Tactical Voting and Voter’s Sophistication in British Elections

Stéphane Dupraz, Daniel Müller and Lionel Page*

April 12, 2013

Abstract

Although tactical voting attracts a great deal of attention, it is very hard to measure as it requires knowledge of both individuals’ voting choices as well as their unobserved preferences. In this paper, we present a simple empirical strategy to nonparametrically identify tactical voting patterns directly from balloting results. This approach allows us to study the magnitude and direction of strategic voting as well as to verify which information voters and parties take into account to determine marginal constituencies. We show that tactical voting played a significant role in the 2010 election, mainly for Liberal-Democratic voters supporting Labour. Moreover, our results suggest that voters seem to form their expectations based on a national swing in vote shares rather than newspaper guides published in the main media outlets or previous election outcomes. We also present some evidence that suggests that campaign spending is not driving tactical voting.

*Dupraz: Department of Economics, Columbia University, New York, USA. Müller and Page: School of Economics and Finance, Queensland University of Technology, Brisbane, Australia. Contact: Phone: + 61 7 3138 4793, Gardens Point Campus. Corresponding author: Daniel Müller, e-mail: d3.mueller@qut.edu.au. We are grateful to Yola Engler and Gabriele Gratton for helpful comments.
“All this talk of tactical voting upsets me though – no-one should EVER have to even think about voting tactically – you should be able to vote for the party you want”.
Andrew Whickey, a Liberal Democrats blogger, 2010

1 Introduction

Elections are at the very core of democracies. They are the means to give power to the people by allowing them to express their preferences. It has been argued that for a democracy to function properly, voters should face incentives to truthfully reveal their preferences. Tactical or strategic voting on the other hand refers to a situation when voters do not vote according to their sincere preferences, typically with the intention to influence the outcome in a preferred way. This difficulty underlies the debate on tactical voting and is what has upset Andrew Whickey, the blogger quoted at the beginning. Tactical voting has long been debated in the political science literature (see for example Galbraith and Nicol (1989), Johnston and Pattie (1991) and Fieldhouse, Pattie, and Johnston (1996)). It is typically defined as a situation where it is in a voter’s best interest to vote for a less preferred candidate, or as Fisher (2004) put it, “a tactical voter is someone who votes for a party they believe is more likely to win than their preferred party, to best influence who wins in the constituency” (Fisher, 2004, p. 157).

With very close results predicted by the pre-election polls, the issue of tactical voting in the British elections of 2010 was a more hotly debated than ever before. Key figures in the Labour Party – including Alan Johnson (Home Secretary), Ed Balls (Children’s Secretary) and Peter Hain (Wales Secretary) – called for backing the best Liberal/Labour candidate to beat the Conservative candidates in marginal constituencies. Compass, a Union organization, supported tactical voting and designed a voting guide for tactical voting in marginals. Numerous left-leaning newspapers advised voters to vote tactically and many proposed voting guides, for example the Daily Mirror, Guardian, Independent
and *New Statesman*. Given this specific situation, in particular the calls from some well-known politicians in the Labour Party itself, one may expect tactical voting to have been significantly higher than in precedent elections.

In addition, reducing incentives to tactical voting was also a key argument in the debate surrounding the referendum in 2011 to change the voting system in the United Kingdom from First-Past-The-Post (FPTP) to Alternative Voting (AV). One of the major criticisms made by the opponents of the traditional voting system used in Britain is that it fosters tactical voting to the benefit of the two main parties and hence potentially hinders representation according to the true preferences (Electoral Reform Society, 2010).

Besides the large attention tactical voting has received from experts, layman and the media, there are considerable difficulties when estimating strategic behavior in elections. These difficulties mainly arise from the fact that in order to study this phenomena, knowledge of the political preferences as well as of the actual vote cast is necessary. Using survey data might be a natural approach but is obviously plagued with several difficulties, like recall bias (respondents typically have flawed memories about their past behavior) and social desirability bias (tactical voting might be seen as socially undesirable and hence it is concealed). A more indirect way used to identify strategic voting is to model individual (or constituency) characteristics in order to estimate counterfactual vote choices (or election outcomes) with and without the possibility to vote tactically. This approach typically employs discrete choice models like probits. A problem with this approach is that one needs to make the strong assumption that conditional on observables there are no omitted factors influencing vote choices (or trends in party shares respectively). This supposition is obviously hard to justify in reality.

In this paper, we propose a novel nonparametric strategy to analyze electoral data, which allows us to study tactical voting patterns in the latest British election. This approach relies on visual inspection of nonparametric fit of the change in party shares in 2005 versus the 2010 elections as a function of the Labour – Conservative, Liberal Democrats – Conservatives vote share differences.
respectively. We are able to show that tactical voting played a significant role in the last UK general election. According to our estimates it was mainly former Liberal Democratic voters who supported Labour in constituencies where there was a close race between Labour and the Conservatives expected.\footnote{We will discuss later on in more detail how these expectations can be formed.}

Moreover, this paper makes three further contributions that are related to the tactical voting literature. First, we study the information sets voters use to form expectations about election outcomes, using the 2010 general election as an example. We find some evidence that voters indeed formed their expectations quite rationally. In fact they seemed to be more sophisticated than voting guides compiled by British newspapers and based their expectations on a nationwide uniform swing assumption (which performed better in predicting election outcomes). Second, we discuss the relevance of campaign spending in this context and present some evidence that campaign spending does not seem to have a major influence on voter’s choices. Third, we test the prediction that the propensity to vote tactically increases with the winning margin once the (expected) distance of the third party in the race is controlled for, which is what some theoretical evidence is suggesting (Myatt, 2007). We test this prediction using a general additive model and, in contrast to this prediction, we find that tactical voting seems to be highest in close races even after controlling for the distance from contention.

