Strategic Voting In British Elections

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Abstract

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In this paper we examine the extent to which voters engage in strategic behavior. Our contribution is accounting for the context in which voters have the opportunity to behave in a strategic fashion. We also demonstrate that previous measures of strategic voting significantly underestimated the willingness of voters to engage in strategic behavior *when presented with the opportunity to do so.* We use as cases for our study of strategic voting behavior two recent elections in Britain, the 1987 and 1997 general elections. Our analysis produces estimates of strategic voting in these elections that are substantially greater than reported in previous research.

Key words: Strategic voting; Tactical voting; British Elections

What are voters trying to accomplish when they cast a ballot? On one hand, voters may be trying to express their opinions about specific issues, the state of the economy, or their feelings about the candidates or parties. On the other hand, voters might be trying to influence the outcome of the election. Behavior generated by the first motivation can be characterized as expressive behavior.[1] Behavior generated by the second motivation can be characterized as purposive behavior. If a voter casts a ballot for a candidate who is not her first choice in an attempt to influence the outcome of the election, we say the voter is behaving strategically.

In two candidate elections there is no possibility for voters to exhibit strategic behavior. Once a citizen decides to vote in a two-candidate election, they have nothing to gain from making a determination of the likelihood of their vote being pivotal. Whether they are voting for the consumption benefit of participating in the democratic process or voting to maximize their expected utility by increasing the probability that their first choice wins the election are not considerations the voter needs to make. Nor can an observer infer what might be motivating voters since in a two-candidate contest they are observationally equivalent. The first type of vote would be cast for expressive reasons, the second type of vote would be cast for purposive reasons. But we cannot distinguish between them in a two-candidate election.

However, in multicandidate elections the motivation of the voter becomes much more important because different motivations lead to different behaviors. A voter motivated by expressive concerns would forego opportunities for strategic behavior — and simply cast a vote for his or her most preferred choice. A voter motivated by purposive concerns would consider the possibility that his or her vote would have a chance of affecting the outcome, and would thus be sensitive to the possibility of undesirably wasting his vote on a candidate with little chance to win. The theoretical literature about elections, though, has long focused primarily on the purposive motivations of voters. The possibility of expressive voting in the influential work by Riker and Ordeshook (1968) was subsumed in the 'D' term for civic duty; which was treated as little more than a nuisance parameter. Other early work on the "calculus of voting" showed that in a multiparty election a voter might be willing to vote for her second most preferred party if her most preferred party is unlikely to win and if there is a close contest between her second and third favored parties (McKelvey and Ordeshook 1972).

Others have also discussed similar types of strategic voter behavior in their theoretical models.[2]

Unfortunately, there have been few attempts in the empirical voting behavior literature to sort out whether voters are expressive or purposive. In the context of the decision whether to participate in a particular election, there has been a widespread debate about the motivations of voters.[3] With the rise of third–party and third–candidate elections in both the United Kingdom and the United States in recent decades, there have been some attempts to determine if voters cast ballots strategically in multiparty or multicandidate elections.[4] Unfortunately, these past empirical attempts to model such purposive behavior empirically have produced varying and inconsistent estimates of strategic voting.

In this paper we tackle this question directly. Our primary goal is to examine the extent to which voters engage in strategic behavior. In this regard we make an important contribution by accounting for the context in which voters have the opportunity to behave in a strategic fashion. We also demonstrate that previous measures of strategic voting significantly underestimated the willingness of voters to engage in strategic behavior *when presented with the opportunity to do so.* We use as cases for our study of strategic voting behavior two recent elections in Britain, the 1987 and 1997 general elections. The British case is an important one for a number of reasons. First, the British case is one which has figured prominently in many empirical analyses of strategic voter behavior. Thus confining our empirical analyses to the British case lets us compare our results directly with previous research. Second, because it uses single-member districts the British electoral system produces very specific incentives for voters to behave strategically; in particular, the British system gives voters strong incentives to avoid wasting their vote if it is highly likely that their preferred party will lose the election in their constituency. The structure of the British electoral system, then, gives a clean test of this one form of strategic behavior. Third, the British case is one where we have comparable survey data over two elections. This allows us to measure the variability of strategic voting within one country over time. Last, these two particular elections are important situations where supporters of certain parties (in 1987 the Labour and Alliance supporters and in 1997 the Conservative and Liberal Democratic voters) had strong incentives to be strategic.

In addition to extending the analysis of Alvarez and Nagler (2000) to include the 1997 election, in

this paper we provide another important innovation. We argue below that the literature (including Alvarez and Nagler (2000)) has generally overlooked an important fact about the possibility of strategic voting — many voters are not in an electoral constituency where it is possible for them to cast a strategic vote. We argue that when computing the rate of strategic behavior in any particular election, we should focus only on voters who are in a context where strategic behavior is possible. Not surprisingly, when we exclude voters who are not in a context where strategic voting is possible, we find that the rate of strategic voting is higher than found in previous research.[5]

In the next section of this paper we discuss the previous literature on strategic voting, especially in the British context. We also discuss the recent analysis of Alvarez and Nagler (2000) of the 1987 case, and how we extend that analysis to the 1997 election. We then follow by presenting the results of our reanalysis of the 1987 case and our new analysis of the 1997 case. In this section we discuss the importance of considering the strategic context that the voter faced — was the voter's sincere first choice running in last place? To further demonstrate the difference between the rate and amount of strategic behavior, we then analyze an alternate, self-reported measure of strategic behavior. We conclude with a brief discussion of the implications of our research.

