In the swing of things

What does Donald Trump’s victory tell us about America?

Stephen Clarke & Dan Tomlinson

November 2016

@StephenIclarke / @Dan_Tomlinson_/ @resfoundation
“IT’S NOT THE ECONOMY, STUPID"

REALLY?
Income was not a strong predictor of an individual's vote... ...leading some to say economics didn’t matter

**Vote share in 2016 Presidential election by income group**

- Under $30,000: 53 Democrats, 41 Republicans
- $30,000 - $49,000: 51 Democrats, 42 Republicans
- $50,000 - $99,999: 46 Democrats, 50 Republicans
- $100,000 - $199,999: 47 Democrats, 48 Republicans

**Trump and Brexit: why it’s again NOT the economy, stupid**

**Time to admit Donald Trump won because of racism, not the left-behind underclass**

Source: 2016 Presidential election exit poll, The Daily Record, LSE Blog
But while other factors were clearly very important...

Vote share in 2016 Presidential election by age and ethnicity

<table>
<thead>
<tr>
<th>Group</th>
<th>Democrats</th>
<th>Republicans</th>
</tr>
</thead>
<tbody>
<tr>
<td>65+</td>
<td>45</td>
<td>53</td>
</tr>
<tr>
<td>18-29</td>
<td>55</td>
<td>37</td>
</tr>
<tr>
<td>Black</td>
<td>88</td>
<td>8</td>
</tr>
<tr>
<td>White</td>
<td>37</td>
<td>58</td>
</tr>
</tbody>
</table>

Source: 2016 Presidential election exit poll

@resfoundation
...differential swing towards the Republicans among low and middle income voters suggests that writing off the economy is premature

Net vote share change towards Republicans by income group (2012 to 2016)

Under $30,000: +16
$30,000 - $49,000: +6
$50,000 - $99,999: -2
$100,000 - $199,999: -9

Source: 2016 Presidential election exit poll
A DEEPER DIVE INTO THE IMPORTANCE OF PLACE
In analysing the swing towards the Republicans, geography matters

- Post-election analysis has highlighted the importance of demographic, economic and cultural factors
- In this note, we consider why different parts of America voted as they did. We look across 93 per cent (2,932 of 3,143) of US counties spread across 46 states including the 11 battleground states
- We test the strength of the relationship between the relative change in the Republican margin of victory (or defeat) and various economic, demographic and cultural factors, while holding all else constant (using a series of regression models)
- We explore economic factors in Section 1; add demographic factors into the analysis in Section 2; and bring in cultural issues in Section 3
- Section 4 looks at the differences between Donald Trump’s victory and the Leave vote in Britain’s EU referendum
- Section 5 includes a full description of the regression results

@resfoundation
A few important reminders

• *Don't forget the baggage* – this was not a one-off Brexit style referendum, but rather the latest in a long line of two-party contests after eight years of a Democrat presidency

• *This was close* – Hilary Clinton won the popular vote and Donald Trump won Pennsylvania, Wisconsin, and Michigan (the states that got him over the winning line) by around 100,000 votes (out of a total of over 120 million votes cast)

• *This was as much about Hilary Clinton as about Donald Trump* – that’s why we're measuring relative improvement in Republican vote share
1. THE ECONOMY DID PLAY A ROLE
Areas with lower levels of household income swung more towards Trump than richer areas

Adjusted swing towards the Republicans and median annual household income

Notes: Each dot represents 300 counties. Scatter plot adjusts for a range of economic indicators (labour force participation, employment in manufacturing, share of rural area in county).
But short-run economic changes had little effect on the swing towards the Republicans: this is not about recent economic performance.

There was no relationship between change in labour force participation rate and swing towards Trump. For example, Sussex County and Buckingham County, near-neighbours, recorded the same swing to the Republicans despite wildly different recent economic experiences.

Similarly, there was no relationship between change in share of people employed in manufacturing and Republican swing.
2. BUT IT’S ALSO DEMOGRAPHICS
There was a swing to Trump in areas with larger white populations (although with lots of exceptions)

Biggest swing away from Trump was in **Utah County** – 84 per cent white (and 88 per cent Mormon)

Many places with a small share of whites swung towards Trump, but still voted Democrat. For example, **Rolette County** (77 per cent Native American) saw a 26 percentage point increase in Republican vote share.

