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Candidate localness and voter choice in the 2015 General Election in England†

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Candidate localness in 2015 UK General Election

Abstract

Previous research has demonstrated a significant relationship between the geographical distance from a voter to a candidate and the likelihood of the voter choosing that candidate. However, models of this relationship may be mis- or under-specified, by not taking into account voters' perceptions of distance or not controlling for other possible factors related to a candidate's 'localness' which may influence vote choice. Using a two-wave panel survey carried out during the 2015 UK General Election, this article tests a more fully specified alternative-specific multinomial probit model of candidate-voter distance. We show that, although the effect size is smaller than in previous tests, candidate-voter distance mattered in the 2015 General Election, an effect that is robust to controls not only for party support and incumbency, as previous research had demonstrated, but also to measures of voter information, candidate presence and marginality. We also find that contiguity mattered: candidates living in non-neighbouring constituencies have a lower likelihood of vote than those living in neighbouring constituencies or in the constituency itself.

Keywords

Voting; England; spatial location; candidates; voter information

INTRODUCTION

A growing literature has shown that it matters where election candidates live (Cutler 2002; Dudley and Rapoport, 1989; Gallagher, 1980; Garand, 1988; Key 1949; Meredith 2013a; 2013b; Rice and Macht, 1987; Studlar and McAllister 1996). Building on ecological analyses from the 1970s onwards, which looked at candidate and party vote-shares by broad territorial location, newer approaches have used micro-level data to assess voters' decision-making as a function of the precise geographic distance between voter and candidate (Arzheimer and Evans 2012, 2014; Gorecki and Marsh, 2012, 2014).

Yet such distance-based models have potentially been wrongly or under-specified. First, they mostly rely upon objective measures of distance – usually looking at straight-line or driving distance, either linear or log-transformed – rather than voters' perceptions of distance. If, for example, voters consider distance in terms of territorial location rather than geographical distance, then measures of contiguity – neighbouring and non-neighbouring areas – will provide a better specification than measures of straight-line distance.

Second, they have not generally considered other factors relevant to localism in vote choice, such as candidates' place of origin, length of residence in the constituency, or the extent to which such information is available to voters before they make their choice in an election. Third, the distance that candidates live from a constituency, and their voters, may in fact be a result of strategic appointment and location of candidates by parties themselves, reflecting the priority of a constituency, particularly a marginal one, as 'winnable' due to factors independent of geography. The apparent positive effect of the localness of the candidate on vote share may

therefore be a measure of the closeness of the race for that seat rather than of localness itself. In other words, the proof of importance of a candidate's location per se remains under-specified and potentially spuriously related to vote likelihood through the availability of information or other aspects of electoral localism.

In the UK, the focus of this article, analysis of the 2010 General Election in England (Arzheimer and Evans, 2012) found a significant relationship between the geographical distance between a voter and candidate and the likelihood of vote for that candidate, with higher likelihood of vote at smaller distances. This was replicated in an analysis of the 2013 English County Council Elections (Arzheimer and Evans, 2014) which, in one of the rare studies to test contiguity, also found that a vote for a candidate living in a neighbouring Electoral Division was significantly less likely than for one living in the Electoral Division they were contesting, but that there was no further reduction in likelihood for candidates in non-neighbouring Electoral Divisions. Neither test on elections in England employed other possible localness indicators, and to our knowledge, no information variables relating to voter perceptions of localness have been tested in the UK or elsewhere.

This article therefore seeks to extend previous analyses of distance and localism through models which include a fuller specification of perceptions of localness, and considers how voter information and party supply may moderate these distance effects. We apply these to the 2015 UK General Election, looking specifically at English constituencies, to ensure that voters have an identical set of choices across the main parties. We start by reviewing previous approaches to distance and localism, to consider two approaches to testing hypotheses regarding localism and vote. We also consider alternative operationalisations of distance, and the necessary controls to provide a robust proof of its effect. We specify a series of models to test

whether distance retains an independent effect under these conditions, and provide a series of simulations to examine the impact of distance and voter information on vote.

We show that, although the effect size is smaller than in previous tests, candidate-voter distance mattered in the 2015 General Election. This effect is robust to controls not only for party support and incumbency, as in previous research, but also to voter information, candidate presence and marginality. We also find that contiguity does matter: candidates living in non-neighbouring constituencies are less electorally attractive than those living in neighbouring constituencies or in the constituency itself.

CANDIDATE LOCALNESS AND VOTER KNOWLEDGE

Research on the effect of candidate localness – that is, evidence of a candidate's presence and roots, or the lack thereof, within an electoral territory – falls broadly into two approaches: the perceptual and the behavioural. The 'perceptual' approach uses opinion poll and survey data to gauge the relative importance voters attach to a candidate or legislator being local (Johnson and Rosenblatt, 2007, Childs and Cowley, 2011, Wagner et al, 2015) but eschews any direct tests of distance measures or attitudes on vote. In the controlled environment of a survey, broader definitions of localness can be explored which go beyond geographical location, and may make reference to a candidate's birthplace or roots (Lee and Glasure, 1995) or the length of time a candidate has lived in an electoral region (Studlar and McAllister, 1996). The 'perceptual' proof relies upon voters stating or demonstrating the importance of candidate and representative attributes.

The ‘behavioural’ approach, which includes the majority of political geographical work to date, infers the importance of localness from election results, using ecological models of vote share, and individual voter behaviour, testing measures of localness (which are almost always the geolocation of the candidate), and proximity to the electoral region, or to voters within them. Key’s work on voting in the Southern state of the US noted the relationship between a candidate’s vote in their home county and adjacent counties (Key, 1949: 37-8). The latent ‘friends and neighbours’ mechanism (eg. Parker, 1982; Bowler et al, 1993), whereby local candidates are more integrated into networks in the local community, known personally or by only a couple of degrees of separation, and therefore advantaged by personal support unavailable to a more distant candidate, has been developed in models looking at local patterns of support. Gorecki and Marsh (2014) distinguish between ‘neighbourhood’ effects, where individual traits are complemented and offset by the predominant political persuasion of the area in question (for the UK, see, for example, Crewe and Payne, 1976) and these ‘friends and neighbours’ effects.

Ecological models have looked at candidate performance by location relative to their home location across different levels of election in the US (Tatalovich, 1975; Lewis-Beck and Rice, 1983; Rice and Macht, 1987; Kjar and Laband, 2002; Gimpel et al, 2008), and in New Zealand and Ireland (Johnston, 1973; Johnson, 1989). More recently, individual-level models in Ireland and the UK have looked at voter choice to identify the effect of voter-candidate distance on vote likelihood for these candidates (Gorecki and Marsh, 2012, 2014; Arzheimer and Evans, 2012, 2014). The behavioural approach has not generally tried to model the causal mechanism underlying the relationship between location and vote likelihood, instead assuming conceptual justification from the ‘friends and neighbours’ argument, as well as

empirical support from the 'perceptual' approach, using survey data, or artificial election scenarios through survey experiments to reveal voters' preferences (Campbell and Cowley, 2014; Roy and Alcantara, 2015). More broadly, assumptions about effectiveness of constituency service, representation, and candidates having an affinity for their own locale are all seen as motivating voter choice (Arzheimer and Evans, 2012: 302).

