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Locating the altruistic voter: context, egocentric voting, and support for the Conservative Party at the 1997 General Election in England and Wales

Ron Johnston, Danny Dorling, Helena Tunstall, David Rossiter, Iain MacAllister¶
School of Geographical Sciences, University of Bristol, Bristol BS8 1SS, England;
e-mail: r.johnston@bristol.ac.uk; danny.dorling@bris.ac.uk;
H.V.Z.Tunstall@bris.ac.uk; david.rossiter@computing-services.oxford.ac.uk

Charles Pattie
Department of Geography, University of Sheffield, Sheffield S10 TN, England;
e-mail: C.Pattie@sheffield.ac.uk
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Abstract. Egocentric economic voting models are widely used in studies of voting behaviour in Great Britain: they suggest that people whose standard of living has risen recently as a perceived consequence of government policies are more likely to vote for the government's return to office than are those who blame government policies for a decline in their living standards. But many people whose living standards have increased vote against the government. Analyses reported here, using specially constructed bespoke neighbourhoods around the homes of respondents to the 1997 British Election Study, show that the latter group mainly live in areas of high local unemployment. This suggests a pattern of altruistic voting, of people who are prospering personally, but whose neighbours are not, voting against the incumbent government—a pattern confirmed by statistical analyses of both egocentric and sociotropic voting.

1 Introduction

Students of British electoral behaviour have explored a range of approaches to their subject matter in recent years, as the decline of the dominant social cleavage model eroded the validity of Pulzer's (1967, page 98) summary of British voting choices as "Class is the basis of British party politics: all else is embellishment and detail". Many have turned to economic voting models, which suggest that electors determine whether to reward or punish the incumbent party of government according to their perceptions of the success or failure of its economic policies. Others, such as Miller (1977; 1978), have suggested that where people live is more important than what they are as an influence on their electoral choice—that geographical location is more important than social location. The two could well be linked, however, as suggested in arguments that the growing spatial polarisation of the electorate at the 1983 and 1987 contests reflected geographical variations in the impacts of Conservative economic policy (Johnston et al, 1988), but aspatial economic voting models have dominated recent debate. In this paper we seek to redress the balance somewhat, by reintroducing a crucial geographic component to the analyses.

One of the main strands of the economic voting arguments focuses on the egocentric, retrospective voters, the individuals who make electoral decisions on the basis of evaluations of their own (or their household's) economic situation and the role of

¶ Present address: Department of Government, University of Manchester, Manchester M13 9PL, England; e-mail: iain.d.macallister@man.ac.uk.

government policies in producing that situation.[1] This is illustrated from the 1997 British Election Study (BES), which interviewed a random sample of the electorate immediately after the election on 1 May. (Because of data-matching problems with the analyses discussed below, we analyse only the respondents living in England and Wales, a total of 2731 people.) Among the questions asked was the following pair:

"Again, thinking back to the general election of 1992—the one where John Major won against Neil Kinnock—your own standard of living? Has it increased or fallen? Has it increased a lot, increased a little, stayed the same, decreased a little, decreased a lot?"

"Do you think this is mainly the result of the Conservative government's policies or for some other reason?"

The responses are summarised in table 1. Some 30.9% of the electorate thought that their situations had improved over the last five years, and 30% thought their standard of living had fallen, with the remainder who gave a definite answer (38.5%) reporting no difference in their situation. Government policy was associated with the outcome in 43.5% of the cases, with 'other reasons' cited in most of the remainder. When the two sets of answers are combined, an interesting dichotomy emerges: whereas those who

Table 1. Respondents' evaluations of changes in their standards of living.

Response	Percentage
Respondent's standard of living since 1992 election had:	
increased a lot	8.9
increased a little	22.0
stayed the same	38.5
fallen a little	16.1
fallen a lot	13.9
don't know	0.5
This was because of:	
government policy	43.5
other reasons	53.5
don't know	2.4
Combination of the two sets of answers:	
increased a lot because of	
government policy	1.9
other reasons	7.0
increased a little because of	
government policy	6.1
other reasons	15.5
stayed the same because of	
government policy	16.6
other reasons	20.2
fallen a little because of	
government policy	10.0
other reasons	6.0
fallen a lot because of	
government policy	8.9
other reasons	4.8

[1] It is possible that people decided which party they were going to vote for and that their economic evaluations followed on—thus those who decided that they were going to vote Labour then 'justified' that decision by producing negative economic evaluations of economic performance under the Conservatives. The bulk of evidence from opinion poll and other sources is not consistent with this interpretation, however; there was increased unease about Conservative economic management, which was only later followed by decisions to vote Labour at the next election.

thought that their standard of living had fallen largely blamed government policy for this (18.9% as against 10.8% blaming other reasons), those who thought their situation had improved were much less likely to credit government policy rather than other reasons (8.0% compared with 22.5%). The self-proclaimed 'winners' were much less likely to associate their success with government policy than the self-proclaimed relative 'losers' were prepared to blame the government for their situation.

How was this reflected in people's voting at the 1997 General Election, held after eighteen years of Conservative rule? If the egocentric economic voting model is correct, those who had apparently benefited over the last years of that period should have voted for the Conservative Party to remain in power—especially if they credited government policy as the reason for their prosperity—whereas those who had apparently suffered should have voted against it, particularly so if they blamed the government for their situation.[2] The evidence in tables 2 and 3 is consistent with this argument. There was a fivefold difference in the percentage voting Conservative between those whose situation had 'improved a lot' and those for whom it had 'fallen a lot', for example (table 2), and a tenfold difference in the percentage voting

Table 2. Respondents' evaluations of changes in their standards of living (increased, stayed the same, or fell) and their vote at the 1997 General Election (all figures are percentages of column totals).

Party voted for	Increased		Stayed the same	Fell	
	a lot	a little		a little	a lot
Conservative	38.3	31.6	24.7	14.3	7.4
Labour	22.6	28.1	36.8	43.4	54.2
Liberal Democrat	12.8	13.6	14.9	13.9	10.3
Plaid Cymru	0.0	0.2	0.6	0.7	0.3
Green	0.0	0.0	0.2	0.2	0.5
Referendum	0.4	1.8	1.7	3.0	1.6
Other	0.4	0.3	0.6	0.7	1.1
Did not vote	24.3	23.0	18.1	22.3	23.4

Table 3. Respondents' evaluations of changes in their standards of living (increased, stayed the same, or fell), and the reasons for these (government or other), and their vote at the 1997 General Election (all figures, except sample size, are percentages of column totals).

Party voted for	Increased		Stayed the same		Fell	
	government	other	government	other	government	other
Conservative	56.6	25.2	25.8	24.9	5.4	20.9
Labour	21.5	28.3	39.5	33.8	57.2	33.1
Liberal Democrat	4.1	16.8	11.7	18.1	12.6	11.8
Plaid Cymru	0.0	0.2	0.2	0.9	0.8	0.0
Green	0.0	0.0	0.0	0.2	0.2	0.3
Referendum	0.5	1.6	2.4	1.1	1.9	3.0
Other	0.0	0.5	0.4	0.7	1.0	0.7
Did not vote	16.4	25.9	17.2	18.1	19.6	28.4
Sample size	219	614	453	551	516	291

[2] It is, of course, feasible that some of those who had done well because of government policies nevertheless voted Labour because they thought they would do as well, or even better, if Labour were in power: Labour's economic strategies in the 1997 election campaign were designed in considerable part to convince former Conservative voters that they had nothing to fear from Labour's policies on taxation, public spending, and business.

Conservative between those whose standards had increased, and who credited government policy with this, and those whose standards had fallen, for which they blamed government policy (table 3; in table 3 we have combined the two 'improved' and 'fell' categories, to provide sufficient cases for subsequent analyses). There was virtually no difference in Conservative support either between the two groups who reported that their personal situations had stayed the same or between those whose standards had either increased or fallen but for reasons other than government policy.

