 (0.044)*
GDP per head	-0.036(0.034)	(dropped)
Percentage literate	-0.002(0.031)	(dropped)
Constant	82.906(31.779)***	(dropped)
N	220	354
Adjusted R <sup>2</sup>	0.216	0.065

Significant at \* 0.05; \*\* 0.01; \*\*\*0.001, one-tailed.

Table 4 shows effects on turnout associated with the mobilization model. Social characteristics that are thought to make it easier to mobilize voters have more impressive effects than social characteristics that are thought to relate to political resources (Table 3), but the variables that prove significant in the reduced form model (Model B) in Table 4 either have very small effects (one

**Table 4** The Mobilization Model (panel corrected standard errors in parentheses)

<u>Independent variable</u>	Model A <u>(All variables)</u>	Model B <u>(Reduced form)</u>
Percent under 30	0.108(0.456)	(dropped)
Percent over 65	0.203 (0.384)	(dropped)
Voting age	0.090 (0.093)	(dropped)
Links to social groups (r <sup>2</sup> )	-0.159(0.128)	(dropped)
Union membership % of workforce	0.097(0.074)	0.156(0.090)*
Labor party vote % of voters	0.334(0.090)***	0.316(0.094)***
Area in sq. miles per thousand	2.214(3.124)	(dropped)
Mean electorate per district	-0.051(0.118)	(dropped)
Electorate in millions	0.027(0.018)	0.010(0.006)*
Constant	50.866(21.10)***	66.996(5.512)***
N	223	223
Adjusted R <sup>2</sup>	0.517	0.496

Significant at \* 0.05; \*\* 0.01; \*\*\*0.001, one-tailed.

percent in turnout for each 100 million voters, one percent in turnout for every 6 percent change in the unionized workforce) or quite problematic (in the case of the labor party vote share).<sup>27</sup>

Nevertheless, taking the findings of Tables 3 and 4 at face value, the next step in our investigation is to discover whether any of the effects found to be significant in the resource and mobilization models remain significant when taken in conjunction with the electoral experience model. This is also the point at which we demonstrate that, in the absence of a theoretical basis for choosing one model rather than another, one can end up with quite different models that are equally plausible.

**Table 5** The Augmented Experience of Elections Model (panel corrected standard errors in parentheses)

<u>Independent variable</u>	<u>Model A</u> (All variables)	<u>Model B</u> (Reduced form)	<u>Model C</u> (Theory driven)
Margin of victory	-0.131(0.062) *	-0.094(0.052) *	-0.129 (0.058) **
Time since last election	0.036(0.251)	(dropped)	0.459 (0.285) *
Majority status	-0.097(0.067)	(dropped)	-0.174 (0.008) ***
Compulsory voting	10.494(1.204) ***	11.142(1.217) ***	10.904 (1.299) ***
Disproportionality	-0.211(0.074) ***	-0.224(0.079) ***	-0.283 (0.074) ***
Absentee voting	5.694(1.236) ***	4.774(1.176) ***	6.109 (1.129) ***
Weekend voting	1.324(1.114)	(dropped)	1.845 (1.050) *
Legislative responsibility	7.840(0.701) ***	7.358(0.780) ***	8.211 (0.767) ***
Percent over age 65	0.258(0.166)	(dropped)	--
Union membership % of workforce	0.009(0.037)	(dropped)	--
Labor party vote % of voters	0.031(0.047)	0.108(0.043) **	--
Electorate in millions	-0.005(0.002) **	-0.005(0.002) ***	-0.006 (0.002) ***
Constant	41.398(11.116)	56.095(2.524) ***	50.576 (2.643) ***
N	223	281	334
<u>Adjusted R<sup>2</sup></u>	0.856	0.813	0.816

Significant at \* 0.05; \*\* 0.01; \*\*\*0.001, one-tailed

In Table 5 there are three different models. The first two follow the same pattern as in Tables 2, 3, and 4. That is to say we start with a model (Model A) that includes all the variables of interest (in this case, all the variables that proved significant in all three previous Model Bs) and then follow the same procedure as followed in previous models to derive a second model (Model B) that contains

