# The Impact of the anti-Brexit tactical vote in 2017

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## Introduction

The stunning result of the general election is still being deciphered by political commentators and analysts four months later. Labour and the Conservatives were quick to claim credit for their respective increased vote shares even though neither won outright. But how many of these votes were down to pragmatic tactical voting? The Electoral Reform Society estimated that 6.5 million people in the UK made a tactical vote, while the British Election Study (BES) had Brexit as the top issue for 1 in 3 of their 30,000 respondents.

Conservative success in 2017 was helped hugely by UKIP's choice not to field candidates in 205 constituencies and a general collapse in UKIP support. Of these 205 constituencies, there were 14 seats where UKIP didn't stand and the Conservatives won with a small majority which they would likely not have held with a UKIP candidate. the factors behind the increase in the Labour vote appear to be more complex than for the Conservatives. Through studying turnout change in each constituency, we can observe a link between the Labour vote and some of the highest turnout increases. This is supported by the Ipsos Mori post-election poll[1] which has 60% of voters who didn't vote in 2015 voting Labour and 66% of voters who didn't vote in the EU Referendum voting Labour. However, many of these high turnout seats were safe Labour seats. With new voters turning out for Labour and no way of knowing what people were actually thinking at the ballot box, how can we estimate the impact that tactical voting, and in particular tactical voting to fight the government's extreme Brexit, had on the Labour vote and the result of the election?

Most research into understanding the result is based on opinion polls, the recent BES currently being the most thorough. These give us an excellent understanding of how Britain voted demographically, but less of an understanding of the tactical battles in the marginal seats that delivered the surprise result. Only by looking at every vote in every constituency retrospectively can we try and understand what the tactical voting trends were and how much they related to the Brexit vote. In order to do this we develop a multivariate linear regression model to identify the impact remain and leave voters had on this election. The BES told us that 1 in 3 Brits had Brexit on their minds when they voted - did this really manifest at the ballot box?

## The Model

To analyse the impact of the referendum on the 2017 result, we must first consider the number of remain and leave voters in each constituency. Since the 2016 referendum did

[1] https://www.ipsos.com/ipsos-mori/en-uk/how-britain-voted-2017-election

not record votes at constituency level, we use approximations of these values[2] to compare the referendum result with general elections. Throughout this research, we focus on actual vote numbers, not percentage vote share, as voter turnout differed greatly in each constituency between 2015, the referendum and 2017, so vote share can often be misleading (this is best illustrated in Scotland where the decrease in turnout since 2015 meant Labour and the Lib Dems won back four seats despite receiving fewer votes than they did in 2015, but with an increased proportion of votes as fewer SNP voters turned out to vote).

We start by hypothesizing that the following linear relationships exist:

$$Con\_17 = a1 * Con\_15 + b1 * Remain + c1 * Leave$$

$$Lab\_17 = a2 * Lab\_15 + b2 * Remain + c2 * Leave$$

where $Con\_15$, $Lab\_15$ are the total votes in a constituency to the Conservative party or Labour party in 2015. $Remain$ and $Leave$ are the approximate number of votes for remain and leave in a constituency in the referendum.

The Conservative results will apply in all constituencies. However, tactical voting meant that voters were encouraged to vote for the party most likely to beat the Conservatives - mostly that was Labour and we will run the Labour model in those constituencies only.

We can calculate our coefficients using Linear Regression. We look at election results for England and Wales only (as Scotland had a completely different tactical voting program and a Conservative party putting out a less uncompromising line on Brexit). We divide the country in two types of seats, those that were perceived as marginal and those that were perceived to be safe at the start of the election campaign based on the 2015 result. This is since tactical voting would have been more widespread in seats where a voter felt they could potentially make a difference, while in safe seats the tactical vote would be more of a protest vote or vote of confidence. We take a pretty wide definition of marginal seat, defining it as any seat with a majority in 2015 of less than 10,000.

The model calculates how much of the 2017 result can be attributed to a general change in voting trends towards that party and how much is proportional to leave and remain voters, possibly voting with Brexit as their primary reason. Of course, we cannot assume the linear relationship implies causation. It is somewhat facetious to assume that the British public vote in a linear manner across the country, but we do observe underlying linear relationships, on top of which we can observe constituency level voting idiosyncrasies.