Both these approaches rely, directly or indirectly, on an assumption of knowledge on the part of the voter. If a voter is unaware of a candidate's residential location, this cannot be causally related to their vote choice. The level of knowledge required to influence the vote is less clear, however. Gorecki and Marsh control for whether a voter has had contact with a candidate, and find this is a significant predictor of vote (2012: 572). But, as we consider below, contact with a candidate and the increased voter information deriving from this, may be due to higher levels of campaigning in targeted seats (Fieldhouse et al, 1998; Denver et al, 2002; Pattie and Johnston, 2003) or more active presence in marginal constituencies by incumbents during their term of office (Johnston et al, 2002).

Moreover, contact with a candidate in itself is neither a necessary nor a sufficient condition for assuming knowledge of their background. Knowledge of a candidate's localness, and more broadly of the candidate at all, could derive from multiple sources. Whilst detailed knowledge of candidates' locations is an unrealistic level of awareness to expect of voters, a more general knowledge of localness could come, like other political information, from word of mouth (see, e.g., Pattie and Johnston, 2000), campaign literature, local media, or other sources. We would expect most voters to have, at best, limited knowledge of a candidate's exact residential location. (Indeed, the only point at which we may be certain that a British voter has access to

such information is at the moment of vote, since the candidate's address or at least constituency of residence is listed on the ballot paper, and it would be unrealistic to assume that the majority of voters pay much heed to this information in the brief time they spend in the voting booth.) Furthermore, location of residence, and measures based upon this, are only one possible facet of localness. If voters are motivated by localism to some extent in their vote choice, candidates' birthplaces, family roots, place of business or other traits may well be identified as evidence of localness (Childs and Cowley, 2011), even if current residential location is not deemed to be local.

Previous work looking at candidate-voter distance in the UK (Arzheimer and Evans, 2012, 2014), included only partial controls, namely incumbency and social deprivation. Incumbency mattered, but did not wash out the distance effect. In other words, it was not just that incumbents tended to live closer to the constituency than challengers (2012: 307). Similarly, checking for possible spuriousness through socio-economic distance between voter and candidates being related to geographical distance found no evidence that greater relative disparities in social position, measured using a social deprivation index, reduced the likelihood of vote. But the apparent effect of distance might be spurious for multiple other reasons. First, to what extent are voters supportive of local candidates not because they actively favour an individual located in their community, or that the candidates are locally active and thereby generate a personal vote, but rather because a candidate located in their community is more likely to be known to them than a candidate resident some distance away – what Wagner et al (2015) refer to as a 'profile' effect? A control for incumbency will potentially pick up some of this variance, but not that of locally based challengers. As a corollary, if distance and profile effects are separate,

to what extent can one offset the other? Can distant candidates who nevertheless establish a high profile in the constituency, or indeed establish their localness through birthplace or other roots, offset their distance penalty?

A second element of under-specification in much of the work on candidate distance comes from the absence of variables more commonly tested in the perceptual approach to localism. A voter may not know where a candidate lives, whilst still being fully aware of many other aspects of the candidate's profile, such as where they grew up or worked. The possibilities of unpacking the different aspects of localness in any behavioural test are limited. The multifaceted nature of localness can be tested on distance, but for birthplace, only partial data are available, and more idiosyncratic links, such as place of work, are even less available and difficult to quantify. We are thus restricted to looking at perceived localness, however that is constructed, as an accompanying control for distance.

Finally, we need to test whether the distances observed are a function of party supply and simply reflect parties targeting winnable seats (Krasno and Green, 1988) and selecting more local candidates in these to ensure high visibility and local contact. Whilst candidate selection, which may factor in residential location as a selection criterion, would not necessarily bias the distance finding, candidate location affected by choice of constituencies in which to challenge could well do. Should a variable testing for this wash out the distance effect entirely, this would not be proof that distance does not matter, but rather that it is a construct of party strategy. However, the argument that voters regard more local candidates as preferable would no longer be sustainable on this model alone. A simpler explanation would be that candidates live closer in constituencies where their party does well (we do not need to unpick causal precedence here). If, however, a distance effect remains after

controlling for marginality, this suggests that there is a voter-led dynamic beyond simple party strategy.

Our expectations, then, can be set out relatively simply. Controlling for party preference and incumbency, first, we expect that voters will be more likely to vote for a candidate who is closer to them geographically than one who is more distant, other things being equal. When location is construed by territorial contiguity rather than distance, we expect that voters will be most likely to vote for a candidate living in the same constituency, and that additionally they will be more likely to vote for a candidate living in a neighbouring constituency than a non-neighbouring constituency. Second, we expect that voters will be more likely to vote for a candidate whom they perceive as having a higher level of localness. Third, voters will be more likely to vote for a candidate about whom they have information. Fourth, drawing on Gorecki and Marsh (2012), voters will be more likely to vote for a candidate who has contacted them. Finally, we wish to see whether party strength, and thus chances of winning a constituency, account for any or all of the distance effect, indicating strategic positioning of candidates in areas of previous strength.

DATA AND METHOD

Information on vote, voter knowledge and party preference was collected using a two-wave internet panel delivered by the YouGov polling organisation, resulting in a full sample of 5972 voters in 532 of the 533 English constituencies (excluding Buckingham, the constituency of the Speaker of the House of Commons, whose candidacy traditionally goes unchallenged by the other main parties). The first wave was conducted between 19 February and 7 April 2015, with the second wave

delivered in the week following the election on 6 May 2015. The first wave asked a set of 11-point thermometer questions on the four main parties (Conservatives, Labour, Liberal Democrats and UKIP), to allow us to control for overall party preference before the beginning of the short campaign, as well as four questions asking respondents to identify how local the candidate from each of these parties was, on a four-point ordinal scale, or whether they did not know the level of localness. The second wave provided the reported vote of the respondents, which is used as the outcome variable.

To calculate voter-candidate distance, voter location is obtained from full postcode information included in the YouGov survey. Candidate data were compiled from the Statements of Persons Nominated (SoPNs) collected from the 532 constituencies, which include either full postcode information or the residential constituency of the candidate. Using the Ordnance Survey BoundaryLine™ vector shapefile and the OS/Royal Mail Code-Point® point dataset in the QGIS software package, the straight-line distance between voters and candidates who provided full postcode information was calculated. We tested a fractional polynomial transformation (Royston and Sauerbrei, 2008) of the distance effect in the model, to see if a log-transformed or other power-transformed measure fitted the data better, but none improved on the linear effect.

