Was the 2016 United States' presidential contest a deviating election? Continuity and change in the electoral map – or 'Plus ça change, plus ç'est la mème géographie'

ABSTRACT. Several commentators before and after the 2016 US presidential election claimed that it involved a 'redrawing of the country's electoral map', which in the context of the Key/Pomper classification of elections suggested that it was a deviating election, and potentially a critical election heralding a realignment. Analysis of the geography of the result of the 2016 contest, however, indicates considerable continuity at the county scale: the main trend was an increase in the spatial polarisation of the US electorate. Trump not only performed best in 2016 in those counties where Republican party candidates had done well at the previous nine elections, he also increased the Republican share of the votes cast in many of them relative to his performance in counties where the Democratic party candidates were strong then. The main deviations from this trend were in counties with large Black and/or Hispanic populations and those with relatively large numbers of well-qualified, well-paid adults. It was not a potential critical election, therefore, but a continuation of a sequence now nearly four decades old.

Several commentators have pointed out that in *Achieving our Country* Richard Rorty (1998) predicted that somewhen in the foreseeable future those suffering from the impact of globalisation on American communities – from deindustrialisation and the subsequent unemployment, stimulating poverty at worst and stagnating real incomes at best – would revolt against the political system. They – both trade unionists and unskilled, disorganised workers in particular – would realise that little was being done by politicians to protect their incomes and jobs, and that they were being taxed to support others. Many of the beneficiaries of public policies would either be faring better economically than the protesters or be (perhaps illegal) immigrants who were taking the available jobs at low incomes and putting pressure on welfare state benefits towards which they were contributing little. And then, as he put it:

> At that point, something will crack. The nonsuburban electorate will decide that the system has failed and start looking around for a strongman to vote for – someone willing to assure them that, once he is elected, the smug bureaucrats, tricky lawyers, overpaid bond salesmen, and postmodernist professors will no longer be calling the shots…

To many commentators, that is exactly what happened on 8 November 2016 when Republican party candidate Donald Trump won the United States presidency in the Electoral College, although his Democratic Party opponent – Hillary Clinton – beat him by nearly three million votes in the nationwide 'popularity contest'.[1]

Trump's campaign, according to these commentaries, focused substantially on the economic problems of the so-called 'anxious class' (called the 'left behind' by others), particularly white, older males – especially those with few educational qualifications – who were suffering from the combined impacts of globalisation and deindustrialisation (the latter a consequence of the movement of jobs to low-wage countries such as China). Trump linked that situation to the scale of

[1] Similar populist appeals to comparable sections of the electorate there are said to have underpinned the UK's vote for Brexit in June 2016 (Goodwin and Heath, 2016), as well as support for parties such as UKIP in the UK, the FN in France, AfD in Germany, the Swedish Democrats there and the Finns Party, the PVV in the Netherlands, the Austrian Freedom Party, and Pauline Hanson's One Nation Party in Australia. For an overview, see Norris and Inglehart (2016)

immigration to the United States, especially of Hispanics entering (many of them illegally) through Mexico. He advocated a protectionist economic policy as a foundation for rebuilding American manufacturing industry, linked to tax cuts which would encourage investment and create a trickle-down effect benefiting the disadvantaged workers, plus a strict immigration policy that would protect their interests in the labour market.[2] He presented himself as an anti-establishment candidate tackling the liberal elite (of both parties) who dominated the 'Washington establishment' and controlled economic and social policy; he would 'Make America Great Again' by overturning their policy agenda.

Many of Trump's positions were not those traditionally taken by Republicans. As a consequence he did not get wide support among the 'Republican establishment' – a situation exacerbated by some of his comments being widely interpreted as misogynist and racist, which led a number of leading Republicans to distance themselves from him, and even deny him support (see Freedland, 2016). Trump therefore aimed his campaign to a considerable extent at groups that had not previously given his party strong electoral support, and perhaps had not been mobilised to vote at previous contests.

In that context, a *New York Times* correspondent, among others, asked six months before the election whether Trump could 'be the force to redraw the electoral map'.[3] He argued, for example, that Trump's alienation of many Hispanic-Americans led to him performing badly in the primary contests in states where they formed a large proportion of the population and heralded a poor performance in the November election there. Against that, however, he claimed that Trump's criticism of international trade deals resonated with 'blue-collar whites' in the Rustbelt states of the Midwest and Northeast, groups and areas that sustained Obama at the two previous elections.

Others were less clear that Trump's support would be very different in its geographical expression from his predecessors', in part because his campaign was not carefully, geographically-focused; he needed the traditional bedrock of Republican support to rally to his cause, along with sufficient numbers in at least several 'swing states' (not all of which were in the Rustbelt – Florida and North Carolina, for example) to give him the edge in the Electoral College.[4] Nevertheless, immediately after his victory it was claimed that he 'redrew the electoral map, from sea to shining sea',[5] although the details of that analysis suggested just the opposite; according to its authors, the coasts are 'home to urban Democratic havens while Republicans count on the vast and less densely populated areas that almost always support the ticket. The suburbs that sit in between can swing elections, as they did for Obama in 2012, and for Trump this year'. If that was the case, then there was no fundamental change to the map: the Republicans did well where they usually do, the Democrats did well where they usually do (as Bartels showed at the state scale in an early post-election blog[6]) – and some areas where the balance sometimes tips one way and sometimes the other tipped to Trump and the

[2] His immigration policy extended beyond the economic protections with cultural rhetoric aimed, in particular, at Muslims.

[3] J. Harwood 'Could Trump be the Force to Redraw the Electoral Map?', *The New York Times*, 24 may 2016, http://www.nytimes.com/2016/05/25/us/politics/trump-electoral-map.html

[4] See, for example, E. Cadel, 'Trump is redrawing the election map, to Republicans' peril', *Europe Newsweek*, http://europe.newsweek.com/trump-election-map-493340?rm=eu

[5] L. Gamio and D. Keating, 'How Trump redrew the electoral map, from sea to shining sea', *The Washington Post*, 9 November 2016, https://www.washingtonpost.com/graphics/politics/2016-election/election-results-from-coast-to-coast/

[6] L. Bartels, '2016 was an ordinary election, not a realignment', *The Washington Post*, 10 November 2016, https://www.washingtonpost.com/news /monkey-cage/wp/2016/11/10/2016-was-an-ordinary-election-not-a-realignment/?utm_term=.c9aa93deca0d

Republicans this time, especially in those counties that were predominantly white and had relatively large populations with few educational qualifications.[7] Plus ça change?!