1   Empirical Models of Strategic Behavior

Much of the empirical research on whether voters are strategic has focused on recent elections in Britain. There, scholars have argued that as few as 5% (Johnston and Pattie 1991; Lanoue and Bowler 1992) in the 1983 election or as many as 17% (Neimi et al. 1993) in the 1987 election cast ballots for strategic reasons. These different studies have produced such varying estimates of strategic behavior primarily because they have used vastly different methodological approaches for studying this question, but also because the rate of strategic voting in any given election depends on the number of voters who have the opportunity to vote strategically. Since only voters who sincerely prefer the last-place party can strategically cast a ballot for their second choice party, the amount of strategic voting in an election will depend on how many voters find themselves with the opportunity to behave strategically and how many of them embrace that opportunity.

There are three different ways in which scholars have tried to estimate the extent of strategic behavior: the aggregated inference methodology, the self-reporting methodology, and the direct measurement methodology. The first approach uses aggregate election returns to estimate the extent of strategic behavior (Cain 1978; Spafford 1972; Curtice and Steed 1988; Galbraith and Rae 1989; Johnston and Pattie 1991). The obvious problem here is that this approach suffers from the ecological inference problem — making inferences about individual behavior from aggregate data (Achen and Shively 1995; King 1997). The second approach, the self-reporting methodology, uses survey questions to ask respondents to state their motivations for casting their ballots (Heath et al. 1991; Neimi et al. 1992; Evans and Heath 1993). This approach relies upon important assumptions about the nature of the survey responses from questions asking voters about their past political behavior. Since voters tend to over-report voting for the winner of an election the further the survey interview is conducted from the actual election, there is a potential bias in favor of finding increased levels of self-reported strategic behavior the further a survey interview is conducted from election day (Alvarez and Nagler 2000).[6]

The third approach is based on direct measurement of strategic behavior by examining the objective difference between the stated vote and the preference ranking of voters or the subjective difference between the vote case and a rank ordering of parties or candidates (Black 1978; Cain 1978; Abramson et al. 1992; Bartels 1988; Blais and Nadeau 1996; Brady and Johnston 1987; Alvarez and Nagler 2000). This approach should be the most accurate way to model strategic behavior. However, it is very difficult to measure rank orderings for parties or candidates using survey data. The typical practice is to use party or candidate feeling thermometers to produce measures of rank orderings, a practice which assumes that feeling thermometers ratings are provided by survey respondents sincerely.

Our approach to modeling strategic voting in recent British elections is a variant of the third methodology. We model the voter's choice using a random utility model that includes measures of the strategic context. This allows us to model explicitly the cross-constituency variance in strategic settings that is produced by Britain's single member district electoral system.

Importantly, when determining which voters may have behaved strategically, we control for the

context of a voter's decision by eliminating voters who have no incentive to vote strategically since their first choice party is not in last place, producing a clearer perspective on voter behavior. This reduces ambiguity about behavioral motivation, and provides a more accurate and significantly larger estimate of the rate of strategic voting. It also suggests that some of the variability in the previous estimates could be due merely to different proportions of voters finding themselves in the correct circumstances to cast a strategic vote, as the amount of strategic voting depends on how many voters have the opportunity to cast a strategic vote as well as the proportion of such voters who then actually do vote strategically.[7] In this section of the paper we discuss these innovations in the study of strategic voting and then conclude by discussing the specific expectations we have for our model's predictions.

Our model of sincere voting is based heavily upon recent work on modeling multiparty elections using individual–level survey data.[8] We adopt the framework used by Alvarez, Nagler, and Bowler (2000) and Alvarez and Nagler (2000). This framework utilizes a well–specified model of voter decisionmaking. The model of voter decisionmaking we estimate allows for retrospective economic, issue–based prospective, and class–based voting behavior.[9] Thus our model of sincere voting provides a vehicle for us to control for all of the important perspectives on British electoral behavior simultaneously; this allows us to test for strategic voting without worrying about competing effects.

Following Alvarez and Nagler (2000) we express the voter's utility for each party as a function of how far the voter is from the party on a series of issues, and on the voter's views of the economy, and the voter's demographic characteristics. In the 1987 election we include the distance between the voter and each party on defence, government emphasis on inflation versus unemployment, taxes, redistribution of income, nationalization of industry, crime, and social welfare programs; in the 1997 election model we include variables for unemployment, taxation, nationalization of industry, redistribution, European Union and women's rights. We estimate the party's position on each issue by using the mean placement of the party by all respondents. The distance between the respondent and the party on each issue is the absolute value of the distance between this mean and the respondent's self-reported position.

In addition to issues, we include respondents' views of the national economy. In both 1987 and

1997 respondents were asked whether inflation, unemployment, and taxation levels had increased, decreased, or stayed the same. Thus we can examine whether British voters vote retrospectively, and if so, which of the two non incumbent parties benefited the most from economic dissatisfaction.

Also, the model includes several measures of the respondent's characteristics designed to measure class: whether the voter belongs to a blue-collar occupation, whether the voter is a union member, whether the voter is a public sector employee. The model also includes the respondent's religion, whether the respondent is a homeowner, and the respondent's age, sex, income, and education.

We estimate this specification of the random utility model using multinomial probit (Alvarez, Nagler, and Bowler 2000). The ith respondent's utility for the jth party is given by:

$$U_{ij} = A_i\psi_j \ + \ X_{ij}\beta \ + \ \epsilon_{ij} \tag{1}$$

where X_{ij} represents the distance from the ith voter to the jth party, A_i are characteristics of the ith voter, ψ_j and β are parameters to be estimated, and the ϵ_{ij} are stochastic disturbance terms assumed to be distributed multivariate normal.