Contiguity measures were generated using the spdep and spatial packages in R to identify neighbouring and non-neighbouring constituencies for each English constituency. Different analytical sample sizes result from some candidates providing only their residential constituency on the SoPN (and therefore on the ballot paper), rather than their full residential address. Moreover, given the data were collected at different times across the pre-electoral period, we include only those

candidates who had formally been identified by the time the respondent completed the YouGov survey, to avoid including respondents who gave information on non-existent candidates. We acknowledge that other information may have been received by voters about their candidates subsequent to completing the survey, which may then influence their eventual vote choice – a point to which we return in the discussion – but we have no way of correcting for this potential bias. We took candidate identification recorded in the Representative Audit of Britain 2015 Parliamentary Candidate database for this purpose. The map in Figure 1 shows the constituencies with sufficient address information across candidates to be included in the distance model. The contiguity model had sufficient information by constituency to exclude only North Tyneside from the analysis, in addition to Buckingham. For the distance models, 2409 respondents across 403 constituencies are included in the analytical sample. Figure 1 shows the location of these constituencies. This increases to 3902 respondents across the 531 constituencies for the contiguity models.

[Figure 1 about here]

The effect of perceived localness is tapped using the four-point ordinal scales, asking how local a candidate is, which we retain as separate categories to include full information; we also include the ‘don't know’ category as a valid response, to understand whether a lack of awareness of localness is ‘worse’ (electorally) for a candidate than being perceived as an outsider. Including this variable together with distance allows us to see the extent to which the perception of localness is related entirely or partially to home location.

An initial exploratory test for the objective distance and perceived localness measures is the extent to which they are related. On average, do candidates who are classified as ‘very local’ live closer than those classified as ‘not local at all’? Table 1 presents the mean distance of candidates by perceived level of localness for the four parties, and shows a clear pattern of monotonicity among the informed responses, with the partial exception of Labour. Overall, candidates identified as more local do indeed live closer to the voters, with those seen as ‘very local’ by voters displaying extremely high levels of localness on average.

[Table 1 about here]

Nonetheless, the standard deviations illustrate that there is wide variation by candidates around this mean. Moreover, there are a considerable number of voters who say they do not know how local the candidates are: about 40% of voters were unaware of Conservative candidates’ localness, rising to 50% for Labour, two-thirds for Liberal Democrats and three-quarters for UKIP. This ‘Don’t Know’ category exhibits a lower mean than ‘not local at all’ across all four parties, and intermediate levels of standard deviation. We might have expected the highest deviation scores for this category, which could potentially include very proximate candidates of whom voters are simply not aware. Finally, we should recall localness is not simply a function of distance to residential address – high distance may not outweigh birthplace in localness, for example.

We test information effects partly by using this same question about localness, and retaining the ‘don’t know’ category as a valid response. But this only tests for the effect of not knowing about the localness of a candidate – it does not test for broader knowledge or awareness of the candidate. Since a survey question asking if a

respondent is aware of ‘the [party] candidate’ is potentially uninformative, or worse, and asking respondents to name each candidate is unrealistic in requiring a higher degree of active knowledge, we instead use an aggregate index to measure the degree of activity of a candidate in a constituency, and voters’ awareness of the candidate. We test two versions of this. The first, from the same YouGov survey, is an average index measuring knowledge of each candidate based upon all respondents from a constituency. Other things being equal, we assume that in a constituency where more respondents proffer a response as to the level of localness of a give candidate, the greater the average knowledge of the candidate more generally, and therefore the higher the likelihood of individual vote choice, irrespective of knowledge of localness.

A second version of this test uses data from Wave 5 of the British Election Study (BES), carried out between 31 March and 6 May 2015 and sampling 22,204 English respondents, which asked people if they had been contacted by each of the main parties during the campaign. A number of different modes of contact are specified by the BES, but we restrict ourselves to using contact by leaflet – by far the most common form of campaign information dissemination (Cowley and Kavanagh, 2015: 273), and the one most likely to contain positive information about the party candidate, as well as information about the localness of the candidate. We calculate the proportion of respondents surveyed by the BES in each constituency who state that they received a campaign leaflet, and from which party. This proportion is then matched to individual respondents in our YouGov dataset by party and by constituency. Given the large sample size of the BES across constituencies, we see this as an adequate measure of the relative extent of leafletting in the constituency. We expect that higher levels of leafletting, indicative of an active local campaign

disseminating candidate information in a constituency, will increase the probability of vote for that party's candidate.

We checked for a relationship between level of contact and distance, to understand if the level of leafletting was strongly determined by the proximity of the candidate to their constituency. Correlation coefficients were weak but significant for Conservatives (-0.17), Labour (-0.09) and Liberal Democrats (-0.13), and absent for UKIP (0.04). The inclusion of both variables in the models poses no issue.

Finally, to test the effect of party supply, and the chance of winning a constituency for each of the four parties, we use a measure of marginality that is based on the 2010 results. Parties put in greater resources to marginal constituencies than to safe seats, to increase their candidate's competitiveness. We measure this using the difference between the vote share for the party of the candidate in question and the winning party, or the party and the second-placed party in the case of winning candidates themselves. This results in a folded scale bounded by 0 and 100. Whilst party strategy in targeting seats is more complicated than simply identifying marginal constituencies where the party is well placed, it is difficult to reflect this complexity. It does, however, require the loss of some observations due to the absence of a UKIP candidate in 2010.

We run a series of alternative-specific multinomial probit (ASMP) models, predicting vote likelihood for each of the four main parties, using a set of explanatory variables for which there is a different score by candidate. ASMP models choice data including both case-specific variables (such as a respondent's age or gender) and alternative-specific variables, which will normally vary across both cases and alternatives (a voter's thermometer score for the parties or geographical distance from each of the

candidates). As with the better-known multinomial probit (MNP) model, one picks an arbitrary alternative (Labour in our case) as the reference category to identify the model. A crucial difference between the MNP and ASMP models is that the latter treats the choices each respondent (or case) made regarding the four main parties as observations, producing a stacked data matrix of multiple observations per case. Because the observations are not independent – since choices for/against the main parties are 'nested' within choosers – standard errors are corrected accordingly, as well as for clustering by constituency.

In reality, the number of observations is considerably smaller than the number of respondents multiplied by four, because some respondents have missing values for a single choice (the respondent did not rate one of the parties on the thermometer scale, for example), one of the candidates did not provide their full address on the SoPN (so distance cannot be calculated), or because the respondent did not vote for one of the main parties so that there is no variation between the four possible choices that could be modelled.