The egocentric voters who decided to reward or punish the government clearly only did so if they associated their own situations with government policy. Very few of those who blamed the government for a decline in their standard of living voted for its return to office. A majority of those who credited government policy with improving their economic lot did vote for it, however—though only just; almost as many either voted against it or abstained. This suggests that a large number of individuals voted against their self-interests: government policies had delivered personal prosperity for them, but they did not vote for the party that had implemented those policies. If so, why?

Our hypothesis to account for this relative lack of support for the government among those who perceived they were benefiting from its policies introduces the concept of the *altruistic voter*, one who takes account of her or his local context when making voting decisions. Some voters who reported that their standard of living had improved because of government policy lived in areas largely peopled by others who were similarly benefiting: their local context was consistent with their personal situation. Others in that situation lived in areas where increases in standards of living were not widespread and even though they themselves were benefiting from government policies many of their neighbours were not—as they were made aware through their contacts in their home neighbourhoods, in their workplaces, in their social milieux, and from reports in local media. They may have decided to vote against the government because of this, as they saw that government policies were harming others locally (and which may, directly or indirectly, eventually harm them too). Thus their voting calculus was dominated by sociotropic rather than egocentric concerns; they voted for what they thought was best for their local society, rather than just for what was best for their own immediate situations (as demonstrated in Tunstall et al, 2000). Another group of potential altruistic voters are those who are doing badly personally but see that the majority of their neighbours are prospering because of government policy and vote for the government's return, perhaps in the hope that they too will benefit in the future. Given that only 5.4% of those who reported that their living standards had fallen because of government policy voted Conservative (table 3), this second potential group of altruistic voters is likely to have been very small.

Alternatively, the sociotropic voting calculus of the apparently altruistic voters may not have taken the economic situations of others in their local areas into account but rather the situation in the country as a whole. The individual respondents may have been prospering and enjoying improved standards of living but they saw the national situation much more pessimistically: they were doing well, but in a context of overall decline. To counter that, they may have decided to vote against the government, especially if they blamed its policies for the national decline, either because they gave higher priority to the national situation than to their own situation, or because they felt insecure in the face of the general situation: sooner or later they too might suffer from the negative consequences of government policy that others had already experienced.

Altruistic voting puts sociotropic concerns above egocentric concerns, therefore, either in terms of national sociotropic concerns or in terms of local sociotropic concerns (or both). To test whether this was the case in 1997 we analyse the pattern of voting Conservative in that year's general election according to people's responses to

questions about their economic evaluations put to them in the survey conducted as part of the BES cross-section survey. These analyses use data aggregated into small 'bespoke neighbourhoods', specially constructed to test for the impact of local context on voting behaviour. We argue that people who are critical of the impact of government economic policies are less likely to vote for its return than are those who are not, especially if there is strong evidence of those negative impacts in their local milieux.

2 Bespoke neighbourhoods

There is a substantial literature on the impact of local context on voting behaviour in a range of cultures, spanning a number of academic disciplines [within geography, the classic is Cox's (1969) essay; a more recent overview is provided by Books and Prysby (1991)]. It is argued that people are influenced—by observation, by contact with their neighbours and others in local social networks, by information flows through local media, and by the mobilisation and campaigning strategies of political parties and other interested actors—by the situation in their local contexts. What happens in their local milieux, and the views of their coresidents about those events, can influence their voting decisions.

Although there is a large literature advancing this argument, and a considerable number of studies presenting evidence (most of it circumstantial) consistent with the local context (or neighbourhood effect) hypothesis—and thus taken as verifying it—there is relatively little material which provides incontrovertible evidence of its operation. This is particularly the case in the United Kingdom, for which no general-election voting data are collected, let alone published, at spatial scales below those of the Parliamentary constituency (which had an average electorate of some 69 000 in England in 1997 and of 55 000 in Scotland and Wales). Thus, for example, Miller's (1977, page 65) suggestion, based on analysis of constituency-scale data for elections in the 1970s, that 'people who talk together vote together' was dismissed by Dunleavy (1979) as lacking any link to processes which might produce geographies of voting that deviated from those predicted by application of class cleavage models alone.

To test ideas regarding the importance of local context at British general elections thus requires data not generally available. To remedy this, at least in part, we have produced 'bespoke neighbourhoods' for each of the 2731 respondents to the 1997 BES survey in England and Wales. (Problems of data matching made a comparable exercise for Scotland much more difficult and so the discussions here are of England and Wales only.) Given each respondent's postal code we were able to match this to the country's census geography and identify the enumeration district (ED) within which her or his home is located. We then used a customised algorithm to identify the nearest n individuals to the respondent's home (where n is any number from 500 upwards: for this work we used values of n of 500, 1000, 2500, 5000, and 10 000) by aggregating the closest EDs with the home district until the relevant threshold was crossed. This gives us census data characterising each respondent's local context at a variety of scales (to which we could, if we wished, add data for the respondent's local electoral ward and Parliamentary constituency).[3]

[3] This was done in a procedure which ensured that we were unable to match the data collected in the BES on any individual with her or his home address and so compromise the confidentiality guaranteed to the survey's respondents. We identified the ED in which the majority of households with the respondent's postcode reside. To identify the nearest 500 neighbours we used the distance between the centroid of that ED and the centroids of all nearby EDs to rank order distances between the 'home ED' and its neighbours. Further EDs were then added to the home ED until their total population exceeded 500. The process then continued, adding further EDs to cross the 1000, 2500, 5000, and 10 000 population thresholds. We are grateful to John Curtice and other members of the CREST team responsible for the BES for their cooperation in this project—indeed, for making it feasible.

By using these bespoke neighbourhoods, we can characterise the respondents' local milieux on a range of indicators. For the current purpose, which focuses on economic well-being, we used just one which provides a generally accepted indicator of an area's economic health, and is widely discussed in the national, regional, and local media—the percentage in each area's work force who reported that they were unemployed. The data are from the 1991 Census: these are in one sense obsolete in the context of voting six years later, because unemployment levels varied in the intervening period, but the relative geography of unemployment in 1997 was very similar to that of 1991 and we feel justified in using percentage unemployed as an index of economic well-being in the bespoke neighbourhoods.[4] We use neighbourhoods defined at four scales (where n is 1000, 2500, 5000, and 10 000), plus constituencies, as our spatial units in the analyses that follow, and six categories were defined (1991 unemployment levels of 0.0%–2.9%, 3.0%–5.9%, 6.0%–8.9%, 9.0%–11.9%, 12.0%–14.9%, and 15.0% and over): none of the constituencies and very few of the smaller bespoke neighbourhoods had rates below 3.0%, however, and the latter are removed from the analyses reported below.

All of the analyses that follow focus on variations in the percentage who reported voting Conservative at the 1997 General Election. That party had been in power for the previous eighteen years, and its policies were therefore the focus of attention for egocentric voters. If the egocentric economic voting models are correct, those people who felt they were prospering from Conservative government policies should have voted for it; those who felt that they were not should have voted against. Furthermore, if the concept of contextual effects on voting is valid, those who live in areas of high unemployment should be less likely to vote Conservative than those who live in less economically depressed areas, whatever their evaluations of recent changes in economic circumstances. In the analyses that follow we explore the validity of these two hypotheses.

3 Egocentric voting in bespoke neighbourhoods

In table 4 we give the Conservative voting percentages for each of the five spatial scales and five unemployment levels according to respondents' answers to the first of the egocentric questions (see section 1). The data provide strong evidence exactly in line with the hypothesised relationship between voting and local context, holding constant egocentric economic evaluation—that the higher the level of unemployment locally, the smaller the percentage who voted Conservative, whatever the spatial scale and whatever the voter's egocentric response. At the constituency scale, for example, whereas among those who reported that their standard of living had increased a little 45.8% voted Conservative in areas with unemployment below 6.0%, only 27.4% did so where the unemployment level was between 9.0% and 11.9%, and 16.9% where unemployment was greater than or equal to 15%.