The remainder of the paper is organized as follows. Section 2 presents some previous findings in relation to strategic voting, Section 3 shows that tactical voting patterns suggest voters used uniform swing models to determine marginal constituencies. Section 4 looks at the party spending patterns and their influence on vote shares. In Section 5 we show that, contrary to the prediction of Myatt (2007)’s model, that the distance of the third party does not seem to influence voting behavior. Section 6 discusses the results and concludes.
2 The Literature on Tactical Voting

Although the Gibbard–Satterthwaite theorem (Gibbard (1973) and Satterthwaite (1975)) shows that the search for strategy–proof voting systems is doomed to failure, the FPTP system seems to be particularly prone to strategic considerations by the voters.\(^2\) A voting rule is said to be strategy–proof if, given all other votes, the vote for an elector’s favorite candidate does not increase the chance of a less desired candidate to be elected. The theorem states that if the number of candidates is greater than two, all non–dictatorial voting rules are not strategy–proof. Contrary to what this negative result might suggest, it nevertheless seems worthwhile to examine the susceptibility of different systems to strategic considerations.

The propensity of the FPTP system to foster tactical voting has long been suggested (Duverger, 1966). What was initially a conjecture is now known as “Duverger’s law”, see also Riker (1982). Palfrey (1989) proposed a mathematical proof of this “law”, showing that in a model with rational voters and three parties, only two parties end up having positive shares of the vote in the end. In this setting, non–Duvergean equilibria can appear in rare occasions when two parties are tied for second place. The electoral reality often departs from this prediction though. Whilst the political history of the UK has shown that the FPTP system is clearly associated with a two-party system, there is usually a third minor party, the Liberal Democrats, who have experienced significant growth over the recent years. To explain such a discrepancy, Myatt (2007) has proposed a model where, contrary to Palfrey’s hypothesis, voters have imperfect information on the preferences of other voters, which prevents full coordination of tactical voters on their best contender. For instance, in a situation with two left-wing candidates and one right-wing candidate, some potential left-wing tactical voters may fail to identify their best tactical option. Cox (1997) provides

\(^2\)But it is certainly not the only system where strategic voting can be expected. For example Meffert and Gschwend (2010) and McCuen and Morton (2010) find empirical evidence of tactical coalition voting in a proportional representation system, that is voters might try to vote such that they maximize the winning probability of their preferred coalition.
a comprehensive investigation of this topic.

Besides theoretical attempts to explain the observed patterns of tactical voting, there have been numerous empirical studies trying to quantify tactical voting patterns. Naturally most studies look at the British general elections (see for example Niemi, Written, and Franklin (1992), Johnston and Pattie (1991), Lanoue and Bowler (1992), Alvarez and Nagler (2000) and Fisher (2000)). Nevertheless, there are also studies that look at US primaries (Abramson, Aldrich, Paolino, and Rohde, 1992). In general, there are three main approaches to estimate tactical voting.3

The indirect approach relies on modeling counterfactual voting choices (that is, with and without the opportunity to vote tactically) using observable constituency (or individual) characteristics. Usually, studies using this approach attempt to estimate the impact of perceived closeness of the parties in each district on voting choices and then include explanatory variables that are supposed the measure exactly this. For example Blais, Young, and Turcotte (2005) use a probit model to determine how a vote is cast and include the perceived probability of a candidate winning in this model, which is, they argue, indicative for tactical voting. Using Canadian elections as an example, they find that around 4% of the voters seem to have voted insincerely. Cain (1978) suggests that tactical voting is higher in those seats marked as marginals based on the results of the previous elections. He also employs a logit model approach and finds some indications for tactical voting. Alvarez and Nagler (2000) (and similarly, Alvarez, Boehmke, and Nagler (2006)) estimate a multinomial probit model of voter choices based on survey data and include a measure of expected closeness of the parties in each district as explanatory variable.4 They interpret this measure as the likelihood that a vote is wasted and hence as the potential for strategic voting. They find that around 8% of voters voted strategically, which

3Blais, Young, and Turcotte (2005) provide a comparison of the two main approaches – the direct and the indirect one.

4Interestingly, and related to the paper at hand, they assume that expectations are formed based on the previous election result. This is assumption is strong and is, as we will show later on, empirically most likely not accurate, see section 3.
is roughly in line with other estimates. See also Lanoue and Bowler (1998), Blais and Nadeau (1996), Kim and Fording (2001) and Blais, Nadeau, Gidengil, and Nevitte (2001) for studies using the indirect approach of measuring tactical voting.

However, this approach relies on the assumptions that voting decisions are completely determined by observables and on the accurateness of the answers when survey data are exploited. Both suppositions do not seem to be very credible. Also, they typically rely on a measure of closeness of the electoral race in a constituency, it is however unclear how voters form expectations. Our paper contributes to this problem, as it allows us to make statements how sophisticated voters form their expectations. We find some evidence that they are not purely backward–looking, but more sophisticated.

