Partisan Effects of Voter Turnout in the 2002 Irish General Election

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Low and declining election turnout is frequently seen as indicative of worrying trends in democratic politics. Political commentators lament the lack of citizen involvement and claim that eroding levels of political involvement pose serious threats to democracy. Political scientists frequently agree: a democratic system void of the active support and involvement of its citizens may face serious problems of legitimacy and, ultimately, of its own survival (Lipset 1963, 180; Norris 2002, 5; Powell 1982, 206). Moreover, low turnout can have serious implications for the extent to which supposedly representative institutions are capable of picking up public preferences and translating these into political outcomes. Lijphart (1997) claims that less than full turnout implies differences in turnout between groups in society, thereby affecting the outcome of elections and leading to the under-representation of the political interests of some groups of citizens.

In this paper, we focus on the second problem. If turnout was 100 percent, would it affect the election result? Which parties would gain and which would lose from full turnout? Assertions of political consequences of low election turnout rest on the near-universal association between political participation and socio-demographic status. Comparative studies of turnout note that this relationship weakens as turnout increases (e.g. Powell 1986). Consequently then, as Lijphart (1997, 2) argues, ‘low voter turnout means unequal and socio-economically biased turnout’, which, furthermore, has partisan and, ultimately, policy implications. For example, despite some evidence of a recent gradual decline in ‘class voting’ and other socio-demographically based electoral alignments across the advanced industrialised nations, support for parties of the left is still robustly correlated with socio-demographic status. As socio-demographic differences in turnout widen, support for parties of the left decreases, pulling party competition and policy to the right (Jackman 2001, Pacek and Radcliff 1995). Ballots, once famously depicted by Engels as ‘paper stones’ (Przeworski and Sprague 1986, 1), can hardly fulfil their role in the peaceful and gradual advancement of the political cause of the not-so-well-off if they are left on the beach. Conversely, to the extent that higher turnout increases support for left parties and their policy agendas, it may shift the distribution of voters’ policy preferences further to the left than has on average been the case in western liberal democracies. Finally, there is some evidence that turnout effects might feed through into political outcomes. For example, increased support for parties of the left results in turn in higher welfare spending and more state interventions in the macro-economy and in labour markets (Castles and McKinlay 1979; Hicks and Swank 1992; Hill, Leighley and Hinton-Andersson 1995).

No matter what the sources of individual abstention, political preference revelation at elections and popular votes will likely be biased whenever turnout is short of 100 percent *and* abstainers' preferences are non-randomly distributed among the electorate. By the same token, when everyone votes there can be no socio-demographic, nor any other, bias in turnout and, by further inference, in the political representation of citizen preferences. For Lijphart (1997) then, only 100 percent turnout is good turnout. According to Rose (1997, 22), we should reject making any figure at all, whether 80, 95, or 100 percent, the desirable target for turnout. Instead, the standard of evaluation of low turnout is randomness of non-voting. As long as non-voters are a representative cross-section of the electorate, their non-appearance at the polls will not increase the influence of any one group at the expense of another. Unfortunately, this randomness seems to be absent from electoral behaviour. As a result, low turnout may severely restrict the ability of elections to reflect national preferences, and the electoral arena may give different people different degrees of political influence even when the formal equality of all citizens before the law is rigorously upheld (Tóka 2002, 5).

What is worse, our ability to estimate the size and direction of the political bias that results from non-random voter abstention is severely hampered. We frequently know how voters differ from non-voters with respect to various sociodemographic or political characteristics. We can also determine the preferences of those voters that are in many important social and political respects like non-voters and in that way arrive at informed guesses about the hypothetical vote choices of nonvoters. Finally, we can ask non-voters how they would vote if they voted. But we can not know with certainty what the vote choice of non-voters would be if they turned into voters, regardless of what they say, or how their sociodemographic peers vote.

Among European countries, the Republic of Ireland has fared remarkably badly in terms of election turnout. Average turnout at general elections has been only slightly above 70 percent since the 1970s, hitting a new low at the most recent (2002) election with 63 percent. This is one of several aspects that make Ireland an important case study for the assessment of the political effects of low voter turnout. Firstly, Ireland has no major party of the left to mobilise the more disadvantaged voters. Secondly, Ireland's low turnout facilitates the estimation of any tangible turnout effects, as any biases will be larger the bigger the share of vote abstainers among the electorate. Together with the first point this means there is both more chance of observing a bias in the first place and more chance that such a bias can have a significant impact on the result. Thirdly, the country's STV electoral system leads to a very proportional translation of seats into votes, which reduces the amount of strategic voting among the observed votes that provides the informational basis for simulating the behaviour of nonvoters. Fourthly, the 2002 Irish National Election study contains official data on individual turnout, allowing the unambiguous validation of voters. Finally, it also contains the stated preferences of those who reported a vote, even if the official record indicated that the vote was not cast. This will be useful in evaluating the method used here to assess the impact of low turnout on the outcome.

