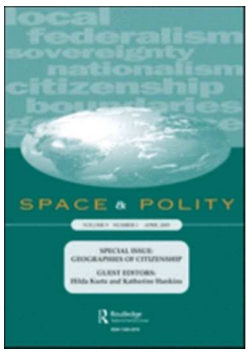

Geographies of Brexit and its Aftermath: Voting in England at the 2016 Referendum and the 2017 General Election

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Abstract. **Much has been written since the 2016 Brexit referendum regarding the divides within British society that the vote illustrated – including geographical divides – and their influence on the outcome of the 2017 general election. Focusing on England, this paper explores the extent and significance of those geographical divides at the 2016 referendum, at a variety of spatial scales – concluding that apart from a major difference between parts of inner London and the rest of England these were largely insignificant. Turning to the 2017 general election, analyses show that this return to a predominantly two-party system within England largely involved a replication of the geography of the 2015 general election outcome. A new electoral map of England did not emerge from the divisions that Brexit stimulated: the country is divided along class lines, with London standing out as different from all other regions.**

> For British citizens who did not live there, London came to have a "foreign" aspect, deepening their sense that the metropolitan "elite" residing in the capital was somehow alienated from the rest of the country (Applebaum, 2017, 56).
>
> Of the fifty local jurisdictions where the vote to remain in the EU was strongest, only eleven were not in London or Scotland, and most of these were areas with large universities. In a country divided on unfamiliar lines, London – home to the political, business and media elite – was profoundly at odds with the country that it dominates and overshadows. London wholeheartedly embraced Europe, even as most of England emphatically rejected it. The same story played out in microcosm across the nation. Diverse urban areas and university towns returned large Remain majorities, but found themselves swimming against the tide, as the bulk of English local jurisdictions backed Leave (Ford and Goodwin, 2017, 25).
>
> In terms of what the EU referendum has revealed, the UK is clearly fragmented with notable differences between people and places. There is some truth in a regional reading of the referendum results whereby London … stands apart from parts of the East Midlands, West Midlands, the East, and Yorkshire and The Humber in terms of its (decreased) support for Leave. However, the splits are not as simple as sometimes they have been portrayed: there is variation within regions, with notable differences between large cities and towns … and smaller towns and rural regions (Harris and Charlton, 2016, 2126)

Much was written in the aftermath regarding the social and economic divides exposed by the result of the UK's 2016 referendum on whether to leave the European Union. Two major cleavages were identified (by, for example, Ashcroft, 2017; Curtice, 2017a, 2017b; Surridge, 2017 – but also Bhambra, 2017): between those with no or few education qualifications and those with extensive qualifications (though see Antonucci et al.'s – 2017a – modification of this); and between the young and the old. These interacted: old people with few qualifications were more likely to vote Leave than their younger contemporaries in similar situations. Additionally, the different groups tend to live in

separate parts of the country – in different regions (London has many more well-educated cosmopolitans than other regions, for example) and different types of place (university cities have more cosmopolitans than declining mining and industrial towns). The nation was also divided geographically, therefore. But was there more to that geography than a simple reflection of that socio-economic divide? Goodwin and Heath (2016a) identified 'a significant "interaction effect" between a person's level of education and the educational profile of the area where they live. … Graduates who live in low-skilled communities were more likely to vote for Brexit, and more similar to those with low education, than graduates who live in high-skilled communities'. The result was a country 'deeply divided along not only social but also geographical lines'. Indeed, Ivlevs and Veliziotis (2017) showed that in areas with high levels of immigration from EU sources, whereas older, low-income and unemployed residents expressed a decline in their life satisfaction levels, younger, better-qualified and higher-income residents of the same areas reported an increase.

Few analyses have explored those geographical lines in detail (though see Harris and Charlton, 2016; Beecham et al., 2017); most simply examined differences across the UK's major regions and London, Scotland and Northern Ireland stood out as the only ones returning majority support for Remain. Both Scotland and Northern Ireland have distinctive political cultures that were highly significant in determining the outcome (on Scotland, see Gallagher, 2017). Were there any other clear geographical elements to the pattern of voting at the referendum? Although overall the outcome nationally was very close, with 51.9 per cent voting for Leave and 48.1 per cent for Remain, there was very considerable variation in the degree of support across England. Among the 326 local authorities for which the results were reported, the percentage voting for Leave varied from 21.4 to 75.6 with a mean of 54.5 and a standard deviation of 10.0. The gap between voting Leave or Remain was 40 percentage points or more in favour of Leave in nine authorities and there were eleven where the gap was 40 points or more in favour of Remain.[1] At the finer ward scale, among those for which data were available (see below) the percentage voting Leave varied from 12.2 to 82.5 with a mean of 52.2 and a standard deviation of 14.5; there were twenty-six where the percentage supporting Leave exceeded that supporting Remain by more than 50 points and seventy-one where support for Remain was at least 50 points larger than support for Leave. Despite the overall closeness of the outcome, therefore, there were very substantial geographical differences within England which need to be explored.[2] The only detailed analysis addressing this is by Beecham et al. (2016): this shows that although the main determinants of the level of voting Brexit across all local authorities – qualifications and professional employment – had a similar impact in each region, other variables, which had much less impact overall, varied regionally in the strength of their relationships with voting differences; there were local as well as national geographies.

Geographical studies of voting patterns distinguish between what are generally termed compositional and contextual effects (the terminology is from Thrift, 1983). Most people's voting decisions are taken to promote their self-interests, supporting the party, candidate or referendum issue that best represents their attitudes. These are compositional effects and if they dominate decision-making then the geography of an electoral outcome should reflect the geography of the social groups – such as social classes – sharing particular attitudes. But it may be that, usually in addition to these effects, people in certain places are more likely to vote for one outcome rather than another, reflecting local influences: these are contextual effects. Most studies of British voting

[1] The authorities giving the largest support for Leave included seven in eastern England (Boston; South Holland; Castle Point; Thurrock; Great Yarmouth; Fenland; and East Lindsey); the other two were in the East Midlands – Bolsover and Mansfield. Of the eleven giving the largest support for Remain all but Oxford were London boroughs.

[2] Wales differs less in its political culture – or at least in many parts of the country – from England than do Scotland and Northern Ireland but it also has a devolution settlement through which some at least of its separate political concerns can be pursued and so has been excluded from the analyses here.

patterns – from the classic work of Butler and Stokes (1969) on and including analyses of the Brexit referendum, as discussed below – stress the compositional effects, in which case the only geographical concern is why the relevant groups are clustered in some places and not others. If, in addition, there are geographical variations not accounted for by the compositional effects, then geographical context itself may be a relevant concern (as Butler and Stokes illustrated). This paper explores whether that was so in England in 2016.

Because the social and economic divides exposed by the referendum were considered to be different from those underpinning voting at previous UK general elections (Jones et al., 2016), questions were raised whether those cleavages – and associated geographical divisions – would recur at future general elections: had the country's electoral geography been permanently disrupted? A snap general election a year after the referendum provides an opportunity to address that question. The first part of this paper therefore explores the geography of voting at the referendum across England in greater geographical detail than heretofore; the second part explores whether the referendum vote had any influence on Britain's changing electoral geography between the 2015 and 2017 General Elections.

Changing electoral geographies

The first three post-1945 decades saw very considerable stability in the British party system and electoral geography. Two parties – Conservative and Labour – predominated, with a geography represented as a north-south divide (Johnston et al., 1988). From 1974 on, however, that party system and the associated electoral geography were both fractured. The two parties remained dominant but were no longer hegemonic; they still captured the great majority of seats and the north-south divide remained. But a third party – which eventually became the Liberal Democrats – captured up to one-quarter of the votes at some elections and became the main contestant to either the Conservatives or, increasingly, Labour in a substantial number of seats.

That electoral geography of three two-party systems in England and two four-party systems in Scotland and Wales (Johnston and Pattie, 2011), persisted until the 2010 general election, after which new patterns emerged (Johnston et al., 2016). There was growing support for the United Kingdom Independence Party (UKIP), which campaigned for the UK's withdrawal from the European Union. That policy resonated with an increasing proportion of the electorate, and UKIP emerged as the largest party in the 2014 elections to the European Parliament, with 26.6 per cent of the votes. Support for the Conservative and Labour parties remained largely unchanged in England at the 2015 election, both in their shares of the votes and their electoral geographies,[3] but the Liberal Democrats' vote share fell by more than two-thirds. They were no longer a viable contestant in many constituencies and UKIP now occupied second place in a considerable number of seats – though it won only one.

UKIP's pressure, alongside a substantial group on the right of his party, stimulated the Conservative leader, David Cameron, to a 2015 election manifesto commitment to hold an in-out referendum on the UK's membership of the EU, after negotiations to seek modifications to its terms. After he won an unexpected small majority of MPs, the referendum was held on 23 June 2016 with a small majority voting to Leave (what became known as Brexit). Cameron resigned and a new Conservative majority government undertook to oversee the Brexit process. After a year in power, Prime Minister Theresa May called a snap general election seeking an enhanced House of Commons majority to

[3] The correlation (r^2) between their vote percentages across the 632 seats in Great Britain between the two general elections was 0.93 for the Conservatives. For Labour it was considerably smaller at 0.77, largely reflecting the SNP's Scottish success, which was largely at Labour's cost – for England and Wales alone, the r^2 value was also 0.93.

conduct the exit negotiations. That failed; the Conservatives remained the largest party but not only lost seats to Labour but also lost their overall House of Commons majority. UKIP's support collapsed – in part because it fielded no candidate in over 20 per cent of constituencies – and the Liberal Democrats achieved no overall improvement in their vote share. The two-party dominant system was largely restored – except in Scotland (Johnston et al., 2017, 2018).