<sup>27</sup> We have followed Gray and Caul (2000) in treating this variable as one that measures the ease with which parties will mobilize a class-based support group, but since it is well known that higher turnout brings more working class voters to the polls, the relationship could as well be the consequence of turnout change as its cause.

only significant effects. The third model is one produced in a different way, by starting with Model B from Table 2 (the electoral experience model that we think best theoretically) and testing each of the significant variables from Models B of Tables 3 and 4 in turn to see whether they remain significant when taken in conjunction with the electoral experience model. The resulting model (Model C) turns out to consist of the original electoral experience model with the addition of a single variable: the one measuring the size of the electorate. It will be recalled that we thought this variable, if significant in any analysis, would add significantly to the experience of elections model because the size of the electorate is the denominator in the calculation of turnout.

In Table 5, as in Tables 2 to 4, Model A explains most variance. This may be because it has the smallest N of any of the analyses as it includes variables for which we were not able to obtain complete coverage of our time series, as already explained. However, even if one wanted to use variance explained as a criterion for choosing between the other models (a criterion that is no longer much used) there would be little to choose between Models B and C of Table 5 on this basis. But Model C is hugely to be preferred from our perspective since it includes two more variables than Model B that are likely to be helpful in explaining over-time variations (time since last election and majority status both relate directly to the importance of each election in the minds of voters) while excluding a variable (labor party vote) that is problematic theoretically (see footnote 26). This is the model that we believe should provide predictions of turnout that best track actual turnout from election to election.

### **Estimating turnout variations over time**

Before we move on to using the predictions of Table 5's Model C, we need to re-estimate that model using a different procedure to handle the over-time dependencies. We argued earlier that a proper assessment of the determinants of turnout change require the inclusion among the independent variables of the dependent variable lagged by one case. That variable was omitted from the estimates presented in Tables 2 to 5 because we wanted to give all independent variables the maximum opportunity to show themselves significant. Now that we have chosen our model, this concern is no longer relevant.

**Table 6** Predicting turnout change over time (standard errors in parentheses)

<u>Independent variable</u>	Model A <u>(Panel corrected)</u>	Model B <u>(Within country)</u>
Margin of victory	-0.050(0.028)*	-0.038(0.028)
Time since last election	0.494(0.186)***	0.530(0.185)***
Majority status	-0.089(0.029)***	-0.069(0.028)**
Compulsory voting	3.818(0.697)***	3.685(0.673)***
Disproportionality	-0.082(0.035)**	-0.063(0.034)*
Absentee voting	2.679(0.493)***	2.604(0.506)***
Weekend voting	0.306(0.481)	0.474(0.454)
Legislative responsibility	3.026(0.442)***	3.168(0.463)***
Electorate % change	-0.006(0.003)*	-0.007(0.004)*
Turnout <sub>t-1</sub>	0.675(0.043)***	0.681(0.043)***
Time since last election <sub>t-1</sub>	-0.201(0.172)	-0.371(0.176)*
Constant	16.727(3.005)	15.688(2.859)***
N	313	313
Adjusted R <sup>2</sup>	0.911	0.917

Significant at \* 0.05; \*\* 0.01; \*\*\* 0.001, one-tailed.

Table 6 again contains only two models. Model A is included for calibration purposes and employs the same analysis technique as Table 5, Model C, though the analysis no longer includes allowance for an autoregressive process since various diagnostics (not shown) suggest that this is now taken care of by the lagged dependent variable (panel corrected standard errors are still computed). Model B presents an analysis that corresponds to that in Model A but which estimates only the within country effects (deviations from country means). It thus takes no account of turnout differences between countries. This is the model we think most appropriate for investigating turnout variations over time. Both models include two variables additional to those included in Table 5's Model C: lagged turnout and the only lagged independent variable that proved significant in either model, lagged time since the last election. Since the sign of the lagged measure of time since the last election is negative, it can be interpreted as a corrective to the effect of a long gap between elections: such a gap has less impact if it is customary. Perhaps more to the point, a short gap between elections depresses turnout even more if it is customary, so the two measures acting together function as a measure of electoral fatigue.

