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Predicting general election outcomes: campaigns and changing voter knowledge at the 2017 general election in England

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Abstract
There is a growing literature suggesting that the result for each constituency at British general elections can be predicted using 'citizen forecasts' obtained through voter surveys. This may be true for the majority of constituencies where the result at previous contests was a substantial majority for one party's candidates: few 'safe seats' change hands. But is it true in the marginal constituencies, where elections are won and lost? Analysis of such 'citizen forecast' data for the Labour-Conservative marginal constituencies in 2017 indicates not. Although respondents were aware of the seats' relative marginality and of general trends in party support during the campaign, they could not separate out those that were eventually lost by each party from those that were won again, even in seats where the elected party won comfortably.

Keywords Forecasting · Wisdom of the crowd · Constituencies · Marginality · England · 2017

As a British general election approaches, a wide range of political actors want to know which seats are safe, which will be likely lost and, most importantly, which seats will be marginal. For decades, the main information provided by opinion polls has focused on each party's likely share of the votes cast nationally. In many electoral systems based on proportional representation this is sufficient to give a good approximation to the number of seats each party will gain. In those using single-member district systems, such as that for elections to the United Kingdom's House of Commons, however, the relationship between

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vote share and seat allocation is far from constant across parties and elections because of several interacting elements of the geographies of party support (Gudgin and Taylor 1979; Johnston et al. 2001). Estimating the likely number of seats each party will win—and even which will be the largest party when the election result is likely to be close—is difficult from aggregate polling data because of varying disproportionality in the seats to votes ratio. When an election result is announced, therefore, the allocation of seats across the parties may come as a surprise to many observers—as was the case at the 2015 and 2017 UK general elections—because they have been unable to assess accurately how the vote shares will be translated into seat numbers.[1]

Recent changes in polling practices, most notably the introduction of online sampling, have allowed companies and academics to survey large numbers of respondents more frequently throughout the campaign. Rather than relatively small polls of national samples, therefore, it is possible to survey a substantial number of people across most if not all of a country's constituencies. This allows the application of what Lewis-Beck and Stegmaier (2011) have called 'citizen forecasting' (see also Lewis-Beck and Skalaban 1989; Graefe 2014). They argue that voters locally are well aware which party is likely to win in their home constituency so that survey or poll data including questions exploring that likelihood can give more precise information than previously available on the likely election outcome, both locally and nationally.[2] This argument has been taken up by Murr (2015a, b) who has used such survey questions to explore the predictability of UK general election and US presidential election outcomes with some considerable success. Comparable research in Germany has shown that better forecasts are provided by individuals in large social networks containing considerable political expertise and which involve substantial political discussion (Leiter et al. 2018), although a Belgian study has suggested that individuals with strong partisan attachments are more likely to over-estimate their party's chances of success (Stiers and Dassonneville 2018).

The British Election Study's (BES) surveys at recent general elections have asked respondents which party they think will win in their home constituency. Murr's (2011) analyses of the 2010 BES data found that a majority of respondents correctly identified which party would win their local seat. More importantly, aggregating responses by constituency to create group forecasts produced an 86% rate of correct estimates for constituencies, with the predicted seat shares overall conforming to the outcome of that contest (a hung parliament). Murr (2016) then applied the procedure to a series of seven recent elections; on average 61% of individual respondents to various BES surveys correctly predicted their local winner—reaching a high of 72% in 1997 (which Labour won by a landslide) but a low of 55% in 2010 (which election produced a hung parliament). He again found that the 'wisdom of crowds' was better than the wisdom of individuals: when voters were aggregated by constituency, the percentage of constituency outcomes correctly predicted averaged 85 over the seven elections. He thus argued that the 'wisdom of crowds', as identified through straightforward survey questions, could be deployed to provide valid foreknowledge of an election's outcome, not just of what percentage of the votes each party would obtain but also how many seats each would occupy in the House of Commons.

[1] The exit poll conducted for the country's main TV stations was remarkably successful and predicting to allocation of seats, however: Curtice et al. (2017).

[2] Interestingly, this argument runs counter to that of Achen and Bartels (2016, 277) who stress 'the sheer magnitude of most people's ignorance about politics'.

One potential drawback to this argument is that all British constituencies are not equal in terms of the predictability of the outcome. Most constituencies—and an increasing proportion of the total over recent elections—are what is normally considered safe for one of the contesting parties: its margin of victory at the previous contest was such that, bar either a major national swing against the incumbent party or a local outcome deviating substantially from the national pattern, the same party would win there again at the next election (Curtice 2015, 2018). Most voters in most places should therefore be aware which party is likely to win in their home constituency; if it rarely changes then all they need is to remember who won last time.

In the more marginal constituencies, however, in order to estimate correctly the likely victor there voters would not only need to know which party won at the last election and by what margin but also what the national trend in party support has been since then and whether the local trajectory is following that pattern. There should be greater uncertainty/inaccuracy in voters' evaluations in those marginal seats, therefore, especially if the pattern of support is not trending in the same direction across all such constituencies. Given the importance of those marginal seats to the eventual election outcome, the 'wisdom of the crowds' may fail in those places where it would be most important to the overall outcome. England currently has 533 constituencies; if the outcome is almost certain in 400 of them then being able to predict the likely result in each of the other 133 is crucial to forecasting the outcome nationally. But is this task feasible for voters?

The 2017 general election in England provides an excellent opportunity to explore the geography of voter knowledge in the light of this potential relative failing of the 'wisdom of the crowds' argument.[3] Unlike previous contests since the 1970s, just two parties—Conservative and Labour—predominated in the election, winning 87.5% of the votes between them and 524 of the 533 seats. The real focus of the 2017 contest there was on the 124 marginal seats won by one of them at the previous contest (just 2 years earlier) by a margin over the other of 15 percentage points or less.[4] Of those seats, twenty-one of the sixty-six held by the Conservatives in 2015 were won by Labour 2 years later, and six of the fifty-eight held by Labour were lost to the Conservatives. Figure 1 shows each party's winning margin in both 2015 and 2017 in those 124 marginal seats: positive values indicate a Labour majority and negative margins a Conservative majority. Were local residents aware that these were the constituencies where a change could take place?

That question is of particular interest because in 2017 it was not necessarily the most marginal seats that changed hands. There is only weak evidence of a uniform swing towards Labour across the marginal constituencies, as illustrated by the variation about the regression line in Fig. 1 (its r^2 value was only 0.49). With uniform swing, the seats that changed hands would have been those close to the vertical line in Fig. 1. Labour did win most of the seats held by the Conservatives by a very small majority, but it also won some others with larger Conservative 2015 majorities—including three where that majority was greater than 10 percentage points—whereas most of their seats won by similar

[3] Scotland and Wales are omitted from the analyses because of the important presence of nationalist parties there, notably in Scotland where the SNP won 56 of the 59 seats in 2015 and 35 in 2017. Northern Ireland was not covered by the BES.

[4] Elsewhere in the United Kingdom the main focus was on the number of seats that might change hands in Scotland as a result of a decline in support for the Scottish National Party: because of the very different pattern of party competition there, we have looked separately at what happened in Scotland (Johnston et al. 2019).

