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Extending the Rational Voter Theory of Tactical Voting

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Whilst tactical (or strategic) voting is the result of voters responding to the strategic situation they face, rational voter theory may not be a full description of what happens in practice. This paper tests a number of additional hypotheses using survey data on voters in England from 1987 to 1997. Effects of political interest, education, strength of party identification and being against the incumbent party are identified, along with changes over time in the propensity to vote tactically. However, local campaign spending and specifically anti-Conservative sentiment did not seem to be related to the level of tactical voting. Also the extensions to the rational voter theory are generally quite weak. The rational voter model may not be sufficient to account for the pattern of tactical voting we observe, but it is by far the most important set of explanatory factors.

It is well known that electoral laws not only affect the composition of legislatures given the votes cast, but also structure the vote choice itself. Electors must translate their feelings for the parties and candidates into a voting strategy. In most cases this is straightforward, but when voters decide it is optimal to abandon their first preference party and vote for another it is said that they voted tactically (or strategically). Various theoretical works have attempted to describe the micro-logic behind tactical voting (e.g. Cain 1978, Cox 1997, Myatt 2000). Although the approach of each is very different the components are essentially the same. Each assumes that voters are instrumentally rational and respond to the strategic situation in their constituency. These rational voter models are have met with varying degrees of success in describing the pattern of tactical voting in England (Fisher 2000). But it would be surprising that any of them can be sufficient when they are based on such a parsimonious framework.

There are a number of obvious possible points of departure. First, rational voter models ignore parties as possible relevant actors when tactical voting could well be influenced by constituency level campaigns. Secondly, whilst there are incentives for some electors to vote tactically, it is not clear that voters respond to these incentives in a similar manner. More specifically, the level of sophistication and knowledge required may be so great that tactical voting is the preserve of an elite. Thirdly, since the level of tactical voting has changed over time, it is important to ask whether this can be explained from within the rational voter model. Fourthly, in Britain tactical voting is often considered to be about, 'getting the Tories out'. As a result tactical voting may be more prominent among those who hate the Conservatives than it is for others facing the same strategic situation. Finally, tactical voting campaigns have been about defeating the Conservatives in seats they won previously. It may well be much easier to mobilise tactical voting against the incumbent party than it is to protect the incumbent party. All these hypotheses are tested in an effort to address the central question of whether the rational voter models of tactical voting need to be extended to account for the pattern of tactical voting we observe in reality.

Rational voter models

The rational voter approach is highly suited to the study of tactical voting. In fact, it is the only framework which predicts tactical voting and through which it can really be understood. Rational choice models assume voters to be utility maximisers, or short term instrumentally rational. Clearly no one fulfils this abstract conception of a voter perfectly, but tactical voters in real life can be identified by having instrumental reasons for their vote choice. Also, it is convention that tactical voters are those who vote for a party that is not their first preference. So a tactical voter can be defined as someone who votes for a party they believe is more likely to win than their preferred party, in order to vote effectively.

How much tactical voting there is and when to expect it is the subject of substantial debate. Fisher (2000) shows that the Myatt (2000) theory of tactical voting is the only rational voter theory that fits the pattern of tactical voting for England from 1987 to 1997. In the Myatt model the level of tactical voting depends on a number of factors, for voters who prefer the party they believe is most likely to come third of three parties in their constituency. Firstly, tactical voting should decrease with the relative strength of preference for the favourite party over the second preference party. Secondly, tactical voting should increase with the relative strength of preference for the second favourite party over the least preferred party. Thirdly, tactical voting should increase with a specially derived strategic incentive variable, which depends on the shares of the votes for the different parties in the constituency. The first two of the Myatt propositions are intuitive and occur elsewhere in the literature (see especially Heath *et al.* 1991 and Evans 1994). The tactical incentive variable is highly positively correlated with the distance from contention, which is the share of the vote for the second placed party in the constituency minus that for the favourite party. After controlling for this association, the tactical incentives in the Myatt model are weakly positively correlated with the margin of victory, which is the gap in support between the winner and the runner-up. The standard intuition would tell us that tactical voting should increase with the closeness of the race, so the predictions of the Myatt model are surprising.

The intuition behind the Myatt model starts with the observation that the only circumstance in which a voter can influence the result of an election is when there is a tie for the lead, i.e. when the voter is pivotal. People need to know who they will be pivotal between if they are to be pivotal. Therefore it is the conditional probability that different pairs of parties are tied for the lead, given that there is a tie, that becomes important. Now when the margin of victory in a constituency widens the absolute probability of a tie for the lead may decrease, but the conditional probability that, if there is a tie, it is between the top two placed parties can actually increase. So, supporters of the third placed party have more incentive to vote tactically, because the probability that any tie for the lead involves their party has gone down.

The aim here is to investigate whether the effects predicted by rational voter theory are sufficient to account for the pattern of tactical voting observed in practice. In particular, whether there are effects of local campaigning, political interest, education, strength of party identification, time, anti-Conservative feelings or anti-incumbent feelings, after controlling for the factors within the Myatt model. Although the model is not the only rational voter model, it does have a better fit to the data used here than the standard intuition. However, the results are essentially the same if variables from the standard intuition are used instead.[1]

[1] Note that the Cox(1997) model would not be helpful for this project because it has no comparative statics for the level of tactical voting.

Data and methodology

The British Election Studies (BES) for 1987, 1992 and 1997 provide high quality post-election survey data with sufficient questions to study tactical voting in depth (Heath *et al.* 1991, 1994, Evans and Norris 1999). Scotland and Wales were excluded because both have very strong nationalist parties and therefore genuine four party competition. In England the same three parties stood at all three elections and took first, second and third places in all but a couple of cases.[2] Also the theories we are testing assume that people do vote, so non-voters were also excluded.

Tactical voting is measured using responses to the following BES question.

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A.    Which one of the reasons on this card comes closest to the main
reason you voted for the party you chose?

1. I always vote that way
2. I thought it was the best party
3. I really preferred another party but it had no chance of winning in this
   constituency
4. Other (write in)
5. None of these/Don't know
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Tactical voters identified by response option 3 in question A were asked a follow up question.

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B     Which was the party you really preferred?
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Some respondents who gave tactical reasons for their vote in answer 4 were also coded as tactical so long as this was consistent with their declared voting behaviour and other questions relating to their order of preference for the parties. By definition tactical voters do not vote for their preferred party, so if there was any indication that they did so then the respondent was not coded as tactical. This was done using the 'strength-of-feeling scores' (or 'approval ratings') for the parties. The strength-of-feeling score for a party is the response coding (1 to 5) from the following question about the party.

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C.    Please choose a phrase from this card to say how you feel about the
(Conservative Party/Labour Party/Liberal Democrats/…)?