In fact, all counties with population less than 20 per cent white voted Democrat; half of those counties are in Republican voting **Texas**


Notes: Each dot represents a county.
But bigger swings away from the Republicans in areas with higher shares of people born outside of the US

Notes: Each dot represents a county. This includes naturalised and non-naturalised US citizens
The drivers of demographic differences will be complex and varied, but worth noting differing views on the health of the American economy by race

Economic sentiment by race, 2016

Source: Pew Research Centre. Polling carried out June 15-26 2016
3. EDUCATION, EDUCATION, EDUCATION
Areas with higher shares of people with only a high school education – capturing both economic and cultural trends – swung towards the Republicans

\[ R^2 = 0.7597 \]


Each dot represents 300 counties. Scatter plot adjusts for a range of indicators (labour force participation, employment in manufacturing, share of rural area in county, race and share of population foreign-born).

The strongest predictor of how much a county swung towards the Republicans is the share of people with only a high school education.

It is such a powerful predictor that its inclusion in the analysis means that labour force participation becomes the only economic indicator which still has a separate effect on swing in the battleground states.
Education appears to explain more than the economic variables, but it is closely linked to the strength of the local economy.

Counties with higher annual household income tend to have a higher share of the population with a bachelor’s degree or higher. As such, including an education variable in the analysis of the vote reduces the explanatory power of the income measure.

Notes: Each dot represents a county.
The explanatory power of the education variable is strongest in areas with larger white populations.

In the battleground states, the swing towards Trump was greater in counties with both a high share of white residents and a high share of people with only a high school education. The swing towards Trump was over 20 ppts in counties where 70-75 per cent of the population is white and has only a high school education.

By contrast educational levels had no effect in counties where only 25 per cent of residents are white. Though these areas still swung towards Trump.


@resfoundation
Even after controlling for all these factors, state level factors played a big part in how counties voted.

Adjusted biggest swings towards or away from the Republicans by state, holding all else constant and compared to the state where the swing was smallest:

<table>
<thead>
<tr>
<th>State</th>
<th>Swing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>11.6%</td>
</tr>
<tr>
<td>Iowa</td>
<td>8.7%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>7.2%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>6.7%</td>
</tr>
<tr>
<td>New York</td>
<td>4.0%</td>
</tr>
<tr>
<td>Alabama</td>
<td>-10.4%</td>
</tr>
<tr>
<td>Georgia</td>
<td>-11.4%</td>
</tr>
<tr>
<td>Arkansas</td>
<td>-11.7%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>-13.2%</td>
</tr>
<tr>
<td>Utah</td>
<td>-25.6%</td>
</tr>
</tbody>
</table>

Holding all else constant, Hawaii recorded the biggest swing towards Trump (Obama likely had birth state advantage there).

North Dakota also swung strongly to Trump (possibly related to its oil industry).

Utah recorded the biggest swing away from the Republicans (Romney’s Mormon advantage fading).

36 of 46 states (78%) tested swung away from the Republicans once we control for economic and demographic differences between states.


Notes: These are the percentage point swings after controlling for the economic and demographic factors we tested in our regression model. Swings are relative to the state where the swing was smallest which was Colorado.
4. PART OF A WIDER STORY?

Assessing the similarities and differences between the US Presidential election and the EU Referendum in the UK
There are similarities between the swing towards Donald Trump and the vote to leave the European Union...

**Donald Trump**

*Economy*
- Poorer areas swung towards Trump
- Areas with lower labour force participation rates more likely to swing to Trump
- But recent changes in economy didn’t affect the vote

*Education*
- Counties with a higher share of people with only a high school education tended to swing towards Trump – the single most important variable

*Demographics*
- Counties with a higher share of those 60 and over tended to swing towards the Republicans

**Brexit***

*Economy*
- Poorer areas more likely to vote for Brexit
- Areas with lower employment rates more likely to vote for Brexit
- Recent change in income didn’t affect likelihood of vote for Brexit

*Education*
- Areas with a higher share of people with degrees less likely to vote for Brexit – the single most important variable

*Demographics*
- Areas with a higher share of older residents more likely to vote for Brexit

---

*For detail on the drivers of the vote to leave the European Union see S. Clarke and M. Whittaker, The importance of place, Resolution Foundation*
...but there are important differences too

Donald Trump

*Economy*
Poorer areas swung towards Trump
Areas with lower labour force participation rates more likely to swing to Trump
But recent changes in economy didn’t affect the vote