However, the random utility model is based on the idea that voters vote for the alternative maximizing their utility. We want to allow the voter to add a strategic element to their decision. Since voters are participating in first past the post single member districts, they have the opportunity to vote strategically in a three party race. If a voter sees that their first choice has no chance to win, they may choose to vote for their second choice rather than 'waste' their vote on a hopeless candidate.

Alvarez and Nagler (2000) allow for strategic considerations by adding measures to the right hand side of the model capturing the incentive the voter has to behave strategically. They argue that this incentive is based on two factors: how far behind the voter's first choice is in the voter's constituency, and how close the race is between the remaining two parties in the voter's constituency. Note that these considerations are only relevent when the voter's first choice is in last place, so for a voter who prefers Labour and who is in a constituency where Labour is running third, the first

concept is measured by:

$$W1_{iL} = Max(CON_i, ALL_i) - LABOUR_i \tag{2}$$

where CON_i, ALL_i, and $LABOUR_i$ give the expected vote shares of the Conservative, Alliance, and Labour party respectively in the ith voter's constituency. $Max(CON_i, ALL_i)$ gives the maximum of CON_i and ALL_i, or the expected vote share of the winning party in the constituency.[10] The measure of closeness of the race between the remaining two parties, again for a voter who prefers Labour, is given by:

$$W2_{iL} = 1/|CON_i - ALL_i| \tag{3}$$

Here, the closer the race between the Conservative Party and the Alliance, the larger the value of $W2_{iL}$.

Since the opportunity for a Labour voter to vote strategically only exists when Labour is in last place, we set the values of $W1_{iL}$ and $W2_{iL}$ to zero when Labour is not in last place. The same convention is adopted with the Conservative and Alliance measures of strategic incentive. To avoid introducing endogeneity into our empirical model, we use the constituency vote shares from the previous election as measures of the expected vote shares of each party in the voter's constituency, which also have the advantage of being publicly known to all voters prior to the current election. Using either the results of the election in question, which are problematic because they are unknown to voters at the time the ballot is cast, or recent polling data, both introduce endogeneity, as stated votes or intentions may themselves depend on strategic considerations.

Again following Alvarez and Nagler (2000), this allows us to respecify the random utility model:

$$U_{iL} = \beta X_{iL} + \psi_{iL} A_i + \gamma_1 \times W1_{iL} + \gamma_2 \times W2_{iL} + \gamma_3 \times (W1_{iL} \times W2_{iL}) + \epsilon_{iL} \tag{4}$$

$$U_{iC} = \beta X_{iC} + \psi_{iC} A_i + \gamma_1 \times W1_{iC} + \gamma_2 \times W2_{iC} + \gamma_3 \times (W1_{iC} \times W2_{iC}) + \epsilon_{iC} \tag{5}$$

$$U_{iA} = \beta X_{iA} + \psi_{iA} A_i + \gamma_1 \times W1_{iA} + \gamma_2 \times W2_{iA} + \gamma_3 \times (W1_{iA} \times W2_{iA}) + \epsilon_{iA} \tag{6}$$

Our expectation is that as $W1_{ij}$ increases (i.e., as the jth party falls further behind) the utility of voting for the jth party decreases. Thus we expect the derivative of U_{ij} with respect to $W1_{ij}$ ($\partial U_{ij}/\partial W1_{ij} = \gamma_1 + \gamma_3 W2_{ij}$) to be negative. Our expectation is that as $W2_{ij}$ increases (i.e.,

as the race between the other two parties grows closer) the voter's utility for voting for party j decreases – conditional on party j being expected to lose the election. Thus we expect the derivative of U_{ij} with respect to $W2_{ij}$ ($\partial U_{ij}/\partial W2_{ij} = \gamma_2 + \gamma_3 W1_{ij}$) to be negative. In the next section we present empirical results testing these expectations using the 1987 and 1998 British elections.

2 Strategic Voting in 1987 and 1997

We present the coefficient estimates from our multinomial probit analyses in Tables 1 and 2. Each table provides the complete results from the multinomial probit estimations of each election year survey. In general, interested readers will notice that the coefficient estimates for all of the issue, economic, and demographic variables perform much as they do in the previous literature, especially the research of Alvarez and Nagler (1995, 1998, 2000) and Alvarez, Nagler and Bowler (2000).[11]

<div align="center">**Tables 1 and 2 Go Here**</div>

The important coefficient estimates in both tables for our present discussion are those associated with the three strategic voting variables. They provide support for two of our three expectation regarding the effect of strategic incentives on vote choice. In both cases the main effect of $W1$ is negative and significant, indicating that voters are willing to give up on their favored party if it has no chance of winning. The main effect of $W2$ is not significant in either case, however and the coefficient is positive. The interaction of these two variables, $W3$, is correctly signed and only narrowly misses significance in 1997 (p=0.107).