## Conservative Vote

We start with the Conservative model in marginal constituencies:

Estimate
Std. Error
t value

[2] Hanretty, Chris, 2017, "Areal interpolation and the UK's referendum on EU membership" Journal of Elections, Public Opinion and Parties

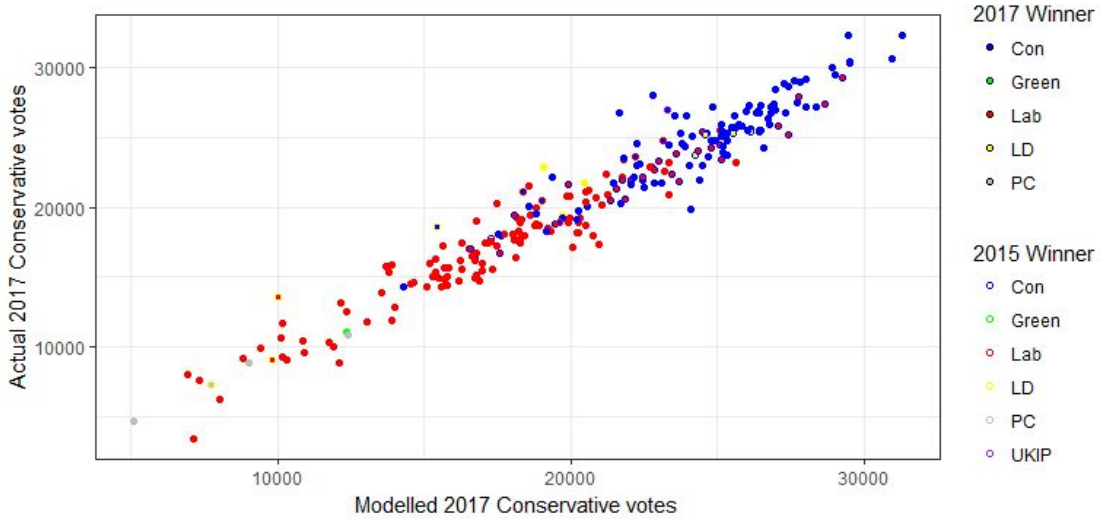
Pr(>|t|)
2.5 %
97.5 %
con.x
0.782
0.020
39.393
0
0.743
0.821
remainvotes
-0.044
0.012
-3.825
0
-0.067
-0.021
leavevotes
0.304
0.010
31.622
0
0.285
0.323

This give a prediction of the Conservative result in 2017 in marginal constituencies as:

$$Con\_17 = 0.78 * Con\_15 + \text{-}0.04 * Remain + 0.3 * Leave$$

Here we include the 95% confidence interval to see how wide a margin our model has confidence in i.e. the narrower the margin, the more confident we can be in the model's parameters. The model suggests that in marginal seats from 2015 the Conservatives held a base line of 78% of 2015 Conservative votes (95% of these seats had this value between 74 and 82%). Their vote was then boosted by taking an additional 30% of all leave voters in that constituency (many of these will have been 2015 Conservative voters too, others mainly UKIP voters) and they lost between 2 and 6% of remain voters. When margins are tight, the loss of a small number of remain voters could have an impact in any constituency. Even in areas where the majority voted leave in 2016, there would be between 11,000 and 31,000 remain voters who may have held the balance of power in that constituency in 2017.

We can plot the expected result from the model against the actual 2017 result to see how it differs:




We see in general most seats fit this model closely. However, we can also learn from the constituencies that don't closely follow the model as it shows some of the local stories and tactical votes on the ground. This data and analysis is available at https://aleb.shinyapps.io/intermodel/.