The 2015 election, the 2016 referendum, and then the 2017 election saw considerable change in British politics, therefore. But were those changes represented in England's electoral geography?

People and place in voting for Brexit

Electoral geographers have long explored whether mapped patterns of support for a political party, candidate, or referendum issue are epiphenomenal – the observed geographical variations merely reflecting other geographies, such as those of the types of people who support particular political parties, policies and candidates (Agnew, 1990). If so, then the electoral geographies are compositional and not independent of other, underlying patterns; if not, then there are spatially specific contextual influences on electoral behaviour.

Compositional and contextual factors underlie the geography of the Brexit vote. Support for leaving the European Union from the 1990s on was initially concentrated within the Conservative party. The core of their case focused on the loss of sovereignty 'to Brussels', often linked to arguments that EU membership was an economic burden rather than an advantage, that the UK would be more prosperous operating its own trade policy and unconstrained by EU labour market and other regulations. From the mid-2000s on, these were joined by UKIP whose goal was ensuring the UK left the European Union (Goodwin and Milazzo, 2015): increasingly its focus within that pursuit was on immigration, especially after the accession to the EU of eastern European states and the British Labour government deciding to impose no transitional restrictions on their nationals' freedom of movement (Goodwin and Milazzo, 2017). UKIP's spokespersons made much of the large number of immigrants who moved to the UK, not only – according to its arguments – depressing wages in many occupations, especially those relatively poorly paid in many service industries, and making it harder for locals to obtain jobs, but also putting pressure on local housing markets, schools, health and other public services. These arguments resonated increasingly with groups that had traditionally voted Labour – a situation exacerbated as the economic recession hit them hardest – and who were becoming increasingly discontented with not only particular political parties but also with governments – and the 'Westminster elite' more generally – for their failure to deliver policies that benefited those increasingly disadvantaged (Jennings et al., 2017; Deeming and Johnston, 2018).

A new class divide opened, therefore, with in particular older people (especially men) with few educational qualifications supporting UKIP (Johnston et al., 2018b). They had 'lost out' from the free market internationalism policies pursued by successive governments and felt that the welfare state – and particularly the Labour party which had established it – was no longer meeting their needs (Richards, 2017). At the 2014 European parliament elections, therefore, as well as at parliamentary by-elections and local government elections, UKIP won support across a wide range of constituencies, apparently fracturing the established party system and its electoral geography (as former Labour voters switched their allegiance, for example). That was largely compositional – the places where UKIP was performing well were those where the relatively disadvantaged (the 'left-behinds' in some analyses – Mckenzie, 2017; though see Antonucci et al., 2017b; the 'somewheres' against the metropolitan 'nowheres' in another – Goodhart, 2017) were concentrated. But there were contextual effects too: UKIP had concentrations of support where it won seats at local government elections, in places where the local economy was substantially impacted by large-scale recent immigration, such as the horticultural areas of south Lincolnshire and parts of East Anglia.

But were there more extensive geographical variations? Many analyses of British voting patterns – at ecological and individual scales – merely explore such potential geographies by using the standard division of England into nine regions. In early studies of voting for Brexit across Britain's 380 local government areas (in which the votes were counted and reported), Goodwin and Heath (2016b) found that, holding compositional effects constant (as discussed in more detail below), support for Brexit was lower in London and Scotland than elsewhere: Clarke et al. (2017a) merely contrasted Scotland and Wales with England;[4] Clarke and Whittaker (2016) found that, holding other variables constant, support for Leave was significantly lower in some regions than others within Great Britain; Lee et al. (2018) included regional controls but did not report their size or significance; and Gordon (2017) contrasted Merseyside, Wales and Scotland with the resat of Great Britain (see also Becker et al., 2017; Fielding, 2018).

Such deployment of regions as the sole spatial variables adopts a scale both coarse-grained and ill-suited to many such analyses. England's nine regions are large (some have three times the population of others) and internally substantially heterogeneous. Except for London, all have substantial rural tracts alongside major urban centres; most contain a wide variety of urban settlements with different histories, contemporary functions and population characteristics. A finer-grained territorial division of the country might be more likely to find significant contextual alongside compositional effects, therefore. Furthermore, rather than dividing the country into blocks of contiguous areas, however fine-grained in scale, it might be more revealing to group places according to their socio-economic and -demographic characteristics: places, it could be argued, differ because of their individual characteristics rather than their macro-location – there are no substantial political cultural variations across England's regions. The next section explores whether that is the case in the pattern of voting for Brexit in the 2016 referendum.

The geography of voting for Brexit in England: what geography?

Research on who voted to leave the EU has shown that greatest support came from older people and those with few educational qualifications (Curtice, 2017a; Goodwin and Heath, 2016; Zhang, 2017): younger people, especially those in in the more cosmopolitan centres (London, the large cities at the core of the main conurbations, and a number of other towns and cities, especially those with large universities), were more likely to vote to remain within the EU. To evaluate that case further, relevant census variables were deployed in two sets of analyses, one across all English local authorities, and the other for a non-random selection of wards within those authorities for which the voting data were released.

The local authority scale

Seven variables indicating the relative presence of different groups known either to differ in their attitudes to Brexit or impact upon others' attitudes were obtained from census tabulations for each English local authority. Because of inter-correlations among those variables – with the potential for confounding effects in the regression analyses (Johnston et al. 2018a) – they were reduced to three composite variables using principal components factor analysis. Three factors accounting for 84 per cent of the variation in the predictor variables were extracted, identifying, after a direct oblimin

[4] Elsewhere, Clarke et al. (2017b) found no clear significant relationships between voting Leave and several socio-demographic factors, but this was because – as in many studies of British voting behaviour – they also included attitudinal variables that are related to those socio-demographic factors and confound the regression models (see Johnston et al., 2018b). Becker et al. (2017) included a wider range of variables than most other studies – though largely reaching the same general conclusions – but included no geographical variables.

rotation to simple structure,[5] separate dimensions to the compositional differences across local authorities (Table 1):

I. Cosmopolitan areas with relatively few old people[6] – those with high positive scores;
II. Relatively deprived areas – those with high positive scores; and
III. Areas with large student populations – those with high negative scores.

Regressing each local authority's scores on those three factors against the percentage voting Leave (Model 1 in Table 2) shows support for Brexit was: less, the more cosmopolitan the area (i.e. the more Asian and Black self-identified ethnics in an area and the more immigrants from the countries that joined the EU after 2001) – the negative coefficient for Factor I; greater, the more deprived the area's population (i.e. the more households identified as deprived on three or more criteria and the more adults with no educational qualifications) – the positive coefficient for Factor II; and less, the fewer students and more old people living there – the positive coefficient for Factor III (on which the percentage of students has a negative loading). All three are highly significant and account for 68 per cent of the variation in the Brexit vote; of the three the second is most influential statistically and the first is the least.

Regional variations?

Are there additional regional variations? The Model 2 regression in Table 2 adds dummy variables for eight regions, contrasting their support for Leave with that in London, holding constant the three compositional factors. All have positive and significant regression coefficients at the 0.05 level (each is more than 1.96 times its standard error, shown in brackets), suggesting that – population composition having been taken into account – on average local authorities in each of the other regions gave greater support to Brexit than did London's.[7] But using the conventional measure,[8] those eight regional coefficients do not differ significantly from each other, as illustrated by Figure 1 which shows the coefficients for each region – ordered by their size, with their upper and lower bounds. All eight sets of bounds overlap and are clustered around the average coefficient of 8.0. Given the differences consequent on varying population characteristics, the rest of the country gave significantly greater support for Brexit than London, but there were no significant differences across those eight regions outside London.

And there many analyses stop. But what if those are regions subdivided? The subdivision used here is based on one developed in the 1980s for *The Economist* (Johnston et al., 1988), which separates out the major conurbations from their surrounding hinterlands. There are seventeen subregions, and the regression contrasts sixteen of them with Inner London. The full results (not reproduced here) show a substantial improvement on Model 2, with an R^2 of 0.81. But little additional geographical detail emerges from the subregional coefficients (Figure 2). Fifteen regions differ significantly from Inner London in their support for Brexit, the exception being Merseyside where average support for Brexit across its local authorities did not differ significantly from Inner

[5] An oblimin rotation does not – unlike Varimax rotations – unrealistically require that the factors remain uncorrelated; it gives a better approximation of simple structure (i.e. it maximises each variable's loading on a single factor only) where the factor structures are correlated.
[6] Fox and Pearce (2018) suggest there are generational as well as age effects in the pattern of Euroscepticism.
[7] Note that the regression coefficient for Factor I is much smaller (and only marginally significant at conventional levels) in Model 2 than in Model 1, indicating collinearity with one or more of the regional variables – undoubtedly the concentration of cosmopolitan populations in Greater London.
[8] The conventional measure is whether the upper and lower bounds for each coefficient (i.e. the coefficient +/- 1.96 times its standard error) overlap.