Despite the fact that panel corrected standard errors should make it harder for a variable to achieve significance, one variable (margin of victory) does prove significant in Model A that fails to prove significant in Model B. Another variable (lagged time since the previous election) proves significant

only in Model B. We include both variables in the predictions of turnout that we will derive from Model B. Another variable (weekend voting) fails to prove significant in either model, casting some doubt on the general supposition that this is a variable responsible for turnout variations.<sup>28</sup> In attempting to account for turnout variations across time in each country, however, we employ all the variables that proved significant in Table 5's model C, with the addition of the two lagged variables. Interestingly, it makes no difference whether we employ predicted turnout from Table 6's Model A or Model B: the predictions from the two models correlate 0.999 with each other.

**Table 7** Accuracy of predictions made from Table 6

Predictions made from Table 6			
Country	Root MSE	Correlation	N
Luxembourg	1.310	0.745***	13
Belgium	1.634	0.244	18
Malta	1.771	0.978**	14
Australia	1.838	0.308	22
Italy	2.092	0.814***	14
Ireland	2.139	0.787***	16
Denmark	2.194	0.559*	22
Switzerland	2.477	0.973***	13
Austria	2.556	0.789***	16
New Zealand	2.811	0.571*	18
Israel	2.860	-0.006	15
Norway	2.898	0.194	14
Germany	3.230	0.675**	14
Sweden	3.573	0.699**	17
UK	3.740	0.091	15
Canada	3.932	0.383	17
Finland	4.420	0.606**	16
Japan	4.473	0.347	20
USA	4.476	0.524*	13
Netherlands	4.609	0.815***	16
France	5.372	0.519*	16

\* Excluding midterm elections

Significant at \* 0.05; \*\* 0.01; \*\*\* 0.001.

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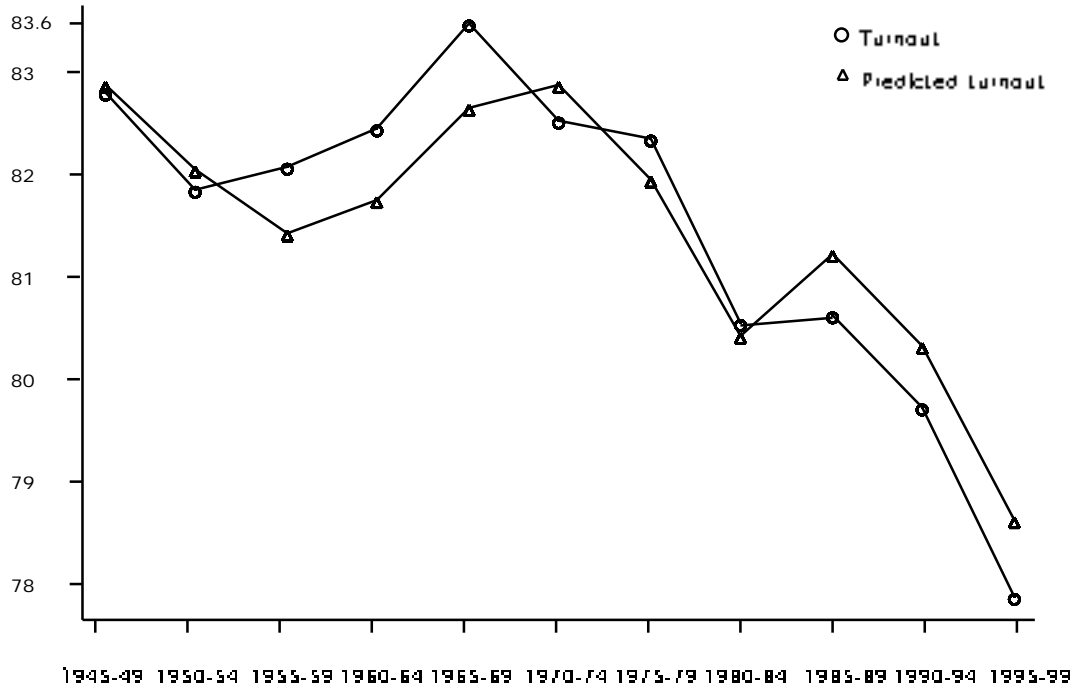
<sup>28</sup> Separate analyses (not shown) indicate that even between countries this variable ceased to discriminate significantly between high and low turnout countries after about 1980, perhaps because of the changing legal and social significance of the sabbath in many countries.

