B.J.Pol.S. 4, 17–35
Printed in Great Britain

Marginality and Turnout in British General Elections

D. T. DENVER AND H. T. G. HANDS*

I

One of the most striking features of British general election results is the large variation in turnout from one constituency to another. In the 1970 election, for instance, turnout in Britain ranged from 44·9 per cent in Stepney to 85·3 per cent in Cornwall North.[1] Moreover, the variation in turnout has become greater in recent years. While the mean turnout in general elections has tended to fall, the standard deviation of turnout has increased steadily from 5·3 in the 1955 election to 6·9 in the 1970 election. With the exception of the Nuffield studies, however, there have been few attempts to investigate this variation.[2] Political scientists have concentrated instead on describing and attempting to explain differences in turnout between different social and demographic groups.[3]

* Department of Politics, University of Lancaster. We would like to thank M. Youngman and J. Gardner for their advice on the computer work involved in this paper; and L. Skerratt, I. Bellany, G. Clark, J. M. Bochel, R. Brown, Miss R. O'Kane and the Editor for their comments on earlier drafts.

[1] If Northern Ireland is included, the range is even greater. Turnout in Fermanagh and South Tyrone in 1970 was 92·1 per cent. Turnout figures throughout are derived from the following sources: D. E. Butler, *The British General Election of 1955* (London: Macmillan, 1955); D. E. Butler and Richard Rose, *The British General Election of 1959* (London: Macmillan, 1960); D. E. Butler and A. King, *The British General Election of 1964* (London: Macmillan, 1965); D. E. Butler and A. King, *The British General Election of 1966* (London: Macmillan, 1966); David Butler and Michael Pinto-Duschinsky, *The British General Election of 1970* (London: Macmillan, 1971); K. Boehm and B. R. Mitchell, *British Parliamentary Election Results 1950–1964* (Cambridge: Cambridge University Press, 1966). Discrepancies were resolved by reference to the following *Returns of Election Expenses* published as House of Commons Papers by HMSO: Nos. 141 of session 1955/6, 173 of session 1959/60, 220 of session 1964/5, 162 of session 1966/7, 305 of session 1970/71.

[2] See, however, A. H. Birch, 'The Habit of Voting', *Manchester School of Economic and Social Studies*, XVIII (1950), 75–83, and J. Blondel, *Voters, Parties and Leaders* (Harmondsworth: Penguin, 1963), pp. 53–4. By contrast, variations in local election turnout have recently attracted attention. See P. Fletcher, 'The Results Analysed' in L. J. Sharpe, *Voting in Cities* (London: Macmillan, 1967), 290–328; P. Fletcher, 'An Explanation of Variations in "Turnout" in Local Elections', *Political Studies*, XVII (1969), 495–502; K. Newton, 'Turnout and Marginality in Local Elections' *British Journal of Political Science*, II (1972), 251–5.

[3] See for instance I. Budge and D. W. Urwin, *Scottish Political Behaviour* (London: Longmans, 1966), Chap. 6; L. J. Sharpe, *A Metropolis Votes* (London: London School of Economics, 1962); F. Bealey, J. Blondel and W. P. McCann, *Constituency Politics* (London: Faber, 1965), pp. 228–35.

However, increasingly over the past ten to fifteen years, newspapers, radio and television have given prominence to marginal seats, differentiating between those which are more or less safe and those which might change hands, and there has been considerable speculation about the extent to which turnout variations can be explained in terms of marginality. It seems reasonable to suppose that electors in marginal constituencies will feel that their votes 'count' and that it is important that they make the effort to vote. Furthermore, the major parties appear to make greater efforts in marginal seats, which might be expected to result in higher turnout.[4]

In this paper we intend to test this hypothesis – that the more marginal a constituency is, i.e. the smaller the winning candidate's majority, the greater will be the turnout in that constituency at the following election. Apart from the intrinsic interest of this question, it has wider implications. Clearly, if it is the case that turnout is affected by marginality, then attempts to account for turnout variations in terms of social and demographic factors alone are inadequate – what might be called 'political' factors must also be taken into account.

II

The Nuffield studies provide the most detailed analysis of British general election results available,[5] but in none of them is there a very rigorous or explicit examination of the idea that variations in turnout are related to variations in marginality. The appendices to the studies do sometimes discuss the topic, but, generally speaking, what the authors do is to compare the *change* in turnout from one election to the next in 'marginal' seats (of which there are usually about 100), or in 'super-marginal' seats (of which there are usually about 20), with the average change in turnout.

Up to the election of 1966 no evidence was found that turnout in marginal seats varied from the average. Thus the report of the 1959 election concludes that: 'There was little evidence that the special organizational efforts in marginal seats bore fruit. In seats held by a majority of under 5 per cent the median increase in turnout was 1·5 per cent compared with 1·9 per cent in all seats. In super-marginals with majorities under 1 per cent it rose by only 1·0 per cent.'[6] The report of the 1964 election is more non-committal: 'It is difficult to determine how far voters behaved differently because they lived in marginal seats. Most of the seats with very high turnouts were marginals, but in many key seats . . . turnout fell heavily.'[7]

In the study of the 1966 election, however, Michael Steed finds positive evidence that marginality affects turnout. He claims that: 'In some marginals, apathetic

[4] See the description of the Conservatives' 'critical seats' exercise in the 1970 election in Butler and Pinto-Duschinsky, *The British General Election of 1970*, pp. 288–91.

[5] Hereafter, references to the Nuffield studies will consist of the names of authors and the year of the election in question.

[6] Butler and Rose, *1959*, pp. 232–3.

[7] M. Steed, 'An Analysis of the Results' in Butler and King, *1964*, 337–59, p. 345.

voters were much more likely to turn out . . . some 10 per cent of voters decided to vote or not by virtue of living in a marginal constituency.'[8] Steed speculates that this implies growing sophistication on the part of the electorate, and he also suggests that 'differing behaviour in marginal constituencies may partly reflect the extra organizational effort put in by local parties'[9] (though this latter argument had been consistently rejected by the authors of earlier studies).