These variations in Conservative voting by egocentric response show, as hypothesised [and as shown in previous work (Tunstall et al, 2000)], that those experiencing improved standards of living were much more likely to vote for the incumbent party of government than were those who felt that their living standards had fallen recently. (In constituencies with unemployment below 6.0%, for example, 48.6% of those whose living standards increased a lot voted Conservative compared with only 15.9% of those whose standard of living reportedly fell a lot; 39.0% of those whose situation stayed the same voted Conservative). Furthermore, the less satisfied the respondents, the greater

[4] From JUVOS data on the number of registered unemployed the correlation between the number unemployed in May 1991 and May 1997 at the constituency scale is 0.9422; at the ward scale it is 0.9566. These provide convincing evidence that the relative geography of unemployment did not change over the six years.

Table 4. Percentage voting Conservative according to neighbourhood scale, unemployment level and respondents' evaluations of changes in their standards of living.

Unemployment level (%)	Constituency[a]	Scale[b]			
		*n*10 000	*n*5 000	*n*2 500	*n*1 000
Respondent's standard of living increased a lot					
3.0–5.9	48.6	45.3	43.1	44.7	48.6
6.0–8.9	39.6	45.6	46.7	39.7	35.0
9.0–11.9	41.4	28.6	30.2	35.1	41.2
12.0–14.9	24.0	25.0	32.0	–	33.3
⩾15.0	27.6	25.0	18.2	19.0	19.5
Respondent's standard of living increased a little					
3.0–5.9	45.8	41.1	40.4	44.7	38.5
6.0–8.9	36.5	37.5	40.1	35.2	36.2
9.0–11.9	27.4	25.4	25.2	25.5	31.4
12.0–14.9	19.5	28.0	17.2	21.2	23.1
⩾15.0	16.9	15.3	17.8	17.0	17.2
Respondent's standard of living stayed the same					
3.0–5.9	39.0	39.2	42.0	40.0	36.2
6.0–8.9	30.1	32.3	29.0	27.5	25.7
9.0–11.9	21.7	15.4	13.7	18.1	20.7
12.0–14.9	13.9	13.8	13.2	18.6	19.8
⩾15.0	15.0	15.3	16.7	13.3	13.7
Respondent's standard of living fell a little					
3.0–5.9	27.3	28.4	35.5	31.0	27.6
6.0–8.9	18.2	20.3	13.2	13.9	21.6
9.0–11.9	14.3	9.0	14.3	12.9	6.0
12.0–14.9	6.9	10.3	3.7	9.3	6.3
⩾15.0	5.1	3.8	5.1	5.4	5.5
Respondent's standard of living fell a lot					
3.0–5.9	15.9	11.3	16.4	18.8	15.0
6.0–8.9	8.4	10.7	10.9	6.5	8.2
9.0–11.9	10.1	5.7	2.2	5.4	9.1
12.0–14.9	3.5	3.2	4.0	2.4	5.3
⩾15.0	0.0	4.2	6.3	3.3	1.9

– Fewer than 20 respondents in cell.
[a] Percentage voting Conservative at the constituency level.
[b] Percentage voting Conservative among *n* nearest neighbours.

the variation in Conservative support according to the local context. At the constituency scale, the ratio in Conservative voting among those whose living standards increased a lot between the areas with the highest and lowest unemployment rates was 1.76 (48.6/27.6); among those for whom standards stayed the same it was 2.6 (39.0/15.0); and among those whose standards fell a lot the ratio could not be calculated because none of those living in the areas of highest unemployment voted Conservative. Similarly, in the *n*5000 bespoke neighbourhoods the ratios were 2.37, 2.51, and 2.60, respectively, and for the *n*1000 neighbourhoods they were 2.49, 2.64, and 7.89, respectively. The greater the egocentric dissatisfaction and the higher the local unemployment level, the less the likelihood of a Conservative vote. The interaction between personal and local circumstances means that the most altruistic voters live in the most depressed areas.

3.1 Egocentric voting and attribution of responsibility

In table 4 we look at the voting patterns of people categorised according to their responses to the first of the egocentric voting questions only and do not take account

of the additional information on the attribution of credit or blame for their individual situations provided by the second part of the question. In table 5 we do this, with the responses to the first question collapsed into just three categories (standard of living increased, stayed the same, or fell) in order to avoid problems with small cell sizes. Table 5 shows exactly the same patterns as table 4, but even greater variation in Conservative voting is evident—which is exactly in line with expectations.

The largest variations, not surprisingly, are between the respondents who credited government policy with their increased living standards and those who blamed it for the fall in their standards: at the *n*10 000 scale and in areas with less than 6.0% unemployed, for example, whereas 66.0% of people who believed their standard of living had increased because of the government recorded a Conservative vote, the

Table 5. Percentage voting Conservative according to neighbourhood scale, unemployment level, respondents' evaluations of changes in their standards of living, and the perceived reasons for those changes.

Unemployment level (%)	Constituency[a]	Scale[b]			
		*n*10 000	*n*5 000	*n*2 500	*n*1 000
Respondent's standard of living increased: government responsible					
3.0–5.9	66.7	66.0	56.1	64.2	66.2
6.0–8.9	65.3	56.2	69.0	60.7	52.7
9.0–11.9	54.2	62.2	58.3	58.8	71.4
12.0–14.9	34.3	42.0	44.0	52.6	50.0
⩾15.0	22.7	27.6	38.3	30.3	29.7
Respondent's standard of living increased: other reasons responsible					
3.0–5.9	38.8	33.3	34.8	36.5	32.0
6.0–8.9	28.1	33.7	31.8	27.4	30.0
9.0–11.9	23.4	12.0	17.6	18.5	18.3
12.0–14.9	14.7	16.9	12.7	15.7	19.6
⩾15.0	11.7	15.2	12.5	12.5	12.5
Respondent's standard of living the same: government responsible					
3.0–5.9	46.3	42.7	47.8	43.8	39.5
6.0–8.9	30.4	34.8	29.5	29.1	22.6
9.0–11.9	20.6	13.3	11.9	14.4	25.6
12.0–14.9	14.5	15.4	17.6	22.2	15.0
⩾15.0	14.9	13.3	14.0	14.3	16.1
Respondent's standard of living the same: other reasons responsible					
3.0–5.9	34.9	38.1	38.8	37.5	34.6
6.0–8.9	31.8	31.3	29.2	27.1	27.9
9.0–11.9	22.4	17.0	15.7	21.4	18.2
12.0–14.9	13.5	16.8	17.2	16.1	23.5
⩾15.0	16.0	14.8	13.3	14.5	12.8
Respondent's standard of living fell: government responsible					
3.0–5.9	12.8	9.7	15.8	14.8	12.8
6.0–8.9	6.9	8.8	5.6	6.3	9.9
9.0–11.9	6.0	3.8	4.8	4.1	3.1
12.0–14.9	2.3	4.1	0.0	2.8	0.0
⩾15.0	1.1	1.1	2.9	1.6	1.4
Respondent's standard of living fell: other reasons responsible					
3.0–5.9	29.4	35.2	40.0	36.5	32.4
6.0–8.9	23.8	25.8	22.1	17.8	23.3
9.0–11.9	28.0	15.1	15.4	18.3	19.4
12.0–14.9	11.9	11.4	8.7	17.4	17.2
⩾15.0	6.3	3.9	11.1	10.3	9.6

[a,b] See table 4.

comparable figure was only 9.7% for those who believed their standard of living had fallen because of the government. But for every one of the six responses in terms of living standards, the higher the local level of unemployment the lower, in general, the support for the government. At the *n*10 000 scale, for example, whereas 66.0% of those who credited government policy with delivering their increased living standards and who lived in the areas of lowest unemployment voted Conservative, only 27.6% giving this response did so in the areas of highest unemployment: similarly, at the same scale, among those who said their living standards were unchanged and who associated this with reasons other than government policy, 38.1% voted Conservative in the low unemployment areas, whereas 14.8% did so in neighbourhoods with the highest unemployment—clearly in line with our hypothesis of altruistic voting. Finally, among those whose personal standard of living fell because, it was believed, of government policy, relatively small numbers voted altruistically for the Conservatives to be returned to power in areas of low unemployment and very low percentages did so where unemployment was high: at the *n*1000 scale, for example, 12.8% voted Conservative where unemployment was between 3.0% and 5.9%, but only 1.4% did so where the unemployment rate was greater than or equal to 15.0%.