Previous research has used conditional logit models, as these are the most prominent statistical method for analysing choice data. One potential concern with the conditional logit model, however, is the assumption of independence from irrelevant alternatives (IIA). The IIA assumption states that the odds of preferring party A over party B are not affected if new parties are added to the choice set or existing parties are removed. In the context of electoral choice, IIA would be violated if some party C was seen as a perfect substitute for either A or B by voters. While the validity of the IIA assumption can be formally tested, Monte Carlo experiments have shown that the three most popular tests - the McFadden, Train, and Tye Test, the Small and Hsiao Test, and the Hausman and McFadden Test - often disagree

and have poor properties even in large samples (Cheng and Long 2007). Cheng and Long therefore argue that that one should follow McFadden's (1973: 113) early advice to treat the IIA not merely as a technical, but also as a substantive question: that is, to restrict multinomial and conditional logit analysis to situations where choices are perceived as "distinct ... by each decision maker".

Using ASMP takes an additional precaution again the IIA problem, as it assumes that the error terms in the model have a multivariate normal distribution that is both heteroskedastic and potentially correlated. Consequently, the odds of picking one alternative may vary dependent upon the other available choices, and the IIA assumption does not apply. The barrier to the use of ASMP has been computational, given its reliance upon simulation techniques to establish the maximum likelihood estimates for the parameters of the model. Achieving convergence in estimations for our models proved unproblematic, and interestingly, the findings were largely mirrored by those from the equivalent conditional logit model (see Appendix A). This conforms to Dow and Endersby's finding (2004) that the IIA rarely poses a problem using election data from free multi-party elections such as those in the UK.

In each model, the outcome variable is vote, coded across the four possible choices – Labour, Conservative, Liberal Democrat and UKIP. Models 1a and b introduce candidate location measures with standard controls. We use two different location models: the distance model 1a, which measures the straight-line distance between the voter's home address and that of the candidate; and the contiguity model 1b, with a factor variable coded 1 for candidates living in a neighbouring constituency to the voters, and coded 2 for candidates living in a non-neighbouring constituency (with home constituency being the reference). Standard controls for party and incumbent support are used in both models – the 11-point party thermometer score

for each of the four main parties, and a dummy variable coded 1 for incumbent candidate by constituency.

Models 2a and 2b introduce the localness variable, to look at the extent to which perceptions of localness of a candidate matter independently from distance. Our findings in Table 1 lead us to expect that distance should remain significant, with variance explained by other elements of localness picked up by the relevant level of localness. In the final two models, 3a and 3b, we include the party contact and profile indices, and the measure of marginality, to look at the extent to which distance and localness may simply be reflecting higher levels of information. We look in particular to see if distance and contiguity retain an independent effect on vote likelihood.

Overall, we expect candidates to have the highest likelihood of vote if they have an active party, a high profile in the constituency, or a high marginality – as well as if they have a low distance to voters or live in their home constituency.

ANALYSIS

Table 2 presents the nested models for the distance and contiguity tests.

[Table 2 about here]

Models 1a and 1b broadly confirm what we expect to see, with one notable exception. Model 1a indicates that distance matters, with candidates at higher distances from voters less likely to receive their vote, even controlling for incumbency and party feeling, which as we would expect are strong predictors of vote choice. In Model 1b, candidates living in constituencies which do not neighbour the one they are contesting are significantly less likely to receive support than

candidates living in their constituency. However, vote likelihood for a candidate living in a neighbouring constituency is not significantly lower than vote for a home candidate. Voters are no more likely to favour someone in their own constituency than one next door. (A change in contrast to the non-neighbouring category establishes a higher likelihood of vote for candidates in neighbouring over non-neighbouring constituencies, significant at the 90% level.) This contrasts with the contiguity findings for local elections in the UK, where the key difference was between candidates in their home Electoral Division, or any other Electoral Division, adjacent or not (Arzheimer and Evans, 2014). For national elections, contiguity seems less restrictive, apparently.

Models 2a and 2b introduce the localness variable to the distance model. The distance parameter remains stable and highly significant. Despite the clear relationship between perceived localness and distance (see Table 1), there are other elements of localness which explain variance in vote likelihood. For localness, in contrast to the 'don't know' baseline, candidates ranked as fairly local and very local have much greater vote likelihood, other things being equal. If distance is picking up the geographical element of this effect, other aspects such as length of residence in the constituency, or candidates' origins, that voters will use to construe 'localness' also clearly matter. Conversely, perceiving a candidate as not being local, or hardly local, is no more or less deleterious to vote chances than not knowing their localness at all. The size of the incumbency effect halves, demonstrating an association between incumbency and voters' perceptions of them as local. The results in the contiguity model (2b) are substantively identical.

Models 3a and 3b introduce the candidate profile, candidate contact and marginality indices. Note the non-significance of the profile index in both models. If tested by

itself, the effect is significant, but strong covariation between profile, contact and marginality sees the former variable wash out in the fuller specification. While this tells us something of interest – that voters are on average more aware of candidates for parties standing in marginal seats and actively campaigning – it reduces the explanatory power of the candidate profile index by itself. Of more value are the contact and marginality indices, both of which are significant and in the expected direction. Marginality is particularly significant – parties in closer races at the previous election are more likely to win votes, other things being equal. Looking at the contact variable, higher levels of constituency contact by the party or candidate on average increase the probability of vote.

There is also an association between incumbency and candidate knowledge – in the distance model sample, incumbents average a candidate profile index of 0.64, against non-incumbents' 0.30 – but much less so between incumbency and contact by leaflet (.20 for incumbents, .12 for non-incumbents). Incumbents have a built-in profile advantage through constituency service and established networks – a key element of the 'friends and neighbours' vote – but challengers may campaign as strongly, or more so, and this works to their advantage in raising the probability of vote. The inclusion of these two variables sees incumbency lose significance.

Most importantly for this analysis, the distance effect diminishes but remains significant at the 95% level. If parties are placing local candidates in target constituencies, this does not entirely pre-determine distance, nor does information about the candidate from contact eliminate this. This provides strong evidence that the location of the candidate does matter, together with other aspects of localness, independent of information and competitive effects.

Running the contiguity model with the contact, profile and marginality variables in Model 3b, the effect of these is very similar to the distance model. However, the contiguity effect attains significance only at the 90% level in Model 3b. This is unlikely to be a sample-size related Type II error. Running the model with only the non-neighbouring contrast included makes little difference to the effect size or significance. Similarly, the reduction in significance does not appear to be due to noise introduced by previous redistricting of incumbents, for example – interaction effects between incumbency and contiguity confirm the null. One possible issue may be the effect of the geographical size of constituency – for small, urban constituencies, a non-neighbouring constituency may be closer than parts of a neighbouring constituency in a large rural area. Given the lack of within-group variation on constituency size, it is impossible to include this in the probit model. However, if we run separate models (not shown) for small and large constituencies, using mean area in hectares as the cut-off, an effect almost significant at the 99% level and in the expected direction is found for non-neighbouring constituencies in the larger constituencies, even when controlling for profile, contact and marginality.

Lastly, unlike the distance model, incumbency remains significant and with a larger parameter point estimate. Given the model includes the same control variables as in Model 3a, this must be related to the additional constituencies and cases included through contiguity, but we have been unable to identify why incumbency should retain an effect in constituencies where more candidates withhold their addresses.