Unfortunately, the discussion of this question is not continued in the 1970 election study. The only relevant comments tell us that though, in the 100 seats with the lowest 1966 Labour majority, turnout dropped by more than the average, turnout remained higher in marginal seats.[10]

It would not be claimed, we think, that the analyses found in the Nuffield studies constitute an effective test of our hypothesis. They suggest that at least in 1966, and possibility in 1970, there was some relationship between marginality and turnout. But any broader conclusion would not be justified, because of the methodological limitations of the analyses. For one thing, the authors do not usually examine turnout itself, but change of turnout from one election to the next. And secondly, the technique of comparing results for a group of marginal seats with the average for all seats tells us little about the overall relationship between marginality and turnout.

III

In our analysis we use the two most suitable techniques for testing the existence and strength of a relationship between two interval-scale variables: product-moment correlation and regression analysis. Our first step was to compute the simple correlation matrix for all variables. This in itself gave interesting results, and provided a guide for the second step: the construction of regression equations with turnout as the dependent variable.

Turnout is defined as the percentage of those registered to vote in a constituency who actually do so, and is clearly an interval-scale variable. The most common and clearest indicator of the closeness of an election contest is the winner's majority over the runner-up as a percentage of the total votes cast. In this paper, marginality is defined as 100 minus this figure. This means that a high figure indicates high marginality, and *vice versa*. Thus a marginality of 95 per cent means that the winning candidate's majority was 5 per cent of the votes cast. Clearly marginality can vary from 0 to 100 per cent and is also an interval-scale variable.

In testing our hypothesis we have used the results of the five general elections in the period 1955–70. This set of elections is convenient, since there was in that time no major revision of constituency boundaries. We are interested in the relationship between a constituency's turnout in one election and its marginality in the previous general election. To look for a relationship between turnout and marginality in the same election would be somewhat illogical, for in that case the depen-

[8] Steed in Butler and King, *1966*, 271–95, pp. 284–6.
[9] Steed in Butler and King, *1966*, p. 286.
[10] Steed in Butler and Pinto-Duschinsky, *1970*, 386–415, p. 410.

dent variable (turnout) would precede in time the independent variable (marginality), by which, according to our hypothesis, it is affected. Given then that we are concerned with turnout in one election and marginality in the previous election, we can make no analysis of turnout in 1955 for we have no appropriate marginality figures for the 1951 election. Our analysis concentrates therefore on turnout in the four elections of 1959, 1964, 1966 and 1970.

Since elections in Northern Ireland have peculiarities of their own, we have excluded the twelve Ulster constituencies from our analysis. Also, since the Speaker is not normally opposed by the major parties, constituencies represented by the Speaker display unusual patterns of turnout and marginality which would distort our results. We have therefore excluded the three constituencies that were held by Speakers between 1955 and 1970.[11] This leaves us with a total of 615 constituencies on which to base our analysis.

To summarize then, we test our hypothesis by analysing the relationship between turnout and previous marginality in 615 British constituencies at the general elections of 1959, 1964, 1966 and 1970.

IV

Table I gives the coefficients of correlation between turnout and previous marginality for the four elections. All four coefficients are positive and statistically

TABLE I *Correlation between Marginality in Previous Election and Turnout: Great Britain**

1959	1964	1966	1970
·33	·23	·46	·44

* $N = 615$.

significant.[12] This indicates that turnout has been positively related to previous marginality in all four elections. It is interesting to note also that the coefficients for 1966 and 1970 are rather higher than those for 1959 and 1964. This lends support to Steed's suggestion, noted earlier, that electors (or possibly parties) may have become more sophisticated.

V

The figures in Table I, though interesting and encouraging, do not take us very far. In themselves they merely indicate analytic relationships between sets of figures. The correlations may be spurious, and even if true may overestimate the

[11] These are Cirencester and Tewkesbury, Cities of London and Westminster and Southampton, Itchen.

[12] Throughout the paper, correlation coefficients have been tested for significance using the '*F*' test described in, for example, T. R. Anderson and M. Zelditch, *A Basic Course in Statistics*, 2nd edn. (New York: Holt, Rinehart and Winston, 1968), p. 278. Where $N = 615$, as in this case, then a coefficient greater than about ·08 is statistically significant at the 5 per cent level.

importance of marginality. Before saying anything more definite we must examine a range of other variables which may importantly affect turnout. We shall consider class, housing, population density, growth of electorate, minor-party vote and region. We have selected these particular variables because there seems to be a *prima facie* case that they may affect turnout. It is, of course, possible that we have overlooked some other important variables, but if this is so, then we hope that it will be revealed by our later analysis.

In this section we introduce and define the variables and discuss briefly how they are related to turnout.

1. *Class*

Social class is generally agreed to be the most significant correlate of party choice in this country, and some studies have found evidence to suggest that it also affects turnout.[13] In this study we use two measures of the class composition of a constituency: the percentage of non-manual workers and the percentage of professional and managerial workers among all employed and retired males.[14] Our data are derived from the 1966 sample census, since earlier censuses do not give figures on a constituency basis.[15] This means that our results for 1959, 1964 and 1970 must be interpreted with caution.

TABLE 2 *Correlations between Occupational Class and Turnout: Great Britain**

	1959	1964	1966	1970
% Professional and Managerial	·12	·29	·38	·29
% Non-manual	·05	·17	·29	·13

* $N = 615$.

Table 2 shows the relationships between our measures of class and turnout in the four elections. Perhaps surprisingly, though the coefficients are significant in all cases but one, they are not very large, indicating that the relationship has not been a strong one. But this is as would be expected if our hypothesis were valid, for the relationship between constituencies' class composition and marginality is a complex one.

Crewe and Payne show that for the 1970 election class is the best single predictor

[13] See Bealey, Blondel and McCann, *Constituency Politics*, pp. 229–32 and A. H. Birch, *Small Town Politics* (London: Oxford University Press, 1959), p. 106.