The direct approach exploits survey data, mainly the British Election Study, which provides pre- and post-election survey data, including questions on the effective vote, the first choice party, or the reason for voting (and whether it was explicitly cast for tactical purposes). Studies using the British Election Survey typically find that around 5% to 10% of voters cast their ballot strategically. Fisher (2000) for example estimates that around 5% in 1987, 7.7% in 1992 and 8.5% in 1997 voted insincerely. These numbers also suggest that tactical voting has slightly increased in the last decades. See also Duch and Palmer (2002), Heath and Evans (1994), Niemi, Written, and Franklin (1992) and Niemi, Whitten, and Franklin (1993) for studies using the indirect approach. However, survey studies face numerous difficulties, which may be particularly problematic in the study of tactical voting. First, answers to questions on tactical voting may be affected by the well-known recall bias in political surveys, which systematically advantages the winning parties, see Himmelweit, Biberian, and Stockdale (1978) and Eubank and Gow (1983). In a situation with two major parties, this bias could exaggerate the number of tactical voters in their favor. Second, survey questions on tactical voting may be affected by a social desirability bias. There is extensive evidence that tactical voting is seen as socially undesirable (or even unethical) by some voters. Hence there may be incentives to conceal a tactical
vote, see Galbraith and Nicol (1989). Finally, if voters are tactical in their vote, they can also be tactical in their answers to political surveys. Meirowitz (2005) shows that tactical considerations can also lead to misdeclaration of preferences in polls. If respondents perceive political surveys in a similar way as polls, they may well choose to answer tactically. They could, for example, hide that they voted tactically to prop up the proportion of voters for their first-choice party. These problems cast doubt on the validity of surveys asking voters to truthfully reveal their intentions.5

The third approach infers patterns of strategic voting from aggregate level electoral data. Particularly it involves estimating vote swings on a district level, for example using “flow of vote matrices”, from which tactical voting patterns are deduced. See for instance McCarthy and Ryan (1977) and Upton (1978) for early transition probabilities estimates (without considering tactical voting in particular). Johnston and Pattie (1992) estimate “flow of the vote matrices” for the British elections of 1983 and 1987. They find some evidence for tactical voting and that it was strongest in marginal constituencies. See also Fieldhouse, Pattie, and Johnston (1996) and Johnston, Pattie, MacAllister, Rossiter, Dorling, and Tunstall (1997). Galbraith and Nicol (1989) uses electoral results and demographic information on the constituencies to check whether similar electorates voted differently depending on the relative position of the contenders at the last election. They also conclude that there are empirical indications for strategic voting. However, this approach naturally runs into the “ecological inference problem” (King, 1997), which refers to the problem of deducing micro–level behavior from macro–level data. In general the usefulness of aggregate level data for individual level inference is at least questionable.

This paper is different from other papers, in the sense that we do not rely on survey data but solely on actual vote choices. Moreover our approach does

neither build on modeling vote choices accurately using available observable characteristics nor on ecological regressions. Instead we nonparametrically estimate the change in vote shares between two parties as a function of the previous election result using constituency level data. This technique allows us to avoid all detriments of the common three main approaches for measuring tactical voting. Moreover, it allows us to study expectation formation of British voters since we are able to compare the plotted estimates under different expectation formation assumptions.

Although it has been widely recognized that people’s expectations about election outcomes play a vital role in determining strategic behavior, it has not been studied more closely until now. Research in this area usually takes past election results as best guess on future results and to determine marginal constituencies in the upcoming election.\(^6\) It is however doubtful whether this is in fact the best description of the average voter’s behavior. We will discuss that issue in more detail in the next section. One of the few studies that looks more closely into this is Lago (2008). He uses survey data from Spain to retrieve information on political knowledge and concludes that people mainly form their expectations about political outcomes using heuristics and hence are not completely sophisticated and forward–looking. Nadeau, Niemi, and Amato (1994) provide a study of expectation formation among British voters. Among other things, they find that voters do not seem to be fully sophisticated expectation–formers. Looking at 1988 Canadian election, Blais and Bodet (2006) conclude that voters form their expectations based on “on the basis of both ‘objective’ contextual information and their own personal preferences” (Blais and Bodet, 2006, p.488). Lastly, Meffert, Huber, Gschwend, and Pappi (2011), who look at multiparty systems in Germany and Austria, investigate which factors determine the quality and precision of the expectation of the electorate.

\(^6\)See Alvarez and Nagler (2000) for example.
3 A New Approach to Identify Tactical Voting

3.1 The Role of Voters’ Subjective Beliefs in Election Outcomes

Voters willing to consider a tactical vote face a key problem: they have to identify the constituencies where switching from a sincere vote to a tactical vote is desirable and those where it is not necessary or even counterproductive. To do so, voters’ information and beliefs about election outcomes play a key role. Typically, tactical votes should be concentrated in constituencies identified by the voters as marginal constituencies where the effect of a tactical vote for a better placed party is most likely to have an impact.

This fact underlies our empirical strategy to find evidence of tactical voting. The set of constituencies which are marginal in one general election is not the same as the set of marginal constituencies in the next election. Between two elections, the national variations in popularity of the main two parties affect their winning chances in each constituency. When the governing party suffers from low popularity, previously safe constituencies are in danger of falling to the opposition. This is indeed the situation which the Labour party faced in 2010. After 13 years in government, the Labour suffered from a drop in popularity in 2010 with an expected swing in favor of the Conservative party of around 8%. We use such a national swing as a tool to study tactical voting.

When a national swing changes a “safe seat” into a “marginal seat”, one should see stronger tactical voting patterns there relative to the previous general elections. By changing the set of constituencies which are marginal from one election to the other, a national swing entails an exogenous variation in “marginality” which can be used to identify tactical voting patterns.

We use this idea to identify tactical voting. We should observe that new marginal seats exhibit stronger patterns of tactical voting than in previous elections, with third party voters partly opting for their second best option. We use nonparametric techniques to detect tactical voting patterns. Moreover, there
may be several ways for voters to form beliefs about which constituencies are marginal or not. Our nonparametric approach allows us to examine which ones are considered to be marginals and which ones not by voters. This information can then be used to test several possible theories about how sophisticated are the voters when forming beliefs about the likely results of the election in their constituency.