Approaches to Estimating Turnout Effects

Any attempt to test empirical propositions about voter inequality is subject to a fundamental epistemological problem, namely that the direct demonstration of any political inequalities that unequal turnout may generate requires knowledge of how non-voters might vote were they not non-voters (Tóka 2002). It is possible that the individual-level characteristics that made some people abstain from voting might also have made them vote differently to the way that would be anticipated by models based on information about people who actually did vote. However, despite the apparent sociodemographic differences that divide voters from non-voters, the latent preferences that made the nonvoters abstain in the first place might also make them divide their vote between parties exactly the way voters with a different social profile do if they only turned out to vote. The question is, how can we know the parameters of this counterfactual state of the world? The premise of any enquiry into turnout effects is the possibility that in an election that lacked full turnout – as all real world elections do –the fact that there was less than complete turnout would have had an impact on the outcome of the election if the average abstainer has preferences different from those of the average voter (Grofman, Owen and Collet 1999). If, on the other hand, abstainer preferences mirrored voter preferences, then the level of voter turnout would have no consequences for the election outcome. Short of using panel data on the evolution of vote intention and likelihood of voting during the course of an election, we have no way of telling whether the political preferences of non-voters would remain stable if they turned into voters (Grofman, Owen and Collet 1999, 360).

Three strategies have been advanced to deal with this problem. One approach uses mainly opinion surveys to consider whether voters and nonvoters differ in any significant way on the dimension of partisan identification or with respect to various policy-related issues. Some studies compare the attitudes of voters and non-voters on various social and economic policy issues or general attitudinal dispositions (e.g., Shaffer 1982; Bennett and Resnick 1990; Studlar and Welch 1986), while others ask more specifically about partisan identifications and preferences (e.g., Gant and Lyons 1993; Teixeira 1992; Wolfinger and Rosenstone 1980; Highton and Wolfinger 2001). A second approach involves regressing the vote share of certain types of parties and candidates (usually left-of-centre ones) on aggregate turnout and a variety of control variables (e.g., DeNardo 1980; Tucker, Vedlitz and DeNardo 1986; Radcliff 1994; Nagel and McNulty 1996; Pacek and Radcliff 1995; Bohrer, Pacek and Radcliff 2000; McAllister and Mughan 1986). A third approach to estimating turnout involves simulating individual-level vote choice conditional on an individual's propensity to vote (Citrin, Schickler and Sides 2003; Brunell and DiNardo 2004; Tóka 2002). Various weighting procedures are employed to infer how a nonvoting individual would have voted by studying the behaviour of voters who share similar socio-demographic and political characteristics.

While the different approaches each have their merits, it is not difficult to see how the first two have limitations that are not shared by the third one. While the first approach queries nonvoters as to whether their attitudes differ from those of voters using opinion surveys, the second and third approaches examine national election studies and official election results for evidence of turnout effects. And while the first and third approaches use individual-level data, the second approach uses aggregate data only, which poses an ecological inference problem. Neither the first nor the second approach attempts to obtain individual-level estimates of the changes to voting behaviour if the actual nonvoters were to turn out the vote. By contrast, the third approach exploits the advantages of analysing individual-level behaviour using the information contained in actual (reported) electoral behaviour. Existing analyses within this approach, however, are flawed for two reasons: Firstly, their simulations of the vote choices of nonvoters are based on a restricted set of variables, consisting usually of demographics only. Secondly, they assume the political preferences of nonvoters remain unaltered as they turn into voters. In this paper, we advance a method within the this third approach that overcomes thee limitations.

In earlier work, we have analysed a heterogeneous sample of polities and elections to combine the advantages of individual-level estimation of counterfactual voting behaviour with controls for political system variables, including electoral system-level incentives to vote, and mobilisation factors associated with historically different party systems, while simultaneously exploiting information on individual-level determinants of vote choice and turnout (Bernhagen and Marsh forthcoming). Simulating the effects on election outcomes of less-than-full turnout at 28 elections in 25 countries allowed us to make substantive causal inferences about turnout effects in any one election. We found that across the different countries small parties and non-incumbents would benefit if everybody voted. In the present study, we take a closer look at only one election, paying more attention to detail in the alleged, observed, and imputed behaviour of citizens.