*Education*
Counties with a higher share of people with only a high school education tended to swing towards Trump – the single most important variable

*Demographics*
Counties with a higher share of those 60 and over tended to swing towards the Republicans

*Race*
Areas with a higher share of black residents were much more likely to swing away from Trump, even after controlling for other differences

*Turnout*
Turnout in the presidential election is estimated at 58.1 per cent, down from 58.6 per cent in 2012 and 61.6 per cent in 2008 – this was not an enthusiastic vote

*Nationality and migration*
Areas with a higher share of non-US born citizens tended to swing away from the Republicans

Brexit*

*Economy*
Poorer areas more likely to vote for Brexit
Areas with lower employment rates more likely to vote for Brexit
Recent change in income didn’t affect likelihood of vote for Brexit

*Education*
Areas with a higher share of people with degrees less likely to vote for Brexit – the single most important variable

*Demographics*
Areas with a higher share of older residents more likely to vote for Brexit

*Race*
Ethnic minorities were no more likely to vote to Remain once you controlled for other personal characteristics

*Turnout*
Turnout in the EU referendum was 72.2 per cent, compared to 66.4 per cent in the 2015 General Election – this was an enthusiastic vote

*Nationality and migration*
There was no relationship between the share of non-UK born people in an area and the vote for Brexit, although areas that saw a large recent increase in immigration tended to vote for Brexit

*For detail on the drivers of the vote to leave the European Union see S. Clarke and M. Whittaker, The importance of place, Resolution Foundation*
5. FULL REGRESSION RESULTS
Our regression models

• We construct six regression models. In each our dependent variable is the relative improvement in the Republican margin of victory (or defeat) compared to the 2012 presidential election measured at the county level.

• We test the relationship between the swing towards the Republicans and various economic, demographic and educational variables.

• The first model includes economic variables (in both level* and change**), the second introduces demographic variables and the third introduces our educational variable. All three models are run with a control for the share of the county that is classified as rural and with state dummies. We also cluster standard errors by county. State dummies control for unobservable differences between states and the clustered standard errors address the collinearity of county results within a state.

• The fourth model analyses the battleground states.

• Models five and six introduce an interactive term between the share of white residents and the share of residents with only a high school education, first across all states (model five) and then across the battleground states (model six)

* Variables in levels are averages taken between 2010 and 2014 produced by the ACS.

** Change variables measure the change between 2006-2010 and 2010-2014. They therefore reflect short-run changes.
The majority of change variables have no effect. The one exception is that in models 1 and 2, changes in household income in an area are associated with a swing towards Trump. This is primarily driven by traditionally Republican areas (for example, 22 of the top 50 counties ranked in terms of recent income growth are in North Dakota).

All economic levels variables have an effect, as does the share of the population that is foreign born.
Regression results: models 3 & 4 (adding education and battleground focus)

<table>
<thead>
<tr>
<th>Models</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Economics</td>
<td>Demographics</td>
<td>Education</td>
<td>Battleground</td>
<td>Interaction</td>
<td>Battleground interaction</td>
</tr>
<tr>
<td>Rural</td>
<td>0.0805***</td>
<td>0.0599***</td>
<td>0.00959</td>
<td>-0.00143</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median annual household income</td>
<td>-0.0727***</td>
<td>-0.0800**</td>
<td>0.00180</td>
<td>0.0219</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in median income</td>
<td>0.0505**</td>
<td>0.0554***</td>
<td>0.0277</td>
<td>0.0529</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of employment in manufacturing</td>
<td>0.267***</td>
<td>0.261***</td>
<td>0.0688</td>
<td>0.0142</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in share of employment in manufacturing</td>
<td>-0.00432</td>
<td>-0.000189</td>
<td>0.000126</td>
<td>0.000348</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour force participation rate</td>
<td>-0.303***</td>
<td>-0.233***</td>
<td>-0.105</td>
<td>-0.210**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in labour force participation rate</td>
<td>0.0252</td>
<td>0.0296</td>
<td>0.00958</td>
<td>0.0289</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of population that is foreign born</td>
<td>-0.327***</td>
<td>-0.412***</td>
<td>-0.355*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in share of foreign born population</td>
<td>0.000455</td>
<td>0.00004</td>
<td>0.00178</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of population that is 60 and over</td>
<td>0.0181</td>
<td>0.116*</td>
<td>0.176**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of population that is white</td>
<td>0.0185</td>
<td>0.0431</td>
<td>0.0702*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of population with a high school education or less</td>
<td>0.440***</td>
<td>0.478***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction between high school educated and white population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.992***</td>
<td>1.041***</td>
<td>-0.0872</td>
<td>-0.282</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>2,932</td>
<td>2,918</td>
<td>2,918</td>
<td>775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.628</td>
<td>0.648</td>
<td>0.699</td>
<td>0.680</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The variable with the greatest impact on the Republican swing was the share of residents in a county with a high school education or less. A 1 per cent increase in this share is related to a 0.44 percentage point increase in the swing towards Trump. When this variable is included, almost all economic variables (aside from labour force participation, in battleground states) lose their significance. Demographic variables (though not the share of population that is foreign born) become more significant when education variable included.
Regression results: models 5 & 6 (adding an interaction term)