London's.[9] But there were no significant differences among the other fifteen subregions apart from a very small one between Greater Manchester, the least pro-Brexit subregion after Inner London and Merseyside, and the Outer Metropolitan (Home Counties) subregion where local authorities on average were most supportive of the Leave campaign. (Note the substantial and significant – 14 percentage points – difference between Inner and Outer London local authorities. The cosmopolitan influence was much weaker in London's suburbs.)

Places rather than regions

Regions and subregions are far from homogeneous: similar places – post-industrial towns based on railway engine construction, for example – are found in several if not most regions. To focus on similar places wherever they are located, therefore, we use a hierarchical classification of English local authorities – twenty-six subgroups nested within thirteen groups nested within seven supergroups – produced by the Office of National Statistics using census data.[10] (The full hierarchy is shown in the Appendix.) The question being addressed is the same: holding constant their population characteristics as identified by the three factors, did similar places according to this classification display significantly separate levels of support for Brexit?

Model 3 in Table 2 reports a regression including the seven supergroups, in which the comparator is London Cosmopolitan (a group of twenty local authorities). Because population characteristics are used in the creation of the three factors as well as the supergroups, collinearity is possible. This was clearly the case with the first – cosmopolitan – factor, whose high scores were concentrated in the comparator supergroup; the regression coefficient for Factor 1 is small and statistically insignificant. But the coefficients for the other two factors and their standard errors are little different from those reported for Model 1.

The regression coefficients for the six supergroups are large and statistically highly significant, indicating that each supergroup of places differed very substantially in its average level of support for Brexit from the London Cosmopolitan boroughs. But they are all very similar in magnitude – ranging between 13.1 and 15.8 – and their upper and lower bounds clearly overlap. At this coarse scale, therefore, much of London differed from the rest of the country in support for the Leave campaign, but there were no significant differences between those six other supergroups.

A similar conclusion is reached from the analysis of the thirteen groups, in which the comparator is the twelve boroughs grouped together as London Cosmopolitan Central. The R^2 value associated with the regression equation (not shown here) increases slightly to 0.78 but, as Figure 3 demonstrates, although all had a significantly larger average level of support for Brexit than the comparator group again there was no significant difference across the twelve, except for a very slight one between the two extreme groups – London Cosmopolitan Suburbia and Growth Areas and Cities. Once again, Inner London differed from the rest of the country.

A slightly more nuanced conclusion can be drawn from the final analysis, of the twenty-six subgroups, in which the comparator is the eight boroughs categorised as Cosmopolitan Inner London (the R^2 value is 0.80). One other subgroup – Cosmopolitan Heart of London (four boroughs) doesn't differ significantly from the comparator – but all others do, including both Cosmopolitan North and South London (five and three boroughs respectively). Again, most of the other subgroups'

[9] This may reflect an Irish influence (Merseyside has close links with Ireland and a large population of Irish ancestry, and the Irish government strongly supported the UK remaining within the EU).

[10] For details on the classification, see https://www.ons.gov.uk/methodology/geography/geographicalproducts/areaclassifications/2011areaclassifications/methodologyandvariables (accessed 22 August 2017).

upper and lower bounds overlap (Figure 4) so that although there is a clear progression of regression coefficients indicating ever-larger differences from the comparator group, up to an average of 22.1 percentage points greater support for Brexit, only for the last two – the eighteen local authorities in the Expanding Areas and Established Cities subgroup and the eleven in that of Expanding Towns and Manufacturing Areas – is that difference significantly different from any of the other subgroups, and that only from one, Cosmopolitan South London.

A final check for spatial patterns not identified by the regional and place classifications involved inspecting the largest residuals from the subregion and subgroup regressions: the largest fifteen over- and under-predictions (negative and positive unstandardised residuals respectively) are shown in Table 3. All but one of the fifteen largest over-predictions from the subregion analysis, places where support for Brexit was substantially lower than predicted, are in southern England (the exception is Knowsley, in Merseyside; the next furthest north is Leicester) but they have no other common element. Furthermore, although four of the largest under-predictions (the lower block in Table 3) are northern, again there is a preponderance in the south and, with a few small exceptions such as the naval centres of Plymouth, Portsmouth and Gosport, again there are no obvious major communalities. One clear feature of the largest overpredictions from the subgroup analysis is the presence of four of Merseyside's local authorities – Liverpool, Knowsley, Sefton, and Wirral. Plymouth, Portsmouth and Gosport again all have large positive residuals, as do several authorities on either bank of the Thames estuary where UKIP won considerable support at recent contests – Medway, Dartford, Rochford, and Thurrock – as well as two outer east London boroughs – Bexley and Havering. What these residuals show, therefore, is that some places – a few of which were either spatially contiguous or shared common functions, patterns not picked up by the subregional and subgroup classifications – differed substantially from the overall pattern identified by the three factors representing socio-economic and socio-demographic characteristics, but in general these were place-specific and not representing wide geographical variations in support for Brexit.

Region and Place

A final regression examined variations by both region and place, including both subregions and subgroups: the R^2 was 0.84. Only one subregion coefficient was significantly different from the comparator; Merseyside's average Brexit vote was significantly lower than Cosmopolitan Inner London's. All but one of the subgroup coefficients was statistically significant, however, the exception being Cosmopolitan Heart of London. But none of the other twenty-four was significantly different from any other: apart from much of Inner London plus Merseyside, there were no significant variations in the level of support for leaving the EU across the rest of England – either by region, subregion, or type of place. There were substantial differences in some cases, but these were largely place/type-specific rather than applying widely across a particular type of place.

The main residuals from this regression (Table 4) include many of the local authorities in Table 3. By including subregion as well as subgroup, however, the Merseyside cluster is removed – although the support for Brexit in Knowsley remains substantially over-predicted whereas it is substantially under-predicted for neighbouring St Helens.

In sum, therefore, these local authority scale analyses have identified a clear division between either London and the rest of England at a coarse, regional scale, or between Inner London, Merseyside and the rest of the country at the finer-grained subregional scale.[11] Holding constant differences

[11] Note that in an early analysis of the results across Great Britain as a whole, Clarke (2016) claims to have identified no 'London effect' once seven socio-demographic variables were taken into account. S Clarke, Why did we vote to leave? What an analysis of place can tell us about Brexit. *Resolution Foundation Blog*, 15 July

between local authorities in their socio-economic and socio-demographic characteristics, England was basically split between inner London and the rest of the country in attitudes to Brexit. Furthermore, when local authorities were categorised according to their economic functions and population characteristics again, apart from the separation of much of (cosmopolitan) inner London from the rest of the country, no particular type of place stood out as significantly different from the others in the percentage supporting Leave. In simple terms – and apart from parts of Merseyside – once population characteristics of local authorities were taken into account, England was divided on Brexit between its cosmopolitan core and the remainder of the country.

The ward scale

Local authorities vary considerably in their size, population and socio-demographic characteristics, and while they form a significant local context they are not commensurate in scale to the neighbourhoods within which many people socially interact. Some local authorities published the referendum voting data by ward, which are much closer in scale to those neighbourhoods; those data were collated and made available by Martin Rosenbaum at the BBC.[12] They are used here to analyse voting in the sixty local authorities with available data for either all or the great majority of their wards. (In most cases they are for votes cast on the day; postal votes were counted separately and not allocated to wards.)

Comparable ward census data were subjected to a principal-components factor analysis, which when rotated to simple structure identified three similar constructs to those for local authorities, accounting for 77 per cent of the variation (Table 1). Regressed against the percentage voting Leave the resulting equation (with standard errors in brackets) was:

Leave% = 52.4 – 6.9 Factor I + 7.1 Factor II – 4.7 Factor III $R^2 = 0.59$
(0.3) (0.3) (0.3) (0.3)

a very similar result to that for local authorities (Table 2) except for the somewhat smaller R^2 value. (Note that the different sign for Factor III is because the percentage of students loaded negatively on that factor in the local authority but positively in the ward analysis.)

Five further analyses included dummy variables for regions, subregions, supergroups, groups and subgroups respectively, with ward population characteristics held constant (recognising that the places for which data were available in no way represented the regions and groups within which they are placed); the details are not reported. The R^2 values were: regions – 0.61; subregions – 0.71; supergroups – 0.65; groups – 0.70; and subgroups – 0.72. There were substantial geographical variations, both subregional and by type of place, therefore. But as with the local authority analyses those patterns emphasised differences between (parts of) Inner London and the rest of the country, with little or no significant variation across wards in the latter. In the subregional analysis, for example, Merseyside wards (one local authority only – Wirral) gave significantly higher mean support for Brexit than Inner London and significantly lower support than all other subregions, but there were no significant variations among the remaining subregions. Two Inner London subgroups plus Education Centres (only one local authority – Brighton & Hove) differed significantly from the others, but with no further significant differences among the latter.

2016, available at http://www.resolutionfoundation.org/media/blog/why-did-we-vote-to-leave-what-an-analysis-of-place-can-tell-us-about-brexit/ (accessed 24 August 2017).

[12] See http://www.bbc.co.uk/news/uk-politics-38762034 (accessed 22 August 2017) and the alternative analyses on the Stats Guy Blog (http://www.statsguy.co.uk/?s=brexit – accessed 13 October 2017)..