Method: Vote Abstention as a Missing Data Problem

Our technique for estimating turnout effects on vote choices is rooted in the notion that voting represents an individual choice and therefore that the sample of voters is a self-selected sample (Dubin and Rivers 1989; Little and Rubin 2002). The reason why we do not have data on how some citizens voted is simply because they *chose* not to vote. This implies a fundamental equivalence between the problems of low turnout and missing observations in any quantitative empirical research. If missing data points are uncorrelated with the errors or with the variables of interest, they pose few problems beyond reducing the number of observations and thereby compromising the accuracy of the estimates of parameters or quantities of interest. But if the sampling fractions are correlated with the errors or the dependent variable, we are likely to get biased estimates. Analogously, as long as voters were selected at random in relation to vote choice, the presence of non-voting would merely reduce the efficiency of constituency-wide preference ascertainment, without introducing any political bias. The problem is that we have little reason to assume such independence. Indeed, the research question we address is whether or not such an assumption is correct. While previous studies of turnout effects have largely failed to establish any systematic and directional link between turnout and preferences, their findings nonetheless overwhelmingly suggest that abstention is not entirely random in relation to vote choice.

The assumption that the vote choices of non-voters are data that actually exist but have not been observed or recorded means that every eligible voter in one way or another arrives at a vote choice. But only the voters decide to go to the polls and have their choice recorded, while the nonvoters choose not to reveal theirs by staying home. The big question underlying the puzzle of turnout effects is whether or not the two decisions are systematically related. This question can be tackled using the best available techniques for the imputation of missing data. Traditional methods of 'filling in' missing data include imputing predicted values from regression analysis based on the observed data points, or 'conditional means imputation' (Allison 2002, 11-2). The problem with this method is that its results are not fully efficient. More worryingly, imputations will be unbiased only if the probability of missing data on any variable is unrelated to the values of the variable itself or the values of any other variables in the dataset. For our purposes, the condition implies that the decision whether or not to vote be unrelated both to what party an individual would vote for as well as to a range of other variables known to be predictors of vote choice, including sociodemographic characteristics and political attitudes and preferences. The first element of the condition is precisely what we are trying to find out, while the second has been falsified by cumulative findings concerning the individual-level determinants of political participation. Clearly this assumption cannot be upheld in the case of voter abstention. Moreover, if this condition is not satisfied, standard errors will be underestimated and test statistics overestimated (Allison 2002, 12). Thus, not only would we obtain wrong estimates of nonvoters' party choices, we would also get a false sense of accuracy of these estimates.

An alternative for dealing with missing data is maximum likelihood (ML) estimation. Logistic regression, for example, yields consistent estimates of coefficients and standard errors even if the probability of missing data on the dependent variable depends on the value of that variable (Allison 2002, 7). Thus, it would be possible to use predicted probabilities from logit estimation of a vote choice model to fill in the missing data on the vote variable. Logit estimates may be biased, however, if the probability of any missing data depends on both the dependent and independent variables. Given the robust findings in the literature of systematic association between the sociodemographic and attitudinal determinants of vote choice and individual propensity to vote, this is a problem. In this situation, the expectation-maximization (EM) algorithm is a better method for obtaining ML estimates when data are missing. In a first step (the E step), regression imputation of the missing values is performed. This is followed by the M step, which calculates new values for the mean and variance matrices by using the recently imputed data along with the observed data. These steps are reiterated until the estimates converge. Because EM always starts with the full covariance matrix, it uses all the available variables as predictors for imputing the missing data (Allison 2002, 20). Because the resulting ML estimates thus assume that that there are complete data for all cases, however, their standard errors will generally be too low. The solution to this problem is to repeat the EM-based imputation process multiple times, producing multiple ‘complete’ datasets. If now random draws from the residual distribution of each imputed variable are made and added to the imputed values, estimates of the parameters of interest will be slightly different depending on which imputed dataset is used. This variability can be used to adjust the standard errors upward by averaging the parameter of interest and combing their standard errors according to a formula devised by Rubin (1987).

This method for the multiple imputation of missing data has been implemented by the Amelia II programme designed by Honaker, King and Blackwell.[1] To apply this method to the problem of low turnout, we simply have to assume that the probability of an individual’s vote choice remaining unrecorded may depend on the observed values of other variables, but, after controlling for these variables, is independent of any other missing information. In the terminology established by Rubin’s (1976) classification of data missingness, that is to assume the data are *missing at random* (MAR). Formally, if there are two variables X and Y, where X is always observed and Y is sometimes missing, MAR means,

$$\Pr(Y_{missing} \mid Y, X) = \Pr(Y_{missing} \mid X)\,.$$

[1] The software, *Amelia II: A Program for Missing Data* (version 1.1-6 beta, July 18, 2006) is freely available at <http://gking.harvard.edu/amelia/ >.