<table>
<thead>
<tr>
<th>Models</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0805***</td>
<td>0.0599***</td>
<td>0.00959</td>
<td>-0.00143</td>
<td>0.00964</td>
<td>0.00652</td>
</tr>
<tr>
<td>Median annual household income</td>
<td>-0.0727***</td>
<td>-0.0800**</td>
<td>0.00180</td>
<td>0.0219</td>
<td>0.00113</td>
<td>0.0226</td>
</tr>
<tr>
<td>Change in median income</td>
<td>0.0505**</td>
<td>0.0554***</td>
<td>0.0277</td>
<td>0.0529</td>
<td>0.0289</td>
<td>0.0312</td>
</tr>
<tr>
<td>Share of employment in manufacturing</td>
<td>0.267***</td>
<td>0.261***</td>
<td>0.0688</td>
<td>0.0142</td>
<td>0.0654</td>
<td>0.0142</td>
</tr>
<tr>
<td>Change in share of employment in manufacturing</td>
<td>-0.00432</td>
<td>-0.000189</td>
<td>0.000126</td>
<td>0.00348</td>
<td>0.00171</td>
<td>0.00643</td>
</tr>
<tr>
<td>Labour force participation rate</td>
<td>-0.303***</td>
<td>-0.233***</td>
<td>-0.105</td>
<td>-0.210**</td>
<td>-0.108</td>
<td>-0.205**</td>
</tr>
<tr>
<td>Change in labour force participation rate</td>
<td>0.0252</td>
<td>0.0296</td>
<td>0.00958</td>
<td>0.0289</td>
<td>0.00904</td>
<td>0.0233</td>
</tr>
<tr>
<td>Share of population that is foreign born</td>
<td>-0.327***</td>
<td>-0.412***</td>
<td>-0.355*</td>
<td>-0.437***</td>
<td>-0.410**</td>
<td></td>
</tr>
<tr>
<td>Change in share of foreign born population</td>
<td>0.000455</td>
<td>0.00004</td>
<td>0.00178</td>
<td>0.000308</td>
<td>0.00113</td>
<td></td>
</tr>
<tr>
<td>Share of population that is 60 and over</td>
<td>0.0181</td>
<td>0.116*</td>
<td>0.176**</td>
<td>0.124*</td>
<td>0.200**</td>
<td></td>
</tr>
<tr>
<td>Share of population that is white</td>
<td>0.0185</td>
<td>0.0431</td>
<td>0.0702*</td>
<td>-0.179*</td>
<td>-0.416***</td>
<td></td>
</tr>
<tr>
<td>Share of population with a high school education or less</td>
<td>0.440***</td>
<td>0.478***</td>
<td>0.135</td>
<td>-0.255</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction between high school educated and white population</td>
<td></td>
<td></td>
<td></td>
<td>0.402**</td>
<td>0.912***</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.992***</td>
<td>1.041***</td>
<td>-0.0872</td>
<td>-0.282</td>
<td>0.0931</td>
<td>0.0931</td>
</tr>
<tr>
<td>Observations</td>
<td>2,932</td>
<td>2,918</td>
<td>2,918</td>
<td>775</td>
<td>2,918</td>
<td>775</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.628</td>
<td>0.648</td>
<td>0.699</td>
<td>0.680</td>
<td>0.703</td>
<td>0.695</td>
</tr>
</tbody>
</table>

The positive coefficients on the interaction term (0.402 and 0.912) indicate that as the share of the white population in a county increases so does the effect of the share of people with only a high school education.

In short, counties with a high share of white residents with only a high school education swung heavily towards the Republicans.