[Table 3 about here]

Previous work has provided simulations showing how vote likelihood varies by distance and contiguity (Arzheimer and Evans, 2012, 2014). For the distance model,

we cannot compare directly with the 2010 election, since in previous work voter locations were estimated by ward centroid due to data restrictions on precise geolocation. Moreover, we wish to look at the effect of distance in a more robust model where candidate information and campaign behaviour have been included. We will therefore briefly consider 2015 estimates using an approximation of the 2010 model.

In the upper half of Table 3, we first look at vote probabilities when all candidates are placed at 26km from a notional voter, and then in turn we move each party's candidate to 120km from the voter, leaving the other three parties at 26km. These are the distances which were originally tested in the earlier 2010 analysis (Arzheimer and Evans, 2012: 308, table 3). The top section gives the mean scores and proportions of the other variables in the model, with the 'Real' row giving the actual vote probabilities from the analytical sample. The size of change is conditional upon the baseline probability for the party, with no evidence of differential effects by party when these were tested using interactions between party and distance. The Conservatives lose around 7 percentage points if their candidate is placed substantially further away, compared to a situation where all candidates are placed equally distant. Under equivalent scenarios, Labour lose around 6 percentage points, and Liberal Democrats and UKIP around 2 points. Graphing probabilities and marginal effects revealed a clearly linear effect (see Appendix B).

This Conservative effect compares with an estimate of around 16 percentage points in the 2010 General Election (Arzheimer and Evans, 2012: 308). Given the difference in choice set, voter location estimation, model specification and measurement of distance – driving distance was used in the 2010 test – we also estimated the change in party vote shares using a conditional logit model, excluding

UKIP as a choice response, and localness and contact as explanatory variables, and estimating driving-distance from straight-line distance by regression on 2010 scores, but the simulation estimates remained very similar (see Appendix C). We have no reason to suspect that a distance effect should be greater in the context of the 2010 elections and consequently, we are left with an unstable distance effect across time. We return to this in the discussion.

In the lower section of Table 3, we look at the effect of candidate contact on vote share, to compare with the distance simulations. We look first at the vote probabilities if candidate for all parties are set to the median proportion of leafletting. We then in turn raise each party's leafletting to the upper quartile proportion, holding the others at the median, and then lower each party to the lower quartile proportion. For the Conservatives, lower levels of campaigning result in around a 3.5 percentage point drop, and a similar rise for higher campaigning. Similar changes affect the other parties proportionate to their baseline probability. Labour drops or gains around 3 points due to low or high contact, respectively. Liberal Democrats and UKIP variation is just over +/- 1 point. Contact through leaflets, then, makes a difference, but not sufficient to offset concerns over localness. Other things being equal, a relatively inactive candidate with strong local credentials will perform better than a distant candidate with strong campaigning.

DISCUSSION

The distance effect found in 2010 thus persists in 2015, even when included in a much more fully specified model accounting for other aspects of localness and voter information. As previous work has emphasised, the distance effect on its own cannot

be regarded as a ‘game-changer’ under normal circumstances, and the instability of the parameter estimate is noticeable across the two election years. But although a host of other explanations of voter choice are controlled via the thermometer instrument, and although the candidates’ individual incumbency status is accounted for, too, the location of a candidate relative to her voters still has a bearing on the likelihood of them voting for her, and this difference in 2015, as in 2010, could potentially be crucial in marginal constituencies, particularly if parties maximise other information and campaign effects.

An alternative mode of construing distance, contiguity, similarly finds support. Voters prefer candidates to be placed in a more local environment – the constituency or a neighbouring one – to further afield. However, once information and contextual effects have been controlled for, this effect weakens more than is the case for the distance variable. While contiguity might perhaps be closer to how we would expect voters to perceive proximity of candidates, given it relies on distinct areas rather than precise distance, the heterogeneity in constituency size and its weaker influence in the fully specified model would still lead us to favour distance as the simplest, consistent measure.

Other aspects of localness clearly matter too. We have been unable to unpick these here from the voter perceptions, but our findings suggest empirical tests of such things as candidate origins and ‘rootedness’ are worth pursuing. Distance matters as it affects voter knowledge, and it is also an indirect manifestation of party strategy in (un)winnable seats, but it also matters independently as a heuristic for candidate desirability and effectiveness.

Indeed, in some ways the persistence of a distance effect is the most striking finding, given that the evidence suggests that, with the exception of the Conservative Party, the majority of voter-candidate pairs result in a 'Don't Know' for candidate localness. As we noted at the beginning of the article, one possibility is that our survey respondents received more information, including some indication of localness, in the short campaign one month before the election. In this case, a higher proportion would be aware of location, and this would account for distance mattering in the face of locational ignorance at the time of the survey. Another necessarily speculative explanation would be that some other mechanism still underlies distance, which we have not picked up with our controls. These two possible explanations suggest very different conclusions for the distance effect – the first positive, the second negative. Both are weaknesses which we would strive to correct in subsequent testing.

Whilst the inclusion of information and contact effects provides an improved specification of distance models, there are clearly other elements to candidate location which remain to be examined. The next step should be to include a full specification of all candidate traits, including gender (Dolan, 2004), occupation (Mechtel, 2011) and ethnicity (Fisher et al, 2014), as well as attractiveness (Mattes and Milazzo, 2014). We see no a priori reason to expect that the effect of distance will vary by these traits, so believe that our model remains robust without them. Similarly, traits in voters, as causal priors to political sophistication, may condition the effect of distance, if use of location information is either the mark of a sophisticated voter, or a variable which the sophisticated voter eschews in favour of alternative indicators of competence and suitability. Lacking a suitable measure of political sophistication, however, this too requires testing in future.

In short, the robustness of the distance effect to controls for information and candidate profile, party supply, as well as broader manifestations of localness, does not settle the argument regarding its independence. However, it does provide stronger evidence that the importance of localness to voters in their representatives manifests itself through their location, as well as other aspects of their rootedness in a constituency.