[14] We employ both measures because although 'non-manual workers' is generally thought to approximate to 'middle class', there is some doubt about the true class position of some of the groups included in the former category. The percentage of professional and managerial workers gives an indication of the size of the relatively 'pure' middle-class group in a constituency. See David Butler and Donald Stokes, *Political Change in Britain* (London: Macmillan, 1969), pp. 66–73.

[15] General Register Office, *Sample Census 1966: United Kingdom General and Parliamentary Constituency Tables* (HMSO, 1969). 'Non-manual' is defined to include socio-economic groups 1, 2, 3, 4, 5, 6 and 13; 'Professional and Managerial' includes groups 1, 2, 3, 4 and 13.

of the parties' share of the vote.[16] Generalizing from this finding, it might be expected that when the proportion of middle-class electors in a constituency is very low, the constituency will be safely Labour. As the proportion rises, constituencies will become increasingly marginal. At some level, which is difficult to specify with any accuracy, constituencies will become 'naturally' Conservative, and thereafter an increase in the proportion of middle-class electors will give rise to decreasing marginality. Hence if our hypothesis, that marginality has an important effect on turnout, is correct we would expect to find (a) that in 'naturally' Labour seats as the proportion of non-manual workers rises turnout rises; and that (b) in 'naturally' Conservative seats as the proportion of non-manual workers rises turnout falls. Table 3 shows that this is the case.[17]

TABLE 3 *Correlations between Percentage Non-manual and Turnout: Labour and Conservative Seats*

	1959	1964	1966	1970
Labour Seats ($N = 226$)	·16	·18	·24	·16
Conservative Seats ($N = 236$)	−·10	−·21	−·14	−·48

We take the 'naturally' Labour seats to be those which were won by Labour at all five elections from 1955 to 1970, and define the 'naturally' Conservative seats similarly. The figures show that there was a positive relationship between turnout and the proportion of non-manual workers in the Labour seats, and a negative relationship in the Conservative seats. Overall, as we saw in Table 2, the relationship is weakly positive. Table 4 shows that, if we take the percentage of professional and managerial workers as our measure of class, the divergence between Labour and Conservative seats is even more striking.

TABLE 4 *Correlations between Percentage Professional and Managerial and Turnout: Labour and Conservative Seats*

	1959	1964	1966	1970
Labour Seats ($N = 226$)	·49	·53	·57	·53
Conservative Seats ($N = 236$)	−·10	−·15	−·11	−·38

In summary, then, we suggest that the relationship between class and turnout can only be fully understood by reference to the complex relationship between class and marginality. There may be a slight tendency for the middle class to vote more heavily than the working class, but when we are considering the turnout variation between constituencies this tendency is largely nullified by the stronger relationship between turnout and marginality.

[16] I. Crewe and C. Payne, 'Analysing the Census Data', in Butler and Pinto-Duschinsky, *1970*, 416–34, p. 425.

[17] For both Labour and Conservative seats, correlation coefficients of about ·13 are significant at the 5 per cent level.

2. *Housing*

Our measure of class is derived from an occupational categorization. The theoretical justification for this must ultimately be traced back to the Marxian view that class is determined by the individual's relation to the means of economic production. Recently, however, Rex and Moore, in their study of Sparkbrook in Birmingham, have suggested that an equally important source of social differentiation and determinant of behaviour is the individual's housing situation:

> there is a class struggle over the use of houses and . . . this class struggle is the central process of the city as a social unit. In saying this we follow Max Weber who saw that class struggle was apt to emerge wherever people in a market situation enjoyed differential access to property and that such class struggles might therefore arise not merely around the use of the means of industrial production, but around the control of domestic property.[18]

It seems possible that this factor may have some influence on turnout, and we therefore include two 'housing' variables in our study. The first is the percentage of households in a constituency who are owner-occupiers; the second is the percentage of households who are council tenants. The figures are again derived from the 1966 sample census.

TABLE 5 *Correlations between Occupational Class and Housing Tenure: Great Britain (1966)**

	% Non-manual	% Prof. & Man.
% Owner Occupiers	·43	·51
% Council Tenants	−·46	−·47

* $N = 615$.

There is, as would be expected, a fairly strong correlation between the housing variables and the occupational class variables. The coefficients are shown in Table 5. The figures are small enough, however, to confirm the suggestion that 'housing classes' and occupational classes are not the same thing.

TABLE 6 *Correlations between Housing Tenure and Turnout: Great Britain**

	1959	1964	1966	1970
% Owner Occupiers	·48	·56	·59	·53
% Council Tenants	·03	−0·2	−·11	−·05

* $N = 615$.

Table 6 gives the figures for housing tenure and turnout. They show a fairly strong relationship between the percentage of owner-occupiers and turnout. For all four elections the coefficients are much larger than those for the relation-

[18] J. Rex and R. Moore, *Race, Community and Conflict* (London: Oxford University Press, 1967), pp. 273–4.

ship between turnout and either of our class variables. The data suggest that the relationship between the percentage of council tenants and turnout is very weak, though generally slightly negative.

3. *Population Concentration*

Another factor which seems to us likely to be related to turnout is population concentration. One might expect that in rural areas where the electorate is scattered over a wide area the effort involved in getting to the polls might be considerable, whereas in densely populated urban areas few electors will live very far from a polling station. Alternatively a stronger sense of community may exist in rural areas, and this may encourage higher turnout. In any case, this factor seems worth investigating.

A simple population density measure (such as number of persons per acre) does not seem appropriate here, for it would not reflect the concentration of population. For example, it would give a misleading score for those constituencies which have a large urban centre and an extensive, sparsely populated, rural hinterland. We have therefore used as our measure the percentage of a constituency's population living in urban areas with more than 5,000 inhabitants. Our definition of 'urban' follows closely that suggested by Mitchell and Boehm.[19]

Table 7 shows the correlations between population concentration as defined and turnout in the four elections. The fact that the coefficients are negative means

TABLE 7 *Correlations between Population Concentration and Turnout: Great Britain**

1959	1964	1966	1970
−·15	−·33	−·32	−·45

* $N = 615$.

that in all four cases turnout was lower in the more urban constituencies and higher in those that were less densely populated. The quite marked increase in the size of the coefficients is interesting, though it may be a result of the effects of other variables such as the decline of city-centre electorates or the greater success of Liberal and Nationalist candidates in rural areas.