4 Accounting for the geography of altruistic voting: locating the sociotropic voters

Tables 4 and 5 show patterns of voting very consistent with our hypothesis of altruistic voting: the worse the local context in 1997 (as indexed by 1991 unemployment levels) the smaller the probability of a vote for the Conservative Party, whatever the individual's own economic situation. We suggested earlier that this could be associated with sociotropic, as opposed to egocentric, voting—that individuals who identified economic problems either in their local areas or in the country as a whole would be much less likely to vote for the incumbent government party, whatever their personal economic situations, than those who perceived local or national prosperity.

To evaluate whether this was the case, we use the data from two further sets of questions asked in the 1997 BES which relate directly to national and local sociotropic concerns. Regarding the state of the national economy, respondents were asked the following pair of questions on the general standard of living:

"[... thinking back to the general election of 1992—the one where John Major won against Neil Kinnock], the general standard of living: has it increased a lot, increased a little, stayed the same, decreased a little, decreased a lot?"

"Do you think this is mainly the result of the Conservative government's policies or for some other reason?"

On the situation in their local area (which was not defined, so some may have interpreted it as referring to a large region whereas others may have applied it to their home town or even neighbourhood) respondents were asked:

"Compared with other parts of Britain since the last general election in April 1992, would you say that [this part of Britain/Scotland/Wales] has been getting more prosperous than average, stayed about average, or been getting less prosperous than average?" [The show card used to structure responses divided the 'more prosperous' and 'less prosperous' categories into 'a lot more' and 'a little more'.]

"Do you think this is the result of government policies or for some other reason?"

In both cases, the number of categories in the responses to the first question has been reduced to three—improved, stayed the same (about average), declined.

4.1 National sociotropic voting

The pattern of voting according to responses to the national sociotropic question is as expected, with a tenfold difference in support for the Conservative Party between

Table 6. Respondents' evaluations of changes in the general standard of living, and the reasons for these, and vote at the 1997 general election (all figures, except sample size, are percentages of column totals).

Party voted for	Increased		Stayed the same		Fell	
	government	other	government	other	government	other
Conservative	50.2	25.3	26.0	21.3	5.4	15.8
Labour	16.5	31.0	36.1	31.1	56.3	32.7
Liberal Democrat	10.9	19.2	14.9	17.1	12.0	14.9
Plaid Cymru	0.2	0.0	0.2	1.0	0.5	0.0
Green	0.0	0.0	0.0	0.0	0.2	1.0
Referendum	1.8	1.8	0.6	3.5	1.5	3.0
Other	0.4	0.4	0.4	0.7	0.7	0.0
Did not vote	18.8	21.4	19.3	24.5	21.3	28.7
Sample size	558	281	462	286	865	101

Table 7. Percentage voting Conservative according to neighbourhood scale, unemployment level, respondents' evaluations of changes in the general standard of living, and the perceived reasons for those changes.

Unemployment level (%)	Constituency[a]	Scale[b]			
		*n*10 000	*n*5 000	*n*2 500	*n*1 000
General standard of living increased: government responsible					
3.0–5.9	60.2	55.6	55.8	61.9	57.9
6.0–8.9	54.8	57.2	58.2	49.4	48.9
9.0–11.9	47.3	42.7	40.4	41.1	52.4
12.0–14.9	30.0	38.5	37.7	40.2	50.0
⩾15.0	17.5	37.5	35.6	34.4	32.0
General standard of living increased: other reasons responsible					
3.0–5.9	35.4	29.6	35.4	36.5	29.9
6.0–8.9	24.8	31.8	25.0	25.0	30.0
9.0–11.9	33.3	17.9	23.2	22.4	12.9
12.0–14.9	12.7	28.6	18.5	22.2	19.8
⩾15.0	13.9	15.2	18.8	16.1	15.8
General standard of living the same: government responsible					
3.0–5.9	41.3	47.7	47.5	46.4	41.2
6.0–8.9	34.0	35.3	33.6	31.4	30.8
9.0–11.9	24.8	14.6	15.3	18.5	22.5
12.0–14.9	8.6	7.7	11.4	13.3	10.8
⩾15.0	9.8	9.3	7.1	7.4	11.2
General standard of living the same: other reasons responsible					
3.0–5.9	37.5	30.0	32.7	31.3	29.5
6.0–8.9	23.8	25.6	26.2	22.8	24.6
9.0–11.9	17.9	15.4	12.7	22.0	17.0
12.0–14.9	12.8	16.0	15.2	4.2	11.1
⩾15.0	10.8	10.9	8.3	14.0	14.5
General standard of living fell: government responsible					
3.0–5.9	17.8	12.8	13.7	13.0	12.2
6.0–8.9	6.0	7.6	6.7	5.6	6.3
9.0–11.9	3.1	2.4	3.2	4.3	4.7
12.0–14.9	2.7	3.0	1.8	2.8	0.0
⩾15.0	2.6	2.6	2.5	1.7	1.5
General standard of living fell: other reasons responsible					
3.0–5.9	–	–	–	15.0	15.0
6.0–8.9	17.9	13.3	10.3	17.9	19.4
9.0–11.9	–	–	–	–	–
12.0–14.9	–	–	–	–	–
⩾15.0	4.5	–	9.5	–	8.0

– Fewer than 20 respondents in cell.
[a,b] See table 4.

those who credited government policy with increased national standards of living, on the one hand, and those who blamed a fall in national living standards on government actions, on the other (table 6). Similarly there were substantial variations within each of the six response categories according to the local level of unemployment (table 7). Among those who thought that government policies meant that living standards had stayed at the same level since the previous general election, for example, 41.3% voted Conservative where unemployment was below 6.0% at the constituency scale, but only 24.8% did so where it was between 9.0% and 11.9%, and just 9.8% voted Conservative where unemployment was equal to or exceeded 15.0% in their constituency.

4.2 Local sociotropic voting

As with national sociotropic voting, so also with its local variant, although the variation in Conservative voting was not as large in the local case (table 8) as in the national case (table 6). People who credited relative improvements in prosperity locally to government policy were 4.5 times more likely (43.2/9.6) to vote for the incumbents than were those who blamed government policy for their local area's perceived relative economic decline.

The differences were much greater when the local level of unemployment was also taken into account, however (table 9, see over). Whatever the spatial scale, the higher the unemployment level the smaller the likelihood of a respondent voting Conservative. Even among those who credited government policy with bringing increased relative prosperity to their local area, for example, at the *n*5000 scale, 56.0% of them voted Conservative in the areas with lowest unemployment, but only 28.9% did so where unemployment levels were at the highest. And among those who blamed government policy for their local area's relative decline, the ratio of Conservative voting between the areas of highest and lowest local unemployment was 5.5 (23.0/4.2).

Table 8. Respondents' evaluations of changes in their local area's prosperity, and the perceived reasons for these, and the vote at the 1997 General Election (all figures, except sample size, are percentages of column totals).