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TABLES AND FIGURES

Table 1 Mean candidate-voter distance by perceived candidate localness for the four parties

Mean distance (standard deviation), km				
	Labour	Conservative	LibDem	UKIP
Don't know	15.6 (31.0)	25.1 (59.7)	18.1 (36.1)	13.4 (15.7)
Not local at all	20.4 (42.2)	32.9 (74.8)	19.5 (46.3)	17.1 (18.6)
Not very local	9.2 (10.4)	19.7 (49.2)	18.3 (40.8)	13.9 (17.4)
Fairly local	11.2 (24.0)	17.2 (46.5)	14.1 (32.0)	13.4 (15.9)
Very local	6.0 (10.7)	9.3 (16.1)	7.2 (10.0)	11.5 (16.7)
% obs. who don't know	52.4 (n=1103)	42.3 (n=839)	65.5 (n=1168)	76.9 (n=812)
Total	2103	1984	1783	1056

Table 2 Alternative-specific multinomial probit models of distance, contiguity and candidate information effects on vote choice (2015)

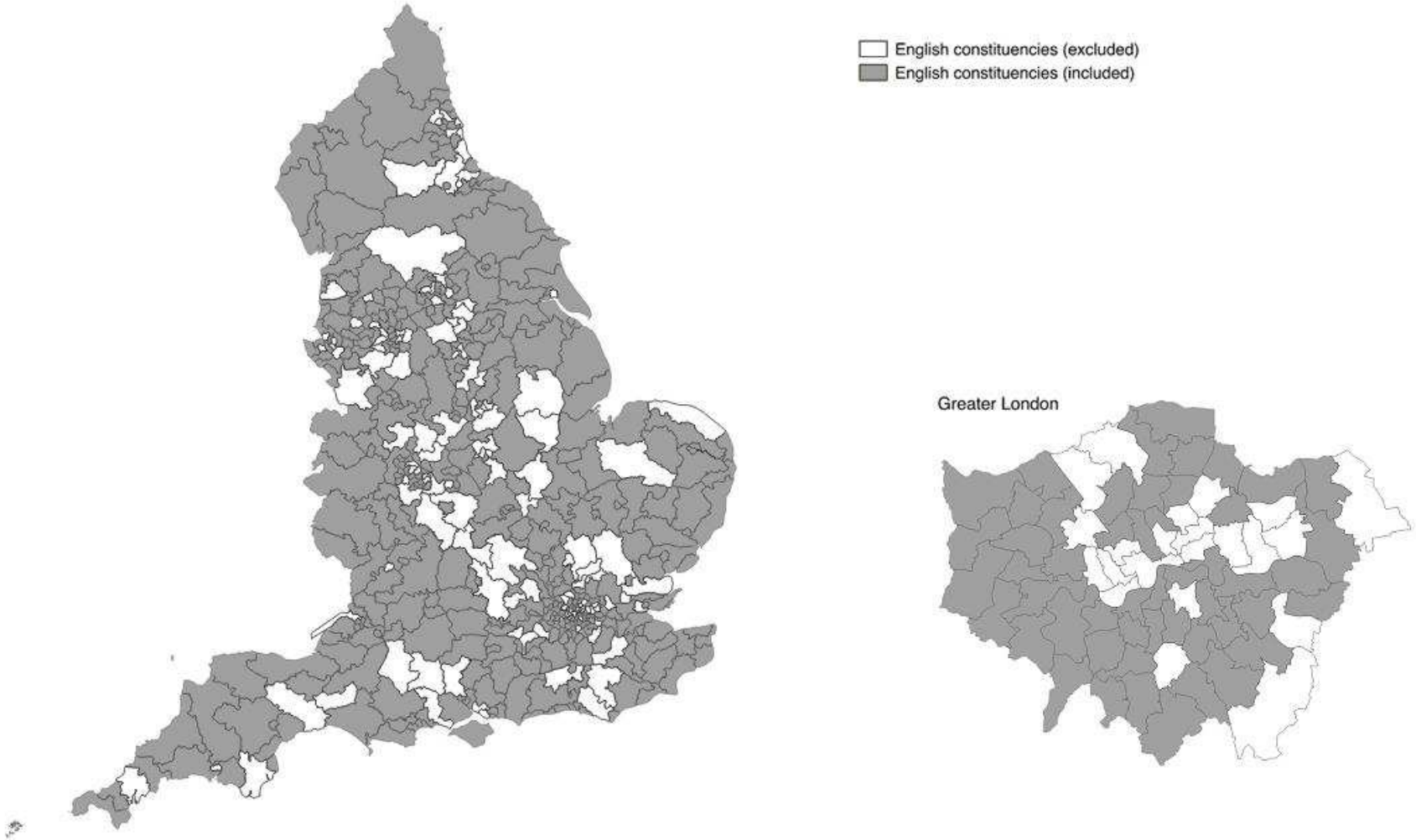
	Distance models			**Contiguity models**		
	Model 1a – naive B (s.e)	Model 2a – localism B (s.e)	Model 3a – full B (s.e)	Model 1b – naive B (s.e)	Model 2b – localism B (s.e.)	Model 3b – full B (s.e.)
Intercepts						
Conservatives	.147 (.092)	.233 (.092)*	.146 (.092)	.133 (.064)*	.180 (.065)**	.109 (.066)
Liberal Dems.	-.455 (.144)**	-.494 (.137)***	-.534 (.140)***	-.403 (.113)***	-.462 (.113)***	-.479 (.114)***
UKIP	-.591 (.154)***	-.518 (.154)**	.067 (.185)	-.723 (.110)***	-.683 (.113)***	-.142 (.140)
Party feeling	.595 (.044)***	.569 (.041)***	.602 (.042)***	.605 (.033)***	.585 (.034)***	.598 (.034)***
Incumbency	.603 (.089)***	.331 (.088)***	.074 (.120)	.609 (.070)***	.377 (.069)***	.182 (.081)*
Distance (km)	-.004 (.001)***	-.004 (.001) ***	-.003 (.001)*			
Home				-	-	-
Neighbouring				-.067 (.080)	-.059 (.082)	-.001 (.079)
Non-n.bouring				-.263 (.084)**	-.229 (.084)**	-.140 (.084)†
DK– local		-	-		-	-
Not at all local		.271 (.273)	.083 (.296)		.171 (.200)	.068 (.205)
Not very local		.095 (.200)	-.005 (.215)		.097 (.137)	.050 (.143)
Fairly local		.537 (.140)***	.313 (.153)*		.519 (.097)***	.375 (.102)***
Very local		1.188 (.160)***	.929 (.177)***		1.137 (.131)***	.952 (.135)***
Profile index			.393 (.389)			.151 (.254)
Contact index			2.886 (1.37)*			3.234 (.987)**
Marginality			-.028 (.007)***			-.025 (.005)***
Wald chi2	216.28 (3df)***	233.47 (7df)***	251.47 (10df)***	378.76 (4df)***	327.87 (8df)***	358.79 (11df)***
BIC	1707.40	1670.38	1637.54	3332.59	3244.51	3185.74
Observations		6926			13585	
Cases		2409			3902	
Candidates		1095			1820	
Constituencies		403			531	

Note: standard errors clustered by constituency; † p < 0.1 * p < .05 ** p < .01 *** p < .001

Table 3 Simulations of vote share with variable candidate distance and campaign contact