So was the electoral map redrawn in 2016? To address that question we undertake an empirical evaluation in the context of well-established theories of the United States' recent electoral geography. This focuses on the pattern of voting at the county scale, through a series of regression models, the first of which evaluates the extent to which the geography of the 2016 result could be considered as deviating from that of previous elections, with subsequent steps introduced to account for the observed deviations.

Deviating and critical elections

V. O. Key's classic 1955 paper introduced the concept of critical elections, those which initiate a 'sharp and durable electoral realignment between parties' (Key, 1955, 16); they replace one electoral cleavage that has been sustained over a series of elections by another, which in turn lasts for several succeeding elections. This ideal type model was taken up by other analysts, who developed a wider classification of elections. For Pomper (1967) most elections are *maintaining*, reflecting continuity of support for the competing parties: each draws its main support from particular components of the electorate, with the divisions represented as an electoral cleavage. Individual elections may *deviate* from that sequence, reflecting circumstances particular to that contest such as Kennedy's 1960 victory over Nixon, but successive contests then revert to the maintaining sequence. If there is no reversion to the original pattern, however, the deviating election may – after further contests – be identified as a *converting* election, initiating a switch to a new sequence of maintaining elections sustained by a different electoral cleavage. It may take several elections before that new sequence is firmly established, however, and they form *realigning* elections.

Prior to 2016, recent elections formed a clear maintaining sequence, reflected in the characterisation of most parts of the country as either red (Republican) or blue (Democrat) state strongholds (Gelman, 2009). Much of the discussion before Trump's victory suggested that the sequence would end then; the 2016 election would at least fall into the deviating category – only future elections would tell whether it was a critical election initiating a realignment. One reason for expecting that outcome reflects the theory's foundations. According to Pomper (1967, 539), if there is a change in the basis for a party's support then 'The geographical distribution of each party's vote would be different from the past: traditional strongholds would fall, while new areas of strength would become evident'. So if Trump was redrawing the US electoral map, then 2016 would at least be a deviating election. Such a change at the aggregate level would be matched at that of the individual voter by a shift away from what Converse (1966), in a major contribution to voting theory at that scale, termed the 'normal vote'. A deviating election would be created by one or more of: voters switching their party support between elections; greater flows than usual of non-voters at previous elections (both abstainers and recent attainers) towards one of the parties; and greater flows than usual from supporters of one of the parties rather than the other into abstention.

In his exploration of American electoral history, Pomper linked the geographical element of a critical election to his classification (Pomper, 1967, 539):

> Statistically, the vote in a critical election would not be closely associated with previous results. In individual states, each party's vote would likewise tend to diverge measurably from traditional levels. Taking all states together, each party would experience both gains

[7] See K, Uhrmacher, K. Schaul and D. Keating, 'These former Obama strongholds sealed the election for Trump', *The Washington Post*, 9 November 2016, https://www.washingtonpost.com/graphics/politics/2016-election/obama-trump-counties/.

> and losses. The Democratic percentage of the vote, for example, would increase in erstwhile rock-ribbed Republican areas, but would decline in previously Democratic geographical bastions.

He operationalised this argument by correlating a party's performance at one election with that at the previous contest; 'If there is high geographical continuity between two elections, regardless of partisan victory or defeat, the correlation coefficient should be high. If there is change, even if the same party wins both elections considered, we should find a relatively low coefficient' (Pomper, 1967, 540). A graph of those correlations for the 1828-1964 period identified five periods of change.

Later analysts extended the statistical approach using factor analysis (Archer and Taylor, 1981). If all elections loaded on the same factor, that would indicate a single maintaining sequence; if one election had a lower loading than both preceding and later contests on the same component, that would indicate a deviating election. But if some elections loaded strongly on a first component and others on a second, this would indicate a realignment with the two maintaining sequences separated by either a single converting, or critical, election or a number whose loadings indicated a slow rather than immediate change (a realigning sequence). This pioneering procedure, which introduced the concept of a 'geographical normal vote', was extended to more recent contests (e.g. Archer and Shelley, 1986). An alternative procedure, deployed by Bartels (1998), uses lagged regressions to explore the extent of continuity in electoral patterns at the state level over sequences of elections, a procedure better suited to the study of long-term trends rather than the shorter period analysed here; using for the period 1868-1996 he identified no critical elections after 1972.

Key's theory and subsequent studies provided the context for re-analyses of American voting trends, both long- and short-term, seeking evidence, and explanations, for critical elections and realigning sequences (e.g. Schattschneider, 1960; Burnham, 1970). This literature has been subject to substantial criticism, notably by Mayhew (2000, 471: see also Mayhew, 2002, 2008) who argued that 'The claims of the realignments genre do not hold up well, and the genre's illuminative power has not proven to be great'. His critique of the eleven separate realignment claims, most of them relating to changes over the long-term in the 19th and 20th centuries, does not deny that there have been substantial shifts in American voter opinion at certain times but rather argues that realignment is not initiated by a single critical election but is rather a gradual process.[8] It is likely to be initiated by a deviating election, therefore, one that shows significant variation in the pattern of voting from its predecessors and which may be followed by others that move even further from that norm. In that context, therefore, the question to be addressed here is not whether the 2016 result represented a critical election but rather whether the geographical pattern then was sufficiently different for it to be deemed a deviating election, potentially the initiator of more significant change at future contests.

A largely unchanging map?

As an initial exploration of whether 2016 was a deviating election from those preceding it, we conducted a principal components factor analysis of the percentage voting for the Republican party's candidate at each presidential election over the period 1980-2016 inclusive, by county.[9] The first component, with an eigenvalue of 7.61, accounted for 76 per cent of the variation across those

[8] Mayhew's overall evaluation of the 'realigning genre' is firmly expressed in his book's final sentence: 'The ambitious version of the realignments perspective had its fruitful days, but it is too slippery, too apocalyptic, and it has come to too much of a dead end' (Mayhew, 2002, 185). But by implication the concepts of maintaining sequences and deviating elections are excluded from that: Mayhew's critical attention focuses on patterns of change and how they appear rather than on the relatively change-less periods, such as that described here.