[19] Boehm and Mitchell, *British Parliamentary Election Results 1950–1964*, p. vi. In constructing our measure, we defined urban areas to include, in the case of England and Wales, (i) boroughs or urban districts having a population of 5,000 or more, (ii) parishes in rural districts having a population of 5,000 or more and a density of more than 5 persons per acre; in the case of Scotland, (i) counties of city and large burghs, (ii) small burghs and other towns with a population of 5,000 or more. The figures refer to 1966 and were derived from various sources, namely: *Municipal Year Book 1967* (London: Municipal Journal Ltd.); General Register Office, *Sample Census 1966, England and Wales, County Reports* (London: HMSO, 1967); General Register Office, Edinburgh, *Sample Census 1966, Scotland, County Reports* (Edinburgh: HMSO, 1967); General Register Office, Edinburgh, *Place Names and Population: Scotland* (Edinburgh: HMSO, 1967).

4. *Growth of Electorate*

As has just been suggested, another factor that may be associated with variations in turnout is the change in the size of the electorate in a constituency. It is clear that the turnout of city-centre seats, for example, has fallen dramatically in the past few elections,[20] and these seats have usually also lost population as a result of slum-clearance and redevelopment. Any relationship of this kind may be due to the effects of re-housing on community. However, we suspect that there may be a purely technical factor operating in these circumstances. The electoral register is compiled at a certain date in the year, and is always to a certain extent out of date at the time of an election. In constituencies where the population is falling rapidly, the register will be more out of date than in constituencies where it is falling slowly or is stable, and the turnout will therefore appear artificially low. In constituencies where the population is rising this effect will not be seen, for the people moving in will not be registered to vote until the following year.

Our figures for growth of electorate were calculated for two periods: 1955–64 and 1964–70.[21] We used the former figure in our examination of the 1959 and 1964 elections, and the latter in our examination of the 1966 and 1970 elections. The figures are derived from the House of Commons returns of electoral expenditure.[22]

TABLE 8 *Correlations between Growth of Electorate and Turnout: Great Britain**

1959	1964	1966	1970
·40	·49	·57	·52

* $N = 615$.

Table 8, showing the correlations between growth of electorate and turnout, indicates a fairly strong relationship. Whatever the basis for the relationship, we would expect it to be considerably stronger in urban areas than in rural ones. This is confirmed by Table 9, where we show the correlation for constituencies in major British cities.[23]

TABLE 9 *Correlations between Growth of Electorate and Turnout: Cities**

1959	1964	1966	1970
·60	·59	·71	·61

* $N = 123$.

[20] See Steed in Butler and Pinto-Duschinsky, *1970*, p. 394.

[21] Of course, where a constituency's electorate declined, its score on this variable is negative.

[22] These are listed in fn. 1.

[23] We have included in this category all constituencies in Inner London, Glasgow, Birmingham, Liverpool, Manchester, Edinburgh, Bristol, Leeds, Sheffield, Bradford, Nottingham and Coventry. Correlation coefficients of about ·18 are statistically significant at the 5 per cent level where $N = 123$.

5. *Minor-Party Vote*

The discussions of turnout in the Nuffield studies have consistently stressed the importance of the presence or absence of Liberal candidates. They generally show that where a Liberal has intervened turnout falls less, or rises more, than the overall change in turnout, and *vice versa* where a Liberal withdraws.[24] In the 1970 study, nationalist candidates are shown to have had a similar impact. While all of this is interesting, however, it does not reveal the overall impact of the Liberals and other minor-party candidates.

To measure the effect of minor-party candidatures, we calculated for each constituency at each election the percentage of the electorate who gave their votes to candidates other than the winner and the runner-up. The correlations between this variable and turnout at the four elections are shown in Table 10. As might have

TABLE 10 *Correlations between Minor-Party Vote and Turnout: Great Britain**

1959	1964	1966	1970
·13	·31	·27	·37

* $N = 615$.

been expected, given the relative success of the Nationalist parties in 1970, the coefficient for that year is the largest of the four, though none of them is strikingly large.

6. *Region*

It seems clear that there are regional differences in electoral behaviour, both in party support and turnout.[25] There are, however, two ways in which these differences can be accounted for. Firstly, they may be due simply to variations in the socio-economic structure of the geographical areas in question. Secondly, they may be the result of more truly 'regional' factors deriving from regional and local history, tradition and culture. Thus, for example, there may be a special factor of 'Welshness' found only in Wales which affects behaviour. It is this second kind of factor that we have in mind when we refer to region as a variable.

In attempting to assess the importance of region, two problems arise. Firstly, region (in this sense) is not an interval-scale variable. This means that we cannot compute coefficients of correlation between turnout and region, or use region directly as one of a number of explanatory variables in a regression equation. Instead we analyse the figures for each region in turn and compare the results with those obtained for all constituencies. If region is an important variable, we might expect the correlations between marginality and turnout within regions to be larger than those obtained for Britain as a whole.

[24] Steed in Butler and Pinto-Duschinsky, *1970*, pp. 387–9.

[25] See, for instance, Butler and Stokes, *Political Change*, pp. 135–43; P. Pulzer, *Political Representation and Elections in Britain* (London: Allen and Unwin, 1967), pp. 110 ff.

The second problem is that there is no easy way of drawing the boundaries of different regions. But since this is only an exploratory study, we have used fairly conventional definitions, following fairly closely those used in the Nuffield studies.[26] This gives us eleven regions: Scotland, Wales, Inner London, South East, South West, East Midlands, West Midlands, North West, Yorkshire, North, and East Anglia.