These ward analyses sustain the earlier conclusions, therefore, that once the main individual voter characteristics of places were taken into account there was little geographical variation in support for Brexit. Parts of Inner London and of Merseyside, and probably some university cities, stood out as giving less support to the Leave campaign than the rest of England, but that was all. The variables used accounted for around 70 per cent of the variation in the percentage voting Leave, with little apparent pattern to the residual variation. A final ward-level model including both subregions and subgroups accounted for 77 per cent of the variation. The unstandardised residuals were summed by local authority in two ways, to explore whether any individual places stood out from the norm. In the first, residuals were summed across all wards in each authority; those with a large positive average were where all population groups were apparently more likely to vote Leave than the norm, whereas those with a large negative average were those where all were less likely. The high-low graph (Figure 5) identifies only a few where there was an average variation of more than a few percentage points, either positive or negative; most had an average residual variation close to zero and none stood out as differing significantly from the other local authorities. The second summation was of absolute values (i.e. negative residuals transformed to positive): Figure 6 provides no evidence of local authorities differing significantly from the norm across its constituent wards – none has a mean exceeding ten percentage points.

One year later: the geography of party support in 2017

UKIP's vote share collapsed from 12.6 per cent at the 2015 general election to 1.8 per cent in 2017 and the Liberal Democrats failed to regain lost ground – they lost some seats and gained a few others but at 7.4 per cent their vote share was 0.5 points down. All polls predicted UKIP's decline and the issue facing analysts was which party (if any) its former supporters would switch to. One argument was that many previous Labour supporters who voted UKIP in 2015 and/or for Leave at the 2016 referendum could vote Conservative in 2017, supporting the government delivering the 'hard Brexit' that most Leave supporters wanted (see, for example, Ross and McTague, 2017; Shipman, 2017). If that happened, the electoral geography could change substantially. Achieving it was central to the Conservatives' strategy: the Prime Minister launched her manifesto in a relatively marginal Labour-held seat (Halifax) and visited other such target seats during the campaign (Bale and Webb, 2017), in many of which UKIP decided not to field a candidate (Johnston et al., 2017). An alternative view was that, as Brexit was now happening, former Labour voters would return to that party, especially as it campaigned strongly on anti-austerity policies attractive to many of its erstwhile supporters whereas the Conservative manifesto included several commitments that would have a negative impact on many former Labour voters (Crines, 2017; Dorey, 2017). This might help Labour win in some Conservative-held marginals, especially where the incumbent MP had voted Remain but Leave gained a majority in 2016 – in many of which UKIP fielded a candidate again. (For analyses of voting at the referendum by constituency, we use the estimates generated by Hanretty: see Hanretty, 2017.)

The pattern of voting Leave across English constituencies was unrelated to support for the two main political parties at the 2015 general election – Offe (2017) claimed that the two patterns were orthogonal. The R^2 values are very small and the regression coefficients statistically insignificant (Table 5) but holding 2015 vote shares constant support for Brexit was significantly smaller in London than in the rest of England. There was a significant negative link between 2015 support for the Liberal Democrats (the only English party totally committed to a Remain vote) and the percentage who voted for Brexit plus an – unsurprisingly – strong positive relationship between it and UKIP's 2015 performance.

The geography of the referendum vote in 2016 differed from that for the two main parties in 2015, therefore, but did the substantial support for Brexit in many constituencies outside London where

Labour performed well in 2015 (Figure 7) influence its 2017 performance there, for example, or did its geography of support – and also the Conservatives' and Liberal Democrats' – return to the established patterns? Polling data prior to the contest suggested that a substantial number of 2015 Labour voters would not switch to the Conservatives in 2017, however. YouGov's extensive polling in the last week of the 2017 campaign found 28 per cent who reported voting Labour in 2015; of them, 23 per cent voted Leave at the 2016 referendum, and of that group only 18 per cent (i.e. 4 per cent of those who voted Labour in 2015) intended voting Conservative in 2017 whereas 65 per cent reverted to an intention to support Labour (see also Ashcroft, 2017).

Table 6 reports regressions of each party's 2017 vote share. Model 1 regresses that against its 2015 share, accounting for 95 per cent of the variation for Labour, 86 per cent for Conservatives and 82 per cent for the Liberal Democrats – clear evidence that 2017's electoral geography replicated that two years previously, especially for Labour.[13] Further variables explored whether the geography of voting for UKIP in 2015 and the presence of a UKIP candidate in 2017 accounted for any of the residual variation, plus whether the pattern of voting in London differed significantly from that in 2015. (Because of collinearity between UKIP's 2015 vote and the percentage voting Leave, only one was included to avoid problems of confounding and mis-interpretation: Johnston et al., 2018a.) Labour's vote decreased very slightly in 2017 relative to 2015 the larger UKIP's share of the vote in 2015, and it also fell, by 0.82 percentage points on average, in constituencies where UKIP fielded a candidate in 2017, but neither of these changes altered the R^2 value, indicating that although statistically significant they were substantively of little importance.[14] There was also no significant change in the average level of support for Labour across London's constituencies compared to all others.

The Conservative regressions show a significant benefit from the decline in UKIP support – an increase of 0.73 percentage points for every one-point increase in UKIP's 2015 vote share according to Model 3 but it was 1.5 points lower on average where UKIP fielded a candidate in 2017 (see also Heath and Goodwin, 2017). These two variables accounted for a further eight percentage points in the R^2 value, suggesting that much of the – relatively small – change in the geography of the Conservatives' support between the two contests involved them picking up votes from former UKIP supporters (see Mellon et al., 2017).[15] On average, too, the Conservatives' vote share fell by several points across London's constituencies, a change countered by the average growth in the Liberal Democrats' vote share there. (The Liberal Democrats were strong in parts of London up to and including the 2010 election, but several seats were lost in 2015, some of which were regained in 2017.) As with the other two parties, however, the predominant influence on the geography of voting Liberal Democrat in 2017 was the geography in 2015.

The geography of voting for England's two largest parties changed very little between 2015 and 2017, therefore; any anticipated substantial geographical turbulence created by the geography of support for leaving the European Union in 2016 failed to materialise. This is clearly demonstrated by

[13] Such continuity is the norm for most recent elections in England: the r^2 value for the correlation of the Conservatives vote shares in 2010 and 2015 was 0.914; for Labour it was 0.928.

[14] Tests also found no interaction effect involving those two variables.

[15] Some commentators suggested that those incumbent Conservative MPs who voted for Brexit at the referendum might be punished by Tory voters at the 2017 election in constituencies where a majority was for Remain, whereas MPs who voted for Remain might be punished in constituencies with a Leave majority, but tests found no evidence that this happened. See, for example, https://www.express.co.uk/news/uk/796060/General-Election-2017-Remain-Leave-constituency-Brexit-News-ony-Blair-Referendum; S. Sandhu, 'Every Remain constituency with a pro-Brexit MP', https://inews.co.uk/news/politics/pro-brexit-mps-represent-remain-constituencies/; and P. Lynch 'Conservative divisions on Brexit: the general election and beyond' http://ukandeu.ac.uk/conservative-divisions-on-brexit-the-general-election-and-beyond/ (accessed 13 February 2018)

the two graphs in Figure 8, which show each party's vote shares at the two elections with the diagonal line indicating where the constituencies would be placed if they had the same outcome at both contests; constituencies are also divided into whether there was majority support for Brexit or not. For Labour, virtually every constituency is substantially above the line, indicating a positive swing across the country with very few exceptions. There is some suggestion that where it performed well in 2015 (with more than 50 per cent of the votes) it tended to do even better in 2017 in seats where there was no majority for Brexit than in those where there was, but this is not confirmed by statistical testing.[16] Where its vote share was low in 2015, on the other hand, it increased more in seats with a Brexit majority than in those where there was a Remain majority. For the Conservatives, however, Figure 8 shows clearly that its vote share increased in nearly all constituencies where there was a majority for Brexit and fell in most of those where there was not.

The collapse in support for UKIP and the lack of growth for the Liberal Democrats meant that the 2017 general election largely returned England to a two-party situation similar to that preceding the various post-1970s party-system fragmentations. Both Conservatives and Labour increased their vote shares – from 41.0 to 45.4 per cent for the former and 31.6 to 41.9 per cent in the latter. As Figure 8 suggests, for the Conservatives much of this was because many more UKIP voters in 2015 switched to them than to any other party. Labour's substantial increase was largely due to its anti-austerity policies both re-mobilising support among formerly disenchanted supporters in its traditional heartlands, where turnout was relatively high (Goodwin and Heath, 2017), and encouraging greater support than at many previous elections among younger voters:[17] according to Curtice (2017c, 8), 'Social class was clearly displaced by age as the predominant demographic division amongst voters' (see also Ashcroft, 2017).