1.    Strongly in favour
2.    In favour
3.    Neither in favour nor against
4.    Against
5.    Strongly against
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When the respondent is a tactical voter the preferred party is provided by the response to question B above, or is imputed from the strength-of-feeling scores. For non-tactical voters the party voted for is the first preference party, unless there is a clear indication otherwise on the strength-of-feeling scores. The second preference party is defined, for all respondents, as the party with the best strength-of-feeling score that is not the first preference party. The third preference party is similarly defined. Sometimes there is a tie for second preference on the strength-of-feeling scores. This is either decided according to who the respondent said they

[2] These cases were excluded from the analysis.

would vote for if they had a second vote, or, in a small minority of cases, the identity of the second choice is chosen so as to prejudice the test against the Myatt theory, but results under other coding schemes are similar (Fisher 2000).

The level of tactical voting in England according to this measure was 5.0 per cent in 1987, 7.7 per cent in 1992 and 8.5 per cent in 1997. However, tactical voting as a proportion of the total population of voters is a somewhat artificial measure. It is more illuminating to look at tactical voting as a proportion of those voters who actually faced a tactical decision. Measuring tactical voting as a proportion of a population at risk of tactical voting is helpful because it adds context. Blais and Nadeau (1996) also suggested the idea of a risk population to aid identification of tactical voting. But, the risk population is most essential when analysing the determinants of tactical voting. Failure to limit analysis to the risk population can drastically change the meaning of any effects found in a logistic regression. For example, a negative association between the winning party share and the probability of tactical voting is expected for the population of voters as a whole. This is because the winning party share will be negatively correlated with the level of support for the third placed party and hence with the size of the population facing a strategic decision. This problem disappears when the analysis is restricted to the population at risk of tactical voting. Identifying members of the risk population within the BES is not trivial however. The risk population is pragmatically defined as all those voters whose preferred party came third or lower in the constituency at the election under investigation, at the previous election or in a poll estimate of the election result.

Although the Liberals came third nationally at each election, they came first or second in roughly half of the constituencies. The risk population is composed of 4.5 per cent Conservative, 49.1 per cent Liberal, 38.1 per cent Labour and 8.3 per cent minor party supporters. So all parties are represented, not just third and minor parties nationally. Since the risk population includes only a quarter of all voters, the BES cross-section surveys for 1987, 1992 and 1997 are pooled for the analysis to avoid the problems associated with small numbers of cases. Since the cross-section surveys vary considerably in size, the pooled data set is weighted so that each election is equally represented. However, the wider sample of voters for each election remain weighted to the share of the vote. Analyses on an election-by-election basis produce similar coefficients but the p-values of the significance tests vary.

Local Campaigning

One obvious gap in the rational voter theory is the omission of parties. Mention of the strategic situation is sometimes made in constituency campaign literature (Butler and Kavanagh 1992, pp. 235-6). In Oxford West and Abingdon at the 1997 election, the Liberal Democrat and Labour candidates sent round conflicting propaganda, each claiming that they were best placed to defeat the Conservative candidate. Also in 1997, the Liberal Democrat candidate in Bristol West took the opportunity to describe himself as 'Liberal Democrat Runner-Up in 1992' on the ballot paper (Home Office 1999).[3] Steven Twigg, who famously defeated Michael Portillo in the 1997 election, partly attributed his success to the efforts made to inform voters of the tactical situation in his constituency. Even if constituency campaigns made no mention of the strategic situation, they may still have influenced tactical voting. A

[3] Whilst the Liberal Democrats won Oxford West and Abingdon in 1997 having come second in 1992, Labour won Bristol West in 1997 despite being third in 1992. This latter result is commonly seen as an example of the success of the *Observer* constituency poll pointing to the probable success of Labour not the Liberal Democrats.

strong campaign effort is a reasonable signal that the party is a strong contender in the constituency. A voter observing a weak campaign effort may conclude that the party has little chance of winning that seat since they seem not to be bothered trying.

Constituency campaigning has been found to be an important influence on vote choice in several studies (e.g. Denver and Hands (1997) and Pattie *et al*. (1995)). These authors show that the intensity of campaigning varies between both constituencies and parties. Fieldhouse *et al*. (1996) show that in 1992 campaign spending by parties at the constituency level was very sensitive to their chances of success. Tables 1a to c below show constituency spending by distance from contention for the three main parties at each election.[4] Constituency spending is expressed as a percentage of the legal maximum because the legal maximum varies to account for the size and nature (borough or county) of the constituency (Home Office 1988, 1993 and 1999). This also improves comparability over time. The distance from contention is the difference between the share of the vote for the named party and the party coming second, and is measured on the results of the previous election. If this number is positive the party came third or lower. If the distance from contention is negative the party won the constituency and zero implies that party was second. Previous election results are used to calculate distance from contention because parties appear not to update their expectations substantially beyond a simple attacking or defending strategy: witness the Labour target seats initiative (Curtice and Steed 1997, pp. 312-3, Denver *et al.* 1998).

Table 1a Constituency spending in 1987 by distance from contention in 1983

	Con	*N*	*Lab*	*N*	*Alliance*	*N*
More than 20	45.6	(1)	43.8	(71)	45.4	(23)
20 to 10	78.7	(2)	50.0	(99)	44.9	(99)
10 to 0	47.8	(19)	63.6	(87)	50.8	(121)
Zero	63.1	(139)	91.0	(117)	72.4	(266)
0 to –10	92.3	(60)	88.2	(53)	95.4	(8)
-10 to- 20	91.2	(78)	79.9	(47)	94.7	(5)
-20 or less	87.2	(223)	74.8	(48)		
Total	80.4	(522)	69.5	(522)	61.5	(522)

Source: Home Office (1988).

[4] As elsewhere, only English constituencies are included. Between 1987 and 1992 the Milton Keynes constituency was split into Milton Keynes North East and Milton Keynes South West (which included part of the 1987 Buckingham constituency). Milton Keynes has been excluded from both the 1987 and 1992 tables whilst Buckingham has been excluded from the 1992 table only. In 1992 the Liberal Democrat expenses in Lancashire West were not declared to the returning officer. This explains why there is one fewer constituency in the Liberal Democrat column of Table 1b. In 1997 Tatton and West Bromwich West were special cases in which only one of the three major parties stood. These constituencies are also excluded from the analysis.