The important quantities are not the coefficients, however, but the marginal effects of the two strategic incentive variables. To properly estimate these marginal effects requires accounting for the interaction term. For 1987, the relevant marginal effects of the strategic variables can be obtained by taking the partial derivative of the utility with respect to our measures of strategic incentives:

$$\frac{\partial U_{ij}}{\partial W1_{ij}} = -.886 - .268 \times W2_{ij} \tag{7}$$

$$\frac{\partial U_{ij}}{\partial W2_{ij}} \quad = \quad +.035 - .268 \times W1_{ij} \tag{8}$$

As $W2$ is always positive, the first marginal effect is always negative, as postulated. The second marginal effect is negative provided that $W1_{ij} > .15$: In other words, the jth party is at least 15% behind the first place party. This occurs in 96.5% of the constituencies included in our analysis: 98.2% of constituencies where Labour is running last, 97.2% for the Alliance and 72.7% for the Conservatives. Comparing these effects to their standard errors indicates that the marginal effect of $W2$ is not significant, but that the marginal effect of $W1$ is significant at the 0.10 level for individuals for whom $W2_{ij} < 10$, which comprise 98% of our sample.[12]

For 1997, the relevant marginal effects of the strategic variables are:

$$\frac{\partial U_{ij}}{\partial W1_{ij}} \quad = \quad -.913 - .052 \times W2_{ij} \tag{9}$$

$$\frac{\partial U_{ij}}{\partial W2_{ij}} \quad = \quad +.009 - .052 \times W1_{ij} \tag{10}$$

These results are similar as for 1987: the first marginal effect is always negative and the second marginal effect is negative whenever the last-placed party, j, trails the first-placed party by at least 17.1%, which occurs in all of the constituencies included in our analysis. Further, the effect of $W1$ is significant at the 0.05 level whenever $W2 < 50$ and at the 0.10 level whenever $W2 < 500$, which includes everyone in our sample.

Thus, at first blush, our multinomial probit results show support for our hypotheses about strategic voting in British elections. The results indicate that the effect of distance from contention is significant in both models and depends on how close the two front-running parties are. While the effect of closeness is of the correct sign for almost everyone in both of samples, it is not found to be significant. That our results from both elections are consistent with our predictions we take to be strong support for our operationalizations of strategic voting. These estimates also confirm the previous work of Alvarez and Nagler (2000) as we replicate their model for the 1987 election using a slightly different set of voters, and as we find that their model performs as anticipated in the 1997 election.

Yet due to the nonlinearity of the multinomial probit model, the coefficient estimates are not easy to understand without some type of secondary analysis. Thus we use our multinomial probit estimates from 1987 and 1997 to conduct a counterfactual simulation (Alvarez and Nagler 1995, 1998, 2000; Alvarez, Nagler and Bowler 2000; King et al. 2000). Our counterfactual simulation is straightforward and is similar to the simulation conducted with the 1987 election data by Alvarez and Nagler (2000). We begin with our multinomial probit estimates and our survey data. For each voter we use the estimated coefficients and error correlations to predict the party they would vote for based on our full model — we call this their "strategic" vote. This prediction is based on the model allowing the voter to take into account the strategic context. We then recode each of the three strategic voting variables to be zero for every respondent, corresponding to a hypothetical situation where voters' choices are not influenced by strategic incentives. Then we recompute their voting probabilities and determine the party each voter would now support and call this their "sincere" vote.[13] The only difference between these two predictions is that one includes the strategic variables in the calculation and the other ignores their effect. Thus any difference between the predicted sincere and strategic votes is due solely to the role of strategic incentives.

If we were to cross-tabulate the sincere and strategic votes estimated above (the procedure used to estimate the extent of strategic voting in previous research), we would obtain an estimate of the proportion of all voters who behave strategically by calculating the number of voters whose strategic vote differs from their sincere vote. This aggregate amount of strategic voting has generally been the subject of interest in research on strategic voting. The question scholars have asked is "how much strategic voting occurs?" This is a useful question if we want to know if specific election outcomes would have been altered in the absence of strategic voting. However, if we want to understand voter behavior, then we want to ask a different question. To understand voter behavior we need to ask "what is the probability of a respondent voting strategically, *given that they are in a situation providing the opportunity to do so*"? If we are interested in understanding voters' tendency to behave strategically, it makes little sense to look at voters who have no opportunity to behave strategically. Furthermore, we would bias downward our estimate of voters' propensity to behave strategically if we included voters who by definition cannot vote strategically.[14]

So to consider voter behavior, rather than the aggregate amount of strategic voting, we present the data differently in Table 3. Here, instead of examining the deviations of voters from sincere voting in the entire sample, we look at these same deviations in only the sample of voters who were in an election context which provided them with the opportunity to cast a strategic vote. By this we mean that they were in a constituency where their predicted sincere first choice was expected to run last based on the results of the previous election. Since other voters did not have the opportunity to cast strategic ballots, it does not make sense to include them in our calculation of strategic voting.

In fact, we find that only 19% of the 1987 voters, and 22.8% of the 1997 voters, were in constituencies where their preferred party was running last, giving them the opportunity to cast a strategic vote.[15] To determine how many of these voters actually may have cast a strategic vote in their constituency, we use our model estimates to compute for each voter the probability that they would support each party under sincere and strategic conditions; we assume that under each condition the voter would vote for the party with the highest systemic utility (i.e., the highest probability of being chosen). We crosstabulate the sincere and strategic votes for all voters, producing an estimate of the fraction of strategic and sincere voters.[16] Because our predictions are calculated using our parameter estimates, they do not reflect the inherent estimation uncertainty. To account for this uncertainty we repeat the calculation of our cross-tabulation using different values of the parameters and average the results, which allows us to estimate not just the amount of strategic voting, but the estimated error associated with that quantity.[17] The estimated numbers of sincere and strategic voters, of respondents in contexts allowing a strategic vote, are given in Table 3.

[**Table 3 Goes Here**]

Each cell entry in Table 3 gives the average number of voters with sincere preferences for the column party who we predict to vote for the row party, while the entries in parentheses represent the percentages of voters in the strategic context who behaved in different ways. Thus off-diagonal elements represent voters who preferred the column party, but cast a strategic vote for the row party. So for instance, in 1987 we can see that 34% of voters who preferred the Labour party

are predicted to have cast votes for the Alliance. And to emphasize again, this is of voters who preferred the Labour party and were in a constituency where the Labour party was expected to run last.