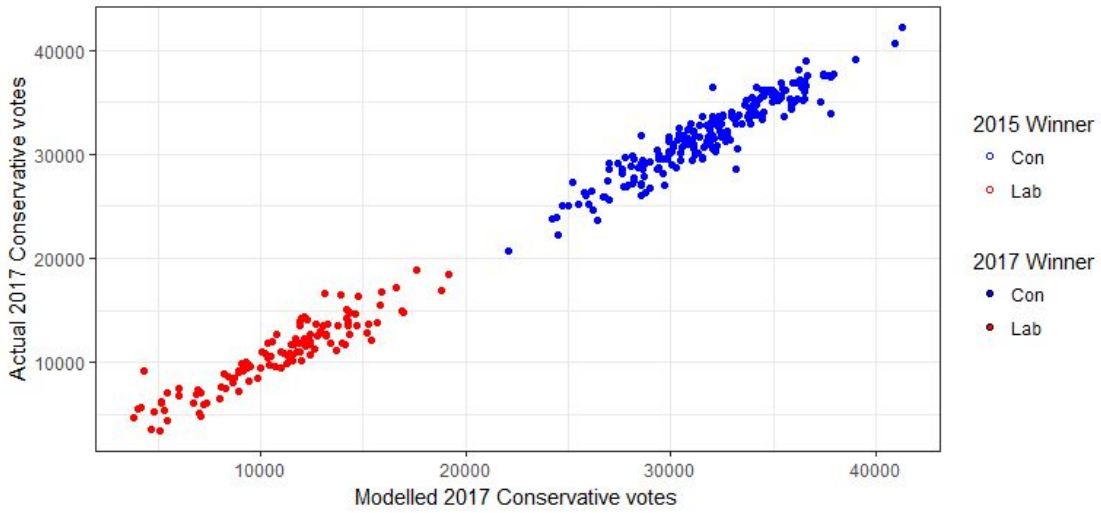
Running a similar regression for the Conservative vote in safe seats, we get the following model:

Estimate
Std. Error
t value
Pr(>|t|)
2.5 %
97.5 %
con.x
0.969
0.009
105.009
0
0.951
0.987
remainvotes
-0.097
0.007
-13.180
0
-0.112
-0.083
leavevotes
0.234
0.008

31.140
0
0.219
0.249

This give a prediction of the Conservative result in 2017 in safe constituencies as:

$$Con\_17 = 0.97 * Con\_15 + -0.1 * Remain + 0.23 * Leave$$




## Labour vote

To ensure that Brexit is behind voting decision, for our Labour model, we only consider seats in which there was no doubt that Labour was the tactical anti-Brexit party. To create our model, we use data from constituencies in which only Conservatives and/or Labour got over 10,000 voters in 2015. Since most other small parties had a less pro-Brexit manifesto than Labour, we want to make sure Labour was the only option for voters concerned about Brexit. However, we will compare our model to all constituencies in the plots, so we can see where the Labour tactical vote pattern applies and where it doesn't. This should give a good indication if tactical voting occurred consistently across the country.

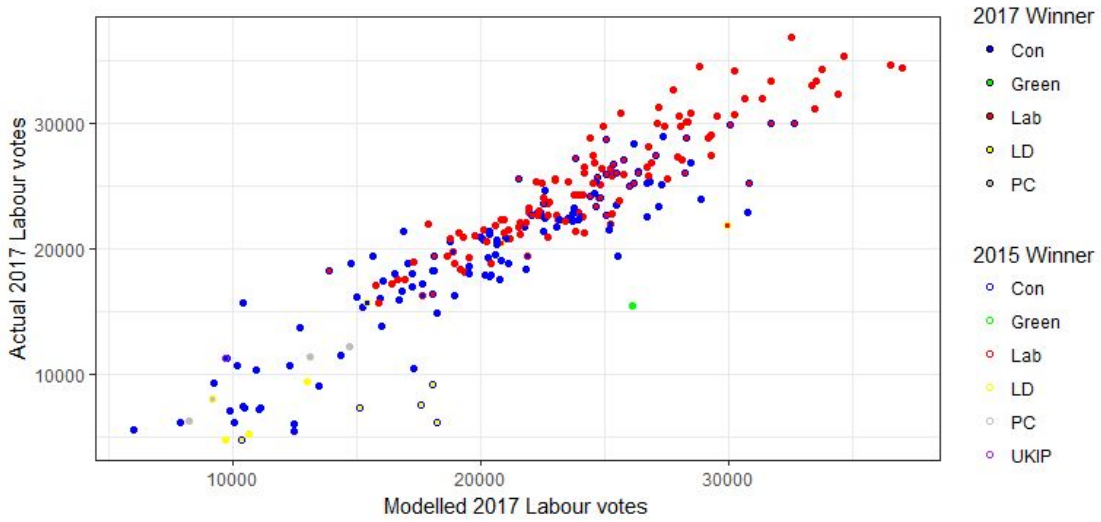
Estimate
Std. Error
t value
Pr(>|t|)
2.5 %
97.5 %
lab.x
1.042
0.045
23.175
0.000
0.953
1.131