The figures in Table II are the coefficients of correlation between turnout and marginality in the previous election for each of the eleven regions. Though there are interesting differences between the regions, generally previous marginality and turnout are significantly – and in some cases strongly – related.[27] The data also suggest that the regions have tended to become increasingly similar in this respect: there is rather less variation in the size of the coefficients for the 1966 and 1970 elections than for the 1959 and 1964 elections.

TABLE II *Correlations between Marginality in Previous Election and Turnout: Regions*

		1959	1964	1966	1970
Scotland	($N = 71$)	·47	·37	·62	·52
Wales	($N = 36$)	·02	·54	·64	·38
Inner London	($N = 41$)	·64	·54	·75	·77
South East	($N = 145$)	·56	·30	·59	·66
South West	($N = 42$)	·44	·39	·60	·62
East Midlands	($N = 35$)	·02	·14	·33	·46
West Midlands	($N = 54$)	·38	·09	·31	·63
North West	($N = 79$)	·25	·13	·49	·59
North	($N = 39$)	·32	·40	·66	·45
East Anglia	($N = 18$)	·64	·41	·75	·59
Yorkshire	($N = 55$)	·25	·26	·49	·55

Again, these figures constitute no more than a first step in regional analysis. However, we wish to pursue the whole question of regional and local variation in more detail in a later paper, and so go no further here.

VI

Our next step was to incorporate the variables we have just been discussing (except region) into the analysis of the relationship between turnout and previous

[26] Butler and Pinto-Duschinsky, *1970*, p. 355. Our regions differ slightly from those defined by Butler and Pinto-Duschinsky in that we have included the Isle of Wight and the Buckinghamshire constituencies in the South East and Lincoln in the East Midlands.

[27] The correlations needed for statistical significance at the 5 per cent level for each region are approximately as follows: Scotland, ·23; Wales, ·33; Inner London, ·31; South East, ·16; South West, ·30; East Midlands, ·33; West Midlands, ·27; North West, ·22; North, ·32; East Anglia, ·47; Yorkshire, ·27.

marginality. We did this by constructing linear regression equations with turnout as the dependent variable.[28]

A major problem in this type of analysis is that there are no agreed criteria for deciding which variables should be included in the equations.[29] There are three main possibilities, each of which has disadvantages. First, we could include all variables. This would allow us to compare the relative importance of any one variable in different elections. It would, however, also mean including in the equations some variables whose coefficients are not statistically significant. A second possibility would be to select a small number of variables (say three) and to construct the equations using these each time. Again this allows for comparison, but it would mean omitting some variables which do make a significant contribution to the proportion of variance explained by the equations. The third possible course of action, and the one which we have in fact taken, is to include only those variables whose coefficients are statistically significant for any one election. This means that the equations for different elections contain different sets of variables and are, therefore, not directly comparable. We are not, however, primarily concerned with comparison: our aim is to test as stringently as possible the hypothesis that marginality has a significant effect upon turnout, even when other relevant variables are taken into account. From this point of view, this third procedure seems to be the most satisfactory.

More precisely, our procedure was as follows. For each election we first computed an equation using all seven variables (i.e. percentage professional and managerial, percentage non-manual, percentage of owner-occupiers, percentage of council tenants, minor-party vote, growth of electorate and population concentration). We then successively eliminated those variables which produced non-significant coefficients[30] until we were left with equations in which all variables were significant.[31]

[28] We have assumed that the relationships between turnout and the other variables is approximately linear. In the case of the class variables this might seem dubious in the light of our earlier discussion. However, a perusal of scatter diagrams suggests that the assumption of linearity is not unreasonable, and this avoids the complexities of non-linear regression analysis.

[29] See, for example, P. Sprent, *Models in Regression* (London: Methuen, 1969), Chap. 5.

[30] The significance of the coefficients was assessed by means of a '*t*' test, and we eliminated variables whose coefficients were not significant at the 5 per cent level. Generally, a coefficient is significant at this level if it is at least twice as large as its standard error.

[31] The equations we arrived at in this way are as follows:

$$TO_{59} = 64{\cdot}29 + 0{\cdot}25(OO) + 0{\cdot}16(CT) - 0{\cdot}11(PM) + 0{\cdot}08(MP) + 0{\cdot}08(GE)$$
$$(1{\cdot}15)\ (0{\cdot}02)\qquad (0{\cdot}02)\qquad (0{\cdot}03)\qquad (0{\cdot}03)\qquad (0{\cdot}03)$$
$$R^2 = {\cdot}4288$$

$$TO_{64} = 60{\cdot}52 + 0{\cdot}31(OO) + 0{\cdot}21(CT) + 0{\cdot}06(MP) + 0{\cdot}07(GE) - 0{\cdot}04(PC)$$
$$(1{\cdot}18)\ (0{\cdot}02)\qquad (0{\cdot}02)\qquad (0{\cdot}03)\qquad (0{\cdot}03)\qquad (0{\cdot}01)$$
$$R^2 = {\cdot}5517$$

$$TO_{66} = 58{\cdot}70 + 0{\cdot}28(OO) + 0{\cdot}16(CT) + 0{\cdot}08(NM) + 0{\cdot}16(GE) - 0{\cdot}04(PC)$$
$$(1{\cdot}37)\ (0{\cdot}02)\qquad (0{\cdot}02)\qquad (0{\cdot}02)\qquad (0{\cdot}04)\qquad (0{\cdot}01)$$
$$R^2 = {\cdot}5387$$

$$TO_{70} = 57{\cdot}20 + 0{\cdot}29(OO) + 0{\cdot}18(CT) + 0{\cdot}17(MP) + 0{\cdot}09(GE) - 0{\cdot}07(PC)$$
$$(1{\cdot}30)\ (0{\cdot}02)\qquad (0{\cdot}02)\qquad (0{\cdot}04)\qquad (0{\cdot}04)\qquad (0.01)$$
$$R^2 = {\cdot}5482$$

(*Cont.*)

The previous marginality variable was then introduced and new equations computed for each election. By this procedure we hoped to discover whether previous marginality significantly increases the proportion of the variation in turnout explained, when other significant variables are taken into account.[32]

Table 12 summarizes the effect of marginality in each of the four elections. It can be seen that in every election marginality markedly increases the proportion of the variation in turnout explained by the equation. Furthermore, the equations also show that in terms of statistical significance, marginality is the third most important variable in 1959, 1964 and 1970, and the second most important in 1966.