Table 7 shows the results of using the equation from Table 6 to predict turnout country by country. The Root Mean Squared Error can be interpreted as the average extent to which the predictions made in each country miss the mark. The table is ranked on this statistic, which indicates that in all but five countries two thirds of the predictions made from Table 6's Model B come within 4 percent of matching actual turnout. The correlation between turnout and predicted turnout, country by country, indicates the extent to which the two series move together. Evidently it is possible to have a low MSE along with a low correlation, in the event that turnout in a country is largely stationary (as is the case in countries where compulsory voting is effective). This is clearly the case in Belgium and Australia, although not in Italy and Luxembourg. . But most low MSEs tend to go with very high correlations, as in Luxembourg, Malta, Ireland, and Switzerland — all of them with correlations above 0.7).

What of the countries in the lower half of the table? Many of these are countries with Root MSE's less than 4, so they are countries in which predicted turnout matches actual turnout to within 4 percent on average (two-thirds of the predictions are within 4 percent of actual turnout). Of the remaining countries (those with root MSEs above 4) all but one are countries where our predictions do correlate significantly with turnout variations. Only when it comes to Japan do we not, on average, get to within 4 percent of the correct figure when predicting turnout AND do we not show a significant correlation between our predictions and actual turnout. Inspection tells us that Japan has strongly positive residuals (deriving from turnout considerably less than predicted) at every election except one since the end of the 1970s. It is possible that the unique circumstance of a governing party that stubbornly refused to be replaced in election after election had a dampening effect on turnout there (though the effect is not strong enough for a dummy variable picking out Japan to prove significant).

While predictions to within 4 percent on average appear to be pretty good, it might be wondered how much of this performance was due to bringing the lagged dependent variable into the model. Though, for theoretical reasons explained earlier, we do resist removing that variable, we have already demonstrated that, without it (in Table 5), our explanatory variables explain between 81 percent and 85 percent of the variance in turnout, depending on the model. And the root mean

squared errors (not shown) for predictions made from the model that lacks lagged variables (Model C in Table 5) are roughly the same for most countries as those shown in Table 7.



**Figure 2** Predicted and actual turnout, 1945 to 1999

This brings us to the question of how well our model tracks the overall evolution of turnout that was presented in Figure 1 at the start of this paper. Figure 2 shows that our ability to track the overall evolution of turnout since 1945 is impressive. There is somewhat higher turnout than expected during the period 1955 to 1969, and somewhat lower turnout than expected after 1985. But the deviations are generally less than 1 percent on average, which is about as little error as it is possible to imagine. The model does track the drop in turnout that occurred in the 1990s, deviating by just less than 1 percent throughout the length of the decline – a deviation very similar to the underestimate of turnout that occurred in the 50s and 60s.

### **Decline in the 1990s**

Though Figure 2 shows predicted turnout tracking actual turnout fairly well from 1990 on, the two lines are separated by about 0.9 of one percent, a difference established during the second half of the 1980s and which persists through the 1990s despite corrections made at each time point for the errors of the previous time-point. This correction mechanism is one that we believe to be built into the evolution of turnout, since inertia is so important a part of human life (as argued earlier). But because this mechanism operates automatically, correcting any error from whatever source, we do need to pay attention to divergences (such as that occurring between 1955 and 1969 and that occurring after 1985) that are not immediately corrected. We will discuss the 1955-69 divergence below. Here we want to focus on the divergence of 1985-99.