3.2 The Different Types of Voter Sophistication

A voter willing to know whether his or her constituency is a marginal one faces a non trivial problem. There are several ways for voters to form a belief about the marginality of their own constituency. We consider four different ways voters might form their beliefs, which can intuitively be understood as nested information sets – from the smallest set to the largest.

First of all, tactical voters could be naively backward–looking and simply form their beliefs based on the previous election outcome. In this case, tactical voting would be worthwhile in constituencies that have been closely contested in 2005. Although this might seem naive initially, the voting guides published by the *Mirror* and the *Independent* were constructed exactly in this way.

Second, a more sophisticated technique would include some forward–looking information and add to the previous electoral results a forecast of the national vote swing. Such an approach would require the inclusion of national opinion polls to make a forecast. Whilst this technique is quite coarse, it was at the core of the very popular “swingometers” on which media and parties extensively relied during the campaign to forecast the makeup of the next Parliament. For this reason, we can suspect that many voters interested in a tactical ballot relied on a uniform swing assumption to form their expectations of the local results. Indeed in Section 3.3 we present convincing empirical support that voters use the uniform swing prediction and not the backward–looking approach to inform themselves about the potential closeness of the electoral race in their
corresponding constituency.\footnote{Two swingometers are available at the BBC homepage at \url{http://news.bbc.co.uk/2/hi/uk_news/politics/election_2010/8609989.stm} and at \url{http://news.bbc.co.uk/2/hi/uk_news/politics/election_2010/8574653.stm}.}

Third, an even more elaborated voter could add more local information to form expectations about election results in his or her constituency. Specific recent relevant political events in a constituency, such as a scandal affecting the reelection of the incumbent MP and so on are of course relevant pieces of information. To consider these very well informed voters, we use data from betting markets. There is clear evidence that betting markets are very well able to aggregate available information, see Arrow, Forsythe, Gorham, Hahn, Hanson, Ledyard, Levmore, Litan, Milgrom, Nelson, et al. (2008) and Wolfers and Zitzewitz (2004) for instance. This is so because well informed market participants have more incentives to bet and therefore will have an impact on the odds. During the campaign, bookmaker offered odds for all the major parties in each constituency. These odds aggregate all available (local) information in addition to the national forecasts. We will use these odds as a proxy for a well–informed forecast by a sophisticated voter. Betting is quite popular in the UK and it seems reasonable to assume that a sophisticated voter could use betting odds to form expectations about the likely result in a constituency.

Fourth, one could consider the unlikely possibility that voters had perfect information – or, alternatively, that they had perfect expectations (Hicks, 1939), such that they were able to anticipate \textit{ex–ante} which constituencies would end up being the closest in the final results. We examine this consideration in Section 3.6. Maybe not surprisingly, it seems that this does not seem to be a realistic assumption.
### Table 1: Actual election results and predictions averaged for three different opinion poll companies (Polls of Polls, ComRes and ICM), published on the Election Day.

<table>
<thead>
<tr>
<th>Results and Polls</th>
<th>Conservatives</th>
<th>Labour</th>
<th>Liberal Democrats</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Share Swing</td>
<td>Share Swing</td>
<td>Share Swing</td>
<td>Share Swing</td>
</tr>
<tr>
<td>2005 Results</td>
<td>33.2% – 3%</td>
<td>36.1% – 3%</td>
<td>22.6% – 8%</td>
<td>8.0% – 0%</td>
</tr>
<tr>
<td>Average Prediction</td>
<td>36.3% 3.1%</td>
<td>28% – 8.1%</td>
<td>27% 4.4%</td>
<td>8.7% 0.7%</td>
</tr>
<tr>
<td>2010 Results</td>
<td>36.1% 2.9%</td>
<td>29.0% – 7.1%</td>
<td>23% 0.4%</td>
<td>11.9% 3.9%</td>
</tr>
</tbody>
</table>

#### 3.3 Backward–looking Approach and Uniform Swing Prediction

It seems reasonable to assume that voters might use a uniform swing model to form expectations about the closeness of the race in their constituency. This model is also mostly used in the main media to discuss the future allocation of seats in the British parliament. As mentioned before, it is assumed that changes in party vote shares will occur homogeneously across the country. Although this might not be completely realistic, it seems at least to be a simple and effective way to predict the results.

Backward–looking voters can be seen as using a specific case of the uniform swing where the expected swing is zero. The seats with close results in the previous elections are then the one considered as marginals in the current election.

Most of the discussions about tactical voting were aimed at Labour and Liberal Democrat voters aiming to vote against the Conservatives. We therefore restrict our analysis to constituencies where either the Labour or the Liberal Democrats were the main opponents of the Conservatives – Labour/Conservative and Liberal Democrats/Conservatives seats. In order to study the marginal seats, we select all seats where the corresponding main two parties are expected to be close according to the opinion polls before the election. We also
eliminated seats which could be considered as three-way marginals, where the third party was pretty close from the second party.\footnote{Details on the selection of constituencies are provided in the Appendix.} We are left with 255 Labour/Conservatives and 126 Liberal Democrats/Conservatives constituencies. Table 1 displays the changes in party vote shares that could be deduced from the last opinion polls before election day.