TABLE 12 *Percentage of Variance in Turnout Accounted for by Previous Marginality*

	1959	1964	1966	1970
% variance accounted for by first equation	42·9	55·2	53·9	54·8
% variance accounted for when previous marginality added	50·0	60·1	63·0	60·2
Increase due to previous marginality	7·1	4·9	9·1	5·4

VII

A slightly worrying feature of the results presented in the previous section is the relatively modest proportion of the variation in turnout accounted for by the equations. Even the best equation – that for the 1966 election – accounts for only 63 per cent of the variation. This might be contrasted with Crewe and Payne's analysis of the Labour share of the vote in the 1970 election, which found that

The symbols employed in the equations are as follows: *TO*, Turnout; *OO*, Percentage of Owner Occupiers; *CT*, Percentage of Council Tenants; *NM*, Percentage Non-Manual; *PM*, Percentage Professional and Managerial; *MP*, Minor-Party Vote; *GE*, Growth of Electorate; *PC*, Population Concentration; *M*, Marginality.

R^2 is the square of the multiple correlation coefficient, and is a measure of the proportion of variance in the dependent variable accounted for by the equation.

The figures in brackets below the coefficients are their standard errors.

[32] The new equations are as follows:

$$TO_{59} = 56{\cdot}69 + 0{\cdot}10(M) + 0{\cdot}24(OO) + 0{\cdot}16(CT) - 0{\cdot}06(PM) + 0{\cdot}09(MP) + 0{\cdot}07(GE)$$
$$(1{\cdot}35)\ (0{\cdot}01)\quad (0{\cdot}02)\quad (0{\cdot}02)\quad (0{\cdot}03)\quad (0{\cdot}03)\quad (0{\cdot}03)$$
$$R^2 = {\cdot}4996$$

$$TO_{64} = 53{\cdot}60 + 0{\cdot}10(M) + 0{\cdot}29(OO) + 0{\cdot}19(CT) + 0{\cdot}09(MP) + 0{\cdot}07(GE) - 0{\cdot}05(PC)$$
$$(1{\cdot}37)\ (0{\cdot}01)\quad (0{\cdot}02)\quad (0{\cdot}02)\quad (0{\cdot}03)\quad (0{\cdot}03)\quad (0{\cdot}01)$$
$$R^2 = {\cdot}6010$$

$$TO_{66} = 49{\cdot}02 + 0{\cdot}15(M) + 0{\cdot}26(OO) + 0{\cdot}16(CT) + 0{\cdot}06(NM) + 0{\cdot}14(GE) - 0{\cdot}04(PC)$$
$$(1{\cdot}46)\ (0{\cdot}01)\quad (0{\cdot}02)\quad (0{\cdot}02)\quad (0{\cdot}02)\quad (0{\cdot}04)\quad (0{\cdot}01)$$
$$R^2 = {\cdot}6300$$

$$TO_{70} = 48{\cdot}65 + 0{\cdot}11(M) + 0{\cdot}27(OO) + 0{\cdot}21(CT) + 0{\cdot}18(MP) + 0{\cdot}03(GE) - 0{\cdot}06(PC)$$
$$(1{\cdot}55)\ (0{\cdot}01)\quad (0{\cdot}02)\quad (0{\cdot}02)\quad (0{\cdot}03)\quad (0{\cdot}04)\quad (0{\cdot}01)$$
$$R^2 = {\cdot}6020$$

74 per cent of the variation in the Labour vote could be accounted for by an equation involving only three variables.[33] It would appear either that turnout patterns are simply less predictable than patterns of party support, or that we have overlooked one or more further variables.

In order to investigate these other possible sources of variation, we computed the turnout predicted by our equations for each constituency at each election. By comparing the predicted scores with actual turnouts, we can locate 'deviant' constituencies (i.e. constituencies where the predicted turnout is markedly higher or lower than the actual turnout) and thus get some clue to other sources of variation. Since the patterns of deviation over the four elections were fairly consistent, we have restricted our discussion here to the 1966 election.[34]

Table 13 lists the fifty seats in which, in 1966, turnout most exceeded the prediction, and gives the residual score (i.e. the difference between the predicted and the actual turnout) in each case.

TABLE 13 *The Fifty Most Deviant Constituencies: High Turnout*

Hemsworth	11·6	Berwick and East Lothian	7·4	Flintshire East	6·0
Dearne Valley	11·0	Rutherglen	7·3	Conway	5·9
Rhondda West	10·8	Dundee West	7·2	Newcastle East	5·9
Bedwellty	10·2	Colne Valley	7·0	Kilmarnock	5·8
Fulham	10·1	Richmond-on-Thames	6·8	Taunton	5·8
Ebbw Vale	10·1	Cornwall North	6·7	Devon North	5·8
Brentford and Chiswick	10·0	Dundee East	6·6	Ogmore	5·8
Rhondda East	9·3	Reading	6·5	Newcastle North	5·8
Barons Court	8·6	Pontefract	6·4	Glasgow Craigton	5·8
Bolsover	8·2	Norwich South	6·4	Shipley	5·7
Morpeth	8·1	Burnley	6·3	Workington	5·7
Aberdare	7·9	Merioneth	6·3	High Peak	5·7
Roxburgh, Selkirk and Peebles	7·7	Eton and Slough	6·3	Leyton	5·7
Don Valley	7·6	Derbyshire West	6·3	Ayr	5·7
Caerphilly	7·5	Montgomery	6·2	Torrington	5·6
Gateshead West	7·4	Abertillery	6·1	Brighouse and Spenborough	5·6
		Blyth	6·1	Carlisle	5·5

A fairly superficial examination of this list suggests that most of the seats fall into one of two categories:

(i) There are fifteen constituencies in which miners form a substantial proportion of the working population: Hemsworth, Dearne Valley, Don Valley and Pontefract in Yorkshire; Rhondda West, Bedwellty, Ebbw Vale, Rhondda East, Aberdare, Caerphilly, Abertillery, and Ogmore in Wales; Morpeth and Blyth in Northumberland; and Bolsover in Derbyshire. Workington, High Peak, and Ayr

[33] Crewe and Payne in Butler and Pinto-Duschinsky, *1970*, p. 425.