In 1987 we see that most of the Labour strategic defections go to the Alliance, while the Alliance strategic defection is split almost equally between the Conservatives and Labour. 34% of true Labour supporters, when in the appropriate strategic context, defect to the Alliance; 27% of true Alliance supporters in the right strategic setting defect to Labour and another 25% defect to the Conservatives. The same pattern holds in 1997, where we estimate that 42% of the true Labour supporters who were in a context where they could vote strategically cast ballots for the Liberal Democrats. A very large 81% of the true Liberal supporters who had incentive to behave strategically are estimated in 1997 to have cast strategic votes for Labour, while only 14% defect to the Conservatives.

Comparing the voters' propensities across parties to defect from their sincere preference and cast a strategic ballot, we see that the lowest strategic defection rate is reached by the Conservative party in 1987, when only 8% of their supporters switched to another party. This rate is estimated to be 42% in 1997, but this percentage is based on the behavior of only a few Conservative voters who had incentives to switch. Comparing the other two parties, Labour clearly has a lower rate of strategic defection than the Alliance, with 38% and 53% defection rates in 1987 and 1997, respectively, while the Alliance suffers higher losses of 52% and 95% in those years. This suggests that much of the increase in the rate of strategic voting from 1987 to 1997 is due to voters switching between Labour and the Alliance to beat the Conservatives.

Overall, then, accounting for the strategic context leads us to a much higher estimate of the rate of strategic voting *among individuals eligible to behave strategically.* The reason for the difference is that previous work classified voters who voted for their preferred party when it was in first or second place as voting sincerely. Certainly they were, but in this situation their strategic vote would have been for the same party. Without observing these voters in a context where they are forced to decide between their sincere and strategic vote, it is impossible to know if they would have switched their vote. For this reason it is important to focus on the correct set of voters if

we want to measure the extent of purposive behavior by individual voters. Using only the set of voters who were provided the opportunity to behave strategically in our data, we see that 43% of these voters were willing to switch their vote in 1987 and 64% of such voters did so in 1997.[18] Both of these numbers are more than two times the maximum of the previously reported estimates in the literature. This demonstrates the importance of controlling for the voter's environment when assessing the tendency of individual voters to behave strategically.

3   Comparison to a Self-Reported Measure of Strategic Voting

Now we examine the effect of the consideration of strategic context on other measures of strategic voting. One approach in previous research is to use respondents' self-reported behavior as a measure of strategic voting. Respondents who indicate that their vote was determined in part by the fact that their first choice had no chance of winning were then asked a follow-up question which sought to elicit their sincere preference.[19] While we believe there may be methodological problems with using self-reported measures of strategic behavior, we report the results to again highlight the importance of considering the strategic context and to compare the results from such a self-reported measure to our measure of strategic voting.[20]

In Table 4, we present the cross-tabulation of voters' self-reported sincere preferences and their stated actual votes. To increase comparability with our measure, we limit the sample to the 1,783 1987 and 1,401 1997 respondents that are included in our previous analysis. To control for strategic context, we rely on respondent's statements about their votes. Their sincere preference is taken to be their stated vote unless they reported voting strategically, in which case we used their response to a follow-up question that asked which party was their sincere first choice.[21]

[**Table 4 Goes Here**]

Since we are using a different measure of voters' sincere preferences (self-reported instead of estimated) this approach results in a different number of voters in the cross-tabulations. The self-

reported measure yields 349 and 290 voters who were facing a strategic context in 1987 and 1997, respectively. These numbers are similar to the estimates produced by our measure: 339 in 1987 and 319 in 1997.

The most striking difference between the two measures is the percentage of voters facing a strategic context who actually chose to cast a strategic ballot. In 1987 the number of voters who switched their votes drops from 43% using our measure to 17% using the self-reported measure and in 1997 it drops from 64% to 30%.[22] These differences are reflected in the small effect on the vote shares of the parties using the self-reported measure.

While both measures start out with almost identical sincere vote shares among potentially strategic voters, the self-reported measure indicates that the Conservatives were the ones who gained in 1987, mostly at the expense of the Alliance. 4.8% of sincere Alliance voters cast a strategic ballot for the Conservatives, while 10% of them switched to Labour. These losses were largely cancelled by the 18% of sincere Labour voters who switched to the Alliance.

In 1997, similar patterns emerge. Labour again loses a large proportion of its sincere vote, 28%, but the Liberal Democrats lose more with 32% defections. They again suffer a higher defection rate to the Conservatives, losing 8.9% to them, whereas the previous measure indicates a much higher loss rate of 24.8%.

There are three substantively important conclusions to be taken from our comparison of the two measures in this section. First, the estimated propensity of voters to cast a strategic ballot given the opportunity is much higher using our method than using the self-reported measure: 43% compared to 17% in 1987 and 64% compared to 30% in 1997. This greater willingness of voters to behave strategically, when given the opportunity to do so, is important for our understanding of voter's decision making and rationality. Second, the higher rates of strategic voting produced by our measure result in vote shares for the three parties that diverge more from the sincere vote shares. In both elections, we find that the Alliance was the biggest loser, the Conservatives the biggest winner, and Labour was not greatly affected. Third, even using the measure based on self-reported strategic voting, we show that the willingness of individual voters to behave strategically

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given the opportunity to do so is much higher than previously reported.[23]

4 Conclusion

Our research looked for strategic behavior by focusing on the strategic context of the election for each voter in their respective constituency. By using a statistical approach relatively new to the study of multiparty elections (multinomial probit) and by using this new operationalization of the strategic context, we have provided strong comparative empirical results about strategic behavior in two different British elections. In particular, our results indicate that voters are significantly less likely to vote for a party when it has little chance of winning and that this effect increases when the two leading parties are running close.