Table 1b Constituency spending in 1992 by distance from contention in 1987

	Con	*N*	*Lab*	*N*	*Lib Dem*	*N*
More than 20	70.6	(5)	43.1	(65)	22.6	(84)
20 to 10	71.0	(8)	49.4	(83)	26.3	(98)
10 to 0	48.0	(9)	59.6	(82)	24.6	(87)
Zero	63.0	(143)	89.0	(137)	64.9	(242)
0 to –10	94.5	(65)	89.7	(43)	97.3	(5)
-10 to- 20	91.4	(90)	80.9	(43)	56.4	(2)
-20 or less	89.4	(202)	73.9	(69)	95.9	(1)
Total	82.0	(522)	69.8	(522)	44.3	(519)

Source: Home Office (1993)

Table 1c Constituency spending in 1997 by distance from contention in 1992

	Con	*N*	*Lab*	*N*	*Lib Dem*	*N*
More than 20	61.5	(2)	48.6	(48)	19.0	(180)
20 to 10	39.1	(5)	51.5	(54)	21.0	(97)
10 to 0	49.2	(4)	63.3	(57)	34.1	(79)
Zero	55.1	(193)	82.9	(173)	66.8	(161)
0 to –10	90.8	(70)	86.0	(58)	96.6	(5)
-10 to- 20	90.4	(76)	79.4	(49)	90.8	(4)
-20 or less	87.6	(177)	72.2	(88)		
Total	75.7	(527)	72.7	(527)	37.6	(526)

Source: Home Office (1999).

The relationship between distance from contention and constituency spending is remarkably stable across the three elections. All three major parties spent considerably more when they started first or second than when they started third, but there are some differences evident in the spending patterns of different parties. The Liberals spent noticeably less than other parties given distance from contention, except in the few seats they held. The Conservatives spent most in constituencies where they started less than 10 percentage points ahead. With the knowledge that the Conservatives lost seats in all three elections, it seems as though the Conservatives' strategy was to defend the seats with narrow majorities. The Labour party, on the other hand, gained ground at each election and therefore spent comparatively more in seats where it started in second place. However, it would be wrong to conclude that the Conservatives and Liberals devoted considerably less energy to winning new seats than defending old ones. Spending in marginal seats where they started second was usually within 10 per cent of that in marginal seats where they started in first place. This is clear from Tables 2a to c, which show constituency spending by marginality measured at the previous election. Each column gives average spending as a percentage of the legal maximum in the constituency only in seats where the party started second.

Table 2a Constituency spending in 1987 for parties starting second, by marginality in 1983

	Con when started Second	*N*	*Lab when started Second*	*N*	*Alliance when started Second*	*N*
0 to 10	78.3	(55)	94.3	(48)	92.4	(18)
10 to 20	60.1	(47)	93.9	(39)	86.2	(44)
20 to 30	47.2	(27)	82.1	(28)	76.1	(126)
30 or more	36.0	(10)	78.6	(2)	54.0	(78)
Total	63.1	(139)	91.0	(117)	72.4	(266)

Table 2b Constituency spending in 1992 for parties starting second, by marginality in 1987

	Con when started Second	*N*	*Lab when started Second*	*N*	*Lib Dem when started Second*	*N*
0 to 10	82.5	(39)	95.2	(52)	77.1	(24)
10 to 20	64.3	(39)	93.4	(45)	82.9	(51)
20 to 30	54.4	(30)	76.5	(30)	66.3	(81)
30 or more	47.3	(35)	74.1	(10)	49.3	(86)
Total	63.0	(143)	89.0	(137)	64.9	(242)

Table 2c Constituency spending in 1997 for parties starting second, by marginality in 1992

	Con when started Second	*N*	*Lab when started Second*	*N*	*Lib Dem when started Second*	*N*
0 to 10	80.7	(60)	92.3	(58)	90.3	(15)
10 to 20	56.1	(49)	90.7	(40)	82.6	(40)
20 to 30	39.8	(36)	76.4	(44)	72.4	(43)
30 or more	33.7	(48)	64.6	(31)	47.4	(63)
Total	55.1	(193)	82.9	(173)	66.8	(161)

There are two ways in which differential spending by parties may influence the propensity to vote tactically. Higher spending by the voter's favourite party may reduce the chances of a tactical switch, while higher spending by the second favourite should increase the chances of tactical voting.[5] The voter's favourite party must campaign to keep the voter on side whilst the second favourite can campaign for the tactical vote. Table 3 shows how the proportion of the risk population voting tactically varied with the level of constituency spending by the respondent's favourite party and also by the respondent's second favourite party. When the favourite party spent less than 40 per cent of the legal maximum, tactical voting was at 23.6 per cent. When the favourite party spending was at 80 per cent or more, only 11.7 per cent voted tactically. A similar, but weaker, pattern in the opposite direction holds with campaign

[5] These are similar to processes described by Fieldhouse *et al.* (1996) but the specification is slightly different.

spending by the second favourite. The more the second favourite party spent, the more likely the respondent was to vote tactically.

Table 3 Percent tactical by constituency spending

	TV by Favourite Party Spending	*(N)*	*TV by Second Favourite Party Spending*	*(N)*
Not known (minor party)	25.9	(138)		
Up to 40	23.6	(633)	16.3	(149)
40 to 60	19.7	(456)	18.9	(262)
60 to 80	12.5	(234)	18.0	(333)
80% or more	11.7	(203)	21.3	(859)
Total	19.7	(1665)	19.7	(1665)

Notes: Base is the risk population pooled across 1987, 1992 and 1997. Data for minor parties has not been compiled electronically, so favourite party spending for minor party supporters is not know.

Table 4 presents the coefficients of a logistic regression[6] analysis of tactical voting including the Myatt model variables and the constituency spending variables, for major party supporters only because spending data for minor parties has not been compiled.[7] The relative strength of preference between two parties for a respondent is the difference between the strength-of-feeling scores. The relative strength of preference for the first over the second choice party is known as the first gap, and that for the second over the third choice party is known as the second gap. The two relative strength of preference variables and the Myatt incentive variable[8] capture the predictions of the Myatt (2000) model. All of the parameters confirm the pattern prescribed by Myatt and all three are statistically significant at the 5 per cent level. The important point for present purposes is to control for the effects predicted by rational choice theory as fully as possible, and so test for differences in strategic capacity more thoroughly. In this and later analyses, it is possible replace the Myatt incentive variable with other variables reflecting the standard intuition regarding tactical voting, but, this makes no difference to the conclusions regarding the effects of the variables of interest.

[6] See, for example, Agresti (1990) for a description of logistic regression.

[7] It is doubtful whether the effects of spending by minor parties would have be the same as for major parties since either they spend very much more (e.g. the Referendum party) or very much less than a major party with a comparable share of the vote.

[8] The Myatt incentive variable is evaluated using actual constituency election results and a precision level of 20. Results of the analysis are similar if previous or poll prediction election results and also if alternative precision levels are used.