Party voted for	Increased		Stayed the same		Fell	
	government	other	government	other	government	other
Conservative	43.2	20.8	27.1	26.2	9.6	28.5
Labour	23.7	33.6	38.1	30.8	54.8	31.1
Liberal Democrat	11.2	15.3	13.0	16.4	11.4	14.6
Plaid Cymru	0.4	0.5	0.4	0.2	0.4	0.7
Green	0.2	0.0	0.2	0.0	0.2	0.7
Referendum	2.9	3.5	1.6	0.6	2.1	1.3
Other	0.7	0.8	0.2	0.7	0.5	0.3
Did not vote	15.1	23.6	18.6	23.8	18.9	19.9
Sample size	278	399	506	542	571	151

5 Egocentric, sociotropic, and altruistic voting: a multivariate synthesis

Tables 7 and 9 indicate very clearly that the worse the local conditions, the smaller the Conservative vote—holding constant respondents' evaluations of changes in both the national and the local economic situation in recent years and their attribution of the credit or blame for that. This is consistent with the reasons for the altruistic voting identified in tables 4 and 5: people who voted against their self-interests did so because their personal economic improvements were not being matched at either the national

Table 9. Percentage voting Conservative according to neighbourhood scale, unemployment level, respondents' evaluations of changes in their local area's prosperity, and the perceived reasons for those changes.

Unemployment level (%)	Constituency[a]	Scale[b]			
		*n*10 000	*n*5 000	*n*2 500	*n*1 000
Area prosperity improved: government responsible					
3.0–5.9	56.0	53.9	56.0	61.4	66.2
6.0–8.9	51.1	55.8	48.8	41.7	35.9
9.0–11.9	43.1	19.6	31.7	40.5	36.2
12.0–14.9	19.0	40.5	33.3	26.3	40.0
⩾15.0	19.4	29.7	28.9	27.8	20.0
Area prosperity improved: other reasons responsible					
3.0–5.9	31.7	25.8	30.0	30.4	26.6
6.0–8.9	20.0	28.5	24.2	22.6	23.1
9.0–11.9	18.0	9.4	7.8	11.4	16.7
12.0–14.9	15.2	13.9	7.4	16.7	10.7
⩽15.0	9.8	12.5	–	11.9	13.7
Area prosperity stayed the same: government responsible					
3.0–5.9	38.9	37.3	40.9	40.3	39.7
6.0–8.9	32.2	34.3	35.2	29.1	27.0
9.0–11.9	21.6	20.2	16.9	19.3	26.8
12.0–14.9	17.3	17.9	13.8	19.4	20.4
⩽15.0	21.1	15.9	20.6	16.4	14.3
Area prosperity stayed the same: other reasons responsible					
3.0–5.9	43.8	40.2	42.2	37.1	34.5
6.0–8.9	26.1	27.3	26.3	28.3	28.8
9.0–11.9	24.4	24.5	25.5	24.2	26.7
12.0–14.9	21.2	14.0	12.5	20.4	17.6
⩽15.0	6.0	13.7	11.3	10.3	11.0
Area prosperity declined: government responsible					
3.0–5.9	8.3	20.0	23.0	21.8	18.3
6.0–8.9	14.7	12.9	13.2	11.4	15.3
9.0–11.9	14.5	11.2	8.7	9.2	5.9
12.0–14.9	5.8	5.7	3.3	6.3	4.6
⩽15.0	1.5	3.4	4.2	4.1	4.8
Area prosperity declined: other reasons responsible					
3.0–5.9	–	37.5	44.1	48.8	42.9
6.0–8.9	44.8	45.7	36.8	35.0	35.0
9.0–11.9	24.3	11.8	12.5	13.5	13.3
12.0–14.9	–	–	–	–	–
⩽15.0	18.8	–	–	10.0	14.3

– Fewer than 20 respondents in cell.
[a,b] See table 4.

or the local level. The three sets of evaluations may be intercorrelated, however; people who felt that their personal living standards had increased also identified national and local improvements in prosperity, in which case there is no separate altruistic effect. If that is the case, then the clear variations by local unemployment level identified throughout this paper so far would remain, giving strong circumstantial evidence of a strong local contextual influence on voting.

To evaluate these suggestions, in this section we report on multivariate statistical analyses which are designed to tease out the various influences. For this we use logistic regression analysis, in which the dependent variable is a binary categorisation of the respondents into whether or not they voted Conservative in the 1997 General Election

(coded 0 if they did not and 1 if they did). Thirteen separate models have been fitted to evaluate different aspects of the hypothesised relationships.

In models 1–4 we explore the separate impact of the three sets of economic evaluations: (1) changes in the respondents' standard of living and the perceived reasons for those changes (RSOL); (2) changes in the general standard of living, and the perceived reasons for them (GSOL); and (3) relative changes in the prosperity of the respondent's local area and the perceived reasons for them (LACP). Each is divided into six categories, as in tables 3, 6, and 8: the first category in each of those divisions is the comparator in the logistic regressions, which therefore contrast the probability of voting Conservative between those who thought the relevant situation had improved because of government policies to each of the other five categories.

The results for these first four models are given in table 10 (see over). Model 1 includes responses to the egocentric question only (RSOL); models 2 and 3 add the national sociotropic (GSOL) and regional sociotropic (LACP) variables separately; and model 4 incorporates all three sets. The results show not only that all three sets have an independent relationship with the probability of voting Conservative but also that each category in each set has a statistically significant difference in its probability of voting Conservative from the comparator group. (For example, in model 1, members of the first three categories were each 0.25–0.27 as likely to vote Conservative as were those in the comparator group—those who thought that their personal standard of living had increased because of government policies; those in category 4—whose personal living standards had fallen because of government policies—were only 0.04 as likely to vote Conservative.) The standard diagnostics indicate substantial improvements in the predictive ability of the models as further variables are introduced, with the Wald coefficients (which indicate the relative importance of each set of independent variables)[5] showing that evaluations of the national economic situation have the greatest relative impact (a coefficient of 156.9 for GSOL in model 4, followed by the egocentric and regional sociotropic variables, in that order). The regression coefficients all have the expected negative signs, indicating a greater probability of a Conservative vote in the comparator groups than in any others. The exponents associated with those coefficients (given in brackets after the regression coefficients) indicate the extent of the differences between the various groups and their comparators. In model 4, for example, respondents who thought that their personal standards of living (RSOL) had fallen because of government policies were only 0.16 as likely to vote Conservative as those in the comparator group, who thought that their situations had improved because of government policies; those who thought that the national standard of living (GSOL) had fallen because of government policies were only 0.09 as likely to vote Conservative as those who thought it had improved because of government policies; and those who thought that their local area had declined because of government policies (LACP) were only 0.31 as likely to vote Conservative as those who thought that government policies had produced an improvement in the relative prosperity of their local area. The differences between the comparator and other groups (those who thought either that situations were unchanged or that the changes were the result of reasons other than government policy) were less extreme, but in all cases substantial. Support for the incumbent Conservatives was greatest among those who believed government policies had delivered prosperity (to them personally, to the country as a whole, or to their local economy) over the previous five years.

One of the features of logistic regressions is that the coefficients are additive, which allows evaluation of the joint impact of two or more variables.[6] Thus the joint impact

[5] The Wald coefficient is a nonlinear analogue of the *t*-test used in ordinary least squares regression.

[6] This is done by summing the relevant coefficients and taking their natural antilogarithm.

Table 10. Results of logistic regressions for models 1–4: regression coefficients (exponents are given in brackets).