Discussion and Conclusions

> … the vote for Brexit exposed and deepened a new set of cleavages that are largely cultural rather than economic (Ford and Goodwin, 2017, 29)

The pattern of voting at the 2016 referendum brought to the surface a number of evolving cleavages within British society. One was between two – Northern Ireland and Scotland – of the three parts of the country with devolution settlements and the rest of the UK: they voted to remain within the EU (Scotland by 62:48; Northern Ireland by 56:44) whereas England and Wales both voted to leave. Two further cleavages were socio-demographic: by age (older people were more likely to vote Leave; younger people – especially students – to vote Remain: see Nouvellet, 2017), and by qualifications (the more qualifications the greater the likelihood of an individual voting Remain). Within England, these latter two cleavages meant that the geography of voting at the referendum was very different from that for the various political parties – especially the two largest, Conservative and Labour – at recent general elections. Many of those among the old and the less-qualified who supported Brexit had previously either voted Labour or, because of their disillusionment with Labour's policies, had

[16] Note, too, that in reporting the results from the 2017 BBC/ITV News/Sky News (which was extremely successful in predicting the outcome) Curtice et al. (2017) observed that across the 144 sampled polling booths the Conservative benefited more than Labour from the decline in UKIP's support in constituencies that delivered a majority form Brexit in 2016.

[17] Labour's success in particular places also reflected the intensity of its mobilisation activities there: Scott and Wills (2017) illustrate this for the period preceding the 2015 general election; the establishment of Momentum before the election of Jeremy Corbyn as party leader in 2015 and its subsequent local campaigning prior to the 2017 election further illustrates this strategy (see http://www.peoplesmomentum.com/ - accessed 14 September 2017). Countering some claims to the contrary, Prosser et al. (2018) have shown that there was no increase in turnout by young voters in 2017, only greater support for the Labour party among those who did vote.

abstained. But some 23 per cent of those who had voted for Labour at the 2015 general election supported Leave at the referendum (as did 58 per cent of those who voted Conservative), and 63 per cent of English constituencies which returned a Labour MP in 2015 delivered a majority for Brexit (although all but twelve Labour MPs voted for Remain).

That new geography attracted considerable attention because in addition to those new social cleavages – whose geography accounted for just over two-thirds of the variation in the percentage voting Leave across England's local authorities – a further spatial cleavage appeared. At the regional scale, this contrasted London with the rest of England: even when the capital's concentrations of ethnic minority populations, of immigrants from countries that joined the EU after 2001, of highly-educated individuals living in affluent households, and of students were taken into account, support for the UK leaving the EU was significantly lower than expected. Cosmopolitan London stood out from the rest of England, even when its population composition had been taken into account. But was the 2016 electoral geography more complex than a simple (inner) London vs the Rest of England divide? Apart from Merseyside, where support for Leave was also lower than predicted, once population composition had been taken into account there were no significant differences between all of the other subregions into which England was divided or the various type of place according to a classification of local authorities, except for a few small groups of similar places, such as the country's major naval bases. Cosmopolitan Inner London gave significantly less support to the Leave campaign than any other parts of England than predicted by its population composition; and across the rest of England, population composition was the only significant set of factors that separated places according to their support for Brexit.

Following that referendum outcome and the incumbent Conservative government's decision to implement it, there was uncertainty as to whether those new cleavages would determine support at subsequent general elections. That was addressed in mid-2017 when an unexpected general election was called. The resulting geography of support for the two main parties very largely replicated the situation in 2015, however: England reverted to the – at the coarse-grain – north-south divide that had characterised its electoral geography in the twentieth century's middle decades. (Jennings and Stoker, 2017, refer to this divide as the continuation of a longer-term trend setting cosmopolitan Britain – the big cities and university towns – against the areas where the precariat is relatively large, placing the spatial cleavage, as also explored here, as one between types of place rather than regions: see also Evans and Menon, 2017, 100ff.) The Conservatives increased their vote share by winning over a majority of those who voted for UKIP in 2015: Labour increased its share even more by re-mobilising its traditional supporters and engaging a large segment of younger voters with a set of post-Brexit left-wing policies. (Young people were generally against Brexit, but their turnout at the referendum was lower than that for other age groups, as it was again in 2017.[18])

The cleavages opened up by the 2016 referendum have not disappeared, however. The split between cosmopolitan London and the rest of England remains a major issue challenging the Conservative government – which won only 40 of the 158 seats in the three northern regions in 2017 (plus only 21 of the 73 in London). Claims for greater infrastructural investment outside London and for more devolution of powers to regional bodies illustrate the spatial tensions, which may well be exacerbated after the UK leaves the EU in 2019 because many parts of those 'northern regions' that supported Brexit were major beneficiaries from EU investments and depended extensively on exporting to EU markets (Dhingra et al., 2017; Los et al., 2017). And those voters who have not benefited substantially from the liberal globalisation policies of recent decades, many of whom suffered more than average from the post-2007 crash recession and were prepared to vote for UKIP in 2014 and 2015 and then Brexit in 2016 (Scotto et al., 2018), were attracted back to Labour in 2017

[18] See G. Skinner and G. Gottfried, 'How Britain voted in the 2016 referendum', https://www.ipsos.com/ipsos-mori/en-uk/how-britain-voted-2016-eu-referendum (accessed 13 February 2018).

by a combination of its anti-austerity policies and the Conservative manifesto's attacks on some central welfare state provisions. But if Labour cannot regain power and re-deliver even relative prosperity to such groups it may not retain that support for long:[19] deep economic and cultural divides, sustained by suspicion of cosmopolitan politicians, could see increased electoral support for parties focused on the demands of the 'outsiders' from 'somewhere' (Richards, 2017; Goodhart, 2016) – a new electoral geography might still emerge from the Brexit fallout. Indeed, Sanders (2017) has suggested that the previous left-right divide in British politics has been replaced by a division of the electorate into four major political tribes – the Liberal Internationalist Pro-EU Left; the Liberal, Pro-EU Centre Right; the Authoritarian Populist Centre: and the Authoritarian Populist Right. Labour currently has the support of the first of those tribes – which is insufficient alone for it to win power in the House of Commons – and the Conservatives have the support of the last two plus much of the second tribe. If they lost that latter support, but to a party (or parties) other than Labour a further multi-party system could emerge, with a very different geography from that exposed here.

[19] See, for example, the argument for greater attention to 'the north' by the Conservative party in A. Gimson 'The Conservatives have urgent work in the North of England' Conservative Home Blog, 24 August 2017, https://www.conservativehome.com/thetorydiary/2017/08/the-conservatives-have-urgent-work-in-the-north-of-england.html?utm_medium=email&utm_campaign=Thursday%2024th%20August%202017&utm_content=Thursday%2024th%20August%202017+CID_0a4d320571c27f73c4eb405ae65b6052&utm_source=Daily%20Email&utm_term=The%20Conservatives%20have%20urgent%20work%20in%20the%20North%20of%20England (accessed 24 August 2017)

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Appendix. The Classification of Local Authorities

Supergroup	Group	Subgroup
London Cosmopolitan	London Cosmopolitan Central	Cosmopolitan Inner London
		Cosmopolitan Heart of London
	London Cosmopolitan Suburbia	Cosmopolitan North London
		Cosmopolitan South London
Business and Education Centres	Business and Education Centres	Business Centres
		Education Centres
Coast and Heritage	Coastal Resorts	Coastal and Rural
		Resorts and Ports
	Heritage Centres	Heritage Centres
Countryside	Rural Coastal	Rural Coastal
	Rural England	Established Rural
		Rural Hub Towns
	Rural Hinterland	Prospering Rural
		Traditional Rural
Mining/Heritage/Manufacturing	Manufacturing	Expanding Manufacturing
		Manufacturing Centres
	Mining Heritage	Mining and Manufacturing
		Mining and Rural
Prosperous England	Prosperous England	Prosperous Country
		Prosperous Home Counties
		Prosperous Towns
Suburban Traits	Growth Areas and Cities	City Periphery
		Expanding Cities
	Multicultural Suburbs	Multicultural Suburbs

Table 1. Principal component direct oblimin-rotated factor loadings: analyses of local authority and ward census data.

	Local Authority			Ward		
	I	II	III	I	II	III
Per cent aged 65+	-0.77	-0.04	0.75	-0.75	-0.25	-0.67
Per cent Asian	0.76	0.11	-0.61	0.50	0.39	0.51
Per cent Black	0.86	0.05	-0.50	0.84	0.14	0.27
Per cent born in post-2001 EU accession countries	0.87	0.07	-0.32	0.85	0.08	0.32
Per cent with no educational qualifications	-0.19	0.92	0.25	-0.18	0.88	-0.27
Per cent households deprived	0.48	0.81	-0.50	0.41	0.91	0.29
Per cent adult students	0.47	0.02	-0.94	0.26	-0.07	0.92

Table 2. Regression model coefficients (with standard errors in brackets) of analyses of the percentage voting Leave at the 2016 referendum by local authority (coefficients statistically different from zero at the 0.05 level or better are shown in bold)

Model	1	2	3
Intercept	**54.5**	**47.7**	**40.9**
	(0.3)	(1.4)	(1.9)
Factor I	**-2.2**	-0.9	-0.4
	(0.4)	(0.5)	(0.5)
Factor II	**6.0**	**5.9**	**5.6**
	(0.3)	(0.4)	(0.4)
Factor III	**4.6**	**4.2**	**4.0**
	(0.4)	(0.4)	(0.5)
Region (comparator London)			Supergroup (comparator London Cosmopolitan)
Southeast		**8.0**	Business/Education **13.1**
		(1.4)	(1.9)
Southwest		**5.6**	Coast/Heritage **14.4**
		(1.7)	(2.3)
East of England		**8.6**	Countryside **14.2**
		(1.6)	(2.3)
East Midlands		**9.4**	Mining/Manufacturing **14.7**
		(1.6)	(2.2)
West Midlands		**9.3**	Prosperous Places **14.5**
		(1.7)	(2.1)
Yorkshire/Humber		**7.8**	Suburban Traits **15.7**
		(1.9)	(1.7)
Northeast		**6.4**	
		(2.3)	
Northwest		**4.3**	
		(1.8)	
R^2	0.68	0.72	0.75