Since there was a change in constituencies between 2005 and 2010, we use the notional results of 2005 of the new constituencies, which were estimated for the Press Association, BBC, ITN and Sky News by Rallings and Thrasher (2007). All media used these results during the campaign in order to quantify the evolution of political forces in the UK. Those notional results estimated the shares the different parties would have obtained in 2005 in each constituency given the new 2010 boundaries.\footnote{We describe in the Appendix how these notional results are built.}

Our approach to identify tactical voting relies on estimating nonparametrically the change in vote shares between 2005 and 2010 for the three parties for each constituency as a function of the 2005 difference in Labour–Conservative vote shares (Liberal Democrat–Conservative respectively). This will allow us to study the relation between the (expected) tightness of the race and tactical voting behavior as well as to examine which information voters used to form their expectations. We use local linear regressions and a bandwidth selected by cross validation (Stone, 1974) to estimate this relationship. Figure 1 displays these estimations with additional 95% confidence intervals for each party.

There are two variants of the uniform swing assumption. The first one expects marginal constituencies to be those where the Labour party won with a 11.2-point margin in 2005 (from Table 1, the sum of the loss for the Conservatives and the gain from the Labour is: $3.1 - (-8.1) = 11.2$). The second method is even more straightforward. Voters living in a constituency where the race is between Labour and Conservatives may be concerned with a swing from Labour to Conservatives only, that is they look purely at the swing between those two parties regardless of the change in the shares of other parties. Therefore vot-
ers may apply a symmetrical uniform swing to the two parties. They would then expect Labour to lose 8.1 points and the Conservatives to exactly gain this amount, and, therefore, tight races where the Labour won by a 16.2-points margin in 2005. We added vertical lines at these values in the left panel of Figure 1. Strikingly, the extrema of these curves for Labour and Liberal Democrats are located exactly between the two lines, that is where expectations based on the uniform swing assumption predicted a tight race.

For both panels in Figure 1 the change in the share of Conservatives does not seem to depend on the tightness of the electoral race, no matter how tight the race is expected to be. Instead the Conservatives gained around 4 – 5% irrespective of the 2005 vote share difference relative to the other parties. On the other hand, for the Labour party and Liberal Democrats there are clear indications that the changes in voting shares strongly depend on the tightness of the electoral race as predicted by the uniform swing assumption. There is a significant change around 10 – 15 percentage points in favor of the Labor party at the costs of the liberal parties (left panel).

On the other hand Liberal Democrats seem to profit in constituencies where they and the Conservatives have been close in 2005 (right panel). A uniform swing assumption based on the polls would have predicted a tight race in constituencies where the Conservatives had won by a 1.3-points margin (4.4–3.1) in 2005. And in fact, there seem to be some indications here that voters switched strategically to the Liberals in these constituencies. However, there is no sign that those who voted for Labour in the previous election voted tactically to support the Liberal democrats in these seats, but instead the surplus may come from voters who otherwise would not have voted. A possible explanation is that voters in these constituencies did not get the same amount of information as in Labour/Conservative districts, for example due to smaller media coverage. As a result, whilst Liberal voters had plenty of opportunities to form expectations about the marginality of their seat using the uniform swing model, Labour voters in Liberal Democrat-Conservative seats may have had much less opportunity to find out in the media whether there was a close race expected in their seat.
Figure 1: Change in vote shares in the Labour vs Conservatives (left) and Liberal vs Conservatives seats (right), depending on the Labour/Liberal-Conservative 2005 vote share difference. Local linear regression, bandwidth selected by cross validation.

A higher degree of uncertainty about the status of their seats may have induced Labour voters to keep voting sincerely.

These results suggest two things. First, the symmetric evolution of the changes in vote shares of the Labour and the Liberal Democratic party and the fact that the vote share of the Conservatives seems to be unaffected by the expected closeness of the race provides strong evidence for the existence of tactical voting. Second, the fact that this pattern appears for constituencies predicted to be marginal by a uniform swing method suggests that voters were sophisticated enough to do more than just naively use the shares from the last general election as such. They were forward looking, incorporating predictions on changes in vote shares to form their expectations. This may not appear as a big surprise, but we should remember that both The Mirror and The Independent published voting guides that pretty much relied on such static expectations. Both these voting guides selected seats where the Labour had won by a margin from 0 to 8% in 2005. Given that the uniform swing predicted in the media was around 8%, voting guides should have focused on seats where the Labour margin was around 8% at the last election. In practice, many of these voting guides included seats with close results in 2005 and where the
results were very unlikely to end up being close in 2010.

3.4 The Impact of Newspaper Voting Guides

The results presented before suggest that the media outlets seem to have failed to identify the constituencies where tactical voting would have been most effective. For example, out of the 52 Labour/Conservatives constituencies where *The Mirror* guide recommended that Liberal Democratic partisans should vote for the Labour party, only five ended up to be won by the Labour party. Our analysis above points in the same direction: it suggests that voting guides were probably not driving the voting decision. In the case of the marginal Labour/Conservatives seats, we are able to examine the effect of the voting guides published by *The Mirror* and *The Independent* in more detail. This is so because these guides relied on the 2005 differences in vote shares, but did not recommend to vote tactically in exactly the same seats as the uniform swing assumption suggested to do. The newspaper guides included constituencies where Labour won by a margin of zero to eight percentage points in 2005 and hence typically failed the predict accurately the close constituencies.

If there were any effect of the voting guide, one should observe a difference between the constituencies that were included and those which were not included. To test this, we look at the guide published by *The Mirror*, a newspaper which has a large distribution (1.2 million copies in 2010). Besides that, the guide was very similar to the ones from *The Independent* or *Compass*.