Table 4 Logistic regression of tactical voting with Myatt model and constituency spending variables

Variable	*B*	*S.E.*	*Sig*
Relative strength of preference, first gap (base=0)			
First gap = 1	-1.01	0.15	0.00
First gap = 2	-1.99	0.29	0.00
First gap = 3 or more	-2.58	0.89	0.00
Relative strength of preference, second gap (base=0)			
Second gap =1	0.76	0.27	0.01
Second gap =2	1.26	0.26	0.00
Second gap = 3 or more	1.57	0.28	0.00
Myatt incentive variable	0.49	0.09	0.00
Spending by favourite	-0.48	0.35	0.17
Spending by second favourite	0.47	0.41	0.24
Constant	-2.38	0.38	0.00

Notes: *N*=1503, -2LL=1208.2 (Change in –2LL from Myatt model is 2.4 on 2 d.f).

Adding the spending variables to the Myatt model does not produce a significant improvement in the likelihood, nor are the coefficients of either statistically significant. Although the association between tactical voting and spending by the second favourite observed in Table 3 was not strong, to find no significant effect of the favourite party spending is surprising. In a large part this is explained by correlation between spending by the favourite party and the tactical incentive variable.

Capacity for Strategic Behaviour

Strength of party identification has been found to have an effect on tactical voting in previous studies. Niemi *et al*. (1992) found a strength of party identification effect for 1987, as did Evans (1994) for 1992. The former authors claimed that the 'strength of one's partisan attachment is likely to affect tactical voting because it is an indicator of the utility one derives from one's most preferred party win.' This is certainly true, and especially so when strength of party identification is the only measure of utility for the first preference party in the model. This is the case for both Niemi *et al*. (1992) and Evans (1994). But there is another sense in which strength of party identification should influence the chances of voting tactically.

Campbell *et al*. (1960) argue that those with strong party identification do not make strategic decisions in their vote choice. For these authors, party identification facilitates vote choice by reducing the cost of finding and evaluating information on the policy platforms of parties. Those who identify with a party can take cues from it. Thus political attitudes are mainly a function of partisan attachments rather than the other way round (Campbell *et al*. 1960, p.135). Party identification is not something that individuals can choose, but is developed in formative years and strengthened over time. The theory of party identification is so far from the rational choice model of voters evaluating the parties and choosing between them, that tactical voting should not (at least theoretically) be an option when party identification is strong.

Taking party identification theory seriously leads to a separate account of why strength of party identification should influence tactical voting. Within the rational choice model we know from Myatt (2000) and Heath *et al.* (1991) that the strength of preference for the favourite party over the second favourite should influence the chances of voting tactically. In addition to this effect, if party identification is strong the capacity for strategic behaviour should be reduced. The strength of preference for a party is theoretically distinct from party identification and the measures are also different. Strength of preference may be measured using strength-of-feeling scores while separate questions are asked about party identification. In practice the association between the two is very strong, but that between the absolute strength of party identification and the relative strength of preference for the first over the second choice is not so strong. It is this relationship that is relevant and so if there are two effects on tactical voting they should be separable. This places the Niemi *et al.* (1992), Franklin *et al*. (1994) and Evans (1994) models in a different light. It is not clear which effect the strength of party identification variable is measuring since there is no control in either model for the relative strength of preference for the favourite party.

There is, however, another story about party identification. Whilst in the traditional US model those with no party identification are seen as 'dealigned' or 'independent' and open to persuasion this is not necessarily the case in Britain. Lack of party identification in Britain is more commonly associated with disinterest and poor knowledge of politics. For example, Heath and Taylor (1999) show that those with no party identification are less likely to turnout to vote. If this is correct then the pattern of tactical voting with party identification may be concave. Those with no party identification or very strong party identification should be relatively unlikely to vote tactically compared with those who have weak party identification.

Table 5 Percent tactical by strength of party identification

	Percent Tactical	*N*
Very strong	10.0	(235)
Fairly strong	20.9	(686)
Not very strong	22.4	(606)
No party ID	17.1	(90)
Total	19.7	(1665)

Notes: Base is the risk population pooled across 1987, 1992 and 1997. The 37 'Don't know' and 'Not answered' respondents are not shown.

Table 5 shows the proportion voting tactically by strength of party identification. As expected, strong party identification is associated with lower levels of tactical voting. On average, over the three elections 10.0 per cent of those in the risk population with a very strong identification voted tactically, compared with 21.6 per cent for those with fairly, or not very strong party identification. Also, as predicted, those with no party identification were less likely to vote tactically than those with weak party identification. However, the difference here is quite small and the estimate of tactical voting for those with no party identification is based on a sample of only ninety. The main distinction is clearly between those with very strong party identification and the rest.

Education levels provide a proxy for political interest and knowledge. Niemi *et al*. (1992, p.235-6) argue that, 'Respondents with a high level of education, in part because of their generally greater interest in politics, are more likely to have been aware of the tactical voting

campaign in 1987 and to have understood the arguments behind it.' The authors use the age of leaving full time education as an indicator of educational attainment, which was later correctly criticised by Evans and Heath (1993, p.135, footnote 10). Both sets of authors argue, however, that although we might expect it there was no evidence in the 1987 BES data for an effect of educational attainment on the odds of voting tactically (Evans and Heath 1993, p.136; Franklin *et al*. 1994, p.554). Evans (1994) addresses the same question for the 1992 election and also finds no evidence of an educational attainment effect.

If the theory is correct, then those with higher educational qualifications should be more likely than those with lower or no qualifications to vote strategically. In accordance with previous authors, Table 6 below shows there is little evidence for this idea among members of the risk population pooled across the three elections. The only sizeable group that stands out are those with no qualifications; only 15.8 per cent of those without any educational qualifications voted tactically compared with the average of 19.7 per cent.

Table 6 Percent tactical by highest educational qualification

	Percent Tactical	*N*
Degree	18.9	(195)
Higher Ed. below degree	23.4	(242)
A level or equivalent	20.7	(205)
O level or equivalent	20.2	(287)
CSE or equivalent	24.1	(172)
Foreign or other	36.1	(16)
No qualification	15.8	(546)
Total	19.7	(1665)

Notes: CSEs and O levels are academic qualifications that are generally taken at age 15 or 16 and A levels tend to be done two years later. CSEs and O levels are alternatives, although the latter are more difficult. Base is the risk population pooled across 1987, 1992 and 1997.

One explanation for the apparent lack of a general education effect is the possibility that education isn't actually a very good indicator of interest or knowledge of politics. There is no consistent indicator of political knowledge in the BES for all three elections studied here, but there is a question on political interest.