	Labour	**Conservatives**	**LibDems**	**UKIP**
Party feeling	4.43	4.63	3.48	3.73
Incumbent party	0.27	0.56	0.12	0.00
Straight line distance	12.86	20.52	16.28	13.47
Not local at all	0.04	0.07	0.04	0.05
Not very local	0.06	0.08	0.04	0.04
Fairly local	0.20	0.26	0.14	0.08
Very local	0.18	0.17	0.12	0.07
Profile	0.44	0.53	0.31	0.21
Contact	0.11	0.12	0.08	0.07
Marginality	21.46	15.81	21.06	42.58
Real	28.93	53.86	7.278	9.963
Distance				
All at 26km	28.51	54.40	7.26	9.86
Labour at 120km	22.45	58.82	7.96	10.79
Conservatives at 120km	33.26	47.14	8.49	11.15
LibDems at 120km	29.16	55.46	5.28	10.12
UKIP at 120km	29.41	55.56	7.52	7.55
Candidate contact				
All median contact	28.49	52.12	8.24	11.17
Q1 Labour contact	25.35	54.34	8.63	11.70
Q1 Conservative contact	30.79	48.49	8.89	11.87
Q1 LibDem contact	28.88	52.74	7.07	11.34
Q1 UKIP contact	29.02	52.79	8.40	9.83
Q3 Labour contact	31.92	49.70	7.81	10.61
Q3 Conservative contact	26.15	55.86	7.57	10.45
Q3 LibDem contact	28.06	51.41	9.59	10.99
Q3 UKIP contact	27.91	51.37	8.05	12.69

Figure 1 Constituencies included in distance model (403 constituencies)

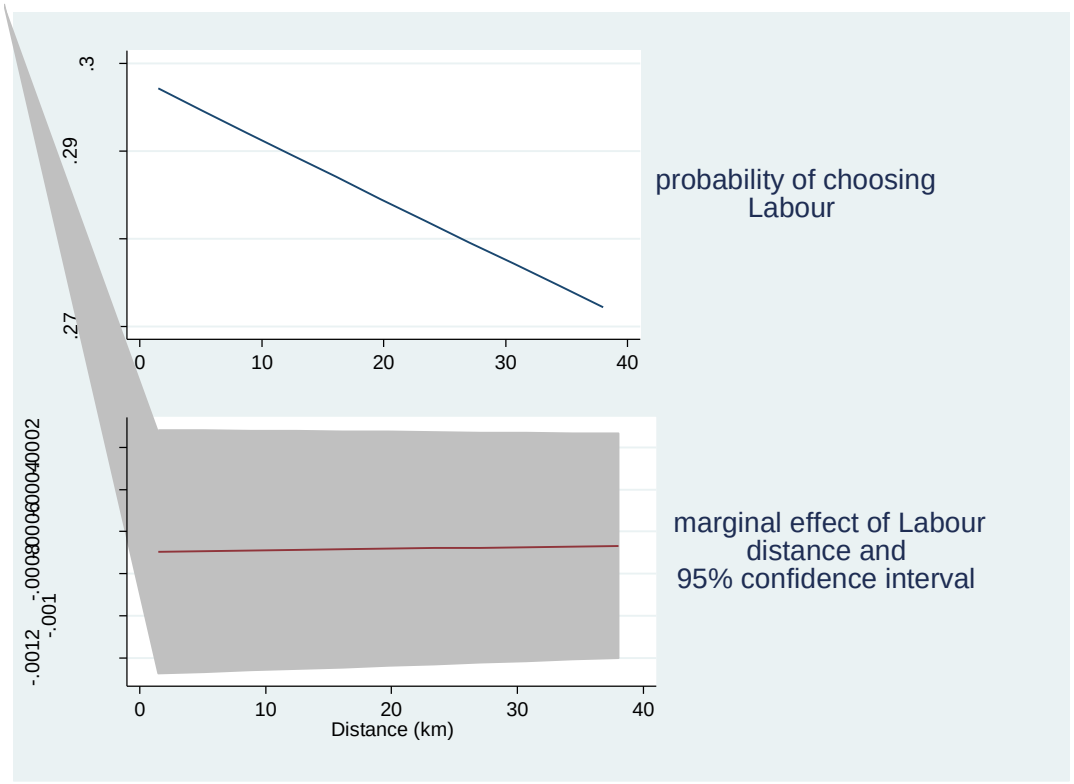


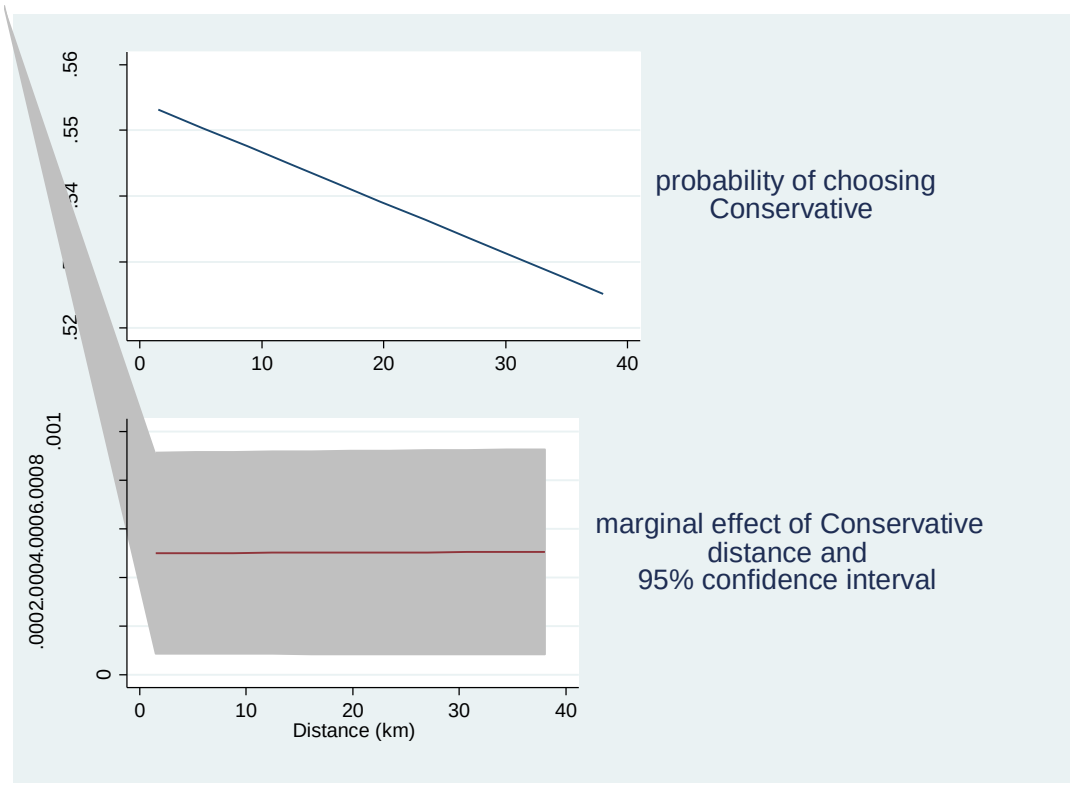
Appendix A Conditional logit models of distance, contiguity and candidate information effects on vote choice (2015)