Figure 2 shows the box plot of the results in the seats included in *The Mirror*’s guide versus those just left out. The constituencies included had Labour winning by a margin of 4 to 8 percentage points in 2005, while those not included had the Labour winning by a margin of 8 to 12. There is no indication of any effect of the guide on this subsample of seats. Labour does not perform better in the seats included in the guide, and Liberal Democrats do not perform worse in these seats either. This same result is observed for *The Independent* voting guides (*The Guardian* provided an online voting guide, which is not available
Figure 2: The absence of an effect of the Mirror’s voting guide. Results in Labour/Conservatives marginals included in the Mirror guide versus marginals not included in the Mirror guide. The guide does not statistically significantly influence the vote share of the Labour party or the Liberal Democrats. \[\text{Changes in voting share 2010-2006}\]

This suggests that voting guides had no significant effect on the electoral results.\(^\text{10}\)

The absence of an effect may be due to a failure to reach a large number of voters. In spite of large circulation numbers, the cumulated figures of circulation for all the voting guides (1.6 million copies in 2010) are still small relative to the size of the electorate. Another possible explanation is that the readers of these guides are not significantly influenced by them because they form their expectations in a more sophisticated way.\(^\text{10}\)

\(^{10}\)This is in line with the study by Lanoue and Bowler (1992), who found that the media did not seem to have a significant influence on tactical voting in 1983 and 1987.
3.5 Bookmakers’ Predictions

There is a substantial amount of evidence that shows that bookmakers typically give very accurate estimates of the probabilities for certain future events\textsuperscript{11} and in particular of election results (Rhode and Strumpf, 2004). Bookmakers will try to incorporate all available knowledge, like for example the relative strength of local candidates, a local political scandal (which might have been particularly relevant given the large number of MPs involved in the expenses scandal in 2010) and so on. In that sense, bookmakers’ predictions should be much better on average than the national swing prediction, which is entirely ignorant of local characteristics.

We collected odds for each constituency from the Ladbrokes website preceding the elections, around the 30th of April. Out of the 243 Labour/Conservatives constituencies for which bookies’ data are available, 219 winners have been correctly predicted (slightly overestimating the performance of the Conservatives: 22 of these mistakes consisted of incorrectly announcing a Conservatives victory). In comparison, over the same 243 seats, static anticipations gave only 161 correct winners, and forecasts based on the uniform swing assumption (translating the shares of all parties) predicted 212 winners correctly. Bookmakers have, therefore, clearly provided the best-forecast predictions among the different techniques we have considered. A voter considering to vote tactically could easily use bookmakers’ odds to determine marginal seats. These are the constituencies where two candidates are close to a 50% chance of winning.

We employ the same method as before and plot the changes in vote shares between 2005 and 2010 as a function of the tightness of the race defined by the winning probabilities implied by the odds. If voters react tactically to the marginality of a constituency, we should observe an increase in the Labour’s vote share peaking at 50%.

The left panel of Figure 3 displays the corresponding results for Labour/

Conservative constituencies. The Conservatives’ change in vote share is here again independent of the winning probability as defined by bookmakers odds. Strikingly, we do observe an increase in the change in Labour’s and a decrease in the Liberal Democrats’ vote share around the 50% limit. However, the peak and dip are much less pronounced than using the uniform swing predictions in Section 3.3. Bookmakers predictions are however highly correlated with the uniform national swing predicted by the polls and hence the results might be partly confounded. Interestingly, there is no such peak for the Liberal Democratic votes in Liberal Democrats/Conservatives seats (right panel), which seems to support the conclusions from Section 3.3. All in all, this seems again to provide some indications for the presence of tactical voting, but it also suggests that voters mainly used the uniform swing predictions to determine marginal constituencies. Again it is mainly the Labour party that profits from tactical voting behavior and not so much the Liberals.

### 3.6 Perfect Predictions: Using the 2010 Results

Finally, another possibility is that voters form perfect expectations and correctly predict which seats will be the closest. Using the same method as before, it is
possible to look at changes in vote shares as a function of the 2010 differences between Labour and Conservatives (Lib-Dem/Conservatives respectively). This is problematic in the sense that seats that happened to experience a positive shock on Labour (or Lib-Dems respectively) votes will mechanically tend to be higher in the 2010 results. As a consequence, the fitted curve of the changes in share for Labour should tend to increase, while the curves from the Conservatives and the Liberal Democrats will tend to decrease. Nevertheless, this exercise can still be informative since we are able to check for peaks or dips in the estimated curves, which would be an indication for tactical voting and for the fact that people might do extremely well in predicting election results. The left panel of Figure 4 shows that there are clearly no signs for such a behavior in the data. The right panel – the Liberal Democrats/Conservatives constituencies – exhibits some minor variations in close seats, but it is actually the reverse from what tactical voting would suggest, with the Conservatives experiencing a peak relative to 2005 results in precisely those seats that ended up being close in 2010. Overall, it is clear that voters do not seem to be characterized by perfect expectations, a result that seems reasonable after all.
4 Strategic Campaign Spending

We attributed the increase in votes for the Labour party in close constituencies (as predicted by the uniform swing model) to tactical voting. However, party spending that is targeted towards close constituencies might be another causal mechanism that is able to explain the observed patterns. In that case the data would simply reflect increased (financial) effort by the two dominating parties. Although previous studies have found only limited evidence for tactical voting to be induced by party spending (Galbraith and Nicol, 1989; Johnston, Pattie, MacAllister, Rossiter, Dorling, and Tunstall, 1997; Fisher, 2001), we examine this potential mechanism here more closely. Rather than explaining the observed pattern with party spending, research on that matter has suggested that party spending interacts with tactical voting behavior, helping to trigger or to moderate it (Fieldhouse, Pattie, and Johnston, 1996; Pattie and Johnston, 2010).