[9] Alaska and the District of Columbia are excluded from this and all further analyses.

ten elections; the loadings show a typical pattern for such a time series (Table 1), with the highest values at the centre of the sequence and the lowest at the end-dates (Taylor, 1988). This suggests a consistent geographical pattern of support across all ten contests, but with the elections of Reagan in 1980 and Trump in 2016 not as strongly linked to the general pattern as the other eight: only 59 per cent (0.77^2) of the variation in the distribution of Trump's support across the 3,076 counties can be accounted for by the variation in Republican support at the previous nine elections, perhaps indicative of it being a deviating election.

The geography of Trump's support may have deviated considerably from the general pattern of Republican voting over the preceding three decades, therefore. This is only partly confirmed by the scatter-plot in Figure 1, however, which shows the relationship between the percentage voting for Trump and the mean Republican percentage across the previous nine elections. (There is an almost perfect relationship between this mean value and the scores on the principal component;[10] we use the mean in the following analyses because it is easier to interpret than the factor scores.) In general, Trump performed best where Republicans performed well in the recent past, although with considerable variation about that trend (the r^2 value is 0.56). Further, the large number of counties to the left of the principal diagonal line in Figure 1, which depicts where X = Y, shows not only that Trump performed better than his predecessors in those counties where the Republican mean vote exceeded 54 per cent (the mean for all nine elections, shown by the vertical line in Figure 1) but also in those where mean support for the Republican candidates exceeded 40 per cent. Trump outperformed his predecessor candidates in those counties where the party was already strong. Most of the counties under the principal diagonal, on the other hand, are where the Republicans performed below average across the nine elections – providing strong implicit evidence that the 2016 election not only continued but also exaggerated the spatial polarisation of the US electorate that has characterised the last few decades (Johnston et al., 2016; Holbrook, 2016), paralleling the ideological polarisation of the American electorate and its legislature (Campbell, 2016). The Republicans' candidate performed even better in 2016 in the counties where his predecessors performed well on average between 1980 and 2012; and, complementing that pattern, Clinton performed even better in 2016 in those counties where Democratic candidates were particularly strong than they had done at the previous elections. If 2016 was a deviating election, therefore, the main feature of the deviation was not the creation of a new geographical pattern of voting but rather an accentuation of an ongoing pattern of greater spatial polarisation.

One partial explanation for those patterns is that both candidates performed relatively poorly in Utah where an independent candidate – Evan McMullin – came third with 20 per cent of the votes in his home state; nevertheless, Trump outvoted Clinton by more than 20 percentage points there. Model I in Table 2 includes a dummy variable that contrasts Utah counties with those in the rest of the United States; the coefficient suggests that Trump obtained on average 18.57 fewer percentage points across Utah's counties than he would have done if McMullin (a conservative former CIA officer) had not run. (Republican candidates averaged 64 per cent of the votes across Utah's counties at previous contests; Trump got 46.8.)

Commentaries written both before and immediately after the election, many based on polling and other data, suggested that Trump performed particularly well among older white males who had not benefited from the liberal trade regime of the last few decades but badly among Blacks and Hispanics; the latter groups had traditionally provided strong support for Democratic party candidates and additionally in 2016 many of them were alienated by some of his campaign rhetoric – against Muslims and Mexican immigrants, for example. To represent the geographies of these elements of the contemporary American economic and social landscape, eight relevant variables for

[10] Mean%Republican = 54.65 + 10.27Score: r^2 = 0.987.

which data were available at the county scale (mainly for 2010) were selected.[11] Because of likely collinearity, these were subject to a principal components factor analysis that yielded three interpretable factors accounting for 77 per cent of the variation across counties. The loadings on those three factors – after direct oblimin rotation to obtain the best fit to simple structure – are shown in Table 3, and the factors were labelled:

- I: Black, Unemployed and Poor, reflecting the three largest positive loadings;
- II: Qualified and High Income, again reflecting the two high positive loadings; and
- III: Hispanic, reflecting the large negative loading.

The scores on these three components were entered into a multiple regression – Model II in Table 2– along with the mean Republican vote and the Utah dummy variable to explore the deviations from the general trend of preceding contests.

That regression increased the R^2 value from 0.57 to 0.80 (Table 2).All three variables representing the components are statistically significant at the 0.05 level or better (as shown by the ratios of the coefficients to their standard errors). The greater the percentage of a county's population who were Black, and/or unemployed, and/or living in poverty (the first component), the smaller Trump's share of the votes cast – all other variables being held constant. Similarly the larger the relative size of a county's Hispanic population (the third factor) the smaller Trump's share (per cent Hispanic has a negative loading on that factor; Trump performed better the larger a county's non-Hispanic White population). Not unexpectedly, Trump did not win additional support to that of his Republican predecessors in counties with large ethnic minority populations (on whose support Clinton strongly depended). Finally, and of the three this variable has the largest coefficient, the more affluent a county's population (the larger its median income and the greater the percentage with degrees) the smaller Trump's share of the votes – the corollary being that, as anticipated, he performed better than average in areas where the less well-qualified, white working class dominated.

A plot of the predicted vote for Trump according to Model II against his actual share (Figure 2) shows an even closer fit than in Figure 1 – not surprisingly given the larger R^2 value associated with the latter Model (Table 2). Many of the counties that lie above the X=Y line, where Trump performed better than expected, have high predicted values (greater than 50 per cent), however. This further supports the argument that a major feature of the geography of the 2016 result was even greater spatial polarisation in the pattern of voting for the two parties' candidates. Trump performed better than expected in the counties where his party has traditionally performed well, and where there are relatively few poor Blacks, or unemployed, or affluent voters, or Hispanics.

Finally in this model-fitting exercise we explored further where Trump performed relatively well and badly in the context of the election's main battlegrounds. All recent elections have been won or lost in a minority of 'swing states' where the gap between the two parties is relatively small; the remainder have been safe for either the Republican or the Democratic Party (the red and blue states respectively). In order to win in 2016, therefore, Trump had not only to retain control of all of the red states but also to gain victory in a sufficient number of the swing states (especially those with relatively large Electoral College delegations), most of which were won by Obama in 2012.[12] Model III thus introduced a three-fold classification of states with two dummy variables contrasting counties in the red and swing states respectively with those in the blue states (where the Democrats

[11] Because there is little geographic variability in the sex ratio, we did not include a variable for % male. All of the data analysed here were downloaded from the US Counties Database: https://www.census.gov/support/USACdataDownloads.html – access 11 April 2017. Exploratory investigations identified no other variables – such as might represent areas of post-industrial decline – that were closely related to Trump's performance.