Variable	Model			
	1	2	3	4
Respondent's standard of living, RSOL (comparator: increased because of government)				
increased for other reasons	−1.33 (0.26)	−0.98 (0.37)	−1.26 (0.28)	−0.95 (0.39)
stayed same because of government	−1.30 (0.27)	−0.74 (0.48)	−1.18 (0.31)	−0.69 (0.50)
stayed same for other reasons	−1.40 (0.25)	−0.71 (0.49)	−1.27 (0.28)	−0.66 (0.52)
fell because of government	−3.23 (0.04)	−1.99 (0.13)	−2.93 (0.05)	−1.85 (0.16)
fell for other reasons	−1.54 (0.21)	−0.80 (0.45)	−1.42 (0.24)	−0.76 (0.47)
General standard of living, GSOL (comparator: increased because of government)				
increased for other reasons	na	−0.98 (0.37)	na	−0.90 (0.41)
stayed same because of government	na	−0.92 (0.40)	na	−0.86 (0.42)
stayed same for other reasons	na	−1.27 (0.28)	na	−1.23 (0.29)
fell because of government	na	−2.58 (0.08)	na	−2.39 (0.09)
fell for other reasons	na	−1.47 (0.23)	na	−1.41 (0.24)
Local area prosperity, LACP (comparator: improved because of government)				
improved for other reasons	na	na	−0.99 (0.37)	−0.78 (0.46)
stayed same because of government	na	na	−0.59 (0.55)	−0.41 (0.66)
stayed same for other reasons	na	na	−0.62 (0.54)	−0.44 (0.64)
declined because of government	na	na	−1.64 (0.19)	−1.16 (0.31)
declined for other reasons	na	na	−0.49 (0.61)	−0.39 (0.68)
Diagnostics				
−2 log-likelihood	2208.6	1979.9	2131.3	1945.4
goodness of fit	2205.4	2250.5	2311.3	2374.7
χ^2 statistic	217.1	445.9	294.4	480.3
Percentage correct				
all	77.3	77.9	77.7	79.8
Conservative vote	20.7	29.6	16.5	36.4
Wald coefficients				
RSOL	160.8	54.8	127.5	48.0
GSOL	na	185.8	na	156.9
LACP	na	na	70.2	33.0

na, not applicable.
Note: for a description of models 1–4, see section 5 in text.

of thinking that government policies had caused both one's own standard of living and the national standard to fall was −4.24, indicating that a respondent who gave those two evaluations was only 0.01 as likely to vote Conservative as somebody who thought that government policies had produced improvements in both the national and her or his own standard of living.

Having established the importance of all three evaluations on voting at the 1997 General Election, we explored in models 5–9 whether local context had an additional influence. The neighbourhood classifications according to level of unemployment (UNEMPG) were introduced as a further set of variables: in model 5, the constituency scale classification was added to RSOL, GSOL, and LACP; in model 6 the *n*10 000 bespoke neighbourhoods were added; in model 7 the *n*5000 neighbourhoods were added; in model 8 the *n*2500 neighbourhoods; and in model 9 the *n*1000 neighbourhoods. In each case the comparator was the set of areas with the lowest unemployment

rates (3%–6%).[7] Table 11 (see over) shows that all were statistically significant, with the standard diagnostics indicating model improvement over those reported in table 10 (the χ^2 value for model 9, for example, is 532.7, compared with 480.3 for model 4). The situation in their local area had an independent effect on people's choice of whether to vote for the Conservatives when their three economic evaluations were held constant. Furthermore, the Wald coefficients show that local area characteristics were the second most influential set of independent variables after the national sociotropic variables (GSOL).

The joint impact of economic evaluations and local context can be illustrated by exploring the additive influences of the two sets of variables. In the *n*10 000 bespoke neighbourhoods, for example (model 6), those who thought that their personal standard of living had fallen because of government policies were only 0.15 as likely to vote Conservative as those who thought it had improved for the same reason, whereas those who lived in areas with unemployment of 15% or more in 1991 were only 0.29 as likely to vote Conservative as those who lived in areas with unemployment between 3% and 6%. The two coefficients (−1.87 and −1.24) combined showed that those who lived in the areas of highest unemployment and thought that their personal situations had deteriorated because of government policies were only 0.045 as likely to vote Conservative as those who had experienced improved personal living standards because of government policies and who lived in the areas of lowest unemployment.

According to our earlier discussion, altruistic voters include those whose personal living standards have improved because of government policies but who decide to vote against the government because of their perceptions that their neighbours have not experienced the same improvements: those perceptions are indicated by their responses to the local area prosperity question and the situation in their local area, as indicated by the local unemployment rate. The joint impact of the latter two can be assessed by summing the relevant coefficients, as before. Thus if we hold constant the impact of RSOL and again use the *n*10 000 areas as an exemplar (model 6), we find that those who thought that their local area's relative prosperity had declined because of government policies were only 0.36 as likely to vote Conservative as those who thought it had improved because of government policies. If, in addition, they lived in areas with unemployment of 6%–9%, they were only 0.28 as likely to vote Conservative as similar people living in areas with unemployment below 6%, and if they lived in the areas of highest unemployment that ratio was just 0.10. The worse their local situation, the less likely that altruistically inclined respondents would vote for the return of the incumbent government which had delivered prosperity for them personally.

5.1 But is local context scale invariant?

But does the scale at which local context is introduced to the models matter? The results in table 11 indicate no consistent differences, but rather that from the constituency level downwards the voting patterns are scale invariant. Voters respond to their local context, it seems, but to the same extent whether the focus is on small areas with an average population of 1000 or on average constituency electorate of 70 000.

To explore this situation further, we conducted a number of additional analyses. In table 12 (see over) we present the results from a sample only, all of which produce the same general pattern. The general argument is that many large areas, such as some at least of the constituencies and those containing 10 000 residents, are spatially heterogeneous with regard to our local contex variable—percentage unemployed. It may well be, therefore, that they are also spatially heterogeneous in voting patterns—that, for

[7] The very small number of respondents living in *n*2500 and *n*1000 neighbourhoods with rates below 3% unemployment have been excluded from the analysis.

Table 11. Results of logistic regressions for models 5–9: regression coefficients (exponents are given in brackets).

Variable	Model	
	5	6
Respondent's standard of living, RSOL (comparator: increased because of government)		
increased for other reasons	−1.00 (0.37)	−1.02 (0.36)
stayed same because of government	−0.73 (0.48)	−0.70 (0.50)
stayed same for other reasons	−0.68 (0.50)	−0.69 (0.50)
fell because of government	−1.88 (0.15)	−1.87 (0.15)
fell for other reasons	−0.82 (0.44)	−0.84 (0.43)
General standard of living, GSOL (comparator: increased because of government)		
increased for other reasons	−0.88 (0.41)	−0.80 (0.45)
stayed same because of government	−0.85 (0.43)	−0.84 (0.43)
stayed same for other reasons	−1.23 (0.29)	−1.16 (0.31)
fell because of government	−2.39 (0.09)	−2.35 (0.10)
fell for other reasons	−1.40 (0.25)	−1.33 (0.26)
Local area prosperity, LACP (comparator: improved because of government)		
improved for other reasons	−0.95 (0.39)	−0.84 (0.43)
stayed same because of government	−0.44 (0.64)	−0.37 (0.69)
stayed same for other reasons	−0.54 (0.58)	−0.46 (0.63)
declined because of government	−1.07 (0.34)	−1.02 (0.36)
declined for other reasons	−0.45 (0.64)	−0.43 (0.65)
Percentage unemployment UNEMPG (comparator: 3–6)		
6–9	−0.46 (0.63)	−0.26 (0.77)
9–12	−0.69 (0.50)	−0.98 (0.38)
12–15	−1.48 (0.23)	−1.03 (0.35)
$\geqslant 15$	−1.40 (0.25)	−1.24 (0.29)
Diagnostics		
−2 log-likelihood	1877.7	1881.2
goodness of fit	2343.8	2332.3
χ^2 statistic	548.0	544.6
Percentage correct		
all	80.0	80.0
Conservative vote	37.4	36.4
Wald coefficients		
RSOL	48.0	48.7
GSOL	150.4	144.2
LACP	32.2	28.3
UNEMPG	62.4	61.4

Note: for a description of models 5–9, see section 5 in text.

example, in a constituency where the unemployment rate is 5% and where 29% of the electorate voted Conservative there may be a segment of some 2500 residents with an unemployment rate of 10% where support for the Conservatives was only 18%. If this were so, then people would be responding to a hierarchy of local contexts.