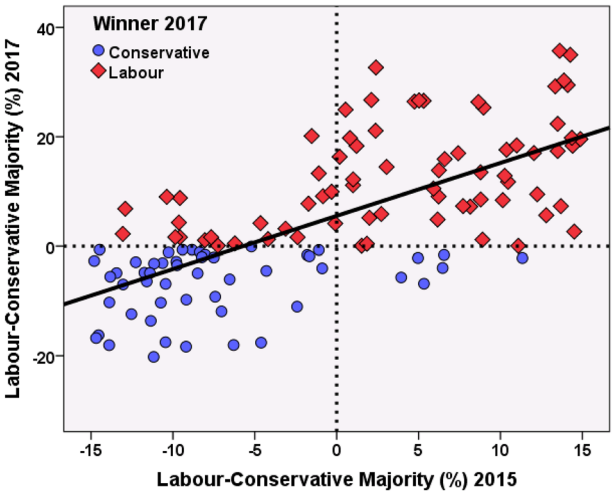

Fig. 1 The majority in the Conservative-Labour marginal constituencies at the 2015 and 2017 general elections

margins then were held by the Conservatives. Were local voters aware of those varying fortunes between the two parties? Similarly, were voters in Labour-held seats that shifted their support to the Conservatives aware that victory was more likely there in 2017 than in the remainder that stayed with Labour? None of the six Labour-held seats that were lost to the Conservatives in 2017 were very marginal: the smallest 2015 margin in any one of them was 3.94 percentage points, and Labour retained control of the fourteen seats it won in 2015 with smaller margins. Were local residents aware that these seats were trending towards the Conservatives whereas others with similar outcomes in 2015 were not?

Furthermore, those swings—towards Labour in most Conservative-held marginals and towards the Conservatives in just a small number of Labour-held seats (Fig. 1)—probably only became apparent late in the campaign. When the election was called the Conservatives had a substantial lead over Labour in all opinion polls—as much as 20 points in some (Allen 2018; Denver 2018)—and the Conservatives anticipated winning a large number of the Labour-held marginals (see Shipman 2017); indeed, the Prime Minister launched the Conservative manifesto in one of those marginals, which was retained by Labour with an increased majority (1.0 points in 2015; 11.14 in 2017). As the campaign proceeded Labour closed that gap substantially, especially after the parties' manifestoes were published. Were voters aware of this trend, and did the change register most in those constituencies that the Conservatives lost—but not in those that they gained from Labour?

To address these questions, we use data from the 2017 British Election Study (BES) panel survey, focusing on those 124 marginal constituencies where the Conservative and Labour parties occupied the first and second places in both 2015 and 2017. As argued above, the 'wisdom of the crowd' argument is almost certain to hold in the large number of safe seats that characterises most British general elections, so their inclusion in any analysis would undoubtedly produce a high success rate. Analysing only the marginal seats focuses on the places where the overall accuracy of any forecast will be determined. A highly accurate forecast requires local voters to be certain which party will win in those places where victory is least certain.

1 Knowing the margins

In the BES pre-campaign survey, conducted between 24 April and 3 May 2017 immediately after the unexpected election was called on 18 April 2017, respondents were asked, for each party (though we analyse only the responses to the Conservative and Labour parties), on a scale from 0 to 100 'how likely is it that … [the named party]… will win the General Election *in your local constituency*?' (their emphasis), with 0 indicating 'very unlikely' and 100 'very likely'. In the constituencies studied, these two questions were answered by 3100 respondents (i.e. none gave an answer of 'not sure' to either question), giving an average of twenty-six per constituency, with a standard deviation of seven (the maximum in any constituency was 55 and the minimum 8). Respondents were then sampled once again on one day during the campaign (an average of 109 per day) and asked the same questions. Given the small numbers questioned each day, the campaign is collapsed into four periods each containing one-quarter of the respondents—named Early, Early-Mid, Mid-Late and Late here.[5]

We present two sets of analyses. The first are conducted at the constituency scale exploring the 'wisdom of the crowds' in those seats, for which the data are presented in graphical form—necessary because there are few general trends that can be captured by either tabular presentations or statistical analyses; much of the focus is on the outliers, the constituencies that were won and lost in 2017. The second comprises statistical analyses conducted at the individual level, designed to explore which voters correctly identified those seats where a change of party incumbency occurred in 2017.

According to the pre-campaign survey, and in line with Murr's (2016) results from earlier elections, 73.1% of respondents correctly predicted which party would win in their constituency—i.e., they gave it the highest score on the 0–100 scale to the winning party. As anticipated here, however, they were least likely to be correct in the marginal constituencies. Figure 2 shows the percentage of respondents who correctly identified the likely winner in all English constituencies,[6] according to the successful party's margin of victory in 2015 and which party won there in 2017. Although the correlation between the two variables is virtually zero—reflecting both the curvilinear shape of the general relationship and the wide scatter of points for any particular value of the independent variable—nevertheless the percentage getting the outcome right was generally much lower in the more marginal seats. Nearly all of the constituencies where the percentage identifying the winner correctly was less than 50 had been won by a margin of less than 20 points in 2015; most were won in 2017 by either Labour or the Liberal Democrats—victories largely unanticipated by local residents when the election was called.[7]

Were respondents aware whether they lived in a marginal constituency? The BES pre-campaign survey asked respondents to indicate, on a scale from 0 to 10, how likely it was that their vote made a difference in their constituency. Figure 3 shows the mean

[5] Early responders were those interviewed between 5 and 12 May, inclusive; Early-Mid responders were interviewed between 13 and 22 May; Mid-Late responders between 23 and 30 May; and Late responders between 31 May and 7 June.

[6] One of the 533 constituencies was excluded since that being defended by the incumbent Speaker was, following convention, not contested by either of the two main parties.

[7] Few correctly predicted that the Green party would win again in the seat its candidate held at both the 2010 and 2015 general elections: the mean score for a Conservative win in Brighton Pavilion in 2017 was 41 and for Labour 51.

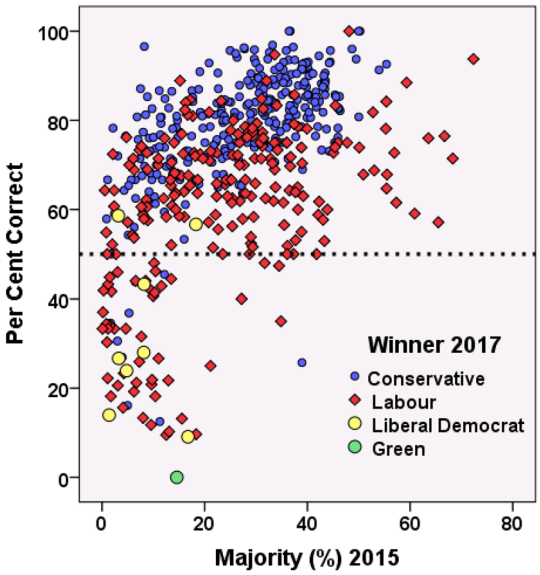

Fig. 2 The percentage of respondents who correctly predicted which party would win in their home constituency in England at the 2017 general election, prior to the campaign: all constituencies