Of course, most multivariate datasets, including ours, will also contain missing values on some independent variables. Moreover, it is impossible to test whether the MAR condition is satisfied (Allison 2002, 4). However, if at least one element in a vector of independent variables X is fully observed, we can assume that the data are MAR, conditional on the imputation model (cf. King et al. 2001, 53). Furthermore, the MAR assumption can be made more realistic by including more informative variables in the imputation process (ibid.). The programme uses a bootstrapped-based EM algorithm to draw *m* samples with replacement from the data. In each sample, the programme runs the EM algorithm to produce point estimates of mean and variance. After convergence, the missing observations are imputed in their original positions in each of the *m* sets of estimates. The result is *m* multiply imputed datasets. According to Honaker and King (2006, 5), bootstrapping has advantages over the previously used imputation-posterior and EM with importance resampling algorithms, since it has better lower order asymptotics and is considerably faster. The *m* complete data sets are then combined according to Rubin's rule (1987) to calculate the statistical model of interest. That means we obtain the quantity of interest – here: probability of voting (p) for Party P – for each imputed dataset (j = 1, ..., m) and average the m values. The standard error for the estimate is obtained in three steps: (1) the standard errors for the m point estimates are squared and then averaged; (2) the sample variance in the point estimates across the data sets is calculated; (3) the results from (1) and (2) are added together, weighted by a factor that corrects for the bias resulting from $m < \infty$, and the square root is taken (Allison 2002, 29-30). Formally,

$$\text{S.E.}(\bar{p}) = \sqrt{\frac{1}{m}\sum_{j=1}^{m} s_j^2 + \left(1+\frac{1}{m}\right)\left(\frac{1}{m-1}\right)\sum_{j=1}^{m}\left(p_j - \bar{p}\right)^2}\ ,$$

where s_j is the standard error of p in dataset j. Because vote choice is a categorical variable measuring choices among k candidates, we generate multiple imputations for k dummy variables created from the categories of the original vote choice variable.

The multiple imputation procedure is based on information about voters and abstainers contained in the dataset, and makes use of an extensive set of variables that can plausibly be suspected to be related to vote choice. These variables are not solely socio-demographic characteristics. We include gender and age, as these variables are often found to be influential in determining candidate or party preference. Additional socio-demographic variables, such as union membership, education, income, urban versus rural residence, religious denomination and language are also included, because it has been conjectured that these sociodemographic variables influence either turnout or vote choice or both. We also include several variables pertaining to evaluations of the economy, as retrospective voting theory (e.g. Fiorina 1981, Kiewiet 1983) implies that individuals' beliefs about how the economy performed during recent past inform their vote decision. We also add evaluations of other policy areas (health, housing), as well as a measure of political knowledge. Above all, however, we impute missing data points based on the reported party and party leader preferences of voters and non-voters as expressed in utility and thermometer scales for each party and party leader. The extensive set of data employed here enable us to go well beyond the sociodemographic correlates of turnout which may be a weak basis for estimating the preferences of abstainers, not least because abstainers might be those with preferences than run counter to the norm in their social groups. The inclusion of party and leader evaluations at least allow for this possibility, thus providing a significant improvement over simulations based solely on demographics (e.g., Citrin, Schickler and Sides 2003; Brunell and DiNardo 2004; Tóka 2002). A list of the variables included in the multiple imputation model is provided in Appendix A.

Analysis and Results

In this section we explore what patterns of change, if any, emerge after obtaining simulations of nonvoters' vote choices through multiple imputation and adding these to the observed votes. Our expectations are guided by what we know about the determinants of turnout itself: why turnout varies across space and time, and especially who votes and who does not. Given existing theories and evidence about the reasons why people do not vote, a number of patterns can be expected. A well-established argument claims that non-voters are non-voters because they have little contact with agencies of mobilisation (Rosenstone and Hansen, 1993; Brady, Verba and Schlozman, 1995). Following this logic, we might expect the larger parties, Fianna Fáil (FF) and Fine Gael (FG), to be more attractive to potential supporters than smaller parties, as well as being more effective at mobilising any latent support. Consequently, those who stay at home might be more likely to have a preference for smaller parties. A second argument sees non-voting as, to some extent, a sign of disaffection (Crozier, Huntington and Watanuki, 1975; Gurr, 1970). Non-voters are more detached from the established political system, and if they did vote it would tend to be for more radical parties, both right and left.

While we have referred so far to voters and non-voters as separate groups of people, we know that many people move both into and out of the electorate over time. For example, habitual voters may abstain because they are acutely unhappy with the incumbent performance of their traditional party. This may be due to the state of the economy, as suggested by theories of retrospective economic voting (e.g. Fiorina, 1981; Kiewiet, 1983), or the likely failure by any government to deliver on some of their election pledges. At any rate we know that governing parties tend to lose votes (Nannestad and Paldam, 2002). Some of that loss will be due to abstention by erstwhile supporters. Hence, we expect governing parties to gain from higher turnout.