remainvotes
0.259
0.026
10.127
0.000
0.208
0.309
leavevotes
-0.012
0.017
-0.680
0.497
-0.046
0.022

There is no statistically significant trend for leave voters. This implies that the Labour result did not fluctuate based on the number of leave voters in a constituency in a consistent way, in some constituencies Labour lost a small number of leave voters and in some constituencies Labour gained leave voters. The confidence intervals of the remaining variables are still quite wide suggesting a great degree of variation in the results. This suggests there was no generic Labour story - in some constituencies Labour gained lots of votes, in some constituencies it failed to do so (the 2015 vote proportion has a 95% confidence interval between 95% and 113%). The remain voters appear to have made a big difference, but variable, of between 21 and 31%. One of the factors that may have impacted this variability is the average increase in turnout in 2017, which varied significantly across the country.

The model we will be using to predict the Labour result in 2017 in marginal constituencies is:

$$Lab\_17 = 1.04 * Lab\_15 + 0.26 * Remain + -0.01 * Leave$$



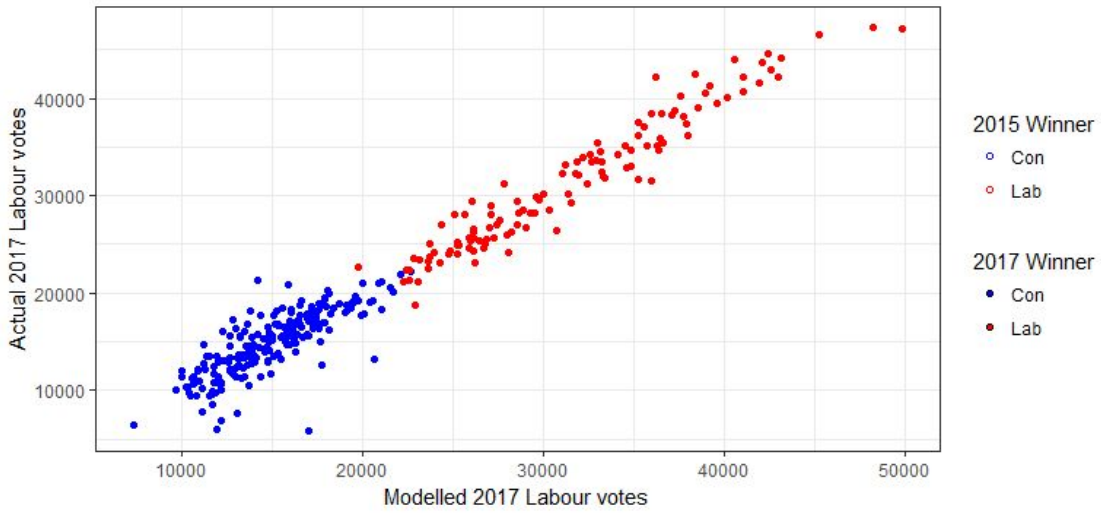
The Labour model is a less close fit than the Conservative model. We also see clearly that there are a group of seats where Labour's actual 2017 votes were 5000 or more votes less than the model predicts and these are all in areas in which a tactical vote for another party was recommended, generally the Liberal Democrats. We also see areas where the Labour vote outperformed the model. These are the areas where the Labour message or increase in turnout was really successful. However, it is worth noting that many of the seats that gained large majorities from being very marginal in 2015 and in all but four of the Labour seat gains from the Conservatives, the party received a similar number of votes as the model prediction, suggesting the tactical remain vote was crucial to those gains.