We have thus shown several empirical findings and made an important theoretical point. We found that only a small fraction of the total sample of voters (19% in 1987 and 23% in 1997) actually were in constituencies where it was possible for them to cast a strategic vote. By focusing our analysis exclusively on voters in an appropriate strategic context we found that the rates of strategic voting were higher than reported in previous research; around one-half of all voters will cast a strategic ballot when given the opportunity. Thus, the 'rate' of strategic voting needs to be distinguished from the 'amount' of strategic voting: the amount of strategic voting is 'rate times eligibility'. If we want to understand voter behavior, we should focus on the rate of strategic voting by those eligible to behave strategically. If we want to focus on the aggregate impact of strategic voting, then we want to look at the total amount of strategic voting.

We have successfully replicated the Alvarez and Nagler (2000) study of strategic voting. That study looked only at the 1987 British election, and used a sample of voters which included both Scottish and Welsh voters. The work we have presented here did not include Scottish and Welsh voters and also extended the analysis to include the 1997 British election as well. We found that the rate of strategic voting in the 1987 British election was significantly higher than suggested by Alvarez and Nagler (2000).[24] We also found that there was a higher rate of strategic voting in the 1997 election than in the 1987 election, especially among Liberal Democratic voters.

Last we applied our insight into how to calculate the rate of strategic behavior by voters to the self-reported measure of strategic behavior that has been utilized in the literature. We find that our measure uncovers a greater rate of strategic voting among the electorate than the self-reported measure often employed, but that once strategic context is accounted for the latter measure produces rates of strategic voting that are higher than previously reported.

This basic result implies that the basic dichotomy usually offered in the literature about whether voters are expressive or strategic may need qualification. In short, in many situations voters may not have the opportunity to be strategic. In other situations they can be expressive or strategic. We have found that when given the opportunity to be strategic in these two British elections, many voters take advantage of that opportunity.

In conclusion, by building on the analysis of Alvarez and Nagler (2000) we have shed additional light on the phenomenon of strategic voter behavior. The literature on strategic voter behavior has been full of different methodological approaches and vastly divergent results. By again utilizing a simple but valid methodological approach to the study of strategic behavior we have produced some important new results about the existence, measurement and magnitude of strategic behavior. We have also shown that while previous studies may have provided an accurate measure of the extent of strategic voting in a given election, they have offered incorrect insight into voter's behavior by not discarding voters whose sincere and strategic votes are observationally equivalent. We hope that future research will continue along this path so that we can develop a body of scholarship which allows for easily comparable results.

Notes

[1]This notion of expressive behavior has been recently developed by Alexander A. Schuessler, *A Logic of Expressive Choice*, Princeton, NJ: Princeton University Press, 2000, pages 49-63.

[2]For single-member district plurality systems models, see Cox 1994, 1997; Myerson and Weber 1993; Palfrey 1984. For other models in other types of electoral systems, see Cox 1984; Dummett 1984; Gutowski and Georges 1993; Hoffman 1982; Ludwin 1978; Myerson and Weber 1993; Myatt 2000.

[3]For summaries of these debates, see Schuessler (2000) or Donald P. Green and Ian Shapiro, *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science*, New Haven, CT: Yale University Press, 1994.

[4]Cain 1978; Galbraith and Rae 1989; Heath, Curtis, Jowell, et al. 1991; Johnston and Pattie 1991; Niemi, Whitten and Franklin 1992; Alvarez and Nagler 2000.

[5]The article by Niemi, Whitten, and Franklin (1992) comes the closest to incorporating the importance of strategic context and shows that the rate of strategic voting increases as the distance from contention of a voter's most-preferred party increases. Most importantly from our perspective, it provides no estimate of the rate of strategic voting for voters who are in the appropriate strategic context. Since the number of voters in this strategic context varies from election to election, this calculation is required to permit comparability of rates of strategic voting across elections.

[6]Evans (2002) has asserted that in Alvarez and Nagler's study (2000) there is evidence that the so-called "open-ended" type of question seems to be biased, while the so-called "close-ended" question is not. This is of course a secondary interpretation of the data, and is based on only one election. The potential for bias in after-the-fact measures of political behavior is always present, as has been documented in a number of studies (see for example Wright (1990, 1992)). In any event, in the context of the analysis of the 1987 election, Evans acknowledges that the type of measure used by Alvarez and Nagler (2000), the type of measurement approach we adopt and extend below, appears to give the same rough estimate of the extent of strategic behavior in that election as the use of the "close-ended" measure in Evan's own work (Evan and Heath 1993).

[7]The closest calculation of strategic voting for voters whose first choice is in third place or lower was found in Heath, Curtis, Jowell et. al. (1991), though they further limit their analysis to voters who were also indifferent between the first and second place parties. They find that of the 5% of voters in these circumstances, 35% claim to have cast a strategic vote. Subsequent research in the field occasionally tabulates the estimated rate of strategic voting by distance from contention to assess construct validity which allows the reader to calculate the desired rate: see Table 4 in Niemi, Whitten and Franklin (1992) and Table 1 in Franklin, Niemi and Whitten (1994). None of the articles, however, reports the rate of strategic voting among voters whose first choice is in third place, which is the measurement we argue is most relevant.