The data we use is the 2002 Irish National Election Study. This dataset contains a range of demographic variables as well as political preferences and reported votes for 2,663 individual. Of these, 1835 validated voters have reported their vote choices at the election by filling out a ballot paper. Applying the above expectations to the 2002 Irish national election, arguments about non-voting stemming from a lack of resources and weak mobilization lead us to expect parties with a strong working class support base to benefit most from 'complete' (100 percent) turnout. In many European countries these will be left-wing and or socialist or Labour parties. But given what we know abut party affiliations in Ireland, we expect Sinn Féin (SF) to benefit most from higher turnout, followed by FF. The resource mobilization argument has second, rival implication that smaller parties such as Greens, Labour, and Progressive Democrats

(PD) should benefit most from 'complete' turnout.[3] From arguments that non-voting denotes disaffection we might expect more radical parties, such as the Greens or SF to benefit from 'complete' turnout. Finally, from arguments about the transient nature of non-voting we might expect incumbent parties (FF, PDs) to benefit most from 'complete' turnout.[4]

*** Figure 1 about here***

Figure 1 displays the vote shares of each party and the residual group of independents/others as pairs of bars. For each party, the first bar represents the party's vote share as recorded from the 1,835 validated voters in the dataset, weighted by the usual demographic corrections for survey bias. This is contrasted with the second bar based on simulated full (100 percent) turnout. The imputations of the vote choices of non-voters in this category have been obtained using information of the full range of variables listed in Appendix A.[5] The most notable result is that the simulated increase in turnout from 69 (in the survey) to 100 percent does not lead to any radical changes in the vote shares of the parties. The single biggest change through full turnout is a loss of two percentage points for FF, matched by an increase of one percentage point each for FG and SF. Even the two percent drop in the FF vote share, however, is well within the five percent margin of error as indicated by the thin error bars. In sum then while there are many reasons to expect the benefits of full turnout to be very unevenly distributed across parties, this analysis suggests the impact would be marginal, and that, indeed, we cannot be at all sure that it would have any differential impact at all.

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[3] We do not expect SF to fall within the domain of argument because this party is renowned for its resourced and resourceful local campaigns.

[4] We should also allow for the opposite effect of turnout increases identified by DeNardo for a series of US Congressional elections in the 1960s and 1970s. According to DeNardo, turnout boosts tend to harm the incumbent party as they involve the mobilization of 'peripheral' voters, who respond in a rather fickle fashion to short term campaign effects.

[5] In order to assess the robustness of the imputations to different imputation models, we also obtained imputations based on, firstly, socio-demographic variables and, secondly, utility and thermometer scales of parties and party leaders. The multiple imputations on the vote variable are heavily influenced by the observed votes when either of these subsets of variables is used in the imputation process. By contrast, the outcomes of the multiple imputation differ more markedly from the observed votes when based on a maximum set of information (see Appendix B).

This result perhaps casts some doubt on the methodology. After all, there is much 'conventional wisdom' about the impact of differential turnout. How can it be that there are no effects? How good is our multiple imputation method at estimating the vote choices of non-voters? Ultimately, we can of course not answer that question definitively, for the same reasons that make this or any other simulation strategy necessary in the first place. However, we conducted two further analyses to explore the apparent validity of the imputations. First, the design of the 2002 Irish Election Study allows us to make direct comparisons between how non-voters said they had voted (if they are misremembering, or even suffering from false memory syndrome) or how they said they would have voted if they had voted one the one hand, and the simulated votes of the same individuals obtained through multiple imputation. The sub sample for this analysis comprises of those 556 respondents that are known not to have voted but who filled out a ballot during the interview to indicate their alleged vote.

*** Figure 2 about here***

The results are displayed in Figure 2. The general picture that emerges is consistent with the differences between the observed and simulated full turnout. It might be argued that the reported vote of actual non-voters is not necessarily a reliable indication of how they would have voted had they done so. There may be a bias in favour of the winners, for instance. It might also be that these were people who paid less attention to the campaign and gave less thought to their choice that actual voters. In this respect the test is not an ideal one, as it could tell us that the MI procedure was unreliable but it might also mean that the alleged recall was unreliable (Karp and Brockington 2005). We can gain a better idea of the performance of the imputation procedure by creating a further set of missing values on the vote variable artificially and using multiple imputation to re-estimate the votes of these artificially created 'nonvoters', which can then be compared with their recorded votes. We can then see how close the individual imputations are to the recorded votes by cross tabulating the two sets of means. We can also compare the closeness between these estimates with that of the imputations and alleged votes reported earlier. This will indicate how imputation performs vis-à-vis self-reported vote intention as an approximation of nonvoters vote choices. To do so, we have first truncated the dataset to contain only confirmed voters

(N=1,835). We then impose the survey turnout rate anew by removing observations at random until 31 percent of values on the vote variable are missing.