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Would you say you cared a good deal which party won the recent general
election or that you didn't care very much which party won?
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Of the 22.3 per cent who didn't care very much who won, only 14.8 per cent voted tactically. This figure should be compared with an average of 19.7 per cent for tactical voting in the risk population across the three elections. This is hardly surprising since those who don't care who wins should not bother working out whether they should vote tactically. In fact it is surprising that they voted at all. Table 7 below gives parameter estimates for a logistic regression of tactical voting including the variables prescribed by the Myatt (2000) rational choice model plus indicators of strength of party identification, concern about the result and educational qualifications. Factors related to the capacity for strategic behaviour are represented in the model by the dummy variables, 'Very strong party identification', 'Didn't care very much who won' and 'No educational qualifications', respectively. These variables made a significant improvement to the model with the Myatt variables only. Interest in the

election was not significant at the 5 per cent level, but very close to being so and it would therefore be unreasonable to suggest that there was no impact of this variable. Dummy variables are used not only for reasons of parsimony, but also because further analysis reveals that they capture the main differences. Finer divisions do not produce statistically significant differences. Thus the key difference in tactical voting levels by educational attainment was between those with no qualifications and the rest. Furthermore, there is no evidence to support the idea that those with no party identification have particularly low levels of tactical voting because they are disengaged with politics.

Table 7 Logistic regression of tactical voting with Myatt model and strategic capacity variables

Variable	*B*	*S.E.*	*Sig*
Relative strength of preference, first gap (base=0)			
First gap = 1	-0.95	0.15	0.00
First gap = 2	-1.66	0.25	0.00
First gap = 3 or more	-2.05	0.67	0.00
Relative strength of preference, second gap (base=0)			
Second gap =1	0.42	0.22	0.06
Second gap =2	0.97	0.23	0.00
Second gap = 3 or more	1.33	0.26	0.00
Myatt incentive variable	0.57	0.05	0.00
Didn't care very much who won	-0.35	0.18	0.05
No Educational qualifications	-0.31	0.15	0.04
Very strong party identification	-0.62	0.25	0.01
Constant	-1.91	0.25	0.00

Notes: *N*=1603, -2LL=1315.7 (Change in –2LL from Myatt model is 16.1 on 3 d.f).

Tactical voting also does not increase steadily with strength of party identification, but differs between those with very strong party identification and the rest. Bartle (1999) has argued that the wording of the party identification question in the BES is such that only those with very strong party identification can really be considered to be party identifiers. In which case, it is unreasonable to expect a steady increase in tactical voting with the BES measure of strength of party identification. Another possibility is that the strength of party identification effect is the product of an age effect on tactical voting. As Crewe and Thomson (1999) show, party identification is stronger amongst older voters. If reluctance to vote tactically increases with age this may explain the strength of party identification effect. However, further analysis shows that there is no association between age and tactical voting.

The explanation of the education effect in terms of political sophistication is also questionable. There is no evidence for a trend by which greater educational attainment increases the chances of voting tactically. The only difference is between those with no qualifications and the rest. If political knowledge and the capacity for strategic thought are distinct then voters with less education may not be less capable of strategic thought, but rather have less information on which to make decisions, or *vice versa*. To understand the education effect more thoroughly requires the use of a direct measure of political knowledge. The 1992 and 1997 surveys included a political knowledge quiz. The number of correct answers on this quiz is positively associated with tactical voting, but the effect is not significant for 1992 after controlling for the variables in the Myatt model. However, in both 1992 and 1997, when political knowledge and education are included in the same model, those with no

qualifications are similar to everyone else. So the education effect seems to be mainly due to knowledge, and hence information, constraints. [9]

Another interesting feature of the model in Table 7 is that the effects of the variables in the Myatt model are still assumed to be equal for all voters. Strength of party identification, education and concern about the result only affect the underlying propensity to vote tactically in this model. However, it could be that those who vote simply according to their party identification, or otherwise have a limited capacity for strategic thought, should be less sensitive to the strategic situation they face. This is a special case of the general argument by Bartle (1997) that the effects of any factors influencing vote choice may vary with political awareness. Further investigation reveals that there is no significant interaction between either strength of party identification, interest or education and the relative strength of preference or Myatt incentive variables. So there is no evidence that effects of the rational voter factors on the chances of tactical voting vary with interest, education or party identification. This is surprising, but note that the Myatt theory is not intended to reflect conscious calculations. So it is reasonable to suppose that those with a lower strategic capacity should be less likely to vote tactically, but still equally sensitive to the tactical voting incentive structure. In particular, this is what would happen if the strategic capacity variables affected only the voters' awareness of the option of tactical voting.

Changes in tactical voting between elections

Within the risk population, however, tactical voting increased from 13.1 per cent in 1987 to 22.3 per cent in 1992, but stayed roughly level at 23.6 per cent in 1997. Whether one looks at the risk population or all English voters, the change from 1987 to 1992 is substantially greater than that from 1992 to 1997. Tables 8a to c are cross-tabulations of tactical voters by favourite party and vote choice, and the cells give percentages of the risk population at that election. [10] Tables 8a and b support the Evans (1994) argument that the increase in tactical voting from 1987 to 1992 was a general increase in the level of tactical voting and that the pattern of tactical switching between parties remained constant. This suggests there was an increase in the general willingness to vote strategically, perhaps caused by increased awareness. The change from Table 8b to 8c largely concurs with observations of Evans *et al.* (1998) who point out an increase in tactical voting between Labour and the Liberal Democrats, but a reduction in tactical votes between the Liberal Democrats and the Conservatives. This is thought to be due to the Labour move to the right bringing them closer to the Liberal Democrats. Indeed Liberal Democrat supporters in 1997 were more sympathetic to Labour than Liberal Democrat supporters in 1992 were to Labour, and *vice versa*.

[9] The 1992 quiz was used by Evans (1994) to study tactical voting and discussed more fully in Bartle (1997). Whilst the quiz does not contain questions relating to the strategic situation in the respondent's constituency it is thought that such knowledge will be correlated with general knowledge of politics. The quiz and also the 'attention to politics' item, could not be used in the main analysis because they were not included in the 1987 survey. Moreover, the quiz changed between 1992 and 1997 and this may explain why the political knowledge effect was significant in 1997 but not 1992.

[10] Similar tables based on all respondents in Great Britain are presented in Heath *et al*. (1991), Evans (1994) and Evans *et al*. (1998).

Table 8a Favourite party by vote for tactical voters in 1987

	Vote		
	Con	Lab	Lib Dem	Total
Favourite				
Con	-	0.0	0.7	0.7
Lab	0.5	-	5.4	5.9
Lib Dem	2.3	3.2	-	5.6
Other	0.2	0.5	0.2	0.9
Total	3.1	3.8	6.3	13.1

Note: Cells are percentages of the risk population.

Table 8b Favourite party by vote for tactical voters in 1992

	Vote		
	Con	Lab	Lib Dem	Total
Favourite				
Con	-	0.2	0.9	1.1
Lab	0.5	-	8.3	8.8
Lib Dem	4.7	5.4	-	10.1
Other	0.4	1.1	1.1	2.5
Total	5.6	6.7	10.3	22.5

Note: Cells are percentages of the risk population.