To test whether this was so in 1997 the logistic regression models reported in table 12 include two rather than one UNEMPG variable: both constituency and *n*1000 in the first (contrasting the largest and the smallest areas) and *n*10 000 and *n*2500 in the second: each model was run twice, first with only the UNEMPG variables included (models 10 and 12) and then with the three economic evaluation variables too (models 11 and 13). Models 10 and 12 are much less successful, as shown by the diagnostics, than are models 11 and 13.

Model 10 includes the constituency and *n*1000 UNEMPG variables only. Both are statistically significant, and both are associated with substantial variations in

7	8	9
−0.97 (0.38)	−0.98 (0.38)	−0.99 (0.37)
−0.65 (0.52)	−0.65 (0.52)	−0.66 (0.52)
−0.68 (0.50)	−0.67 (0.51)	−0.68 (0.51)
−1.80 (0.16)	−1.79 (0.17)	−1.78 (0.17)
−0.80 (0.45)	−0.80 (0.45)	−0.76 (0.47)
−0.81 (0.44)	−0.84 (0.43)	−0.82 (0.44)
−0.84 (0.43)	−0.83 (0.43)	−0.81 (0.44)
−1.18 (0.31)	−1.18 (0.31)	−1.17 (0.31)
−2.36 (0.09)	−2.39 (0.09)	−2.37 (0.09)
−1.33 (0.26)	−1.31 (0.27)	−1.30 (0.27)
−0.90 (0.41)	−0.85 (0.43)	−0.86 (0.42)
−0.36 (0.70)	−0.38 (0.68)	−0.41 (0.66)
−0.47 (0.62)	−0.45 (0.64)	−0.48 (0.62)
−1.08 (0.34)	−1.07 (0.34)	−1.10 (0.33)
−0.49 (0.61)	−0.46 (0.63)	−0.48 (0.62)
−0.45 (0.63)	−0.61 (0.55)	−0.36 (0.70)
−0.98 (0.38)	−0.88 (0.42)	−0.62 (0.54)
−1.53 (0.22)	−1.10 (0.33)	−0.79 (0.45)
−1.20 (0.30)	−1.39 (0.25)	−1.22 (0.30)
1871.5	1875.7	1893.1
2282.6	2353.7	2343.5
554.2	550.1	532.7
80.2	80.0	79.8
38.1	36.8	36.6
45.1	45.2	45.1
145.3	148.6	147.7
32.2	29.9	31.3
69.9	67.0	49.2

Conservative voting. Where unemployment was greater than or equal to 15% in the constituency, for example, the likelihood of voting Conservative was 0.39 of what it was where the rate was less than 6%; similarly, in *n*1000 areas with 15% or more unemployment it was 0.40 of its likelihood in similar-sized areas with unemployment of 3% – 6%. Jointly, somebody living in a constituency with unemployment of 15% or more *and* an *n*1000 bespoke neighbourhood with the same level of unemployment was only 0.15 as likely to vote Conservative as somebody living in both a constituency and an *n*1000 area with unemployment below 6%. When the three economic evaluation sets of variables are added (model 11) the impact of constituency-scale variations in unemployment is reduced somewhat, but the coefficients for the *n*1000 scale are virtually unaltered with the Wald coefficients indicating that variations at the smaller scale are substantially more influential than those among constituencies.

Table 12. Results of nested logistic regressions for models 10 – 13: regression coefficients (the exponents are given in brackets).

Variable	Model			
	10	11	12	13
Respondent's standard of living, RSOL (comparator: increased because of government)				
increased for other reasons		−1.01 (0.36)		−1.01 (0.36)
stayed same because of government		−0.70 (0.50)		−0.69 (0.50)
stayed same for other reasons		−0.69 (0.50)		−0.68 (0.50)
fell because of government		−1.83 (0.16)		−1.83 (0.16)
fell for other reasons		−0.81 (0.45)		−0.84 (0.43)
General standard of living, GSOL (comparator: increased because of government)				
increased for other reasons		−0.84 (0.43)		−0.81 (0.45)
stayed same because of government		−0.82 (0.44)		−0.84 (0.43)
stayed same for other reasons		−1.20 (0.30)		−1.17 (0.31)
fell because of government		−2.38 (0.09)		−2.37 (0.09)
fell for other reasons		−1.35 (0.26)		−1.31 (0.27)
Local area prosperity, LACP (comparator: improved because of government)				
increased for other reasons		−0.94 (0.39)		−0.86 (0.42)
stayed same because of government		−0.44 (0.65)		−0.38 (0.69)
stayed same for other reasons		−0.55 (0.58)		−0.45 (0.64)
declined because of government		−1.07 (0.34)		−1.03 (0.36)
declined for other reasons		−0.48 (0.62)		−0.44 (0.64)
Percentage unemployment (comparator 3 – 6)				
constituency scale				
6 – 9	−0.37 (0.69)	ns	na	na
9 – 12	−0.56 (0.57)	−0.35 (0.71)	na	na
12 – 15	−0.62 (0.54)	−0.45 (0.64)	na	na
⩾15	−0.95 (0.39)	−0.65 (0.52)	na	na
*n*10 000 neighbourhood scale				
6 – 9	na	na	ns	ns
9 – 12	na	na	−0.57 (0.57)	−0.51 (0.60)
12 – 15	na	na	−0.43 (0.65)	ns
⩾15	na	na	−0.54 (0.58)	ns
*n*2500 neighbourhood scale				
6 – 9	na	na	−0.52 (0.59)	−0.51 (0.60)
9 – 12	na	na	−0.69 (0.50)	−0.56 (0.57)
12 – 15	na	na	−0.77 (0.46)	−0.67 (0.51)
⩾15	na	na	−1.08 (0.34)	−0.98 (0.37)
*n*1000 neighbourhood scale				
6 – 9	−0.28 (0.75)	−0.33 (0.72)	na	na
9 – 12	−0.41 (0.67)	−0.47 (0.64)	na	na
12 – 15	−0.98 (0.38)	−1.12 (0.33)	na	na
⩾15	−0.93 (0.40)	−1.00 (0.37)	na	na
Diagnostics				
−2 log-likelihood	2302.2	1867.8	2295.3	1868.0
goodness of fit	2206.4	2337.2	2206.9	2334.4
χ^2 statistic	123.5	557.9	130.7	557.8
Percentage correct				
all	76.1	80.1	76.1	80.1
Conservative vote	2.7	38.1	3.0	37.0

Table 12 (continued).

Variable	Model			
	10	11	12	13
Wald coefficients				
RSOL		46.3		47.2
GSOL		146.5		144.5
LACP		31.8		29.0
UNEMPG				
first scale[a]	27.0	9.8	13.0	7.6
second scale[b]	24.5	24.2	19.2	13.1

na, not applicable; ns, not significant.
[a] Constituency and *n*1000 bespoke neighbourhoods compared.
[b] Bespoke neighbourhoods of *n*10 000 and *n*2500 compared.
Note: for a description of models 10–13, see section 5.1 in text.