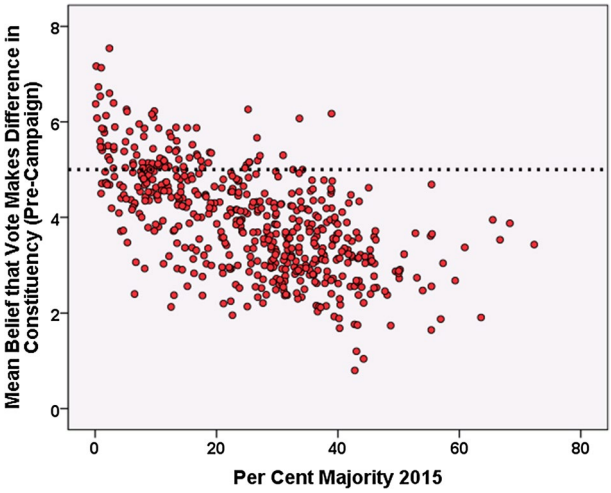

Fig. 3 The mean belief of respondents that their vote would make a difference in their home constituency in England at the 2017 general election, prior to the campaign: all constituencies

score for respondents across all constituencies, graphed against the winning party's majority there in 2015. Although the overall correlation is low because of the wide scatter of points and the slightly non-linear nature of any relationship, voters were generally aware of their local situation. The smaller the margin of victory in 2015, the greater the likelihood of a constituency mean value of 5.0 or more, indicating that respondents thought their votes would be important in determining the local outcome.

Just after the 2017 election was announced, and before formal campaigning started, therefore, BES respondents were in general aware of whether they lived in a marginal constituency, and voters living in marginal seats were much less accurate in predicting the likely winner there. Focusing on the Labour-Conservative marginal constituencies

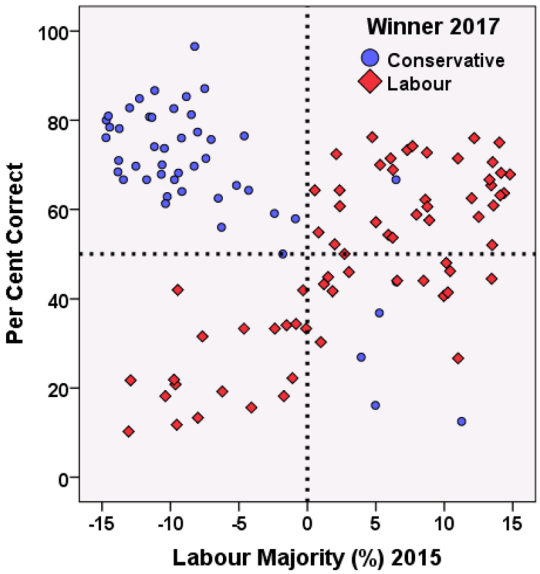

Fig. 4 The percentage of respondents who correctly predicted the winning party in the 2017 pre-campaign survey in the Labour-Conservative marginal constituencies, according to which party won there in 2017

only, Fig. 4 shows that in Conservative-held seats (to the left of the vertical line) there was a marked difference between those won again by the Conservatives in 2017, where at least 50% of respondents correctly predicted the local outcome, and those won by Labour, where on average only about 20% of the respondents were correct; the majority expected another Conservative victory. The differences were slightly less stark in Labour-held seats (to the right of the vertical line); more were correct in seats won again by Labour than in those gained by the Conservatives, but the substantial number of seats won by Labour in 2017 where less than half of respondents correctly estimated that victory indicates that before the campaign started many voters in Labour-held marginal constituencies expected that they would be lost to the Conservatives.

2 Seeing the campaign changes

A Conservative landslide was widely anticipated when the election was called. The gap between the parties narrowed during the campaign, however, and BES respondents were aware of this shift, as shown in responses to a question asking on an 11-point scale (0–10) whether they expected each party to win a majority of seats in the House of Commons. In the pre-campaign survey the mean response for the Conservatives was 7.66 and for Labour 2.82. As the campaign progressed responses to the same question asked of respondents to the rolling sub-sample showed the gap closing (Fig. 5); a Conservative majority was still considered the most likely outcome, but its probability declined quite substantially as Labour's support increased.

BES respondents were generally aware of national shifts in party support, therefore, but was this overall view reflected in their estimates of the likely outcome in their home constituencies? In general, the mean response in each constituency reflected the local situation, as shown in Fig. 6 for Labour across all constituencies (where for ease of representation data for only a one-in-five random sample of constituencies are shown). Labour's margin

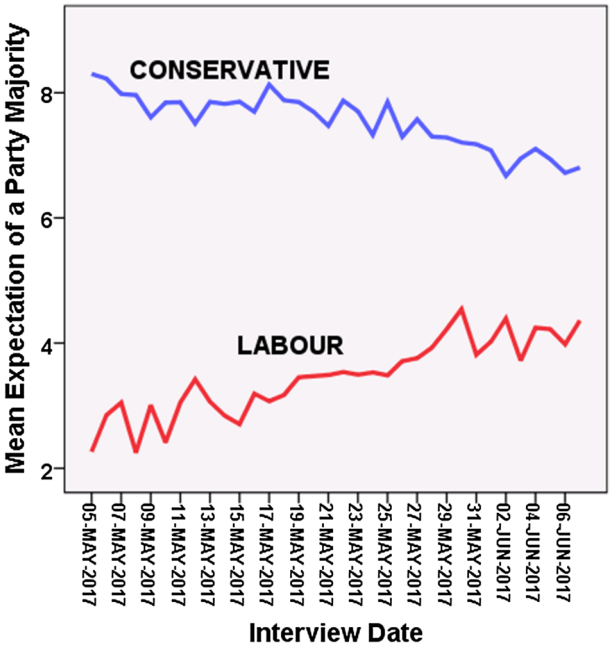

Fig. 5 The changing mean expectations of the Conservative and Labour parties winning a House of Commons majority according to the daily surveys during the campaign

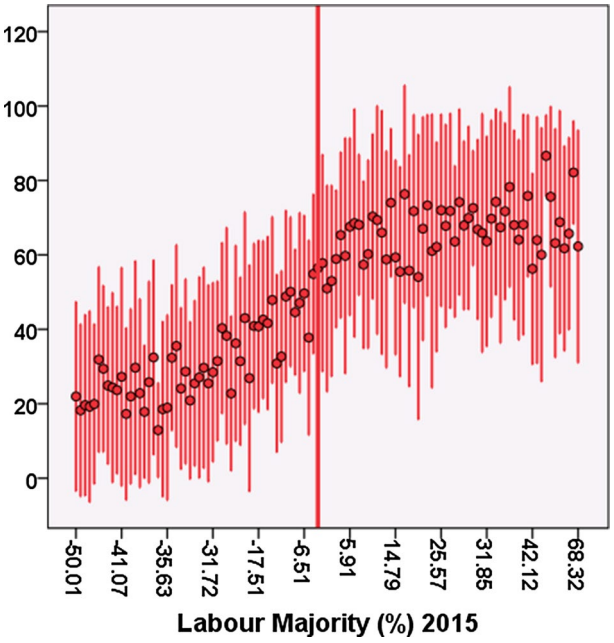

Fig. 6 The expectations of a Labour victory by constituency (for a 1-in-5 random sample of constituencies) according to the pre-campaign survey. The mean value (for a score between 0 and 100) is shown on the vertical axis by a circle and the standard deviation around that by the vertical lines. (Because the distributions are highly skewed—especially at the extremes—some of the + 1sd values exceed 100 and some of then − sd values are below 0.)