Table 8c Favourite party by vote for tactical voters in 1997

	Vote		
	Con	Lab	Lib Dem	Total
Favourite				
Con	-	0.0	0.0	0.0
Lab	0.2	-	9.2	9.4
Lib Dem	4.1	6.8	-	11.0
Other	1.3	1.4	0.5	3.2
Total	5.6	8.3	9.7	23.6

Note: Cells are percentages of the risk population.

Table 9 below shows the parameter estimates for a logistic regression with the rational voter model variables, strategic propensity indicators and election indicators. The coefficients of the 1992 and 1997 election dummies indicate that the chances of voting tactically were higher in these elections than in 1987 even after controlling for the other variables in the model. The coefficient for 1997 is greater than that for 1992, but the difference is not statistically significant.

Table 9 Logistic regression of tactical voting with rational voter model, strategic capacity and election variables

Variable	*B*	*S.E.*	*Sig*
Relative strength of preference, first gap (base=0)			
First gap = 1	-0.98	0.16	0.00
First gap = 2	-1.62	0.26	0.00
First gap = 3 or more	-2.04	0.70	0.00
Relative strength of preference, second gap (base=0)			
Second gap =1	0.49	0.23	0.03
Second gap =2	1.03	0.24	0.00
Second gap = 3 or more	1.39	0.27	0.00
Myatt incentive variable	0.56	0.05	0.00
Didn't care very much who won	-0.33	0.19	0.07
No Educational qualifications	-0.26	0.16	0.10
Very strong party identification	-0.59	0.26	0.02
1992	0.47	0.19	0.01
1997	0.63	0.18	0.00
Constant	-2.35	0.28	0.00

Notes: *N*=1603, -2LL=1303.3 (Change in –2LL from Myatt model is 28.5 on 5 d.f).

Further analysis shows that the change between 1992 and 1997 is indeed explained by the change in the strategic situation, as Evans *et al*. (1998) suggested. However, the following section will show that there have been counter-balancing changes in the pattern of tactical voting also in play. The change between 1987 and 1992 cannot be explained by any of these factors and is therefore a general increase in the propensity to vote tactically. This may itself be the result of factors not tested for here, such as the awareness of tactical voting. It is also important to note that change in the risk population may also influence the measured level of tactical voting. For instance the 1997 risk population is relatively large because of the massive changes in public opinion between 1992 and 1997. However, the results are remarkably insensitive to the specification of the risk population.

Anti-Conservative and anti-incumbent party tactical voting

It is already known in the academic literature that the Conservatives are the only net recipients of tactical votes (Heath *et al*. 1991, Evans 1994, Evans *et al*. 1998). This is also true if one considers only tactical votes made by members of the risk population, as can be verified from Tables 8a to c.[11] At the same time, however, campaigns to promote tactical voting have often concentrated on unseating Conservative MPs (Fishman and Shaw 1989). This seemingly paradoxical situation is explained mainly by the fact that the Conservatives have been in third place or lower on very few occasions. Does this mean that the 'anti-Tory' tactical voting campaigns have had no impact?

The potential anti-Conservative tactical voters targeted by such campaigns as GROTT (Get Rid Of The Tories) and TV87, were people who hated the Conservatives and lived in Conservative held constituencies. Roughly half of the risk population fit this description and 22.8 per cent of them voted tactically, compared with the average of 19.7 per cent. Whilst

[11] The one exception to this rule is that the Liberal Democrats marginally became net beneficiaries of tactical votes from members of the risk population in 1992.

this difference is quite small the impact of the tactical voting campaigns may not have been limited to their core target group. Their message promoted two distinct modes of behaviour; tactical voting against the Conservatives and unseating the incumbent party. It is possible to be an anti-Conservative tactical voter in a seat that was not previously won by the Conservatives. Similarly, it is possible to vote tactically with the aim of unseating an incumbent party without that incumbent party being the Conservatives. Separating these aspects of the tactical voting awareness campaigns raises more general questions. Was tactical voting more common among the supporters of certain parties or more targeted against certain parties? Did tactical voting help bring about change at the local level or did it reinforce the status quo?

The anti-Conservative nature of the tactical voting campaigns was sometimes thinly disguised by a superficially neutral and principled aim to promote proportionality in the House of Commons (Fishman and Shaw 1989, p.289). The latter argued that since the Conservatives were over represented, anti-Conservative tactical voting would help make Parliament more representative. TV87 also claimed that they would have no net effect on the share of the vote because they recommended equal numbers of seats where anti-Conservative tactical votes should go to Labour as to the Alliance. No matter how the campaigns were justified, they were clearly anti-Conservative. The question is whether anti-Conservative tactical voting is greater as a result. Of those in the risk population who placed the Conservatives last on the strength-of-feeling scores, 21.6 per cent voted tactically compared with the average of 16.3 per cent for the remainder. Those who disliked the Conservatives were certainly more likely to vote tactically than those who had a particular dislike for any other party.

The second part of the tactical voting awareness message was the idea of wanting to defeat the incumbent party, and this need not be specific to those voting against incumbent Conservatives. Members of the risk population whose second preference party was runner up at the last election may vote tactically to defeat the previous winner. Likewise, if the second preference party won the last election they may vote tactically to ensure a re-election. Since the tactical voting campaigns have promoted the idea that tactical voting is a tool for bringing about change, the question is whether being against the incumbent inspired more tactical voting than the need to reinforce the status quo.

Of those whose second favourite was the incumbent party only 15.9 per cent voted tactically, compared with 22.2 per cent for others within the risk population. Even after controlling for the rational voter model, strategic capacity and election indicator variables, this difference is still statistically significant, but not for 1997. Table 10 shows that coefficients of a logistic regression analysis with the same variables as in Table 9 with the addition of an 'anti-Conservative' indicator, an 'anti-incumbent party' indicator and an interaction term between the latter and the 1997 election indicator. The effect of having the Conservatives as the least preferred party, after controlling for other influences on tactical voting, is virtually non-existent. This would seem to suggest that the relevant difference between the anti-Conservatives and the others in the risk population was that the strategic incentives from the rational voter model they faced were different.