[34] There is one major exception to this consistent pattern. In the 1970 election, turnout in the three Stoke seats and in the constituencies of Leek and Newcastle-under-Lyme was very much lower than predicted due to the fact that the election coincided with local holidays.

have somewhat smaller numbers of miners, but perhaps also belong in this category.

(ii) There are a number of fairly clearly defined regional clusters of seats. Thus, in addition to the Welsh mining seats already mentioned, there are four other Welsh seats on the list: Merioneth, Montgomery, Flintshire East, and Conway. There is a group of seven seats in central and southern Scotland: Roxburgh, Selkirk and Peebles, Berwick and East Lothian, Rutherglen, Dundee West and East, Kilmarnock, and Glasgow Craigton. And there are two smaller groups: Cornwall North, Taunton, Devon North and Torrington in the South-West, and Gateshead West, Newcastle East, and Newcastle North on Tyneside.

This leaves fourteen seats unaccounted for: Fulham, Brentford and Chiswick, Barons Court, Colne Valley, Richmond-on-Thames, Reading, Norwich South, Burnley, Eton and Slough, Derybshire West, Shipley, Leyton, Brighouse and Spenborough, and Carlisle. They have no obvious common characteristic, though it is perhaps worth noting that five of them were very highly marginal at the 1964 election.

Turning now to seats in which turnout was lower than predicted, Table 14 lists in order the fifty seats in which the deviation in this direction was greatest. Again,

TABLE 14 *The Fifty Most Deviant Constituencies: Low Turnout*

Western Isles	19·2	Lambeth Brixton	8·5	Thirsk	6·9
Banff	12·0	Galloway	8·5	Harwich	6·8
Liverpool Exchange	10·9	Ormskirk	8·4	Manchester Exchange	6·8
Liverpool Garston	10·1	Orkney and Zetland	8·4	Moray and Nairn	6·8
Birmingham Small Heath	10·1	Essex South East	8·3	Lambeth Vauxhall	6·7
Birmingham Handsworth	9·8	Blackpool South	8·0	Widnes	6·7
Stoke Newington and		Tottenham	7·9	Southall	6·6
Hackney North	9·6	West Bromwich	7·6	Fylde North	6·6
Birmingham Ladywood	9·6	Leeds North East	7·4	Southwark	6·6
Islington North	9·5	Manchester Ardwick	7·3	Birmingham Sparkbrook	6·4
Liverpool West Derby	9·4	Portsmouth Langstone	7·2	New Forest	6·3
Stepney	9·3	Brigg	7·2	Birmingham All Saints	6·1
Camberwell Peckham	9·2	Ross and Cromarty	7·1	East Ham South	6·1
Islington South-West	9·2	Bradford East	7·1	Inverness	6·1
Shoreditch and Finsbury	8·9	Islington East	7·1	East Ham North	6·1
Birmingham Aston	8·7	Manchester Cheetham	6·9	Birmingham Stechford	6·1
Liverpool Scotland	8·7	Huyton	6·9	Bridlington	6·0

residual scores are given. In this case there again seem to be two major groupings:

(i) There are thirty-three seats situated within major English conurbations. Of these, eight are in the West Midlands (seven Birmingham seats and West Bromwich); fourteen are in and around central London (Stoke Newington and Hackney North, Islington North, South-West and East, Stepney, Peckham, Shoreditch and Finsbury, Brixton, Tottenham, Vauxhall, Southall, Southwark, and East Ham North and South); six on Merseyside (four Liverpool seats plus Huyton and Widnes); three in Manchester and two in the West Riding. It is

worth noting that no constituency situated in the Tyneside conurbation appears on the list, and perhaps even more strikingly no urban Scottish seat is listed.

(ii) There are six seats in the north of Scotland: Western Isles, Banff, Orkney and Zetland, Ross and Cromarty, Moray and Nairn, and Inverness.

This leaves eleven seats unexplained: Galloway, Ormskirk, Essex South East, Blackpool South, Portsmouth Langstone, Brigg, Thirsk, Harwich, Fylde North, New Forest, and Bridlington. Again, these seats share no obvious common characteristic, though it is perhaps worth noting that some of them are coastal seats.

This brief examination of the most deviant constituencies suggests that the major factors we have not taken into account in our analysis are regional and local. Seventy-five of the hundred most deviant seats can be accounted for in terms of regional variations or as 'localized types', i.e. seats in the major coalfields or in the major conurbations.

We have already referred to the difficulties in incorporating region as a variable in our analysis, and we will pursue this problem and also examine the importance of local factors in a later paper. For the moment, however, it seems reasonable to conclude that we have overlooked no other major variable which importantly affects turnout.

VIII

We have shown that turnout and previous marginality are quite strongly correlated, and that even when other relevant variables are taken into account marginality still significantly improves the explanatory power of regression equations. Some attempt at explanation is now called for. Why do voters turn out in greater proportions in more marginal seats?

Two explanations, which are not mutually exclusive, seem possible. The first concentrates on the individual voter. It may be that electors are aware of the marginality of the seats in which they live, and make some sort of calculation as to the value of their votes. Where they perceive that the result of an election might be close, that the seat might be won or lost, they may make greater efforts to vote than in those seats where the result seems to be a foregone conclusion. This is in many ways a plausible explanation, but it can only be tested by using survey data, which we do not have. There is some evidence from the United States that the turnout of voters who believe that an election result will be close is greater than that of those who think otherwise.[35] There are, to our knowledge, no British data on this point. However, we wonder whether voters have the degree of sophistication required to make such calculations, given the general lack of interest in and knowledge of things political usually indicated by surveys.[36] At any rate, this explanation awaits verification.