of defeat-victory in 2015 occupies the horizontal axis (seats lost then are to the left of the vertical line) and the mean expectation is on the vertical axis, along with the associated one standard deviation variation around that. Those large standard deviations (averaging

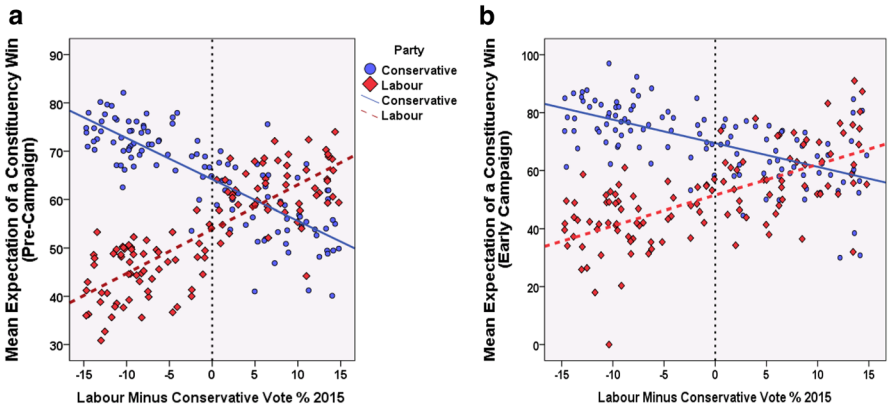

Fig. 7 Mean Expectations of Labour and Conservative constituency wins in the Labour-Conservative marginal seats **a** according to the pre-campaign survey and **b** according to those surveyed in the final 10 days of the campaign

around 25 points) indicate considerable variability across respondents within constituencies (because of skewness some of +1sd values exceed 100 whereas some of the −1sd values are less than zero). Nevertheless, the general trend is clear; the better Labour's performance in 2015 the greater the local expectation that it would win there in 2017.

That trend was also clear in the marginal constituencies. Figure 7a shows the pre-campaign mean likelihood of victory for both parties as a function of Labour's margin of victory or defeat in 2015, with the associated regression lines. For the Conservatives, the mean likelihood of a further victory was greater than 50 in all seats won in 2015 (i.e. those to the left of the vertical line). Expectations were lower in Labour-held seats, but above 50 for a Conservative victory in most. For Labour, a similar general pattern is shown by the upward-sloping regression line (there was an r^2 value of 0.67 associated with each regression), but the mean likelihoods were generally lower with expectations below 50 in almost all Conservative-held seats. Further, the two regression lines crossed where the value on the horizontal axis indicated a Labour victory by 5 percentage points in 2015: on average, therefore, in seats Labour won by that majority or less in 2015 respondents had greater expectations of a Conservative than a Labour victory.

Figure 7b replicates that graph for the sub-sample questioned in the last eight days of the campaign. (Because of the smaller numbers involved, these estimates are 'noisier': the r^2 associated with the regressions are 0.47 for the Conservatives and 0.33 for Labour.) Although the same general patterns recur, some noticeable differences suggest changing expectations. Many fewer Conservative-held seats have mean expectations of a Labour victory of less than 50 just before votes were cast than when the election was called some 6 weeks earlier, indicating growing appreciation that Labour may gain some of them—although in almost all cases the likelihood of a Conservative victory remained considerably higher. Furthermore, the point where the two regressions intersect is much closer to the zero value on the horizontal axis in Fig. 7b than in Fig. 7a, suggesting a shift in expectations towards Labour.

The pattern of changes in those expectations is shown in Fig. 8, where the mean for each party in each constituency in the final days of the campaign is compared with that for the pre-campaign survey (a positive value indicates an increased likelihood). For Labour,

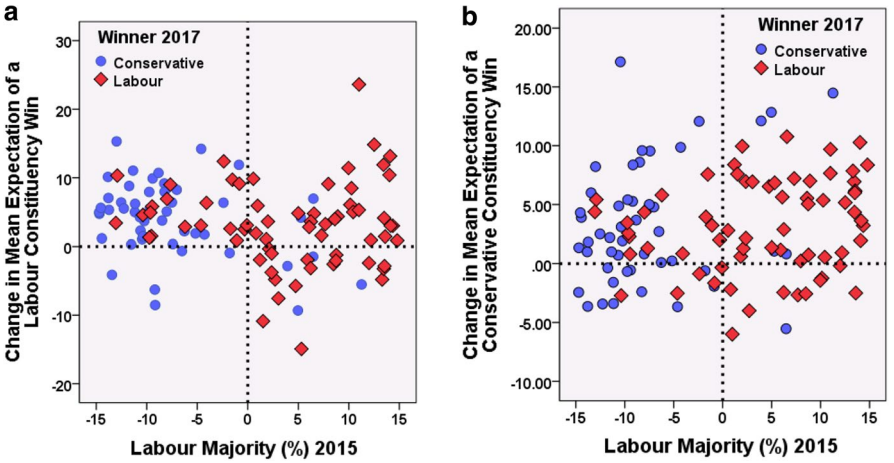

Fig. 8 Changes in the mean expectations of **a** labour and **b** conservative constituency wins between the pre-campaign survey and the survey in the last 10 days of the campaign

Fig. 8a indicates a modest increase (of less than ten points on the 101-point scale) in almost all Conservative-held marginals (i.e. those to the left of the vertical line), including in all of those where Labour eventually won. But among those constituencies where there was an improvement in the assessed likelihood of a Labour victory those which it did win do not stand out relative to those where the Conservatives retained the seat. Local respondents could identify the general trend towards Labour, it seems, but not those where its prospects were especially enhanced. In the Labour-held seats, somewhat surprisingly, the mean expectation of a further Labour victory fell in about one-third, including four of those lost to the Conservatives but also nineteen where Labour retained the seat.

Figure 8b shows that, despite the overall trend in the polls, on average local residents in marginal seats were nevertheless more likely to increase rather than decrease their estimated likelihood of a further Conservative victory in the Conservative-held marginals (i.e. those to the left of the vertical line); the Labour advance was recognised, but nevertheless the Conservatives were still expected to perform well. In those Conservative-held seats there was a small increase—less than five points in most cases—in the expectation of a further Conservative victory, even in the fourteen seats which Labour eventually gained in the election. In the Labour-held marginals (those to the right of the vertical line), there was an increase averaging more than ten points in three of the seats lost to the Conservatives, indicating that their advance was widely appreciated there, but almost no change in three of the others. By a ratio of more than 3 to 1, local residents were more likely to increase than decrease their estimates of the likelihood of a Conservative gain as the campaign progressed.