We mentioned earlier our inability to include two measures in our data because they did not extend over the entire post-WWII era. One of them derives from Wattenburg's (2000) suggestion that the rise of 'candidate-centered' politics due to a decline in mass parties is responsible for declining turnout. He provides no systematic evidence for this on an international basis but argues that the start of turnout decline in the G7 countries was a sudden drop following a major upheaval in the party system. If what he says is true we should be able to see some evidence for it in the greater decline of turnout (beyond what our model predicts) in those countries where there was most decline in party attachment. A second variable that we were unable to incorporate, for the same reason, was one that would track any changes in the alienation of voters from politics and democratic institutions, changes thought to be important for example by Teixeira (1992). If turnout is reflective of such a democratic malaise, we should expect it not only to show up in countries where there has been the greatest decline in party attachment, but also in countries that have seen a decline in trust in government. Trends in party attachment and trust in government for most countries in our study are given in Dalton (2000), generally calculated from the mid 1970s to the early 1990s. These data, admittedly, do not cover the most recent five years, but they do cover the period when expected turnout started to diverge from actual turnout, a divergence that was maintained until the end of the 1990s. If the arguments of Wattenberg and Teixeira hold water, we would expect to be able to

explain at least part of the difference between predicted and actual turnout since the mid-1980s by using these variables.

We tested these expectations using Model C of Table 5, a model that does not contain the lagged version of the dependent variable, thus providing maximum opportunity for Dalton's two variables<sup>29</sup> to explain recent deviations of turnout from the predictions made by our model. In neither case is the expected relationship apparent. In fact, both correlations are very close to zero at -.06 and .01 respectively. The most prominent cases of declining turnout (see Table 1) certainly do not conform to expectations. Finland the Netherlands and Switzerland seem to have resisted the decline of party attachment, and Switzerland and the Netherlands also saw little decline in trust in the 1980s. Even when these outliers are removed, there is little sign of any relationship between residual turnout and either party attachment or trust in government over the remaining data points.

Inspecting our independent variables to see which of them are responsible for the 2.9 percent drop in predicted turnout, we find that a little over half of it (1.7 percent) is accounted for by inertia – the mechanism incorporated in our measure of lagged turnout. The remaining 1.2 percent appears to be due to three developments recorded in our data: the increasing size of electorates in advanced democracies, the reduced number of races in which there is a party with a chance of winning an outright majority, and a reduction in the average length of time between elections. The average distance of the largest party from 50 percent has increased by 7 percent over the period, which is worth about half of one percent in turnout ( $7 \times 0.069$ ). The electorates of our countries have increased by 40 percent on average since the 1980s, with only Britain and Luxembourg having notably smaller increases (in Luxembourg the very small population appears to actually be in decline). This would be responsible for another third of a percentage point in turnout, on average. A

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<sup>29</sup> Dalton (2000).

final third of one percent can be accounted for by the fact that elections have been occurring closer together, by about half a year on average.

The remaining 1.2 percent decline is not predicted by our model. Some of this residual deviation from expected turnout might well be the result of anomalous elections in certain countries.<sup>30</sup> However, we would like to develop a more general argument.

### **Discussion**

The decline in turnout since the mid-1960s should be seen in context of the fact that, from the mid-1950s until the end of the 1970s, turnout was higher (by about 0.7 of one percent) than predicted by our model. Our model tracks this rise, which was partly due to factors that are included in our data, but does not match it, any more than it matches the decline of the 1990s. The fact that predicted and actual turnout do not converge in either period, despite the effects of lagged turnout, means that whatever was driving the changes in actual turnout was operating more and more strongly over each period (as also indicated by the progressively changing level of actual turnout). We believe the higher than predicted turnout during the 1950s and 1960s to have been due to a sequence of unusually important elections during this period: elections that settled in most countries the hundred year class battle by establishing welfare states in country after country (cf. Franklin, Mackie, Valen *et al.*, 1992; Wattenberg, 2000). Important elections see turnout that is higher for several reasons some of which are included in our model. For example, such elections are often closely fought by clearly distinct party camps, competition between which reduces the number and size of other parties. When this is the case we get close races between large parties, and this strong electoral competitiveness leads our model to make high turnout predictions. But in important elections we may see high turnout for additional reasons that go beyond those that might be measured by variables included in our models. Hence the positive residuals for average turnout during the 1960s (see Figure 2). After this high point we would have expected some decline as politics returned in

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<sup>30</sup> Japan introduced a reform of its electoral system that confused its voters (Kasapovik, 1997). The result was turnout almost 10 percent lower than predicted. Averaged over 21 countries this accounts for a little less than half of one percent – almost exactly half the 0.9 of one percent that was not accounted for by our model.

most countries to a 'normal' (or baseline) state which Figure 2 suggests was reached in the early 1980s and retained until the end of that decade.