[12] The following were designated as swing states: Colorado, Florida, Iowa, Michigan, Nevada, New Hampshire, North Carolina, Ohio, Pennsylvania, Virginia, and Wisconsin; all except North Carolina were won by Obama in 2012 (with an average margin of 5.4 percentage points).

have traditionally performed well). The results show Trump led Clinton by an average gap of 5.4 percentage points in the red states, but by only 0.87 points in the swing states (Table 2). The latter was sufficient to deliver victory in the Electoral College, because of Trump's narrow victories in Michigan, Pennsylvania and Wisconsin, but the overall trend remained greater polarisation; holding constant Republican performance at previous contests plus the socio-demographic and -economic characteristics of the county populations represented by the three components, Trump performed best in 2016 where his party was already strong.[13]

A plot of the predicted vote according to Model III against Trump's actual share (Figure 3) shows that even with the inclusion of state types in the regression model there was still clear evidence of spatial polarisation, of Trump's support mainly being much greater than expected in counties where the Republicans were traditionally strong. Of the 175 counties where Trump's share was more than 10 percentage points greater than expected, 159 were counties where he was predicted to get at least 50 per cent of the votes, and there were only 16 where that prediction was less than 50 per cent. The dominant conclusion from this modelling is that 2016 was not a deviating election but rather one in which the geography of support for the two parties was a further element in a maintaining sequence but more spatially polarised that at the previous nine contests.

This leaves 18 per cent of the variation in Trump's support unaccounted for; Figure 3 shows only a small number of substantial outliers from the general relationship. The largest residuals – the counties where Trump's vote is either substantially under- or substantially over-predicted – may however highlight other features of his geography of support. Table 4 groups the absolute residuals (the difference between the predicted and actual percentage voting for Trump) into eight categories, showing by how many percentage points the model under- (the positive residuals) or over-predicted (the negative residuals) Trump's vote share, and presents their distribution across the three state types. Three clear patterns emerge. First, there is little difference across the eight columns in the percentage of counties in each category that were in the blue states: just over 16 per cent of all counties comprise those Democratic strongholds and a very similar percentage appears in each column. Second, the largest residuals – both positive and negative – occurred in the red states; counties where Trump's support was both substantially under- and over-predicted were concentrated in areas where the Republicans are traditionally strong. Over-predictions, for example, characterised places with traditionally strong Republican support but large Hispanic populations. Finally, and complementing that pattern, the swing states were those where the predictions were most accurate; over one-third of all the counties where the residual was +/-5 percentage points or less were concentrated there.

Five states had substantial concentrations of counties where Trump's support was under-predicted by more than 10 percentage points: Georgia, Illinois, Kentucky, Texas and West Virginia. Six more had concentrations of counties where his support was over-predicted by ten points or more: Georgia, Idaho, Maine, Montana, North Dakota and South Dakota. (Only Georgia appears in both lists, suggesting greater polarisation towards both parties there than elsewhere.) Some of those residuals reflected a greater intra-state polarisation of the electorate than the general relationships

[13] This conclusion is sustained by separate regressions of the residuals from Model II on Trump's performance for each of the three types of state. Where Y is Trump's percentage of the votes cast in each county and X is the predicted percentage from Model II in Table 2, the three regressions are:

Red states: $Y = 3.06 + 0.98X$ ($r^2 = 0.74$)
Blue states: $Y = 1.74 + 0.99X$ ($r^2 = 0.83$)
Swing states: $Y = 2.50 + 0.99X$ ($r^2 = 0.86$)

Trump got the greatest above-predicted average return in red states (the highest intercept was for those states) and least in the blue states. All three relationships are strongly linear with the regression coefficients very close to 1.0.

uncovered. In Texas, for example, the twenty-four counties where Trump's vote was over-predicted by 5 percentage points or more were on average 66 per cent Hispanic, compared to 32 per cent across all of the state's 254 counties, and only 20 per cent in the counties where his vote was substantially under-predicted. As anticipated, he performed relatively badly in areas of Hispanic concentration.

But there is little – if any – evidence of Rorty's imagined 'nonsuburban electorate' voting for a strongman. Around New York City, whereas Trump's performance was under-predicted by 9, 10 and 10 points by Model III in suburban Nassau, Richmond and Suffolk counties, it was accurately predicted in New York County itself, and also in Queen's, King's and Bronx. In Illinois, Model III successfully predicted Trump's performance not only in Cook County but also in its neighbours – DuPage, Lake and Will. The inner cities remained Democratic strongholds – in large part because they contain the main concentrations of Blacks and Hispanics. Trump may have attracted support in those extra-metropolitan parts of the Rust Belt where deindustrialisation hit hardest, but only slightly since his victories in most of the swing states were small. This is suggested by Figure 4, which shows the relationship between the predicted (from Model I) and actual Trump performance in those counties that had small minority populations (Blacks and Hispanics together formed less than 10 per cent of the population) but high levels of poverty (20 per cent or more of families). These are the areas where the disadvantaged whites were concentrated; of the 200 counties, 47 were in Kentucky, 23 in Tennessee, 18 in West Virginia, 17 in Missouri and 14 in Oklahoma – depressed rural and small town areas (many with economies formerly based on mining). The Republicans traditionally performed relatively well there, with a predicted Republican percentage based on the results of previous elections of over 50; most were in red states and so Trump's victories there in 2016 would not have contributed further to his Electoral College success.[14] These were not the Rust Belt declining urban areas where the disadvantaged white working class are concentrated and where Trump was supposed to have done well. If we look just at counties in three of the main Rust Belt states – Michigan, Ohio and Pennsylvania – with small (less than 10 per cent) Black and Hispanic populations (Figure 5), again the standard relationship against the predictions from Model I appears. Trump did better than predicted in many of those counties, suggesting that he won over enough former Democrat voters to ensure his victory in the white working-class parts of those key states,[15] but his better-than-expected performance in the separately-identified counties with high poverty levels only occurred where he was predicted to get a large share of the votes based on the Republicans' previous performance.

Discussion and Conclusions

> 'The geographical distribution of each party's vote would be different from the past: traditional strongholds would fall, while new areas of strength would become evident'.
> (Pomper, 1968, 539)
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> 'In the United States … [p]olitical campaigns consist in large part of reminding voters of their partisan identities – "mobilizing" them to support their group at the polls'.