These graphs suggest that while residents in marginal Labour-Conservative constituencies were aware of Labour's increased support nationally as the campaign proceeded and reflected this in their estimates of its likelihood of winning in most of those seats, nevertheless they still thought that, on average, the Conservatives would outperform Labour there. Further, within these general trends there was little evidence of clarity regarding which seats Labour would win from the Conservatives, and vice versa. This is illustrated in Fig. 9a for the Conservative-held marginals only. Of the ten seats they won in 2015 by

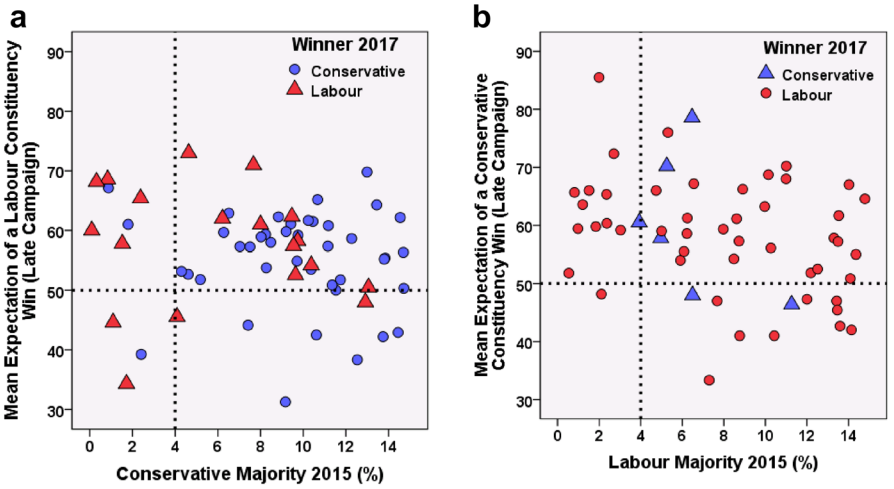

Fig. 9 Mean expectations of **a** labour and **b** conservative constituency victories according to those surveyed in the last 10 days of the campaign

a majority of four percentage points or less, in two of the five that were lost the average likelihood of a Labour victory according to those surveyed in the last days of the campaign was less than 50—as it was also in another won in 2015 by just over four points. The mean likelihood of a Labour victory in the other—somewhat safer?—seats exceeded 50 in all but seven, but in only two of the twelve eventually won by Labour did that likelihood stand out with mean values exceeding 70. In general, even in the last days of the campaign local residents in those Conservative-held marginal seats were unable to clearly separate those that were going to be won from those that would be lost.

It was the same with the Conservative gains in the Labour-held marginals (Fig. 9b). In all but twelve of those seats on average respondents interviewed near the end of the campaign estimated the likelihood of a Conservative victory as greater than 50—but the Conservatives only gained six of those seats, and in two of them the mean estimated likelihood was less than 50.

3 Who thought what outcome was likely?

Throughout the campaign there was little change in the overall accuracy of respondents' forecasts of the outcome in the constituencies: 73.1% predicted the winner in their home constituency correctly before the campaign started, and when they were interviewed during the campaign the percentages correct were 72.8 in the first 8 days, followed by 75.0, 75.4 and 75.0 in the subsequent periods. 'Errors' were greater in the marginal constituencies.

Were some types of respondent more likely to rate a party's chances in their local constituency greater than others? If they were well informed about the situation, not only at the start of the campaign but also as it proceeded and the parties' prospects changed, there should be a close correlation between marginality and the assessed likelihood of victory. There was a correlation but, as Fig. 6 indicated, it was weak because of considerable variation within each constituency. What could account for that? Those more interested in politics might be better informed (and perhaps more accurate too?) than those who were

not, as might those contacted by the parties during the campaign compared to those not contacted. As parties are generally rational in raising and allocating their scarce campaigning resources (Johnston and Pattie 2014) they are likely to focus them by concentrating the intensity of local campaigning on the seats they consider winnable. People contacted by a party might interpret that as showing that the party thinks that victory is possible there and so solicits support; those whose support is canvassed by a party should estimate its chances of a local victory greater than those who received no such contact. Further, those more committed to a party—i.e. who identify with it—should be better aware, and perhaps more optimistic, of its local chances than those who identify with either another or with none. We therefore anticipate that those interested in politics, those who identify with a party, and those whose support is canvassed by a party are more likely be aware of both its prospects of victory in their home constituency and the change in those prospects as the campaign proceeds than those who are politically uninterested, who do not identify with a party, and those whose support is not sought.

To evaluate those arguments four regression models were fitted, separately for the Labour- and Conservative-held marginals. The independent variables were (all but the first taken from BES responses: the interest in politics and party identification measures were taken from the pre-campaign survey):

- The margin of victory in the constituency in 2015;
- Whether the respondent was not very, fairly, or very interested in politics, compared with those who were not all interested;
- Whether the respondent identified not very strongly, fairly strongly, and very strongly with the Labour/Conservative party, compared with those who did not identify with it;
- Whether the respondent had been contacted by either the Labour or the Conservative party in the 4 weeks preceding the interview[8]; and, for those interviewed during the campaign,
- Whether the interview was conducted during the second (Early-Mid), third (Mid-Late) or fourth (Late) campaign period compared with the first (Early).

Further, because the previous analyses of the estimated outcomes at the constituency scale suggested that although respondents were generally aware of trends in party support over the campaign they were not able to clearly identify the outcome, a final variable was:

- Whether the party under consideration won the seat in 2017.

This is the key variable in assessing whether respondents were aware of the trends in their home constituencies. If the coefficient is positive and statistically significant, this indicates that within the general trends local respondents estimated a party's likely success greater where it did indeed win than where it did not; in the terms of the 'wisdom of the crowds' argument, they gave a higher expected victory score in marginal seats that the party won than in those where it lost.

The dependent variable in the first set of models was each respondent's pre-campaign estimate of the likelihood of either a Labour or a Conservative local victory, obtained immediately after the election was called. Four separate regressions are reported. The first

[8] In each survey, respondents were asked whether they had been contacted by any of the parties in the preceding four weeks.

Table 1 Regressions of respondents' pre-campaign estimates of the likelihood of each party winning in their home constituency in the Labour- and Conservative-held marginal seats (coefficients significant at the 0.05 level or better are shown in bold)