[8]See Alvarez and Nagler (1995, 1998, 2000); R. M. Alvarez, J. Nagler, and S. Bowler, "Issues, Economics and the Dynamics of Multi-Party Elections: The British 1987 General Election", *American Political Science Review*, (2000).

[9]Alvarez, Bowler and Nagler (2000).

[10]Other studies in this area have measured distance from contention using the difference from second place, rather than first place, for example Niemi, Whitten and Franklin (1993). If we redefine $W1$ in this way and use it as an alternative specification of our model, we reach much the same conclusions about the overall rate of strategic voting (60%) and the marginal effect of $W1$ and $W2$ (both are negative).

[11]The estimates for 1987 differ slightly from Alvarez and Nagler (2000) because we have omitted Scottish and Welsh voters to increase comparability to the 1997 results.

[12]The standard error of the effect of $W1$ is calculated as follows: $\text{SE}(\partial U_{ij}/\partial W1_{ij}) = Var(\hat{\gamma}_1) + W2 \times Var(\hat{\gamma}_3) + 2 \times W2 \times Cov(\hat{\gamma}_1, \hat{\gamma}_3)$.

[13]In both cases voters are assumed to choose the party with the highest probability.

[14]One of the potentially interesting findings in Myatt (2000) is that including both public and private signals in models of strategic voting creates situations where a voter's private signal leads some voters whose sincere preference is actually not in third place to attempt to behave strategically by switching their vote to their second most preferred party. Our measure of strategic context omits these voters, who would all be classified as strategic in Myatt's framework, though they only *thought* they were in a strategic context.

[15]The standard errors for these numbers, which are based on our estimates of sincere preferences, are 0.8% in 1987 and 1.9% in 1997. Thus these numbers are almost identical to the 20% of voters that Table 1 (p. 57) in Heath, Curtis, Jowell et al. (1991) indicates prefer a third or lower place party.

[16]Since we classify each voter's choice in a deterministic manner once the parameters are drawn, we lose the systemic uncertainty inherent in the probabilistic estimate of which party they would vote for. However, this method produces results that are directly comparable to the second measure of strategic voting that we discuss below. Alternatively, one could use the predicted probabilities for the sincere and strategic vote choices of each voter to calculate the probability of a strategic vote. For each voter there is some chance that the sincere vote would be for the last place party; the probability of voting strategically for a different party is then the product of this probability and the predicted probability of voting for one of the other two parties when the strategic considerations are included in the prediction. This approach is not only less comparable to others, but leads to greater rates of strategic voting because it combines the estimate of direct strategic voting with apparent strategic voting resulting from random utility considerations. We found that this approach produced estimates about 10% to 20% higher than those we report.

[17]To be precise, we generated 1000 sets of values for the model parameters drawn from a multivariate normal distribution with mean and variance equal to our model estimates. We then performed the counterfactual for each of the 1000 predictions and report the average result, as well as the calculated standard errors. We include all of the variables from the estimation model, including the statistically insignificant ones, in our counterfactual analysis. Were we to simple estimate voter behavior in one step, using only the coefficients, that could lead us to overstate the extent of strategic voting if we include statistically insignificant variables in our counterfactuals. But as we simulate the counterfactual predictions using both the coefficients and the variances, we will across the 1000 simulations account for the variance in all of the estimates.

[18]The standard errors of these estimates are 6.5% in 1987 and 7.6% in 1997.

[19]This is the measure used in Heath, Curtice, Jowell, et al. (1991). Niemi, Whitten, and Franklin (1992) augment this measure with three others, but we agree with the critique of these additional measures made by Evans and Heath (1993).

[20]As Niemi, Whitten and Franklin (1992) note, "there are reasons to expect both over- and under-reporting of tactical voting" (p. 239). They also report "the perverse finding that respondents claim to have voted tactically even though their most preferred party finished in first or second place" (p.239)."

[21]Strategic voters were identified as those that stated that they voted as they did because their preferred party had "no chance" of winning.

[22]Doing some calculation with the numbers in Table 2 in Niemi, Whitten and Franklin (1992), their results for 1987 are virtually identical to ours. Of the 19% of voters whose first choice was not in first or second place, 16.9% of them specifically indicated that they voted for another party due to tactical considerations (these are the "main reason" tactical voters - 27.1% were classified as "any reason" tactical voters). Our measure is the same as their "main reason" classification.

[23]Niemi et al. (1992) do find that once a voter's preferred party is at least 12% behind the second-place party, about 20% of voters indicated voting tactically, using just the "first choice had no chance" measure.

[24]Calculating the total amount of strategic voting produces a much closer result, though: 8.2% compared to 7.8% in Alvarez and Nagler (2000).