We can do the same for safe seats. Again for safe seats there is no statistical trend for leave votes so they are not included in the model.

Estimate
Std. Error
t value
Pr(>|t|)
2.5 %
97.5 %
lab.x
1.102
0.011
102.054
0.000
1.080
1.123
remainvotes
0.179
0.011
15.716
0.000
0.157
0.202
leavevotes
0.013
0.009
1.496
0.136
-0.004
0.030

Again, the leave vote impact is insignificant, although appears to have been rarely detrimental to the Labour vote in safe seats. The model to predict the Labour result in 2017 in safe constituencies is:

$$Lab\_17 = 1.1 * Lab\_15 + 0.18 * Remain + 0.01 * Leave$$




Again the tactical vote is apparent with the 2017 Labour vote thousands of votes smaller than the value predicted for Labour by the model in areas where the Lib Dems, Greens, NHA or independent candidates were supported by tactical voting campaigns. In particular, Vauxhall is worth noting. Vauxhall's Labour MP was pro-Brexit, so anti-Brexit tactical voting campaigns recommended Liberal Democrats there, while other anti-Conservative tactical voting schemes recommended Labour as the progressive candidate most likely to win. We see despite this that Vauxhall's Labour vote suffered the fate of all seats where Labour wasn't the anti-Brexit candidate with almost 5000 less votes than the model predicted, a larger deficit than any other Labour safe seat. The increase in Lib Dem vote in Vauxhall since 2015 was the equivalent of about 19% of the total number of remain voters in the constituency, similar to the remain boost we see for Labour in our model when they are the tactical party favoured by remain voters. Again voter concerns about Brexit seem to have shaped the result here significantly, if not the outcome.

## Conclusion

One of the biggest mistakes still being made by the Conservatives, Labour and political pundits is to view a constituency as 'leave' or 'remain' and make policy accordingly. There are more voters in the UK who voted leave than remain on the 23 June 2016 and according to Professor Chris Hanretty's model there are more constituencies in England and Wales that voted leave than remain on that day. But a general election is not a snapshot of opinion on a binary question. We suggest that Labour was able to win many seats because of tactical voting by remain voters even in areas where the majority of voters supported leave on the day of the referendum. These voters were crucial to Labour's successes in making gains or in holding off what had been expected to be Conservative gains. When Labour wasn't the tactical party recommended by Best for Britain their result was often comparatively smaller without the tactical remain vote boost (we see this in marginal and safe seats around the country e.g. Vauxhall, Oxford West and Abingdon, Richmond Park etc.).

Our model is just an indication of a relationship and does not imply causation, however we can gain confidence in its insight because of its similarity to the results of the BES survey

that 1 in 3 voters had Brexit as their top issue. According to the BES, the Conservatives won most votes in 2017 with 90% of their leave voters plus over 55% of the UKIP leave vote and up to 20% of the Labour leave vote. It will be a struggle to top those figures in any future election. However, they also retained 70% of their remain voters back in June when the disastrous Brexit negotiations had not yet begun. According to the BES, 20% of all remain voters still voted Conservative in 2017 (down from 24% in 2015 which matches the 4% losses we see in our model) and if they continue to be ignored, losing just a few percent more of the remain vote could have a drastic impact with tens of marginal seats at risk for the Conservatives.

With the evidence from our previous studies, the BES and Ipsos Mori post-election polls, we can say with some confidence that the grassroots anti-Brexit tactical vote denied Theresa May her majority. While the Labour Party's own campaign was more successful than expected, its impact was often localised and was helped by a general anti-Conservative tactical vote across the country which often backed the same candidates as the anti-Brexit vote and Best for Britain. Our model helps us identify the anti-Brexit part of the tactical vote. The model is also helpful to evaluate which seats did better or worse than expected. Some of these results are surprising, with some of Labour's biggest majorities fitting perfectly with our model, while some Labour gains still did less well for Labour than the model expected. The Conservatives gambled by backing the leave voters exclusively and still came up short. They were punished by remain voters and stand to be punished further if they back an uncompromising Brexit. The Conservatives cannot win on a leave only platform.