Table 3. The largest negative and positive unstandardised residuals from regressions of the percentage voting Leave at the 2016 referendum including variables for (a) subregions and (b) subgroups

(a) Subregion		(b) Subgroup	
Brighton & Hove	-13.7	Liverpool	-18.2
Hackney	-13.5	Knowsley	-16.8
Bristol	-9.8	Richmond-upon-Thames	-12.0
Lewes	-9.5	Trafford	-11.6
Haringey	-9.1	Sefton	-10.6
Hastings	-9.1	Bristol	-9.9
Enfield	-9.0	Brighton & Hove	-9.8
Leicester	-8.7	Stockport	-9.7
St Albans	-8.6	Hackney	-9.4
Knowsley	-8.4	Wirral	-9.0
Richmond upon Thames	-8.3	Enfield	-8.9
Waverley	-8.1	Bradford	-8.7
Waltham Forest	-8.1	Haringey	-7.9
Adur	-7.8	Tunbridge Wells	-7.8
Tunbridge Wells	-7.6	Barnet	-7.6
Stockton-on-Tees	6.3	Richmondshire	6.9
Kensington & Chelsea	6.4	Gosport	7.5
Runnymede	6.6	Forest Heath	7.7
Bracknell Forest	6.8	Medway	8.0
Selby	6.8	Plymouth	8.1
Richmondshire	6.9	Dartford	8.2
Gosport	7.5	St Helens	8.5
Forest Heath	7.7	Rochford	8.6
Medway	8.0	Portsmouth	8.7
Plymouth	8.1	Welwyn & Hatfield	8.9
Dartford	8.2	Bexley	9.7
St Helens	8.5	Thurrock	10.1
Rochford	8.6	Havering	11.1
Portsmouth	8.7	Hillingdon	11.5
Welwyn & Hatfield	8.9	Newham	17.4

Table 4. The largest negative and positive unstandardised residuals from regressions of the percentage voting Leave at the 2016 referendum including variables for both subregions and subgroups

Richmond-upon-Thames	-11.6	Newham	6.0
Brighton & Hove	-10.9	North Lincolnshire	6.2
Bristol	-10.7	Slough	6.7
Hackney	-9.7	Plymouth	6.7
Enfield	-8.7	Forest Heath	6.9
Tunbridge Wells	-8.5	Havering	7.2
North Hertfordshire	-7.9	Charnwood	7.2
Hastings	-7.7	Richmondshire	7.5
High Peak	-7.5	Portsmouth	7.9
Norwich	-7.4	Thurrock	8.0
Haringey	-7.4	Bournemouth	8.1
Knowsley	-7.3	Runnymede	8.2
Mendip	-7.1	Welwyn & Hatfield	8.9
Barnet	-7.0	St Helens	9.2
Adur	-7.0	Hillingdon	9.2

Table 5. Regressions of the percentage voting Leave at the 2016 referendum against each party's share of the votes cast at the 2015 general election, by constituency (standard errors for the coefficients are shown in brackets; coefficients statistically different from zero at the 0.05 level or better are shown in bold)

	Constant	Party%2015	London	R^2
Labour	**56.0** (0.9)	-0.01 (0.03)	**-15.4** (1.3)	0.23
Conservative	**55.2** (1.2)	0.01 (0.03)	**-15.4** (1.2)	0.23
Liberal Democrat	**58.7** (0.6)	**-0.38** (0.05)	**-15.8** (1.2)	0.31
UKIP	**35.6** (0.8)	1.29 (0.05)	**-6.2** (0.9)	0.66

Table 6. Regressions of the Labour, Conservative and Liberal Democrat shares of the votes cast at the 2017 general election (standard errors for the coefficients are shown in brackets; coefficients statistically different from zero at the 0.05 level or better are shown in bold).

Model	1	2	3	4
Labour				
Constant	**9.5** (0.4)	**11.0** (0.6)	**11.1** (0.6)	**11.2** (0.6)
Vote%2015	**1.02** (0.01)	**1.01** (0.01)	**1.01** (0.01)	**1.02** (0.01)
UKIP%2015		**-0.09** (0.03)	**-0.07** (0.03)	-**0.08** (0.05)
UKIPCand2017			**-0.82** (0.38)	**-0.78** (0.36)
London				-0.36 (0.57)
R^2	0.95	0.95	0.95	0.95
Conservative				
Constant	**7.5** (0.7)	**-3.0** (0.6)	**-2.4** (0.06)	**-0.6** (0.6)
Vote%2015	**0.94** (0.02)	**0.95** (0.01)	**0.95** (0.01)	**0.94** (0.01)
UKIP%2015		**0.70** (0.03)	**0.73** (0.03)	**0.65** (0.03)
UKIPCand2017			**-1.53** (0.33)	**-1.24** (0.32)
London				**-3.11** (0.49)
R^2	0.86	0.94	0.94	0.95
Liberal Democrat				
Constant	**-0.5** (0.2)	**1.0** (0.5)	**1.2** (0.5)	0.4 (0.6)
Vote%2015	**1.00** (0.02)	**0.98** (0.02)	**0.98** (0.02)	**0.99** (0.02)
UKIP%2015		**-0.09** (0.03)	**-0.08** (0.03)	-0.04 (0.03)
UKIPCand2017			-0.58 (0.34)	**-0.71** (0.34)
London				**1.49** (0.51)
R^2	0.82	0.83	0.83	0.83

Figure 1. Regression coefficients for each region, with their upper and lower bounds, with Greater London as the comparator

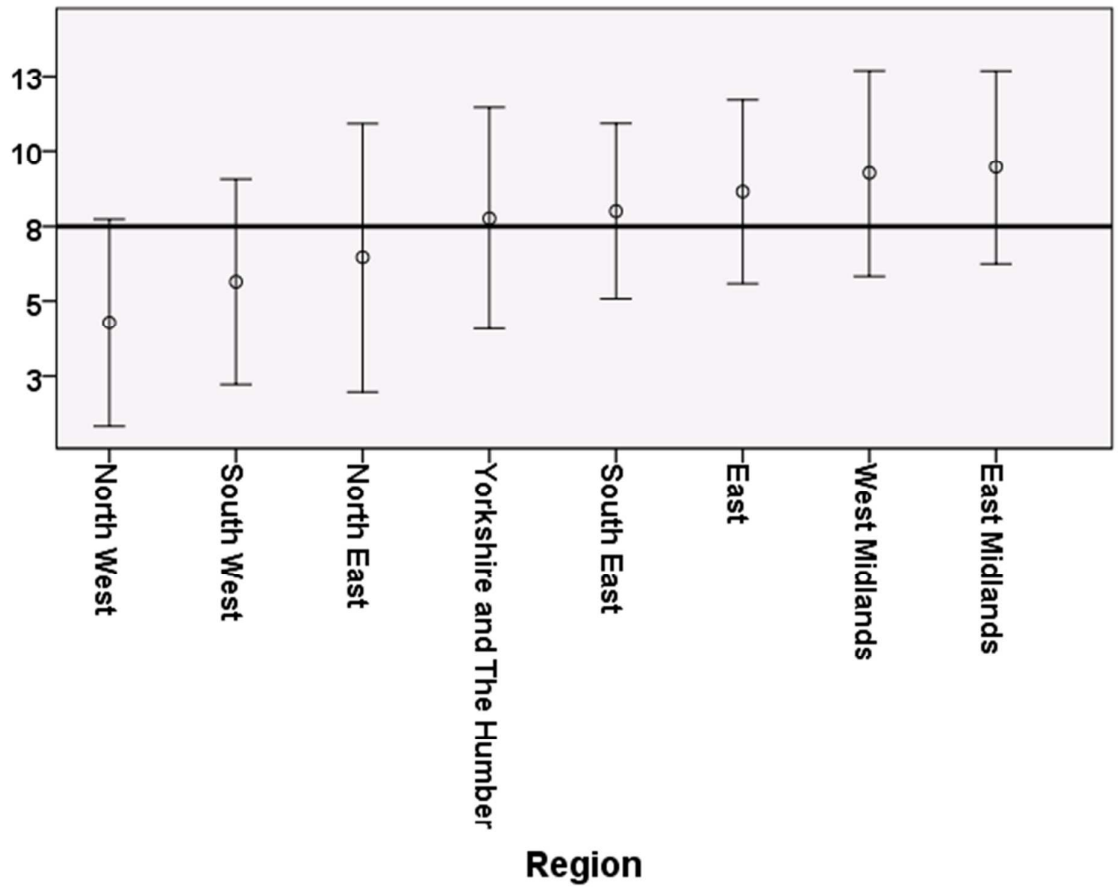

Figure 2. Regression coefficients for each subregion, with their upper and lower bounds, with Inner London as the comparator