Marginals won by party winning	Labour				Conservative			
	Labour		Conservative		Labour		Conservative	
	Coeff.	Se	Coeff.	Se	Coeff.	Se	coeff.	Se
Constant	**56.03**	3.59	56.42	3.16	**47.42**	3.09	**57.07**	2.45
Victory margin 2015	**0.31**	0.15	**− 0.82**	0.15	**− 0.49**	0.15	**0.63**	0.12
Interest in politics (comparator: not interested)								
Not very	− 0.57	3.58	**9.71**	3.60	− 1.62	3.29	**8.40**	2.71
Somewhat	4.49	3.13	**8.55**	3.15	2.21	2.90	**9.68**	2.39
Very	**8.86**	3.10	**7.17**	3.12	1.84	2.89	**10.17**	2.38
Labour identifier (comparator: not a labour identifier)								
Not very strong	2.85	2.64	− 0.31	2.65	1.84	2.89	**10.17**	2.38
Fairly strong	**6.15**	1.95	− 0.46	1.97	**4.56**	1.79	− 1.19	1.47
Very strong	**9.68**	2.48	**− 7.52**	2.50	**7.16**	2.30	**− 5.04**	1.89
Conservative identifier (comparator: not a conservative identifier)								
Not very strong	− 0.08	3.08	0.52	3.10	− 1.78	2.42	1.98	2.00
Fairly strong	− 1.53	2.04	1.46	2.06	**− 5.75**	1.63	**4.98**	1.34
Very strong	**− 10.52**	3.15	4.69	3.17	**− 10.19**	2.45	**7.23**	2.02
Contact from party in last 4 weeks								
Labour	1.02	1.78	0.22	1.79	**4.73**	1.64	− 0.02	1.35
Conservative	2.93	2.40	0.13	2.42	− 1.23	1.58	2.27	1.31
Which party won in 2017								
Labour	**− 4.40**	2.24			0.26	1.38		
Conservative			− 4.02	2.26			**− 2.27**	1.14
R^2		0.05		0.03		0.05		0.06

two relate to the Labour-held marginals and the second two to those held by the Conservatives: in each pair, the first regression is of the estimates of a Labour victory locally and the second is of those for a Conservative victory. The results include a substantial number of statistically significant relationships at the 0.05 level or better, but also noteworthy are the very low R^2 values (Table 1). These undoubtedly largely reflect the variability in responses noted above (Fig. 6) and the wide range of values, from 0-100, on which respondents were invited to assess each party's likelihood of winning locally; it invites a level of precision that very few could reasonably be expected to deploy and differences of perhaps 10–20 points on that scale may reflect nothing more than measurement error.[9]

[9] They may of course also suggest under-specified models, but exploration identified no others that made substantial, readily interpreted, contributions to the 'explanations'. In addition, the wide range of values for the dependent variable (1–100) suggests that there may be a great deal of measurement error: one person expecting a party almost certainly to win may give a score of 85 whereas another may give 95. The larger the measurement error the larger the standard errors of estimates and hence smaller the likelihood of finding a significant relationship (see Blackwell et al. 2017); the significant relationships reported here are thus very likely conservative and we can be relatively confident that we have identified 'real' relationships.

Respondents were generally aware of their home constituencies' marginality with positive, statistically significant relationships between the estimated likelihoods of each party winning there and its margin of victory in 2015 plus complementary negative, statistically significant relationships between its estimated likelihood and its opponent's margin then. Those very interested in politics on average gave quite substantially larger estimates for each party than those not interested, and very strong party identifiers estimated its likely success much higher—and its opponent's much lower—than those who identified with the party less strongly or not at all. (In their analysis of citizen forecasts in Belgium Stier and Dassonneville, 2018, refer to the latter as 'wishful thinking' on the part of party identifiers.) Additionally, before the campaign started, those in Conservative-held seats contacted by Labour in the preceding 4 weeks rated its chances of success greater than those who had not been contacted—they had some appreciation of Labour's potential advance because the party canvassed their support.[10]

Regarding which party won the seat in 2017 the coefficients for the final variable confirm the earlier findings that respondents' estimates were not very accurate. Two of the four regression coefficients are statistically significant, although fairly small—but each has the wrong sign. In Labour-held seats respondents gave slightly lower estimates of the likelihood of its victory again in 2017 in those the party held than in those that it lost (a coefficient of −4.40); similarly, a coefficient of −2.27 indicates that on average respondents in Conservative-held seats estimated, all other things held constant, its chances of victory there slightly less than in those lost to Labour.

The dependent variables in the second set of models were respondents' estimates of the likelihoods of success as indicated in the campaign surveys (Table 2). The expected significant relationships with marginality emerged again, but the statistically significant relationships with interest in politics reported in Table 1 are not repeated: once the campaign was underway this was no longer an influence on how they estimated each party's potential. The relationships with party identification were repeated, however; strong partisans rated their party's local chances substantially higher—and their opponents' substantially lower. Having one's support canvassed by a party was also influential, especially for Labour; those contacted by the party during the campaign on average gave the likelihood of it winning 5–6 points higher than those not contacted.[11]

Reflecting the overall campaign trends, there are also statistically significant differences in the estimated likelihoods according to when the respondents were interviewed—again, especially for Labour. Those interviewed in the last campaign period gave it an average estimate some 8–12 points greater than those interviewed prior to the campaign's outset. There was no comparable fall in the estimates of a likely Conservative victory, however; voters identified Labour's advance but still thought, on average, that the Conservatives would prevail in many of those marginal seats. But which ones? As in the previous analyses, there is no evidence that respondents separated out those that each party would win

[10] Several other variables were included in exploratory regressions, such as UKIP's performance in the 2015 election and whether it fielded a candidate in the constituency in 2017: none were significant. Interactions between the variables included in the regressions were also explored, again with insignificant outcomes.

[11] In all of these analyses we use any contact with the party as the independent variable. Such contact may be little more than receipt of a leaflet through the door and it has been argued (e.g. Pattie and Johnston 2003, 2012) that personal contact—on the doorstep or in the street, for example—provides a better indicator of the party seeking to inform and convince. However, exploration with alternative definitions of contact provided no substantially different results.

Table 2 Regressions of respondents' estimates during the campaign of the likelihood of each party winning in their home constituency in the Labour- and Conservative-held marginal seats (coefficients significant at the 0.05 level or better are shown in bold)

Marginals won by party winning	Labour				Conservative			
	Labour		Conservative		Labour		Conservative	
	Coeff.	Se	Coeff.	Se	Coeff.	Se	Coeff.	se
Constant	**51.41**	2.79	**68.98**	2.14	**49.87**	**2.04**	**69.01**	1.51
Victory margin 2015	**0.85**	0.14	**−0.71**	0.14	**−0.69**	0.14	**+0.63**	0.11
Interest in politics (comparator: not interested)								
Not very	−4.90	2.56	−0.69	2.60	−2.78	2.21	−1.65	1.77
Somewhat	−0.92	1.93	1.02	1.96	1.34	1.65	0.98	1.32
Very	0.73	1.88	0.71	1.91	−0.11	1.62	1.92	1.30
Response quartile (comparator: early)								
Early-mid	1.02	1.74	1.24	1.76	**5.43**	1.50	−1.89	1.12
Mid-late	**4.89**	1.80	−3.24	1.82	**8.50**	1.60	−1.31	1.28
Late	**8.36**	1.84	**−4.27**	1.86	**11.95**	1.59	**−3.17**	1.27
Labour identifier (comparator: not a labour identifier)								
Not very strong	2.02	2.63	−1.97	2.67	−1.29	2.61	3.36	2.08
Fairly strong	**5.55**	1.93	−3.05	1.96	3.15	1.79	−0.33	1.43
Very strong	**9.52**	2.45	**−8.08**	2.48	**8.28**	2.38	−2.97	1.90
Conservative identifier (comparator: not a conservative identifier)								
Not very strong	−1.10	3.00	1.56	3.04	−4.27	2.42	**4.35**	1.94
Fairly strong	−2.73	2.07	2.01	2.10	−2.78	2.21	**3.73**	1.33
Very strong	**−6.75**	3.18	4.96	3.22	**−7.54**	2.42	**5.88**	1.94
Contact from party in last 4 weeks								
Labour	**6.31**	1.51	**−3.66**	1.53	**5.53**	1.45	**−2.85**	1.16
Conservative	0.99	1.55	1.20	1.57	**−3.09**	1.41	**3.56**	1.13
Which party won in 2017								
Labour	−1.04	2.11			−0.87	1.29		
Conservative			−0.65	2.14			−0.46	1.03
R^2	0.09		0.04		0.08		0.05	

or lose; all four of the coefficients for which party won in 2017 are small and statistically insignificant. Voters were aware of the general trends in party support over the campaign, but not clear which party would prevail in the marginal seats.