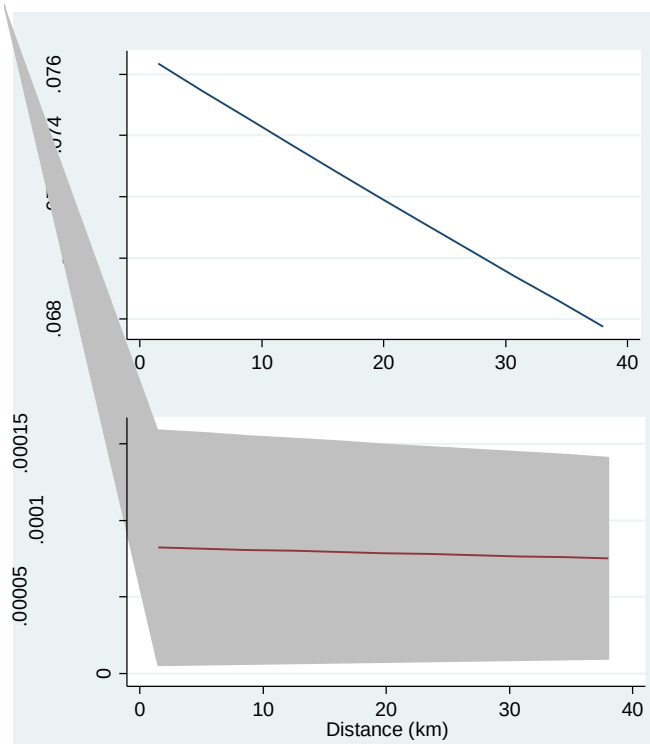
	Distance models			**Contiguity models**		
	Model 1a – naive B (s.e)	Model 2a – localism B (s.e)	Model 3a – full B (s.e)	Model 1b – naive B (s.e)	Model 2b – localism B (s.e.)	Model 3b – full B (s.e.)
Intercepts						
Conservatives	.165 (.108)	.267 (.107)*	.161 (.106)	.136 (.076)	.204 (.076)**	.103 (.077)
Liberal Dems.	-.405 (.126)**	-.474 (.120)***	-.496 (.131)***	-.368 (.102)***	-.432 (.098)***	-.482 (.103)***
UKIP	-.567 (.155)***	-.439 (.147)**	.259 (.190)	-.712 (.102)***	-.619 (.100)***	.077 (.146)
Party feeling	.748 (.033)***	.714 (.032)***	.729 (.033)***	.759 (.023)***	.725 (.023)***	.737 (.023)***
Incumbency	.771 (.107)***	.436 (.103)***	.188 (.137)	.776 (.079)***	.496 (.078)***	.269 (.095)**
Distance (km)	-.005 (.001)***	-.004 (.001)***	-.003 (.001)**			
Home				-	-	-
Neighbouring				-.051 (.092)	-.041 (.092)	.038 (.089)
Non-n.bouring				-.263 (.099)**	-.227 (.098)*	-.127 (.099)
DK– local		-	-		-	-
Not at all local		.191 (.292)	-.001 (.314)		.151 (.239)	.032 (.247)
Not very local		.223 (.248)	.141 (.253)		.167 (.168)	.111 (.172)
Fairly local		.691 (.163)***	.437 (.175)*		.615 (.113)***	.448 (.119)***
Very local		1.439 (.185)***	1.139 (.201)***		1.325 (.140)***	1.108 (.148)***
Profile index			.233 (.453)			.173 (.301)
Contact index			3.234 (1.530)*			3.524 (1.145)**
Marginality			-.033 (.008)			-.032 (.006)***
Wald chi2	624.34 (6df)***	634.21 (10df)***	665.32 (13df)***	1319.89 (7df)***	1287.45 (11df)***	1325.99 (14df)***
BIC	1637.106	1598.252	1572.908	3251.522	3171.449	3116.277
Observations		6926			13585	
Cases		2409			3902	
Candidates		1095			1820	
Constituencies		403			531	

Note: standard errors clustered by constituency; † p < 0.1 * p < .05 ** p < .01 *** p < .001

Appendix B Fitted probability and marginal effects graphs of distance on vote choice by party

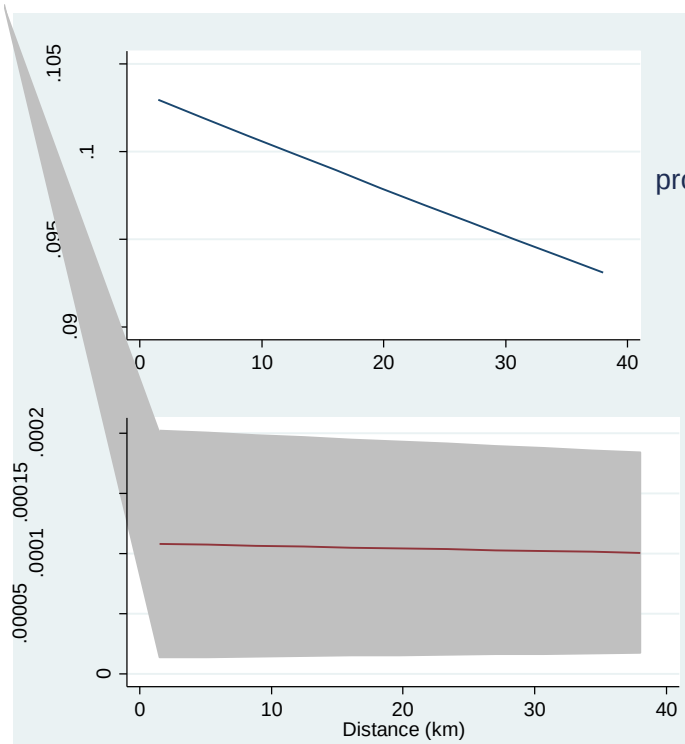






probability of choosing LibDem

marginal effect of LibDem distance and 95% confidence interval



probability of choosing UKIP

marginal effect of UKIP distance and 95% confidence interval

Appendix C Distance effect and simulations in 2015 using 2010 specification (with precise distance)

	Model C1 B (s.e)
Intercepts	
Conservatives	.135 (.117)
Liberal Dems.	-.393 (.128)**
Party feeling	.776 (.040)***
Incumbency	.820 (.114)***
Pseudo – driving distance (km)	-.003 (.001)***
Wald chi2	434.53 (5df)***
Observations	5350
Cases	2109
Constituencies	362

	Labour	**Conservatives**	**LibDems**
Party feeling	4.59	4.68	3.57
Incumbent party	0.27	0.54	0.12
Pseudo-driving distance	17.27	26.85	22.15
Real	36.34	53.98	9.67
Distance			
All at 26km	35.65	54.70	9.65
Labour at 120km	28.71	60.60	10.69
Conservatives at 120km	41.91	46.74	11.35
LibDems at 120km	36.61	56.18	7.21