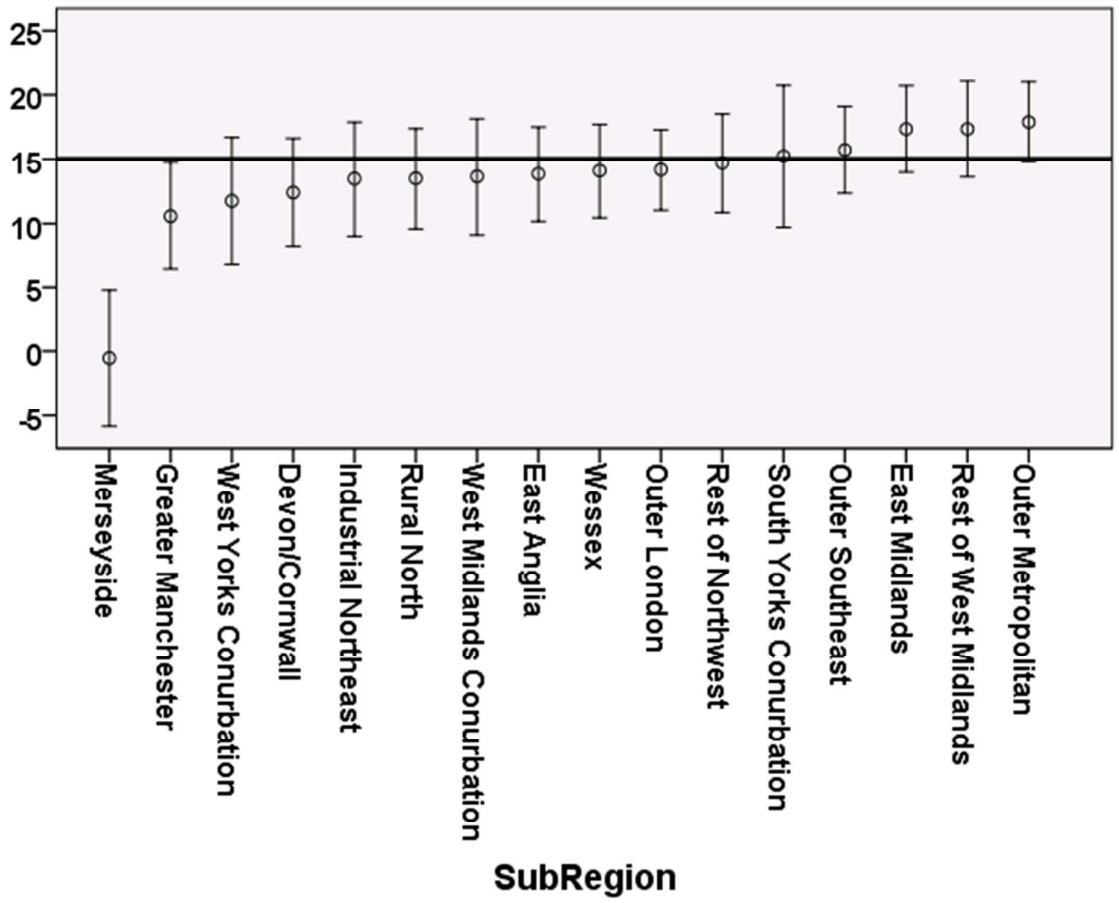

Figure 3. Regression coefficients for each group, with their upper and lower bounds, with London Cosmopolitan Central as the comparator

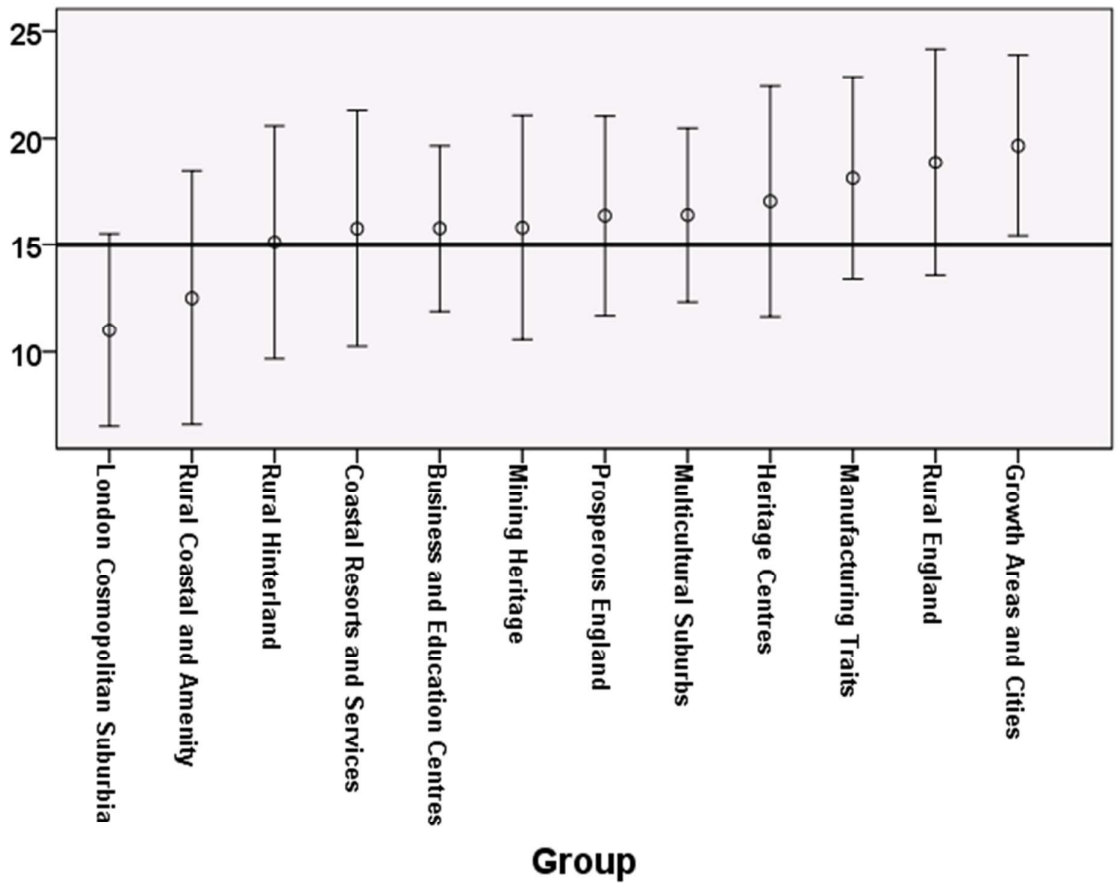

Figure 4. Regression coefficients for each subgroup, with their upper and lower bounds, with Cosmopolitan Inner London as the comparator