*** Table 1 about here***

The results from these analyses are displayed in Table 1. The general picture that emerges from both is that the distributions of actual (or expressed) and imputed preferences are not significantly different. This is all the more significant as the re-imputations of artificial non-voters have to make do with much smaller numbers of observations. However, it is also worth looking at the accuracy of imputation within each party group: to what extent does the imputation procedure correctly identify those who vote FF, or FG and so on? The table can be read in two directions: down and across. Reading across, the accuracy seems poor. Except in the case of FF, less than half of the voters for any party are correctly identified in either section of the table. However, this is essentially a function of the EM algorithm that will be biased towards the larger parties. More appropriate is to read downwards and then it will be seen that even in the case of the smaller parties the imputations are much more likely to predict the true choice with accuracy than it is to make any other prediction. We might expect the imputations to be closer to the 'real' ones in the case of the artificially created non-voters than in the case of the actual non-voters, on the basis that the choice made by the former was a realised intention and that of the latter merely an intention. This is true for most parties, but not for FF or the PDs, the two government parties.

Discussion and Conclusions

What can we infer from this exercise about the impact of potentially higher turnout at Irish elections? The short answer is – not much. In line with studies on US Congressional and Presidential elections, the main finding is that the fortunes of the Irish political parties would remain virtually unaffected by universal turnout. One might speculate about the difference that a few more votes might have made to the distribution of seats: FG might not have suffered quite such a meltdown, FF might have needed independent support to form a government with the PDs and so on but the main point must be that full turnout would have had marginal effects on vote distributions. The second point is that we can have reasonable confidence in the imputations.

Both validity tests gave good results. The third point is a caveat. What we have done here is simply to assess the impact of full turnout, which inevitably means compulsory turnout. For such a level to be achieved through normal mobilisation is unlikely, if not impossible, but clearly mobilisation could increase turnout by 5, 10 or 15 points given favourable circumstances. This analysis does not say what would happen in such circumstances. It depends on what the agency of mobilisation is. What this analysis suggests is that all parties have potential supporters unmobilised. Should any party steal a march on its rivals but getting out its vote better, then it could gain significantly. But no party, at least in 2002 in Ireland, had a hugely disproportionate number of potential supporters that remained untapped. In that sense, turnout was not a significant determinant of the 2002 result.

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Appendix A. Variables in Imputation model

	N	Mean	S.D.	Min.	Max.
Number of FF candidates in constituency	2663	2.63	0.62	2	4
Number of FG candidates in constituency	2663	2.14	0.7	1	4
Number of Green candidates in constituency	2663	0.78	0.41	0	1
Number of Labour candidates in constituency	2663	1.11	0.58	0	3
Number of PD candidates in constituency	2663	0.49	0.65	0	3
Number of SF candidates in constituency	2663	0.86	0.48	0	2
Number of independent candidates in constituency	2663	3.47	1.8	0	7
How likely ever to vote for Fianna Fáil	2625	6.74	3.2	1	10
How likely ever to vote for Fine Gael	2603	5.11	3.05	1	10
How likely ever to vote for Green Party	2586	4.69	2.81	1	10
How likely ever to vote for Labour	2602	4.81	2.78	1	10
How likely ever to vote for Progressive Democrats	2592	4.76	2.75	1	10
How likely ever to vote for Sinn Féin	2595	3.37	2.83	0	10
How likely ever to vote for an independ. candidate	2599	5.68	2.97	0	10
Thermometer degree, Bertie Ahern	2612	65.55	24.24	0	100
Thermometer degree, Mary Harney	2595	51.07	23.54	0	100
Thermometer degree, Ruairi Quinn	2558	42.87	20.71	0	100
Thermometer degree, Trevor Sargent	2419	42.18	21.87	0	100
Thermometer degree, Michael Noonan	2562	36.74	23.07	0	100
Thermometer degree, Gerry Adams	2579	38.85	26.6	0	100
Thermometer degree, Fianna Fáil	2591	63.92	25.6	0	100
Thermometer degree, Green Party	2543	47.71	21.92	0	100
Thermometer degree, Fine Gael	2567	47.03	23.34	0	100
Thermometer degree, Labour	2557	45.29	20.97	0	100
Thermometer degree, Progressive Democrats	2553	47.22	22.34	0	100
Thermometer degree, Sinn Féin	2538	33.36	25.8	0	100
Evaluation of economy over last 5 years	2657	1.9	1.08	1	6
Evaluation of health services over last 5 years	2655	3.5	1.26	1	6
Evaluation of housing situation over last 5 years	2651	3.13	1.48	1	6
Age	2640	46.9	17.12	18	100
Female	2663	0.52	0.5	0	1
Urban	2592	0.29	0.45	0	1
Class	2498	2.53	1.7	1	5
Education	2654	3.84	1.37	1	6
Union member	2326	0.35	0.48	0	1
Left/right self placement	2347	2.1	0.61	1	4
Satisfaction with democracy	2341	6.91	2.82	0	11
Efficacy	2660	2.54	1.66	1	7
Frequency of attend. Religious service	2393	3.09	1.84	1	8
Political knowledge	2663	3.39	1.28	0	5
Party identification	2663	0.28	0.45	0	1
Did FF phone?	2663	0.33	0.47	0	1
Did FG phone?	2663	0.24	0.43	0	1
Did Greens phone?	2663	0.02	0.14	0	1
Did Labour phone?	2663	0.12	0.32	0	1
Did PD phone?	2663	0.04	0.2	0	1
Did SF phone?	2663	0.06	0.24	0	1