We investigate here whether party spending followed the same patterns as the variations in the parties’ shares. We employ detailed data from the British Electoral Commission summarizing party spending data at the constituency level. Figure 5 displays total party spending during the campaign for a period from January 1 to May 6 2010 of Conservatives, Labour and Liberal Democrats in the marginal Labour/Conservatives seats as function of the 2005–2010 vote share difference between Labour and Conservatives in the top left panel. The same graphs are depicted in the top right panel whereas campaign spending is restricted to the short term period (starting on April the 13th). The two vertical lines indicate the interval in which a uniform swing prediction identified the marginal constituencies to be located. The two bottom panels of Figure 5 display campaign spending and bookmakers winning probabilities.

Spending of both, Labour Party and Conservatives, peaks in districts where Conservatives gained around 5% to 10% in the 2010 elections and hence does not exactly fit a uniform swing model. Thus spending is also not maximal between 10% and 15% where we observe tactical voting.
Figure 5: Total party spending (left–hand side panels) and spending during the short campaign (right–hand side panels) of Conservatives, Labour and Liberal Democrats in the Labour/Conservatives constituencies, depending on the Labour/Conservatives 2005 vote share difference (top panels), and the winning probability of Labour given by bookmakers (bottom panels). Local linear regression, bandwidth selected by cross validation.
The lower panels in Figure 5 also clearly show that both parties did not opt for spending strategies that coincide with the bookmakers' predictions, as their total spending peaked for seats where the winning probability for Labour was only estimated at 33% on average. Restricting the sample to the short campaign (lower right panel) tends to make the distribution of spending even uniform across constituencies.

Overall, the data seems to suggest that political parties tried to target marginal seats, but did so somewhat imperfectly (if we define marginals using a uniform national swing or bookies' odds). In addition, the data does not support the idea that voters simply “follow the money” of the political parties. Noticeably, there is no peak for the Conservative vote share in the seats where their spending peaks. Overall, the Conservative gains seem to be quite insensitive to the amount of money spent for campaigning. This absence of effect could either mean that Conservatives’ spending had no effect or that it was balanced by Labour’s spending, resulting in a wasteful ‘arms race’.

This does not necessarily mean that party spending does not matter for tactical voting. Conceptually, the line between the effect of party spending and tactical voting is a subtle one. First, even if campaign spending is unable to change voters’ preferences it can play an important role in signaling the closeness of the race to the voters in their constituencies. A large pecuniary effort by a party in one constituency could transmit the information that there is close race expected, and thus that tactical voting might considered to be worthwhile. In this situation, investments by the Conservative party could even be counterproductive. Second, a party could use its budget to run a political campaign targeted at promoting tactical voting.

---

12This is in line with recent conjectures that Conservatives are less effective in campaigning, see Pattie and Johnston (2010) for example.
5 Controlling for Third Parties’ Distance from Contention

Conventional wisdom (but also some empirical studies, see for example Cain (1978)) suggests that tactical voting is highest in seats that are closely contested. In contrast to that, Myatt (2007) in a recent theoretical study puts another argument forward. He argues that once the distance from contention of the third party is controlled for, tactical voting should be largest in seats where the leading party has the greatest advantage against the runner-up (see Proposition 6 in Myatt (2007)). Myatt’s arguments is that is not the marginality per se that is relevant for tactical voting and that it is necessary to control for the role of the distance from contention of the third party. Assuming for instance a constituency where Conservatives are expected to gain 30% of the votes and Labour 28%, tactical voting behaviour of Liberal-Democratic partisans will differ depending on whether the Liberal Democrats can expect to gather 10% or 27% of the electoral votes.

As a third contribution, this paper tests the interesting and somewhat counterintuitive prediction of Myatt’s (2007) model regarding the importance of tactical voting in marginal constituencies. Until now, we simply restricted our sample to constituencies where the third party was sufficiently behind relative to the second party in order to avoid these problems. We estimate a general additive model (Breiman and Friedman, 1985) to control non-parametrically for both the closeness of the race and for the distance from contention. The vote share $v_{2010}^P$ of a party $P$ in 2010 is specified as the sum of two non-linear and unknown functions, $m_1$ and $m_2$, of the tightness of the race, $t$, and the distance from contention of the third party in 2005, $c$:

---


14 Please consult the Appendix for more details on the sample selection.
\[ v_{2010}^p = m_1(t_{2005}) + m_2(c_{2005}) + \varepsilon, \quad (1) \]

where \( \varepsilon \) is a random error term.

Figure 6 displays the results for the Labour/Conservatives constituencies. Visual inspection of the graph indicates that the results are in line with those from Section 3. Tactical voting still appears to be prevalent in marginal seats, even after controlling for distance from contention. Beyond the marginals, tactical voting seems to be lower in seats dominated by the Conservatives. This result contradicts the predictions of Myatt’s model that tactical voting should increase with the winning margin of the Conservatives. Relative to Fisher’s (2000) estimations, our estimation strategy has the advantage that it imposes only minimal identifying assumptions on the data generating process (separable additivity). Hence, our results support the commonly held view that tactical voting is likely to be maximal in seats that are tightly contested. In fact, it is also stronger in marginals that are defined with a uniform swing model.
Figure 6: Additive model estimation. Change in vote shares as a function of Labor/Conservative vote share differences after controlling for distance from contention.
6 Concluding Remarks

We contribute to the literature on tactical voting in four different ways. First of all, we propose a novel simple empirical strategy to identify tactical voting. This method is based on the visual inspection of the nonparametrically estimated relationship between the change in vote shares between two elections and the difference in vote shares between the two major contesters in a certain district. As such, this approach is of general importance and applicable in all similar situations. It also avoids the disadvantages of the previous methods. Applying this approach to the 2010 British general election, we find that tactical voting was likely playing a significant role. Moreover, it seems that mainly those voters who voted for the Liberals in the preceding elections are prone to tactical voting, but not so much those who voted for the Labour party beforehand.