Since the end of the 1980s, our model has predicted lower and declining turnout. Actual turnout has been lower still. Again it seems possible to us that the variables in our model are only registering the most visible aspects of a fluctuation in electoral salience. Elections in the last years of the 20<sup>th</sup> Century were clearly lacking several of the features that would generate high turnout. Perhaps the lack of importance of these elections goes beyond what we can measure, accounting for the negative residual, just as in the 1950s and 1960s the positive residual could be explained by elections having even more importance than we could measure.

Though we cannot say for sure that deviations from the turnout predicted by our model is due to fluctuating electoral salience, we can say that it is not due to a variety of causes that have been previously proposed. The variables listed in the appendix incorporate all of those known to us to have been employed in past research. Those that are not incorporated in our model showed no ability to add to that model's predictive power.<sup>31</sup> The biggest departure in our findings from the thrust of recent work is the lack of impact of declining links between social groups and political parties. Powell (1980, 1986), Wattenberg (2000), and Gray and Caul (2000) make powerful arguments for the connection between such linkages and turnout. We ourselves were strongly committed to this explanation for declining turnout, and measured the phenomenon in every way we possibly could. But it does not work. Because it does not work we thought it incumbent upon us to discover a theoretical basis for this failure. The result is the present paper. Such linkages should never have been expected to be important because of the countervailing forces that were explored at the outset of this paper. Links to social groups may be having an indirect effect, however, by way of their impact on size of largest party. These variables correlate between 0.60 and 0.73, depending on our measure of social linkages, and size of largest party has strong effects on turnout by way of its connection to majority status. So the increasing distance of largest parties from majority status, which we have shown to have been most responsible for the declining baseline about which turnout

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<sup>31</sup> Two variables suggested in recent research (Dalton, 2000; Wattenberg 2000) could not be incorporated in our data because measures over the period of our investigations were not available. However, we tested appropriate measures against our late period residuals without finding significant results, as reported above.

varies, probably responds to many of the things that Wattenburg (2000) suggests as causes of declining turnout. We do need to understand the phenomenon of declining first party size if we want to anticipate the likely future course of turnout variations, and Wattenburg's analysis comes as close as any to providing the basis for such an understanding.

What prognosis can we give for future changes in turnout? Because at least two of the driving forces behind the decline (population increase and declining size of the largest party) have no natural boundaries anywhere close to their current values, it is quite possible that the decline will continue in years to come. Institutional changes could have even greater effects. In Switzerland there is currently much speculation that the cartel arrangement (normally referred to in Switzerland as the 'magic formula' – see footnote 17) will be abandoned in recognition of its anti-democratic effects. If this were to happen, the decline in Swiss turnout (worth some 30 percent in our data) could go into reverse. Averaged over 21 countries, this change on its own could ultimately cause average turnout to rise by some 1.5 percent. In the United States, campaign finance anomalies often take some of the blame for the low salience of elections there (Franklin, 1999), and much effort by reformers is currently directed at removing these anomalies. Over time, this too could lead to turnout increases.

On the other hand, developments that could counteract this trend are not hard to imagine. There is some chance that additional countries will abandon compulsory voting. A debate in Australia is currently taking place on this very question; and if Australia abandons compulsory voting, other countries might follow suit (Italy has already abandoned its quasi-compulsory voting system, though with minor effects so far, as explained in Footnote 11). This could have quite a large effect in reducing average expected turnout (abandonment of compulsory voting in the Netherlands in 1972 caused an immediate drop of 11 percent there, though the effect later stabilized at about 8 percent). Even without any such development, the trend of declining first party size may very well continue if social or political developments do not halt the fractionalization of party systems, and the baseline expectation for turnout may continue its decline in coming decades.

But our job is not to make predictions. We merely wish to indicate that various future scenarios are plausible, all of them consistent with our findings. Importantly, however, none of these scenarios are

built around explanations involving dissatisfaction or alienation, or changes in social linkages – the variables most frequently blamed in popular commentary for turnout decline.