Appendix B. Party vote shares under validated and full turnout using alternative imputation models

	N	Validated Reported Vote (N=1835)		100% Turnout Vote (full set of variables, N=2,663)		100% Turnout Vote (demographics only, N=2,663)		100% Turnout Vote (preferences only, N=2,663)	
		Prop.	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**
FF	820	45%	0.014	43%	0.012	44%	0.012	44%	0.012
FG	406	20%	0.011	21%	0.011	20%	0.009	21%	0.010
Greens	80	4%	0.006	4%	0.006	5%	0.006	4%	0.006
Labour	173	10%	0.008	10%	0.007	10%	0.007	10%	0.007
PD	58	3%	0.004	3%	0.004	3%	0.004	3%	0.005
SF	90	6%	0.007	7%	0.006	6%	0.007	6%	0.006
Ind	208	11%	0.009	11%	0.008	12%	0.008	11%	0.007
Nonvoters only (N=556)									
		Prop.	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**	**Coef.**	**S.E.**
FF	261	45%	0.025	42%	0.036	43%	0.032	43%	0.033
FG	107	19%	0.020	23%	0.033	20%	0.025	24%	0.025
Greens	30	7%	0.016	4%	0.016	5%	0.011	4%	0.017
Labour	63	13%	0.018	10%	0.020	10%	0.016	10%	0.019
PD	22	3%	0.008	3%	0.010	3%	0.011	3%	0.013
SF	22	4%	0.009	7%	0.012	6%	0.019	6%	0.012
Ind	51	10%	0.015	11%	0.025	13%	0.018	10%	0.017