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Table 1: 1987 British Election Results

	Conservative/Alliance		Labour/Alliance
Defense		-0.116**	
		(0.016)	
Unemployment and Prices		-0.088**	
		(0.019)	
Taxation		-0.109**	
		(0.020)	
Nationalism		-0.122**	
		(0.014)	
Redistribution		-0.064**	
		(0.014)	
Discrimination		-0.098**	
		(0.036)	
Welfare		-0.091**	
		(0.015)	
$W1$ (First Choice Hopeless)		-0.886**	
		(0.205)	
$W2$ (1, 2 Close)		0.035	
		(0.030)	
$W1*W2$ (Interaction)		-0.268	
		(0.237)	
constant	0.201		1.392**
	(0.538)		(0.513)
South	-0.005		-0.052
	(0.090)		(0.143)
Midlands	-0.195*		-0.028
	(0.108)		(0.112)
North	-0.072		0.339**
	(0.089)		(0.125)
Union	-0.335**		0.100
	(0.056)		(0.072)
Public Sector	0.020		0.038
	(0.063)		(0.074)
Blue Collar	0.070		0.388**
	(0.111)		(0.113)
Gender	0.220*		-0.106
	(0.123)		(0.087)
Age	0.033		-0.116**
	(0.036)		(0.030)
Home Ownership	0.330**		-0.322**
	(0.115)		(0.143)
Family Income	0.059**		-0.020
	(0.022)		(0.020)
Education	-0.591**		-0.403
	(0.238)		(0.255)
Inflation	0.166**		0.015
	(0.072)		(0.073)
Unemployment	0.225**		0.024
	(0.046)		(0.049)
Taxes	0.003		-0.065
	(0.050)		(0.045)
δ_{CA}		0.234*	
		(0.125)	
δ_{LA}		0.437**	
		(0.134)	

Standard errors in parentheses. * Significance at 90% level, ** at 95% level. Number of observations, 1783; Log likelihood, -1231.17.

Table 2: 1997 British Election Results

	Conservative/Alliance		Labour/Alliance
Unemployment and Prices		-0.036	
		(0.024)	
Taxation		-0.106**	
		(0.025)	
Privitisation		-0.090**	
		(0.025)	
Redistribution		-0.115**	
		(0.018)	
European Union		-0.237**	
		(0.041)	
Women's Rights		-0.026	
		(0.043)	
$W1$ (First Choice Hopeless)		-0.913**	
		(0.286)	
$W2$ (1, 2 Close)		0.009	
		(0.009)	
$W1 * W2$ (Interaction)		-0.052	
		(0.033)	
constant	-1.651**		0.746**
	(0.401)		(0.264)
South	0.005		-0.109
	(0.144)		(0.107)
Midlands	-0.141		-0.274**
	(0.147)		(0.126)
North	-0.474**		-0.246*
	(0.181)		(0.126)
Union	-0.209		0.058
	(0.198)		(0.086)
Public Sector	-0.099		0.028
	(0.096)		(0.078)
Blue Collar	0.008		0.083
	(0.098)		(0.076)
Gender	0.400**		-0.081
	(0.090)		(0.076)
Age	0.500*		-0.151
	(0.273)		(0.108)
Home Ownership	0.222*		-0.189*
	(0.122)		(0.115)
Family Income	0.755**		0.074
	(0.290)		(0.161)
Education	-0.273*		-0.308**
	(0.142)		(0.123)
Inflation	0.152		-0.074
	(0.110)		(0.072)
Unemployment	1.166**		-0.193**
	(0.148)		(0.093)
Taxes	0.531**		0.059
	(0.079)		(0.112)
$\delta_{C,L}$		0.165	
		(0.224)	
$\delta_{L,A}$		0.690**	
		(0.170)	

Standard errors in parentheses. * Significance at 90% level, ** at 95% level. Number of observations, 1401.
Log likelihood, -1053.19.

Table 3: Strategic Voting, 1987 and 1997 [Alvarez-Nagler Measure]

| Strategic | 1987 Sincere Voting: | | | |
	Conservative	Labour	Alliance	Total
Conservative	19	7	38	63
	(92%)	(4%)	(25%)	(19%)
Labour	1	104	41	145
	(3%)	(62%)	(27%)	(43%)
Alliance	1	58	72	131
	(5%)	(34%)	(48%)	(39%)
Total Percentage Voting Strategically	8%	38%	52%	43%
Column Total	20	168	151	339
	(6%)	(50%)	(45%)	(100%)

| Strategic | 1997 Sincere Voting: | | | |
	Conservative	Labour	Liberal	Total
Conservative	2	26	13	40
	(58%)	(11%)	(14%)	(13%)
Labour	0	107	71	178
	(17%)	(47%)	(81%)	(56%)
Alliance	1	95	5	101
	(25%)	(42%)	(5%)	(32%)
Total Percentage Voting Strategically	42%	53%	95%	64%
Column Total	3	228	88	319
	(1%)	(72%)	(27%)	(100%)

Each cell represents the estimated number of voters who's sincere first choice was the column party who would cast a strategic vote for the row party. Column percentages are in parentheses.

Table 4: Strategic Voting, 1987 and 1997 [Self-Reported Measure]

| Strategic | 1987 Sincere Voting: | | | Total |
	Conservative	Labour	Alliance	Total
Conservative	12	4	9	25
	(100%)	(3%)	(5%)	(7%)
Labour	0	118	19	137
	(0%)	(79%)	(10%)	(39%)
Alliance	0	27	160	187
	(0%)	(18%)	(85%)	(54%)
Total Percentage Voting Strategically	0%	21%	15%	17%
Column Total	12	149	188	349
	(3%)	(43%)	(54%)	(100%)

| Strategic | 1997 Sincere Vote: | | | Total |
	Conservative	Labour	Liberal	Total
Conservative	3	2	12	17
	(100%)	(1%)	(8%)	(6%)
Labour	0	101	35	136
	(0)	(72%)	(24%)	(47%)
Liberal	0	37	100	137
	(0)	(26%)	(68%)	(47%)
Total Percentage Voting Strategically	0%	28%	32%	30%
Column Total	3	140	147	290
	(1%)	(48%)	(51%)	(100%)

Each cell represents the estimated number of voters who's sincere first choice was the column party who would cast a strategic vote for the row party. Column percentages are in parentheses.