## **Conclusions**

In this paper we have developed a new approach to studying turnout variations, buttressed by a theoretical understanding of how the experience of elections dominates other mechanisms that might have been expected to cause such variations. The experience of elections, and especially of their varying salience, can be expected to interact with resources and mobilization in such a way as to negate much of the power of variables associated with these other two mechanisms. To test this theory we have brought to bear all the variables ever proposed as causing variations in turnout between countries or over time, and we have used them to predict turnout variations in 21 countries over 55 years. The ability of these variables to explain country differences is impressive. They explain over 91 percent of variance in turnout over time – the only variance we believe to be relevant.

Almost every variable that contributes to our understanding of changes in turnout over time is a variable that affects the experience voters have of elections. Two types of experience are measured by our independent variables (institutional setting and electoral competitiveness); but we believe that elections vary in importance for reasons that go beyond what we can measure. The two largest sets of outliers in our data -- positive in the 1960s, negative in the 1990s -- seem to be explicable on this basis. So we propose that residual turnout variations be taken as indicative of this additional aspect of electoral salience that adheres to some important elections (and is lacking from elections seen as unimportant). Evidently this aspect of electoral salience would have to do with the political importance of elections: what the outcomes mean to voters and non-voters in political terms.

It seems unlikely that we will ever be able to prove definitively that there are no variables missing from our estimation of baseline turnout for each country in each election. Nevertheless, the variance left unexplained by our models is not great; and ascribing the bulk of this variance to changes in the political importance of elections appears not unreasonable. If we do this we explain remaining turnout variations by assumption. Though this may not be an entirely satisfactory procedure, it could

still be a helpful way to think about residual turnout variations, until such time as we find an election (or elections) where the assumption appears manifestly implausible. If we do not find such cases, we will in the course of time come to have greater faith in our new measure. If we do find such cases, they will inevitably suggest additional variables to be included in the baseline calculations. Taking account of such variables will render our models more accurate than now, so that deviations from the new baseline can again be considered by assumption to be measures of political salience. Either way, over the course of time we should gain increasing confidence in the accuracy of residual turnout as a measure of the political importance of elections.

## **APPENDIX: Variables included in our models**

Absentee – generally postal – voting (Franklin, 1996).

Age – percent under 30, percent over 70 – (Powell, 1986; Gray and Caul, 2000).

Compulsory voting – whether a legal sanction is applied for failure to vote – (virtually everyone).

Disproportionality – difference between percent seats and percent votes – (virtually everyone).

District magnitude – seats – (Powell, 1986; Jackman, 1987; Jackman and Miller, 1995; Radcliff, 1996; Gray and Caul, 2000).

Electoral decisiveness – dummy indicating co-equal second chamber or president – (Blais, 2000).

Electoral system – dummy variables – (Blais, 2000; Gray and Caul, 2000).

GNP per capita (Radcliff, 1992; Blais, 2000; Gray and Caul, 2000).

Labor Party strength – percent voting for labor, socialist or communist parties – (Gray and Caul, 2000).

Legislative responsibility – whether legislature can dismiss the executive – (new variable).

Literacy – percent of population – (Blais, 2000).

Majority status – absolute difference between size of largest party and 50 percent – (new variable).

Margin of victory – percent – (Blais, 2000; Gray and Caul, 2000; Franklin, 2001).

New voters – subsumed in population size – (Radcliff, 1992).

Number of parties in legislature (Crepaz, 1990; Jackman and Miller, 1995; Blais 2000).

Party-group linkages – percent of variance in left voting explained by social structure – (Powell, 1986; Franklin, van der Eijk and Oppenhuis, 1995).

Polarization – distance between extreme parties from manifesto data – (Crepaz, 1990).

Population density – population per square mile – (Blais, 2000).

Population size – (Blais, 2000; Gray and Caul, 2000).

Size of largest party (Franklin, 2001).

Time since most recent election of same type (Franklin, 2001).

Unicameralism (Jackman, 1987; Jackman and Miller, 1995; Radcliff, 1996).

Union membership (Gray and Caul, 2000).

Voting age – in years – (Jackman and Miller, 1995; Radcliff (1996).

Weekend voting (Franklin, 1996; Gray and Caul, 2000).

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