A scale ranging from 0 to 100 suggests that respondents were asked to consider the potential of each party winning as percentage odds, so that if they gave an estimate of 70 for one party their estimates for all other parties combined could not exceed 30. This is not how most responded, however: many respondents' odds summed across all parties exceeded 100 so the judgements were relative but not elements of zero-sum games. Which of the two parties respondents consider most likely to win is measured in this next set of analyses by the difference between each respondent's Conservative and Labour estimates; a positive value indicates that a Conservative victory was considered more likely than a Labour victory, with the reverse situation for negative values. Those differences are the dependent variables in the models reported in Table 3 for both the pre-campaign and the campaign surveys.

Table 3 Regressions of the difference in respondents' estimates of the likelihood of each party winning in their home constituency in the Labour- and Conservative-held marginal seats in their pre-campaign and campaign surveys (coefficients significant at the 0.05 level or better are shown in bold)

Marginals won by	Pre-campaign				Campaign			
	Labour		Conservative		Labour		Conservative	
	Coeff.	Se	Coeff.	Se	Coeff.	Se	Coeff.	Se
Constant	−3.61	5.87	9.40	4.22	**16.92**	4.42	**20.02**	2.56
Victory margin 2015	**−1.13**	0.25	**1.11**	0.21	**−1.57**	0.24	**1.33**	0.19
Interest in politics (comparator: not interested)								
Not very	10.28	5.85	**10.02**	4.67	4.21	4.06	1.13	3.00
Somewhat	4.06	5.10	7.48	4.12	1.94	3.05	−0.40	2.25
Very	−1.70	5.06	**8.33**	4.10	−0.03	3.00	2.03	2.20
Response quartile (comparator: early)								
Early-mid	–	–	–	–	−0.22	2.74	**−7.32**	2.03
Mid-late	–	–	–	–	**−8.12**	2.84	**−9.81**	2.17
Late	–	–	–	–	**−12.64**	2.90	**−15.11**	2.15
Labour identifier (comparator: not a labour identifier)								
Not very strong	−3.16	4.31	1.67	3.73	−4.00	4.15	4.66	3.55
Fairly strong	**−6.60**	3.19	**−5.75**	2.54	**−8.61**	3.05	−3.49	2.43
Very strong	**−17.20**	4.05	**−12.20**	3.23	**−17.60**	3.89	**−11.26**	3.23
Conservative identifier (comparator: not a conservative identifier)								
Not very strong	0.60	5.03	3.76	3.44	2.66	4.74	**8.62**	3.29
Fairly strong	2.99	3.35	**10.73**	2.31	4.73	3.28	**13.37**	2.25
Very strong	**15.21**	2.14	**17.42**	3.48	**11.71**	5.02	**13.42**	3.30
Contact from party in last 4 weeks								
Labour	−0.80	2.91	**−4.75**	2.33	**−9.97**	2.38	**−8.39**	1.97
Conservative	−2.80	3.93	3.50	2.25	0.21	2.45	**6.67**	1.91
Which party won in 2017								
Labour	**8.42**	3.67			1.69.	3.32		
Conservative			−2.01	1.96			−1.33	1.75
R^2	0.05		0.07		0.10		0.12	

As expected, the greater a party's margin of victory in 2015 the better the estimate of its performance in 2017 relative to its opponent's. In Labour-held constituencies, for example, in the pre-campaign survey for each one percentage point increase in Labour's 2015 majority the estimated difference between the Conservative and Labour estimated likelihood of victory in 2017 fell by 1.13 points on the 0–100 scale; in the campaign survey the fall was 1.57 points, further indication of respondents' awareness of Labour's growing support.

Both surveys revealed a substantial, as well as statistically significant, difference in the estimated likelihoods given by those who identified strongly with a party compared to those who did not. Pre-campaign, for example, in Labour-held marginals the average gap between the estimates of a Conservative and a Labour victory was 15.21 points larger for Conservative strong identifiers than for those not identifying with the party. Contact with a party in the weeks before the campaign began had no influence on the gap, but during the campaign it did: contact with the Labour party reduced it by 8–9 points, while in Conservative-held seats contact with the Conservatives increased it by 6.67 points.

Table 4 The percentage of respondents who changed their estimate of which party would win in their home constituency according to which party did win there in 2017

Marginal held by	Labour				Conservative			
Change of winner	Con-Lab		Lab-Con		Con-Lab		Lab-Con	
Winner 2017	Con	Lab	Con	Lab	Con	Lab	Con	Lab
Early	11	89	11	89	60	40	43	57
Early-mid	6	94	10	90	70	30	70	30
Mid-late	11	89	21	79	67	33	87	13
Late	5	95	24	76	63	37	71	29

The campaign's progress made a difference, too. The gap closed substantially as it proceeded, as shown by the large, statistically significant negative coefficients. In Labour-held seats, the difference moved by 12.64 points towards Labour by the campaign's last 8 days compared to its first eight, for example. But again, there was very little evidence that respondents were clearly aware of which party was most likely to win which seat. The pre-campaign regression for Labour indicates a gap of 8.42 points between the expectations of the two parties which, given the definition of that variable, indicates a Conservative lead over Labour. On average, therefore, respondents thought that Labour would lose seats to the Conservatives. That gap closed during the campaign to a statistically insignificant difference of only 1.69 points (on a 101-point scale): respondents were aware that Labour was closing on the Conservatives in the overall polls, but the analyses here suggest that they were not clear which seats it would gain.

A fourth model looks at changes in respondents' evaluations of the two parties' prospects. Some 40% of respondents changed their opinion as to which party was most likely to win—e.g. placed the likelihood of a Conservative local victory higher than that for a Labour victory in the pre-campaign survey but placed Labour higher during the campaign survey—and not all were correct. Table 4 shows the percentage of respondents who changed their views of the most likely winner according to the direction of that change, the period of the survey, and the actual winner in their constituency. The first two columns refer to those who estimated in the pre-campaign survey that the Conservatives would win in their constituency but that Labour would win when they were questioned in the campaign survey. Of those who responded in the early stage of that latter survey 11% said that Labour would win but the Conservatives did, whereas 89% said that Labour would win, and it did.

Those first two columns show that the great majority of those who changed their assessment from a Conservative to a Labour victory in Labour-held marginals were correct, perhaps not surprisingly given that Labour retained all but six of those seats. The next two columns, on the other hand, show that the majority who switched from favouring a Labour to a Conservative win were wrong—Labour retained the seats in most cases. But those interviewed in the last half of the campaign were about twice as likely to be right as those interviewed in the first half: as the campaign proceeded, a few more local respondents successfully identified which Labour-held marginals were going to be lost to the Conservatives.