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[14] Alternative formulations were used to identify the extent to which Trump benefited from his appeal to the disadvantaged white working class. A model was estimated including the percentage of the population aged 65 and over, the percentage in poverty plus the interaction between the age and poverty variables (thus identifying those counties with large old and disadvantaged populations), and the mean Republican performance 1980-2012 and a Utah dummy. The interaction variable, like the others, was statistically significantly related to Trump's performance across all counties. A non-Utah county with a mean Republican 1980-2012 vote percentage (54.64) and mean populations aged over 65 (15.97) and in poverty (15.4) would have a predicted Trump vote percentage of 64.23.

[15] Trump performed well below predicted in the counties containing the main cities of those states (Cleveland OH, Columbus OH, Detroit MI, and Philadelphia PA).

(Achen and Bartels, 2016, 311)

Critical elections ‘disrupt the continuity of previous electoral eras and initiate new eras of stability’ (Lichtman, 1976, 318) – and usually occur not because of ‘the personal appeals of particular candidates, but rather from the ramifications of … crises’ such as war or depression (p.344). The concept implies a massive shift in voting behaviour, and critics (such as Carmines and Stimson, 1989) claim that is extremely unlikely in a polity as large (both numerically and territorially) and diverse as the United States. Such shifts are likely to be relatively slow and spatially uneven and, as Nardulli (1995, 17) expresses it, ‘critical realignments are temporally structured and geographically concentrated phenomena that represent marked and enduring breaks in regional electoral patterns’: they are not ‘majestic national movements’ but rather changes that are initiated in parts of the country and transmitted outward through a series of pulses until a nationwide shift can be discerned.

The presence of a critical election – which may be the beginning of a realigning sequence – can only be identified some years after that event, since its existence depends on what happens at subsequent elections. But an election can be identified as a deviating contest if it is characterised by a geographical pattern to the support for one of the political parties that deviates substantially from that of its immediate predecessors – either across the entire country, which is what the ‘simplistic’ theory suggests, or at least in substantial sections of it. On such criteria, the analyses reported here have strongly suggested that the 2016 US Presidential election does not qualify. An R^2 value of 0.57 (Model I in Table 2) might initially be interpreted as a major shift, that the geography of support for Trump was so different from that of Republican candidates over the preceding nine elections that a major reorganisation of support for the country’s two parties had possibly been initiated, and could be extended at further contests. But the main cause of that relatively low correlation (Pomper, 1967, shows only four as low or lower over the period 1832-1964) was neither a major change across the country in where the Republicans won most support nor such a change in one region only. The main change involved an accentuation of the existing geography, a continuation of the state-level ‘competitive equilibrium’ Bartels (1998) identifies in his study of long-term support for the Republican party’s candidates and the low levels of electoral volatility at the end of the twentieth century. At the county scale the American electorate has become increasingly polarised spatially over recent decades (Johnston et al., 2016), and the 2016 election result further exaggerated that national divide: the Republican candidate (Trump) performed even better than his predecessors in the (red) states and counties therein where they have been strong since at least 1980; and the Democratic candidate (Clinton) performed better than her predecessors in the (blue) states and counties therein where they have been strong over the same period. Those changes were in part ameliorated in particular types of county: Trump performed relatively badly in red state counties with large Black and/or Hispanic populations and in those with relatively large young and well-qualified residents. The 2016 contest was won and lost in a small number of swing states, notably but not only a number in the Rust Belt where Trump increased the Republicans’ vote shares in places that already provided that party with majority or near-majority support.

Table 5 summarises these findings by contrasting those counties where Trump’s performance was substantially over-predicted and under-predicted by Model I (by 10 percentage points or more in each case) with those where the prediction was relatively close to the outcome (deviating by less than 10 percentage points). The first row of means – for the average Republican performance over the nine previous elections – does not support the general argument developed here regarding greater spatial polarisation in 2016; the counties with substantial over- and under-predicted vote shares for Trump had significantly smaller Republican vote shares than those where the predictions were more accurate.

The reason for this is that the trend towards or away from the Republican norm was significantly influenced by the counties' socio-economic and -demographic characteristics, independent of their previous partisan leanings. This is made clear by the next block of data in Table 5, which refer to the eight variables selected to represent those characteristics. All have highly significant F-values from univariate analyses of variance across the three groups. Counties where Trump's performance was substantially over-predicted had more than twice as many graduates in their adult populations as those where it was substantially under-predicted, for example; similarly the former group of counties had three times as many Blacks and Hispanics as the latter group, as well as individuals with much larger incomes. These differences are confirmed by the mean factor scores: the areas where Trump performed relatively badly were characterised by high percentages of Blacks, the unemployed and those in poverty (Factor 1), high percentages of well-paid graduates (Factor 2), and high percentages of Hispanics (Factor 3). And the final block, showing the percentage of counties in each of the three state types, indicates that those where Trump's performance was substantially over-predicted were predominantly located in the swing states. He won in the Electoral College because he held on to the Republicans' core support in the red states plus gained sufficient votes in the swing-state counties whose populations were most likely to support him (poor, less-qualified, non-Hispanic Whites).

Whereas aggregate data analyses of voting behaviour have concentrated on sequences of maintaining elections, interrupted by occasional deviating elections a small number of which have initiated realignments, analyses using survey data have focused on the parallel concept of a normal vote (Converse, 1966) – of most people continuing to vote for the same party, for the same reasons, over a sequence of contests. So if 2016 was very largely a continuing election, survey data should indicate little change.[16] That is what the 2016 exit polls show, when compared to those conducted after the 2012 election. At the latter, 92 per cent of registered Democrats voted for Obama as did 6 per cent of registered Republicans and 45 per cent of registered Independents; the comparable figures for 2016 were 89, 7 and 42. It seems unlikely that Trump 'converted' many former Democrats. More likely is that his victory came about because of either or both of: more former Democrats than former Republicans abstained in 2016; and more non-voters at previous elections turned out and voted Republican rather than Democrat in 2016. Nor were there any substantial shifts in the percentages within particular socio-economic and -demographic groups voting for Trump in 2016 compared to Romney in 2012: few of the differences by age, race/ethnicity, gender, education, income or ideology changed by more than a few percentage points. The 2016 American National Election Study Time Series Study[17] shows a net swing from Democrat to Republican between 2012 and 2016: 83 per cent of Obama supporters voted for Clinton and 12 per cent for Trump, whereas 88 per cent of Romney's supporters voted for Trump in 2016 and only 6 per cent for Clinton. Most of those who abstained in 2012 did so again in 2016, but of those who voted at the latter date slightly more were for Clinton than for Trump.