Secondly, this paper sheds some light on how voters form their expectations about election outcomes. Our method allows us to compare different information acquisition approaches. We find that voters seem to calculate expected closeness of seats mainly using a uniform swing model and not so much from newspaper voting guides. Our results therefore suggest a “partly sophisticated rational” voter (as opposed to a “sophisticated rational” voter who would rather follow bookies predictions or even perfect forecasts and opposed to a naive voter who is purely backward-looking).

Thirdly, we add to the literature on campaign spending by political parties. We have shown that parties try to target marginal constituency with their campaign spending, but are far from effective in doing so. We also presented some evidence that the Conservative party is particularly inefficient in the use of its money. In general voters do not seem to be overly influenced by campaigning effort of the parties.

Last but not least, we empirically contribute to the theory of tactical voting as our approach allow us to test and reject Myatt (2007)’s Proposition. It states that strategic voting should be higher in constituencies where the Conservatives have the highest vote edge once distance from contention is controlled for. We
estimated a general additive model that explicitly controls for this distance. This supports our findings from the Sections before – we still find that tactical voting seems to be most likely at close races.

Finally, what can our results bring to the debate on the electoral reform in Britain? Whilst the Gibbard-Satterthwaite theorem states that there cannot be a strategy-proof voting system, it is hard in practice to compare how different systems would fare in regards to that matter. The proportion of voters choosing to vote strategically depends on the distribution of preferences and the relative positions of the candidates in the political space.

Empirical comparative research on alternative voting (AV) and First-past-the-post (FPTP) is relatively limited. Although tactical voting is generally associated with FPTP systems, it is well known that tactical voting is also possible with AV (Niemi, 1984). However, Bartholdi and Orlin (1991) find that the class of single transferable vote (STV) voting rules, to which AV belongs, should be more resistant to tactical voting as they are characterized by a higher degree of complexity for those voters looking for a tactical vote option. As it happens, in Australia, that uses the alternative vote system, the proportion of tactical voting has been estimated to be much smaller than in Britain (Gschwend, 2004).

In relation to this debate, our results seem to indicate that voters (or at least some of them) are sophisticated, but that they primarily use rather coarse information sets (like the uniform swing mode) to make predictions. As an argument in favor of AV is made on the ground of its complexity, the degree of sophistication of the electorate matters. With a “somewhat sophisticated” electorate, for which we find some empirical evidence here, FPTP may be easy enough for people to use public information to define a tactical voting strategy. Under the AV system, such voters may find it too hard to come up with the right tactical voting strategy. In that sense, our results suggest that AV could reduce the proportion of tactical voting by putting such an option out of reach for most voters. Nevertheless, much research remains to be done here.
References


Hicks, J. (1939): *Value and capital: An inquiry into some fundamental principles of economic theory*. Oxford University Press, USA.


A Data

A.1 Redistricting and Notional Results

As mentioned before, between the 2005 and the 2010 elections some constituencies were subject to redistricting. To adjust for this fact, we employ the widely used notional results by Rallings and Thrasher (2007). The notional election result is an estimate how the previous result would have looked like given the new constituency boundaries. Nevertheless, those estimates are not perfect since they neglect tactical voting. In the following we are going to briefly describe how these results are calculated.

Constituencies are composed of electoral wards, which were almost never cut during the change of boundaries. Hence, notional results could in theory be computed by re-assorting electoral wards. However, in British general elections, results are not available on the ward– but only on the constituency–level. This
is a direct consequence of how the ballot papers are counted. The electoral commission enforces a system in which all ballot boxes are first gathered in a central place in every constituency and are then mixed before they are counted.

Notional results are therefore calculated with the help of election results available on a ward level, primarily local authority elections. Basically, the number of votes obtained by party $P$ in the new constituency $C'$ is calculated as the sum of votes for $P$ at the local elections in all the wards that form the 2005 constituency $C$. The vote share of each party at the 2005 national election is then divided by the sum of the local election votes in $C$. This fraction $F$ is used as a multiplier for each $C$ and $P$ and applied to the party’s vote in each ward that constituted $C$ to obtain a notional 2005 general election result in that specific ward. All votes in the wards making up the new constituency $C'$ boundaries are then summed to get the result for the corresponding constituency. In a few cases manual adjustments have been made.

A.2 Selection of the Sample of Constituencies

As previously mentioned, we restrict the study to Labour/Conservatives and Liberal Democrats/Conservatives marginal seats. In order to study the former for instance, we consider only the constituencies where Labour and Conservatives arrived first and second (or second and first respectively) in 2005. We then drop all seats where those two parties are not expected to remain the two dominating ones in 2010. We combine the previous result with the national swing to obtain these expectations. That is, given the 2005 election result in a constituency where Labour and Conservatives came first and second, we drop those constituencies where a national vote swing would predict that at least one of the two parties will not be first or runner-up. We are left with 255 Labour/Conservative constituencies. We compile the Liberal Democrats/Conservatives marginals accordingly, but since Labour was expected to lose ground and Conservatives and Liberal Democrats to gain votes, we are not dropping any constituencies here. That is, with expectations based on a national vote swing,
we will never see a constituency where Liberals and Conservatives have been first and second respectively in 2005 but are not predicted to be first and second in 2010. As a result, we keep 126 Liberal Democrats/Conservatives marginal constituencies. Hence, we use information from 381 out of 650 constituencies in total.