Turning to the Conservative-held marginals, the next two columns show that—by a margin of around 2–1 and with no appreciable change across the campaign periods—those who switched their forecast from a Conservative to a Labour win were more likely to be wrong than right. Of those who switched their assessment in the other direction, however (i.e. in the final two columns), early in the campaign a majority wrongly identified which

Table 5 Regressions of changes in respondents' estimates of the likelihood of each party winning in their home constituency in the Labour- and Conservative-held marginal seats between the pre-campaign and campaign surveys (coefficients significant at the 0.05 level or better are shown in bold)

Marginals Held By	Labour				Conservative			
Change for	Labour		Conservative		Labour		Conservative	
	Coeff.	Se	Coeff.	Se	Coeff.	Se	Coeff.	Se
Constant	− 13.6	4.87	7.60	4.33	− 1.37	3.47	**10.31**	2.87
Victory Margin 2015	**0.49**	0.19	− 0.23	0.18	− 0.01	0.16	0.01	0.14
Interest in politics (comparator: not interested)								
Not very	5.46	4.58	− 6.61	4.58	3.67	3.53	**− 8.16**	3.01
Somewhat	3.71	4.06	− 3.40	4.07	2.19	3.12	**− 8.00**	2.67
Very	1.75	4.03	− 2.90	4.04	2.12	3.11	**− 7.49**	2.66
Response quartile (comparator: early)								
Early-mid	2.97	2.25	− 0.54	2.23	**3.51**	1.70	− 1.22	1.46
Mid-late	**8.25**	2.33	− 3.09	2.30	**8.54**	1.82	− 1.43	1.55
Late	**12.15**	2.41	**− 5.10**	2.38	**11.79**	1.80	− 2.71	1.51
Labour identifier (comparator: not a labour identifier)								
Not very strong	− 1.15	3.15	− 1.85	3.10	− 4.68	2.75	− 1.34	2.36
Fairly strong	0.40	2.34	− 2.72	2.31	2.46	1.86	1.35	1.58
Very strong	− 0.72	2.91	− 0.96	2.89	2.01	2.44	2.19	2.09
Conservative identifier (comparator: not a conservative identifier)								
Not very strong	− 1.40	3.66	3.77	3.64	− 2.34	2.52	3.74	2.16
Fairly strong	− 2.44	2.47	1.20	2.44	**− 5.46**	1.71	− 0.29	1.46
Very strong	4.33	3.88	2.90	3.85	− 0.34	2.51	1.67	2.16
Contact from party in last 4 weeks								
Labour	1.53	1.97	0.22	1.95	− 0.81	1.63	0.20	1.39
Conservative	0.94	2.00	− 0.52	1.98	0.15	1.58	0.43	1.34
Which party won in 2017								
Labour	2.96	2.71			− 0.26	1.45		
Conservative			2.89	2.66			0.21	1.24
R^2	0.03		0.02		0.01		0.01	

seats the Conservatives were going to retain; later, however, they were more likely to be right than wrong.

Overall, therefore, the pattern of change did not suggest that most respondents were aware whether their constituencies were likely to switch allegiance at the election. This is confirmed by the regressions in Table 5, in which the dependent variable is the difference between respondents' assessed likelihood of the party winning in the campaign survey compared to the pre-campaign (i.e. a positive value indicates a higher likelihood in the campaign survey). The R^2 values are extremely small and few regression coefficients are statistically significant. Among the latter, the only substantial findings are that, in both Labour- and Conservative-held marginals, estimates of a Labour victory increased substantially as the campaign proceeded. Voters were aware of Labour's advances nationally and responded accordingly in their local constituencies, but the much weaker shifts in the other direction for the Conservatives suggest that this did not lead many of them to also downgrade their assessments of a Conservative victory: Labour were thought to be doing better

but insufficiently well to make substantial gains in the number of MPs. Of further interest in these findings is that three of the four coefficients for the margin of victory at the 2015 election are statistically insignificant; only in the Labour-held marginals was the increase in the likelihood of a Labour victory linked to its previous performance.

4 Conclusions

The majority of English voters successfully predicted which party was going to win in their home constituency when the 2017 general election was called, not surprisingly given that most of those constituencies were won by large majorities in 2015 and were very unlikely to change hands. Voters living in the marginal constituencies being contested by Labour and the Conservatives were less likely to make a correct prediction, however. In line with opinion poll data and general expectations, in most of those seats a Conservative victory was considered the most likely just after the election was called but as the campaign proceeded Labour gained ground on the Conservatives nationally. That trend was noted by survey respondents, many of whom increased their estimates of the likelihood of a Labour victory locally, while not substantially down-grading their estimates of a likely Conservative win.

For each party, those who strongly identified with it estimated its chances of victory substantially higher than those who did not, and those contacted by a party—especially by Labour—during the campaign also rated its chances higher than those who were not: intense local canvassing clearly convinces voters that a party considers it has an excellent chance of winning there. But these were general trends that applied across all Labour-Conservative marginal constituencies. Voters were much less able to distinguish the variations from those trends; few successfully identified whether their home constituency would be captured by the second-placed party at the previous contest. The 'wisdom of crowds' tracked the general trends much better than the local ones.

Given the growing interest amongst UK pollsters and others in providing estimates of the likelihood of an election result not just for the country as a whole but also in each individual constituency, the responses to questions such as those analysed here appear to offer a possible approach to that goal and an input to debates about its feasibility. However, analyses of some of the first attempts to forecast the outcome in each seat have indicated the potential fallibility of those responses in the marginal constituencies where general elections are won and lost (Johnston et al. 2018). The 2017 UK general election may have been exceptional, given the magnitude of the changes in the two parties' fortunes during the campaign, the variability in those changing fortunes across the marginal constituencies, and the consequential apparently random pattern to which of those seats did change hands. Caution is clearly necessary, therefore; the crowds may not be as wise where the outcome is on a knife-edge as in the places where it is almost certain.

Predicting an election outcome in district-based systems is difficult because of the geographies, and especially the changing geographies, of support for the competing parties. In some constituencies prediction may be straightforward because one party dominates there and invariably provides the winning candidate. Elsewhere, however, the outcome may be less certain because neither party is dominant. Asking voters the likely outcome in the former constituency type should find that most correctly identify the winner—the same party as at the last election. The analyses of the 2017 election in England reported here have shown that this was not the case in the more marginal constituencies, however. Survey

respondents were aware of both the relative position of the parties nationally and trends in their support during the campaign but were much less accurate in translating that into the local situation. The findings reported here might be taken as indicating that successful citizen forecasting of the likely outcome in marginal constituencies is not a feasible goal; or they might suggest the need for exploring a range of possible instruments with different scales, and whether even larger sample sizes are needed.

Relying on the 'wisdom of the crowd' to provide an accurate picture of the outcome nationally is far from unproblematic, therefore; especially where the contest is a close one locally and there are substantial shifts in party support during the campaign voters—perhaps not surprisingly—may be unable to predict the local outcome accurately, with clear consequences for the national estimates.

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