Trump did not redraw the electoral map of the United States, therefore. The main feature of the geography of his support was that it furthered the ongoing spatial polarisation of the country's electorate: in many parts of the red areas the topography tilted red-wards whereas in most blue areas it tilted blue-wards. He won in the Electoral College – having lost the popular vote by more than two millions out of some 135 million cast. That tilting of some states – and in particular of some counties within those states – slightly red-wards, perhaps by winning support among some of those, notably the white, disadvantaged, small-town working class many of whom usually fail to vote, was sufficient to swing a number of states marginally in his favour. And so when he – or a Republican

[16] Summaries of the findings are reported on the relevant Wikipedia pages: https://en.wikipedia.org/wiki/United_States_presidential_election,_2012 and https://en.wikipedia.org/wiki/United_States_presidential_election,_2016 - accessed 5 December 2016.

[17] http://www.electionstudies.org/studypages/anes_timeseries_2016/anes_timeseries_2016.htm.

successor – defends that victory in 2020 it will be in the same places as before, not only in 2012 but in every contest since 1980. Plus ça change, plus c’est la mème géographie.

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Table 1. Factor loadings for the percentage of the votes won by the Republican party in each state at the 1980-2016 Presidential elections.

Election	1980	1984	1988	1992	1996	2000	2004	2008	2012	2016
Loading	0.75	0.89	0.85	0.83	0.92	0.97	0.96	0.89	0.88	0.77

Table 2. Results of linear regression models predicting support for Trump at the 2016 US Presidential election. (Standard errors are given in brackets beneath the coefficients.)

Model	I	II	III .
Constant	1.76	11.43	12.56
	(0.99)	(0.75)	(0.72)
Mean Republican Vote 1980-2012	1.14	0.96	0.88
	(0.02)	(0.01)	(0.01)
Utah	-18.57	-12.95	-14.66
	(1.89)	(1.29)	(0.72)
Black/Unemployed/Poor Factor	-	-2.89	-3.64
		(0.14)	(0.14)
Qualified/High Income Factor	-	-6.59	-5.97
		(0.13)	(0.13)
Hispanic Factor	-	2.62	2.73
		(0.17)	(0.12)
Red State	-	-	5.40
			(0.37)
Swing State	-	-	0.87
			(0.38)
R^2	0.57	0.80	0.82

Table 3. Factor loadings from a principal components factor analysis, with direct oblimin rotation, of eight variables representing aspects of the socio-economic characteristics of county populations.

Factor	I	II	III .
% Unemployed	0.76	-0.30	-0.10
% Black	0.83	-0.04	-0.08
% Non-Hispanic White	-0.71	-0.03	0.77
% In Poverty	0.67	-0.62	-0.30
Median Family Income	-0.23	0.93	0.08
% With Degree	-0.14	0.85	-0.05
% Aged 65 and Over	-0.48	-0.52	0.39
% Hispanic	0.01	0.02	-0.96

Table 4. The percentage distributions of unstandardised residuals from Model II in Table 2, by state type.

Residual	-15<	-10:-15	-5:-10	0:-5	0:+5	+5:+10	+10:+15	+15<
Red state	69	73	63	49	49	62	73	73
Blue state	19	17	14	18	16	17	15	15
Swing state	12	10	23	34	35	21	12	12
N	32	154	456	893	890	473	149	26

Table 5. Characteristics of the counties where Trump's support was substantially under- and over-predicted by Model I. (Substantial under-prediction is a standardised residual of +10 percentage points or greater; substantial over-prediction is a standardised residual of -10 percentage points or greater.)

	Over-predicted	Neither	Under-predicted	F	sig.
Mean Republican Per Cent 1980-2012	50.3	56.3	51.7	98.5	0.000
Per Cent with Degree (Mean)	29.2	17.4	12.6	802.8	0.000
Per Cent Black (Mean)	14.1	8.3	4.8	54.3	0.000
Per Cent Hispanic (Mean)	15.6	7.4	4.9	101.5	0.000
Per Cent in Poverty (Mean)	14.5	15.0	18.1	49.1	0.000
Per Cent Aged 65 Plus (Mean)	12.7	16.4	17.2	217.1	0.000
Per Cent Unemployed (Mean)	7.1	6.8	7.3	7.2	0.001
Per Cent Non-Hispanic White (Mean)	63.4	80.6	86.9	230.6	0.000
Median Family Income ($) (Mean)	50,608	41,324	35,593	362.1	0.000
Factor I Score (Mean)	0.41	-0.10	-0.13	57.3	0.000
Factor II Score (Mean)	1.11	-0.12	-0.76	663.3	0.000
Factor III Score (Mean)	-0.69	0.10	0.31	165.3	0.000
Red State (Per Cent of Counties)	39	32	29		
Blue State (Per Cent of Counties)	54	14	32		
Swing State (Per Cent of Counties)	83	7	10		.

Figure 1. Scatterplot showing the relationship between Trump's percentage share of the votes in each county in 2016 and the mean percentage for the Republican candidates there at the 1980-2012 elections. (The diagonal line shows the relationship where X = Y.)