Table 10 Logistic regression of tactical voting with rational voter model, strategic capacity, election, anti-Conservative and anti-incumbent variables

Variable	*B*	*S.E.*	*Sig*
Relative strength of preference, first gap (base=0)			
First gap = 1	-1.03	0.16	0.00
First gap = 2	-1.70	0.26	0.00
First gap = 3 or more	-2.05	0.70	0.00
Relative strength of preference, second gap (base=0)			
Second gap =1	0.40	0.23	0.08
Second gap =2	0.90	0.24	0.00
Second gap = 3 or more	1.25	0.27	0.00
Myatt incentive variable	0.55	0.05	0.00
Didn't care very much who won	-0.29	0.19	0.12
No Educational qualifications	-0.26	0.16	0.10
Very strong party identification	-0.67	0.26	0.01
1992	0.50	0.19	0.01
1997	1.18	0.28	0.00
Anti-Conservative	0.12	0.18	0.50
Anti-incumbent party	0.68	0.22	0.00
Anti-incumbent party*1997	-0.90	0.31	0.00
Constant	-2.73	0.31	0.00

Notes: *N*=1603, -2LL=1286.4 (Change in –2LL from Myatt model is 45.4 on 8 d.f).

The effect of being against the incumbent party, whilst strong in 1987 and 1992, is very small and in the opposite direction in 1997. This is clear from comparing the last two terms in the model. With all the other variables in the model, the coefficients are roughly the same when the model is re-estimated for each election in turn, it is only the p-values that vary. So what happened to the anti-incumbent party effect in 1997? Tactical voting in the risk population among those who were for the incumbent party increased between 1992 and 1997 from 17.7 to 24.3 per cent, whilst it declined from 26.9 to 22.9 among those who had incentives to vote tactically against the incumbent party. It is the increase in tactical voting directed towards the incumbent party that presents the most striking departure from previous years, but some decline in the rate of anti-incumbent tactical voting is part of the explanation. Most of the new, pro-incumbent party tactical voting came in Conservative held seats, and within them from minor party and Liberal Democrat supporters. There was a sharp increase in tactical voting by Labour supporters for the Liberal Democrats in Liberal Democrat held seats, but the numbers involved were very slight. More significant, is a change in the behaviour of Liberal Democrat supporters with a second preference for the Conservatives. Although, there was a decline in the proportion of such people, those in Conservative seats were much more likely to vote tactically in 1997 when 41.3 per cent did so, than in 1992 when 18.5 voted tactically. This could well reflect an increase of disillusioned Conservatives who support the Liberal Democrats but still vote (tactically) for the Conservatives.

Another part of the story is the rise of the anti-European Referendum Party and UKIP, which have significantly increased the proportion of minor party supporters in the risk population. This lead to both an increase in pro-incumbent tactical voting in Conservative held seats and to a decline in anti-incumbent tactical voting in Labour seats. The former is more significant since 18.1 per cent of minor party supporters in Conservative seats voted tactically for the Conservatives in 1997 when there was no such tactical voting identified in the 1992 BES. In Labour seats, although there may have been more minor party supporters voting tactically

against the incumbent party, the level of tactical voting among minor party supporters in 1997 was lower than in 1992. This has lead to the appearance of less anti-incumbent tactical voting, even though it mainly reflects a change in the composition of the risk population. So it is perfectly possible that the decline of the anti-incumbent party effect is consistent with very little behavioural change among voters that did not change their preferences.

Magnitude of the Effects

Logistic regression coefficients are not easy to interpret in a substantively meaningful way. To understand the importance of the factors discussed above it is helpful to look at how they influence the predicted probability of voting tactically in the model. For this I have used the Clarify software package by Tomz *et al.* (1999). Clarify generates confidence intervals for the predicted outcome under different scenarios by simulating the probability distribution of the parameter estimates and, by extension, the expected outcome. The simulation involves random draws from a multivariate normal distribution with the mean vector and variance-covariance matrix for the model parameter estimates, and then computing expected values (King *et al.* 1999). Table 11 shows the predicted probabilities of voting tactically in the risk population for different combinations of the first and second relative strength of preference gaps. These are the differences in the strength-of-feeling scores for first and second preference, and the second and third preference parties respectively. The proportion of the risk population that is represented by each combination of the two relative strength-of-preference gaps is also given. The probabilities and their confidence intervals are estimates from the model in Table 9 and all the other variables in that model are assumed to take their mean values.

Table 11 Predicted probabilities of voting tactically for the average voter by relative strength of preference

	Second Gap	0	1	2	3 or 4
First Gap					
0	Probability	17.5	25.6	37.2	45.8
	95% CI	(25.1, 11.2)	(20.0, 32.1)	(30.1, 44.5)	(37.9, 54.2)
	% of Risk Pop.	3.2	6.4	10.0	7.2
1	Probability	7.4	11.4	18.3	24.2
	95% CI	(4.7, 11.0)	(9.0, 14.4)	(13.9, 23.4)	(18.3, 31.0)
	% of Risk Pop.	10.1	20.7	11.5	6.4
2	Probability	4.1	6.5	10.7	
	95% CI	(2.3, 6.7)	(4.0, 10.2)	(6.6, 15.9)	
	% of Risk Pop.	7.0	6.4	6.6	
3 or 4	Probability	3.3	5.3		
	95% CI	(0.8, 9.5)	(1.3, 14.4)		
	% of Risk Pop.	2.2	2.2		

Notes: Based on the model from Table 9. All other variables take their mean value.

The first strength of preference gap is generally more important than the second. Although this feature is visible in the logistic regression coefficients, the impact can be seen by noting

that from most points in the table the change associated with moving up or down a cell is greater than that from moving right or left respectively. The average voter in the risk population has a relative strength of preference of one for both the first and second gaps. Their chances of voting tactically were between 9.0 and 14.4 per cent, which is much lower than the average probability of voting tactically in the risk population of 19.7 per cent. The difference is partly due to the concentration of tactical voting amongst those who have a low first and high second relative strength of preference gap.

The effects of the strategic situation in the constituency are weaker, but roughly comparable the effects of the relative strength of preference variables. Table 12 presents expected levels of tactical voting for various percentiles of the Myatt tactical incentive variable from the model in Table 9, assuming other variables take their mean and the relative strength of preference gaps are both one. The predicted probabilities seem to increase much more sharply as you go down the table. This mainly reflects the fact that the model is on the logit scale rather than the shape of the distribution of the incentive, which is only slightly skewed to the left. The spread of predicted probabilities of tactical voting from Tables 11 and 12 are comparable. However the greatest value in Table 11 is 45.8 per cent, which is much greater than the 31.1 per for the 95th percentile of the strategic incentive variable. Whilst this comparison depends on the assumption that the other variables take their mean values, it seems safe to say that the effects of the preference distributions of individuals are more important than the constituency characteristics in determining the frequency of tactical voting.

Table 12 Predicted probabilities of voting tactically for various percentiles of the Myatt tactical incentive variable

Percentile	*Incentive*	*Probability*	*95% CI*
5	-0.64	4.4	(3.0, 6.2)
10	-0.09	6.0	(4.3, 8.1)
25	0.28	7.2	(5.4, 9.5)
50	1.04	10.6	(8.3, 13.5)
75	1.91	16.2	(12.8, 20.0)
90	2.82	24.2	(19.1, 29.7)
95	3.45	31.1	(24.4, 38.3)

Notes: Based on the model in Table 9. All other variables take their mean value, except the relative strength of preference gaps are both 1.