[35] A. Campbell, P. Converse, W. Miller and D. Stokes, *The American Voter* (New York: Wiley, 1960), p. 99.

[36] See Budge and Urwin, *Scottish Political Behaviour*, pp. 81–2; M. Abrams, 'Social Trends and Electoral Behaviour', *British Journal of Sociology*, XIII (1962), 228–42, pp. 232–8.

The second explanation emphasizes the role of party organization. It suggests that parties concentrate their efforts in marginal seats, and that these efforts give rise to increased turnout. Again this explanation seems plausible, but it is difficult to test. There is some evidence that parties' organizational efforts can result in increased turnout in local elections,[37] but the problem lies in getting a reliable measure of the parties' organizational efforts. The Nuffield studies rely upon the subjective assessments of party agents and organizers, and generally arrive at negative conclusions.[38] But the assessments of party-workers seem likely to be coloured by wishful thinking and the desire to appear well-organized.

In an attempt to test this second explanation, we used party expenditure as a rough measure of organizational effort. This is, of course, far from being entirely satisfactory, but it seems not unreasonable to suppose that a party's expenditure in an election will be roughly proportional to its organizational effort. Each candidate was allowed to spend a flat rate of £450, plus 1½*d.* per elector in borough constituencies and 2*d.* per elector in county constituencies. This difference in the expenditure allowed in borough and county constituencies means that a simple calculation of the amount spent per elector would not give comparable figures. The measure we employed was the percentage of the *extra* amount permitted which the candidates actually spent – the percentage of the amount allowed over and above the flat rate of £450. Thus to arrive at our figure we first of all calculated the legal maximum which two candidates together could spend, and then subtracted £900 from it. Secondly, we added the actual sums spent by the two leading candidates and subtracted £900 from it. And finally, we expressed the second figure as a percentage of the first.[39]

We fully appreciate the crudeness of this index as a measure of the intensity of party activity; it can be criticized in several important respects. However, we could devise no more satisfactory way of testing the explanation in question.

If higher turnout in more marginal seats is due to the efforts of local party workers, then it would be expected in the first place that our measure of parties' electoral effort should correlate strongly with marginality. Table 15 shows the relationship between two-party expenditure and marginality. It shows that, in so far as expenditure can be taken as a guide, there does seem to be a fairly strong

TABLE 15 *Correlations between Two-Party Expenditure and Previous Marginality: Great Britain**

1959	1964	1966	1970
·66	·52	·70	·64

* $N = 615$.

[37] J. M. Bochel and D. T. Denver, 'Canvassing, Turnout and Party Support: An Experiment', *British Journal of Political Science*, I (1971), 257–69; J. M. Bochel and D. T. Denver, 'The Impact of the Campaign on the Results of Local Government Elections', *British Journal of Political Science*, II (1972), 239–44.

[38] Butler and Pinto-Duschinsky, *1970*, Chap. 11.

[39] Expenditure figures are derived from the House of Commons papers listed in fn. 1.

relationship between the parties' organizational efforts in a seat and its previous marginality.

However, if the hypothesis we are testing is correct, and marginality has its causal effect through party activity and not simply through voters' perceptions, we would expect to find that party expenditure is more strongly correlated to turnout than is previous marginality. We would expect higher expenditure to produce higher turnout even where a seat was not marginal. Table 16 shows the correlations between two-party expenditure and turnout. For easy comparison the

TABLE 16 *Correlations between Two-Party Expenditure, Previous Marginality and Turnout: Great Britain**

	1959	1964	1966	1970
Two-party expenditure	·41	·41	·50	·45
Previous marginality	·33	·23	·46	·44

* $N = 615$.

data first given in Table 1 are also given here. It can be seen that in every case turnout is more strongly related to expenditure than to marginality, though the differences are not very large for 1966 and 1970. For further evidence, we reconstructed the regression equations given above using two-party expenditure rather than marginality as the additional variable. The results are summarized in Table 17 and show that in every election the extra amount of variation in turnout explained by expenditure was greater than the extra amount explained by previous marginality.[40]

TABLE 17 *Additional Percentage Variation in Turnout Explained*

	1959	1964	1966	1970
By previous marginality	7·1	4·9	9·1	5·4
By two-party expenditure	7·5	5·7	10·1	9·5

Though our conclusion here must necessarily be tentative, these results do lend support to the second explanation of the relationship between previous marginality and turnout outlined above, to the view that the relationship is a result of party activity rather than of voters' perceptions.

IX

In this paper we have attempted to test the hypothesis that in British general elections the variation in turnout between constituencies can be accounted for in

[40] For another attempt to use campaign expenditure as an indicator of the strength of party organization, see A. H. Taylor, 'The Effect of Party Organization: Correlation between Campaign Expenditure and Voting in the 1970 Election', *Political Studies*, XX (1972), 329–31.

part by variations in their marginality. We have found that in the past four general elections, the relationship between marginality and turnout over Britain as a whole has been positive and significant. The implication of this is that although social and demographic factors (in particular the 'housing' variables) clearly play a major role in accounting for turnout variations, any adequate explanation must also take account of what we referred to earlier as 'political' factors like marginality.

We have also argued, though more tentatively, that the relationship between marginality and turnout should not be interpreted as being a direct product of a 'growing sophistication on the part of the electorate'. Rather it should be seen as being caused by the parties' efforts to stimulate turnout in more marginal seats. Higher turnout in marginal seats is rarely the product of a 'rational' appreciation of the situation by voters, but results from parties' either creating greater awareness amongst voters or simply cajoling them into going to the polls.

This conclusion will no doubt give some comfort to party activists; it is also an addition to the growing body of evidence suggesting that party organization significantly affects the outcome of elections.