Models 12 and 13 provide stronger evidence that variations in the local context were much more influential at the smaller scale—although in this case the two scales (*n*10 000 and *n*2500) are closer than in the previous two models (constituency level and *n*1000). In model 12, the differences at the *n*2500 scale are substantial and significant at all levels, whereas those at the *n*10 000 scale are less substantial and the difference between the 3%–6% and 6%–9% unemployment levels is statistically insignificant. With incorporation of the economic evaluation variables the impact at the *n*10 000 scale is virtually eliminated with only one of the four coefficients statistically significant.

When one set of local contexts at a small scale is nested within another at a larger scale, therefore, the general pattern is that variations in the former are both more substantial and significant. People's immediate context is apparently a crucial influence on their voting decision, irrespective of their evaluations of the economic impact of government policies.

5.2 Reinforcement and interaction

The models fitted in the previous sections are all additive, treating each of the sets of independent variables as separate influences on the decision whether to vote Conservative. There may be interactions among the variables which either reinforce or counter each other, however. For example, table 12 shows that respondents who thought that their personal standard of living had fallen because of government policy were less likely to vote Conservative than were the comparator group, as were those who thought that the general standard of living had fallen because of those policies. These independent effects were additive in those models. There may have been an additional interactive effect, however, with those who thought that both general and personal standards had fallen because of government policies being even less likely to vote Conservative than those who thought that one but not the other event had occurred. Similarly, those who thought that both general and personal living standards had fallen because of government policies might have been even less likely to vote Conservative than those who thought that one of those events had occurred but not the other. [On interactive effects, see Russell (1997).]

To test whether these *reinforcement interactive effects* occurred we reclassified the respondents into various categories, combining their evaluations of the three economic changes (for example, including those who thought that both their personal and the general standard of living had improved because of government policies). These interaction effects were entered into equations with the separate evaluations, and in all

cases that were tried all were statistically insignificant. There is no evidence of reinforcement effects, that the more aspects of economic prosperity which people gave government policies credit for, the more likely they were to vote for the incumbents to be returned to office. Similarly, there was no evidence that the more items on which people identified deteriorating standards for which they blamed government policies, the less likely they were to vote Conservative, even though there were substantial numbers who did record such negative evaluations.[8]

Of particular interest for this paper are altruistic voters, those whose self-interest suggests that they should vote for the government because their own living standards have increased but who vote against it because of the perceived impacts of its policies on the economic well-being of others. The additive models have suggested that this was the case in 1997, but again there may have been interaction effects which have not so

Table 13. Results of logistic regressions of altruistic voter interactions for models 14 and 15: regression coefficients (exponents are given in brackets).

Economic evaluation[a]	Model 14	Sample size	Model 15	Sample size
Standard specified increased because of government				
RSOL	0.88 (2.41)	192	0.89 (2.43)	192
GSOL	0.89 (2.43)	486	0.87 (2.39)	486
LACP	0.55 (1.73)	249	0.54 (1.72)	249
Standard specified decreased because of government				
RSOL	−1.04 (0.35)	443	−1.05 (0.35)	443
GSOL	−1.25 (0.29)	764	−1.25 (0.29)	764
LACP	−0.52 (0.59)	519	−0.51 (0.60)	519
RSOL increased but standard(s) specified decreased because of government				
GSOL	ns	114	na	na
LACP	ns	87	na	na
GSOL and LACP	ns	32	na	na
RSOL increased but standard(s) specified decreased				
GSOL	na	na	−0.84 (0.43)	132
LACP	na	na	ns	121
GSOL and LACP	na	na	ns	39
Percentage unemployment UNEMPG (n = 1 000 scale: comparator 3–6)				
6–9	−0.37 (0.69)	562	−0.35 (0.71	562
9–12	−0.62 (0.54)	379	−0.58 (0.56)	379
12–15	−0.90 (0.41)	216	−0.76 (0.47)	216
⩾15	−1.35 (0.26)	453	−1.19 (0.30)	453
Diagnostics				
−2 log-likelihood	1909.9		1906.2	
goodness of fit	2233.5		2222.9	
χ^2 statistic	524.2		528.0	
Percentage correct				
all	79.8		79.7	
Conservative vote	34.6		34.4	

[a] Comparator: all other.
na, not applicable; ns, not significant.
Note: for a description of models 14 and 15, see section 5.2 in text; RSOL, respondent's standard of living; GSOL, general standard of living, LACP, local area prosperity, UNEMPG, percentage unemployment.

[8] For example, 329 said that both their own and the general standard of living had deteriorated because of government policies, 193 said that their own standard of living and their local area's prosperity had declined for those reasons, and 309 said that the general standard of living and their area's prosperity had both declined because of government polices; 153 identified decline in all three because of government policies.

far been uncovered. For example, those who thought that their personal living standards had increased because of government policies but that general living standards had declined might be even less likely to vote Conservative than those who identified a fall in local area prosperity, irrespective of their own situation.

To test for these *altruistic voter interactions* we have created further variables. Because of the small number of observations, it was not possible to contrast those who thought that their personal situation had improved because of government policies to those who thought that other situations had deteriorated, so we have been able to look only at those whose personal situations had improved for whatever reasons. With regard to deterioration in the national and local situations, we created two sets of variables, one (for model 14) looking only at those who thought that the deterioration was the consequence of government policies, and the other (for model 15) that the deterioration had occurred for any reason. The first six variables represent the separate effects, and unemployment levels at the *n*1000 scale are also included.

The results provide very little support for the hypothesis (table 13) with none of the interaction effects significant in model 14 and only one significant in model 15. In that one exception, respondents who personal standards of living had improved but who thought that the general standard had fallen were even less likely to vote Conservative. This is very weak evidence for altruistic voter interactions, however, and, as with the reinforcement interaction effects discussed above, the general conclusion must be that models 1 – 13 cannot be improved through inclusion of interaction effects.

6 Conclusions

Geography has been very largely excluded from the many studies of electoral behaviour—in North America as well as in the United Kingdom—based on what Harrop and Miller (1988) call 'responsive voter' models, whereby the electorate rewards the party in government for delivering economic prosperity by voting for its return to office but punishes it by voting against it if it is seen to have failed in its economic policies.[9] We have argued for geography's incorporation to those models in two ways: through voter evaluations of changes in economic prosperity in their home areas in addition to similar changes at the national level (the usual sociotropic variable) and through adding data on voters' local economic contexts. By using custom-produced bespoke neighbourhoods to represent voters' milieux we have added local contextual variables to models of voting behaviour in novel, and highly profitable, ways.

The results of these analyses have shown that voters in England and Wales did respond to local contexts at the 1997 General Election, as well as to their own situations and those of the United Kingdom as a whole. Among them, a vote for the Conservative Party was most likely if they believed that government policy had contributed to (a) their own increased personal and household standards of living, (b) increased national standards of living, and (c) increased relative prosperity in their home areas *and* if they lived in areas of low unemployment. The lowest levels of support for the incumbent government party came from those who believed that government policy had delivered lower standards of living for the country, their home area, and themselves, and who lived in areas of high unemployment. Local context clearly matters, and so does its scale: people responded to the level of unemployment within their own small neighbourhood (of just 1000 persons) as well as their Parliamentary constituency.

[9] Books and Prysby (1999) claim to have produced only the second major study of local context as an influence on economic voting in the USA.

These results enable us to locate the altruistic voter—the person who votes against her or his self-interest (at least in the short term). People benefiting from higher living standards produced, in their own estimation, by government policy should vote for the government to be returned to office, according to accepted economic voting theory. But they are much less likely to do so if they are less optimistic about national and local conditions *and* if they live in relatively depressed areas. They vote altruistically instead, against the government which has produced benefits for them but not for their neighbours. As with most conclusions drawn from studies of local contexts using aggregate data, these findings are to some extent circumstantial only. But the evidence sustaining them is strong, and certainly provides telling support for continued arguments that in the study of voting behaviour, as in so much else in contemporary life, context matters.

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