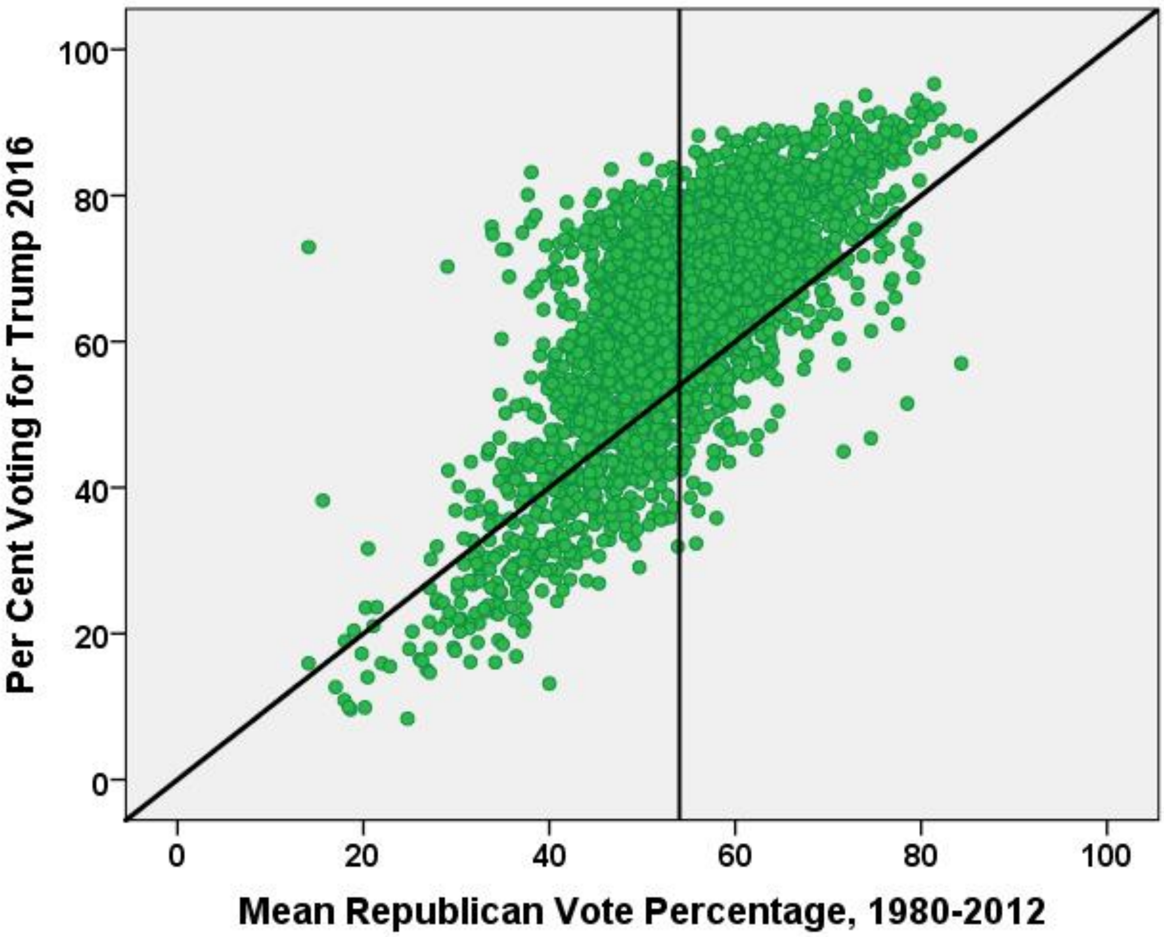

Figure 2. Scatterplot showing the relationship between Trump's percentage share of the votes in each county in 2016 and the predicted percentage from the Model II regression in Table 2. (The diagonal line shows the relationship where X = Y.)

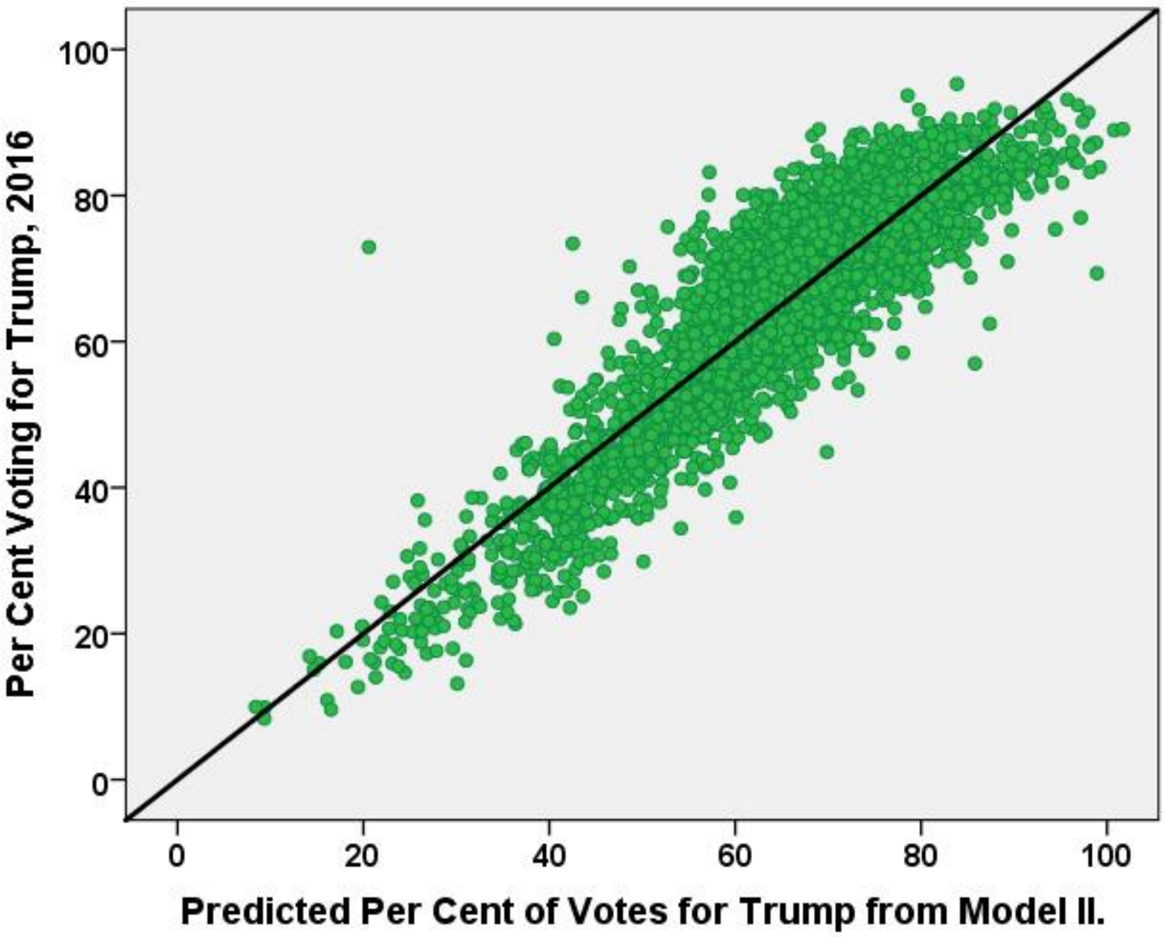

Figure 3. Scatterplot showing the relationship between Trump's percentage share of the votes in each county in 2016 and the predicted percentage from the Model III regression in Table 2. (The diagonal line shows the relationship where X = Y.)