Figure 1. Observed (validated) versus full (100%) turnout vote

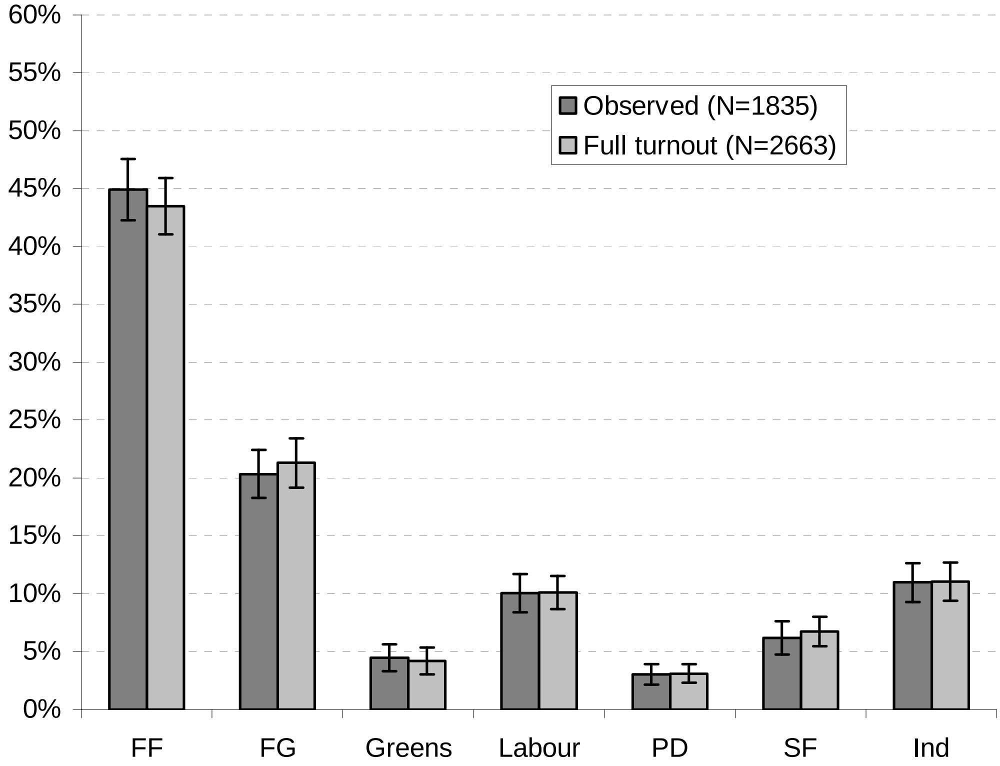

Figure 2. Alleged versus imputed vote

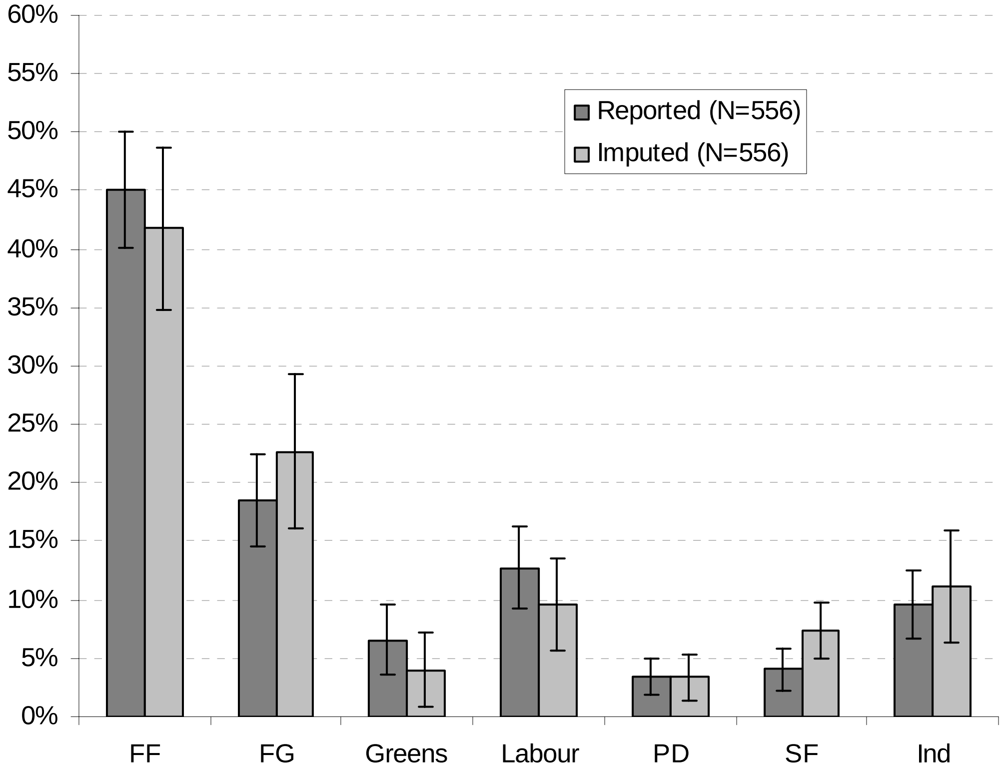

Table 1. Imputed Vote by Alleged/recorded Vote

	Imputed, N=556 (of 2,663)						
Alleged Vote	FF	FG	Greens	Labour	PD	SF	Ind
FF	*0.70*	0.12	0.02	0.04	0.03	0.02	0.07
FG	0.28	*0.47*	0.03	0.06	0.03	0.01	0.11
Greens	0.27	0.21	*0.19*	0.15	0.05	0.03	0.11
Labour	0.30	0.16	0.05	*0.27*	0.01	0.07	0.13
PD	0.33	0.23	0.00	0.14	*0.17*	0.02	0.11
SF	0.24	0.23	0.04	0.06	0.02	*0.30*	0.12
Independent	0.33	0.18	0.04	0.12	0.01	0.07	*0.23*
Total	0.49	0.21	0.04	0.09	0.03	0.04	0.10

	Re-imputed, N=569 (of 1,835)						
Recorded Vote	FF	FG	Greens	Labour	PD	SF	Ind
FF	*0.64*	0.17	0.02	0.03	0.03	0.00	0.11
FG	0.17	*0.58*	0.03	0.06	0.04	0.00	0.12
Greens	0.39	0.18	*0.31*	0.10	-0.10	0.01	0.11
Labour	0.17	0.20	0.05	*0.36*	0.02	0.02	0.18
PD	0.37	0.35	0.01	0.04	*0.10*	0.09	0.05
SF	0.21	0.09	0.09	0.12	-0.04	*0.32*	0.21
Independent	0.25	0.31	0.09	0.06	0.03	0.02	*0.23*
Total	0.40	0.30	0.05	0.08	0.03	0.02	0.14