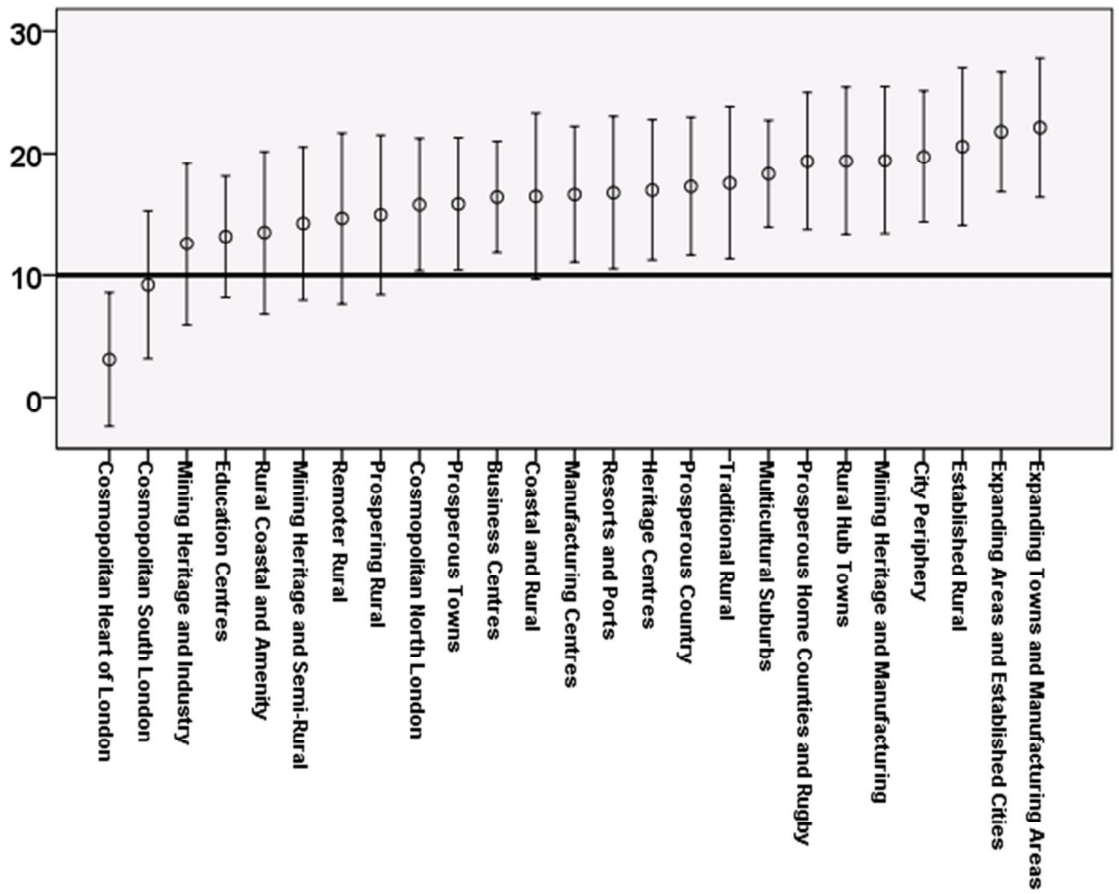

Figure 5. The average unstandardised ward residuals by local authority

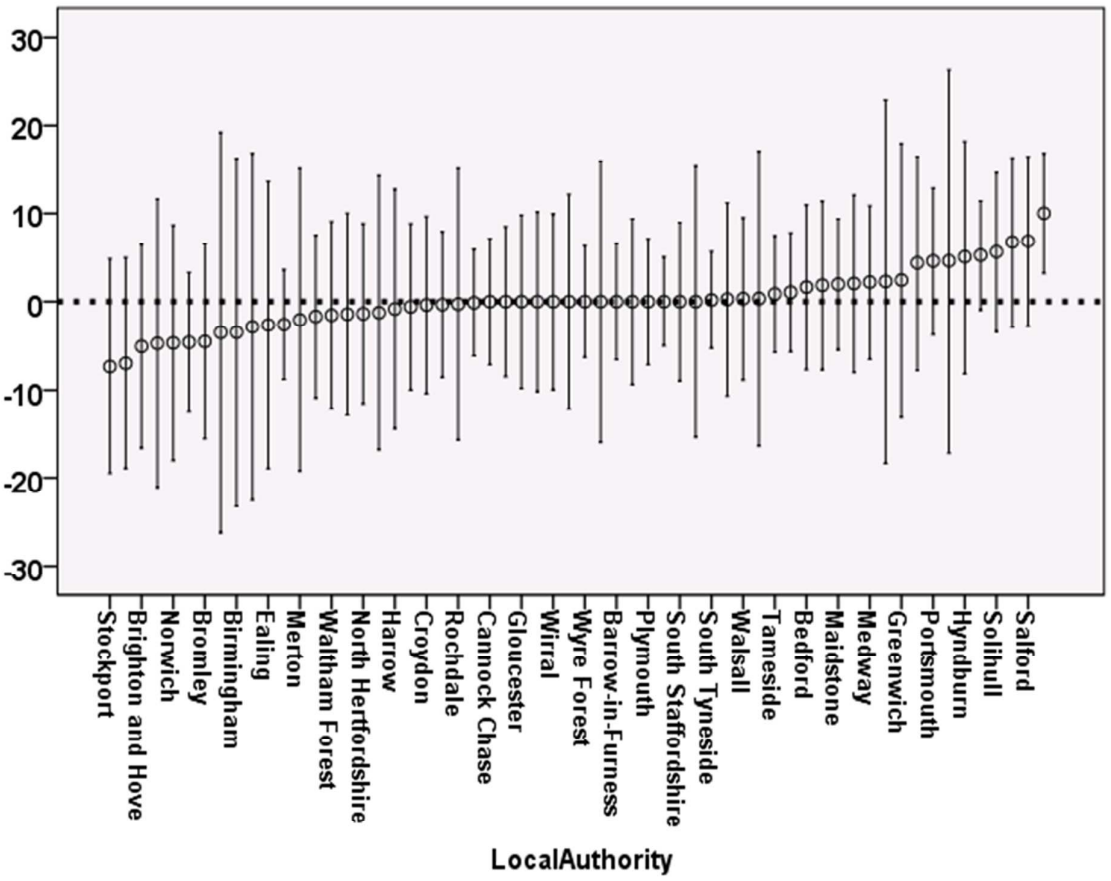

Figure 6. The average unstandardised ward absolute residuals by local authority

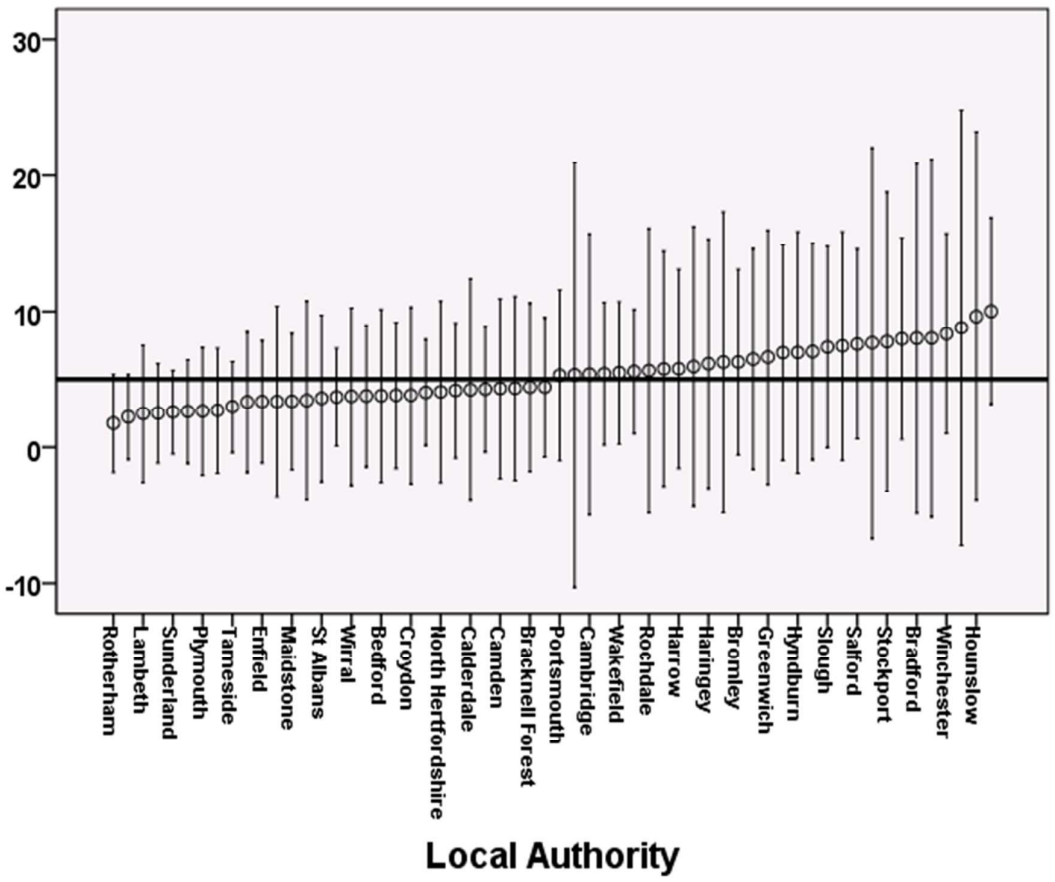

Figure 7. The relationship between Labour's share of the votes cast at the 2015 general election and the percentage voting Leave at the 2016 referendum, by constituency

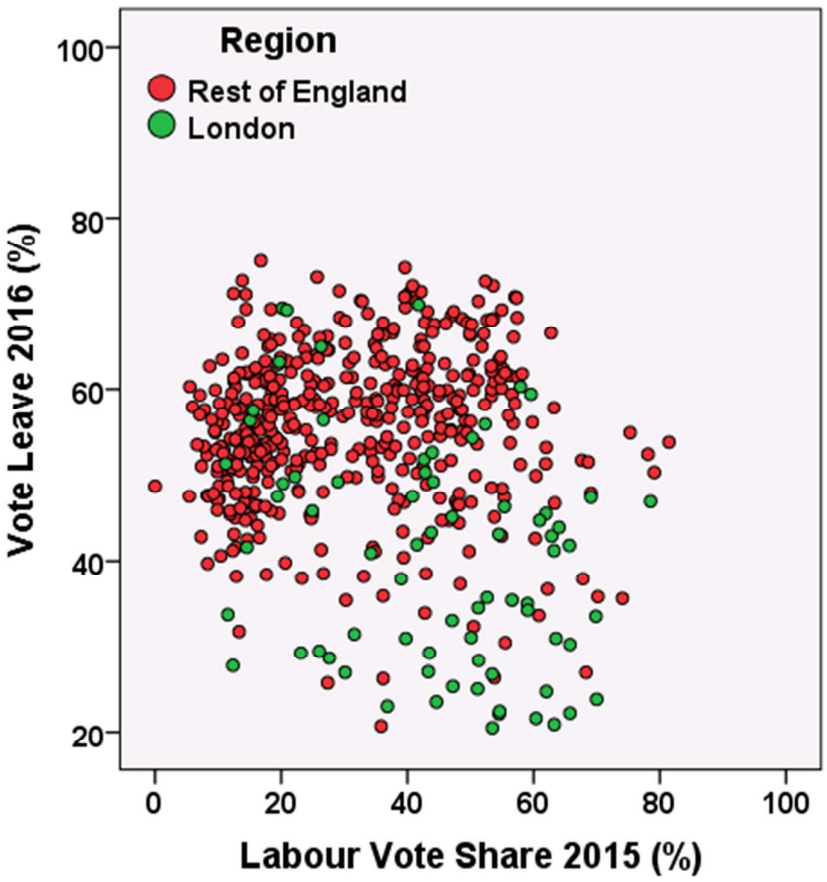

Figure 8. The relationships between the Conservative and Labour party vote shares at the 2015 and 2017 general elections, by constituency (separately identified by whether a majority voted for Brexit at the 2016 referendum)