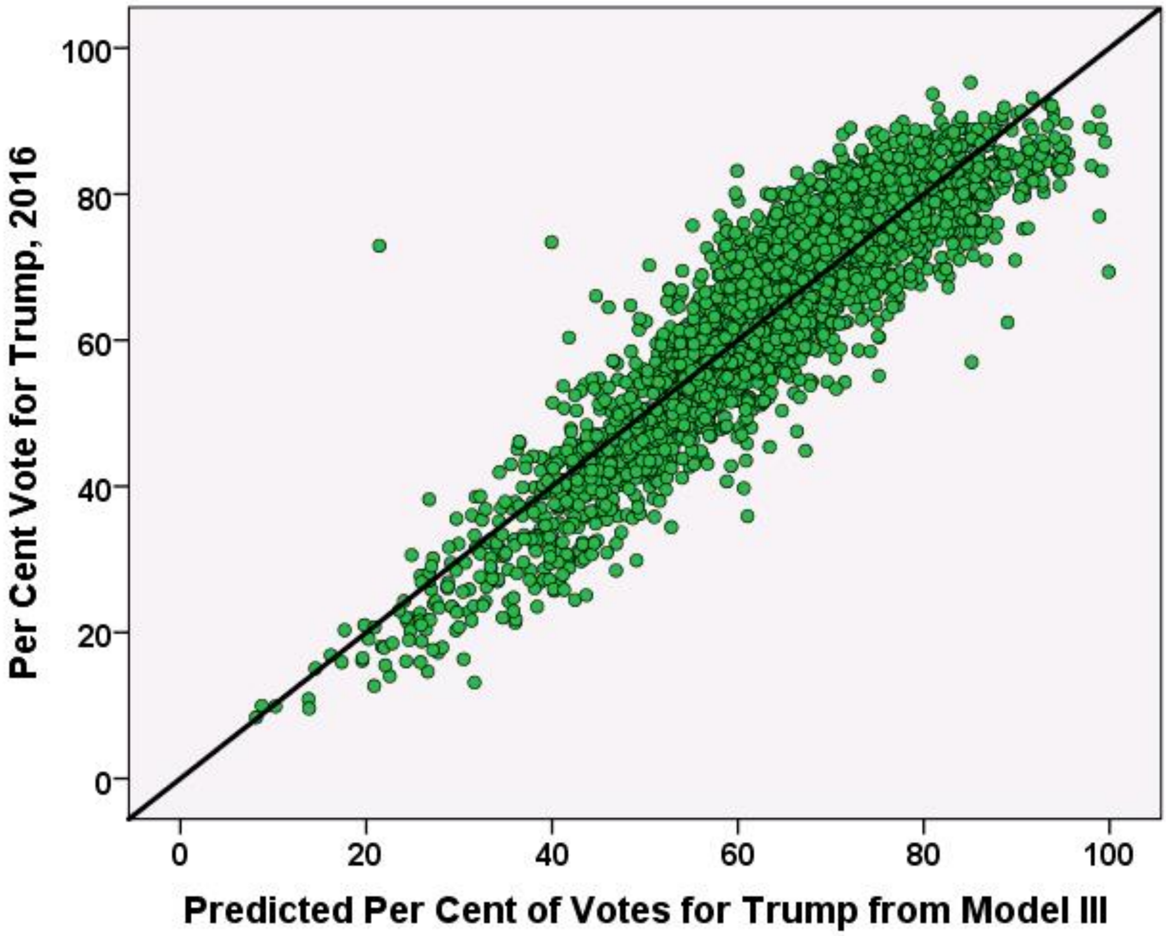

Figure 4. Scatterplot showing the relationship between Trump's percentage share of the votes in each county in 2016 and the predicted percentage from the Model I regression in Table 2, in those counties with small minority populations and high poverty levels, by state type. (The diagonal line shows the relationship where X = Y.)

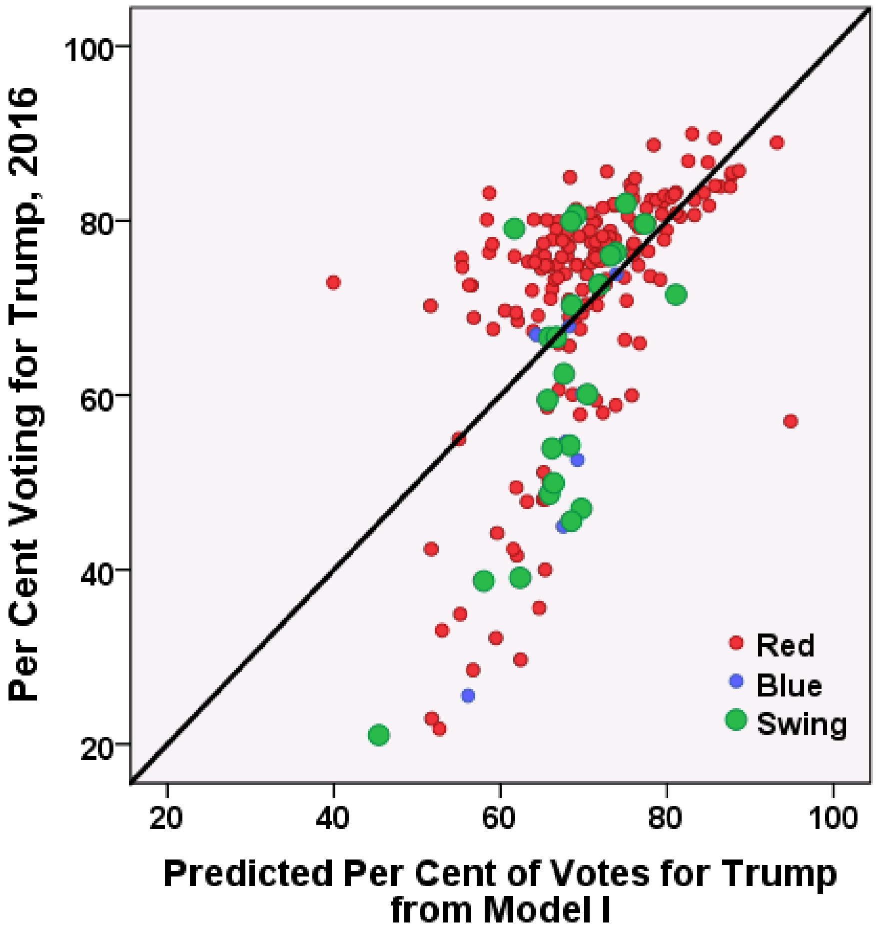

Figure 5. Scatterplot showing the relationship between Trump's percentage share of the votes in each county in 2016 and the predicted percentage from the Model I regression in Table 2, in those Michigan, Pennsylvania and Ohio counties with small minority populations and high poverty levels. (The diagonal line shows the relationship where X = Y.)