By comparison with the factors in the rational voter model, the additional variables considered here have relatively little impact on tactical voting. Table 13 considers two scenarios. The first has the relative strength of preference gaps both equal to one, and the second has the first equal to zero and the second equal to two. Under the first scenario the probability of the average person voting tactically is 10.6 per cent. This is predicted from the logistic regression model in Table 10 but with the anti-Conservative indicator excluded because it made no discernable difference. The table then considers the effect of each of the extensions to the rational voter model in turn. So for example, the probability of voting tactically for those that, 'didn't care very much who won' was only 2.5 per cent lower. The confidence interval on this effect also shows that we cannot be sure that there was a negative effect, although on average we do. The effect of having no educational qualifications is similarly weak. Even though the estimated effect of very strong party identification is about twice as large, the uncertainty remains substantial. Other things kept equal at their mean, the

probability of voting tactically was roughly 5.0, plus or minus 3.5, per cent lower for those who had a very strong party identification.

Table 13 Magnitude of effects on the probability of tactical voting under two scenarios

	First Gap = 1, Second = 1 and incentive at mean.		First Gap = 0, Second = 2 and incentive at 75th percentile	
	Probability	*95% CI*	*Probability*	*95% CI*
Average voter	10.6	(8.1, 13.6)	43.9	(36.7, 51.4)
	Change	*95% CI*	*Change*	*95% CI*
Didn't care very much who won	-2.5	(-5.7, 0.8)	-6.9	(-15.3, 2.0)
No Educational qualifications	-2.3	(-5.2, 0.6)	-6.1	(-13.5, 1.4)
Very strong party identification	-5.0	(-8.4, -1.4)	-15.0	(-25.3, -3.7)
1987-1992	2.1	(0.5, 4.2)	10.9	(2.8, 19.4)
1992-1997	0.7	(-1.2, 2.7)	3.1	(-4.5, 11.0)
Anti-Incumbent (87 and 92 only)	6.7	(3.3, 10.4)	17.9	(8.8, 26.7)

Notes: Based on the model in Table 10 minus the anti-Conservative indicator, which had no effect. For each row, all other variables, except the relative strength of preference gaps, are assumed to take their mean value.

The final three rows of Table 13 need to be interpreted with some care. Unlike in the logistic regression models above where the election indicators are tested relative to the baseline of 1987, here we consider the increase in the probability of voting tactically from one election to another, assuming other things remain constant. From 1987 to 1992 there was 2, plus or minus 1.5, per cent increase in the underlying willingness to vote tactically for the average member of the risk population. The change from 1992 to 1997 is more complex because there was an increase in the underlying propensity to vote tactically and simultaneously a collapse of the anti-incumbent effect. The net result is that for the average voter there was no real increase in the propensity for tactical voting, after controlling for the other factors in the model. Finally, in 1987 and 1992, those for whom a tactical vote would go against the incumbent party, were 6.7, plus or minus 3.5, percentage points more likely to vote tactically. This is the largest effect of the additional factors, but the impact still seems quite small compared with the differences that occur as a result of changes in the variables of the rational voter model.

The second scenario considered in Table 13 is one where the hypothetical voter is indifferent between their first and second preference, and has a strong preference for the second over the third choice party. Also the strategic incentive generated by the constituency distribution of support is the 75th percentile. In this scenario the base line rate of tactical voting is much higher, at 43.9 per cent, and naturally the effects are much larger. However, there is also greater estimation uncertainty. Nevertheless, it is clear that for some sections of the risk population the effects may still be important. It is also a sign of how difficult it is to put a really helpful number on the impact of a factor on tactical voting. The impact on the average voter would seem to be a useful benchmark. Then again, not only does the average voter does not exist, but the average effect is not the same as the effect on the average voter. It is the former that we are more interested in. Unfortunately, estimating the average effect over the whole population, controlling for the other factors in the model, is computationally expensive.

Furthermore, although the statistics presented may not always be ideal, they are still much more meaningful than logistic regression coefficients. Displaying predicted probabilities with their confidence intervals gives an additional insight into the factors influencing tactical voting and their relative importance beyond raw coefficients and t-statistics.

Conclusion

The rational voter model does not fully describe the pattern of tactical voting in England at the 1987, 1992 and 1997 elections. Tactical voting is not equally likely in similar strategic circumstances, but limited by the characteristics of the voter. Those with no educational qualifications, little concern about the election result or very strong party identification were less likely to vote tactically. Voters with no educational qualifications are less knowledgeable about politics and possibly lacked sufficient information to vote tactically. Those with strong party identification are more likely to vote instinctively for their preferred party without considering the strategic situation. Similarly, those with little interest in the election were perhaps unaware of a tactical vote option. Constituency level campaign spending was considered here, but it was not found to have any direct effect on the level of tactical voting after controlling for the fact that parties spend more where the strategic incentives are already high. Similarly, although the media concentrate on anti-Conservative tactical voting, those who disliked the Tories were no more likely than others in the same strategic situation to vote tactically.

There have also been changes over time. Between 1987 and 1992 there was an increase in the underlying propensity to vote tactically, but little change in the pattern of tactical voting. The change from 1992 to 1997 was much more complex. A large part of the increase in 1997 is explained by the shift to the right by the Labour party and the collapse of the Conservatives. However there was also a collapse of the 'anti-incumbent' effect whereby those with an incentive to vote tactically against the incumbent party were more likely to vote tactically. This was due to the rise of the anti-European parties whose supporters often voted strategically, and increased tactical voting by Liberal Democrats with Conservative sympathies in Conservative held seats. The demise of the anti-incumbent party effect seems to have been counter balanced by an increase in the underlying propensity to vote tactically. So there was no net change in the level of tactical voting in 1997 beyond that due to the repositioning of the parties.

To what extent should these departures from the rational voter model be considered a challenge to rational choice theory? Some of the effects could be considered to be within a broader conception of rational choice theory because they can be interpreted as influences on the level of information and awareness voters have. Education effects seem to be linked to the information which voters had rather than their capacity for strategic thought. Strength of party identification could be conceived to be a form of strength of party preference, which is part of the rational voter model. Also, changes over time and the anti-incumbent party effect may well the product of the nature and quantity of information on tactical voting. But, even if rational choice theory does not sit comfortably with these ideas, the variables from the rational voter model are still by far the most powerful predictors of tactical voting. The extensions to the rational voter model are quite weak and marginal by comparison. So the rational voter model remains the basis for our understanding of tactical voting.

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