A Quantitative Analysis of the Causes of Brexit

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rates of growth, amalgamation, joined the EU (Campos et al., 2014). In 2013, Prime Minister David Cameron announced that if he were re-elected in 2015, he would hold a referendum to leave the EU. The referendum was coined ‘Brexit,’ an amalgamation of the words Britain and Exit. Cameron thought the chances of leaving the EU were remote; he was using the referendum as a political move to get re-elected, not as a vehicle to leave the EU. He did not foresee waves of terrorist attacks throughout Europe nor floods of Syrian refugees that would shift EU immigration policy out of favor with UK citizens.

Those in favor of Brexit (leaving the EU) contend the UK would benefit by establishing its own trade deals, saving billions of pounds in EU membership fees, disconnecting the UK from the EU bureaucracy, and severely limiting immigration (The Economist, 2016). Those in favor of remaining in the EU argued that exiting could result in increased trade barriers, economic uncertainty, loss of jobs, and a decrease in global investments flowing into the UK (Arnorsson and Zoega, 2016). On June 23, 2016, the UK narrowly voted (52%-48%) to withdraw from the EU (The Electoral Commission, 2016). I am interested in studying why the Brexit vote prevailed.

The immediate results of the vote were catastrophic with the pound sterling falling 10% in just two days (Arnorsson and Zoega, 2016). Now the UK is faced with the task of negotiating an advantageous exit from the EU. Although there are many possibilities for future negotiations, one thing is clear, the EU is not likely to let the UK keep the perks of EU membership while avoiding the burdens.

Immigration reform will be a major component during negotiations with the EU. There are currently 2.15 million EU nationals working in the UK which is approximately 7% of the total labor force (United Kingdom, 2016). Moreover, 55% of all jobs created in 2015 were taken by non-UK citizens (O’Leary, 2016). Popular media has indicated that the native population’s negative views on immigration contributed to the Brexit vote. I will formally test this hypothesis using UK county-level data. My hypothesis is that higher levels of immigrant-to-total population shares are positively correlated with votes to leave the EU.

I build on Arnorsson and Zoega’s (2016) research on Brexit. They study the relationship between people’s qualitative responses to survey questions related to immigration and net migration. Because when people answer surveys, they have nothing to lose by answering one way or another; the results might not be reflective of the actual situation. However, when people vote, it has an impact on their lives. Thus, looking at the actual voting outcomes (rather than responses to survey questions) might give us a more concrete perspective of the causes of Brexit.

There are other ways that my research will add to the existing literature. As far as I have found, existing literature only examines the issue at the broad regional level (rather than county level). Studying the issue at the county level is important because it provides specific nuances for which regional data does not account. For example, using the region of Hertfordshire and Bedfordshire, as Arnorsson and Zoega (2016) did, the vote to stay was 48.07%. However, the county of Hertfordshire voted 51.9% to stay while Bedfordshire voted only 45.40% to stay (The electoral commission, 2016). We will not see this difference in the votes of the two counties using regional data. Doing county-level analysis is also valuable because factors such as unemployment rate vary at the county-level within a region. County Durham has an unemployment rate of 6.6%, 1.7% higher than the national average, and 58% of its residents voted to leave the EU while Hertfordshire has an unemployment rate of 3.2% and only 48% of its residents voted to leave (Office for National Statistics, 2016; The Electoral Commission, 2016). Existing literature identifies the unemployment rate as a contributing factor to Brexit (Arnorsson and Zoega, 2016) My second hypothesis is that higher unemployment rates are positively correlated with votes to leave the EU.

Understanding the causes of Brexit is relevant because in a global economy, an adverse economic shock in one country has the potential to reverberate around the world. The outcome of the Brexit vote has
already caused economic losses in the UK as well as with firms that are invested within its borders. Pending negotiations with the EU could further extend this cost. The decision to leave the EU has more implications than just within the UK. Depending on whether future negotiations are positive or negative, other countries might be encouraged or discouraged, respectively, to leave the EU. With the Euro being the world’s second most popular reserve currency, instabilities in the Euro area would cause widespread loss of wealth throughout the globe.

Methods

Many studies have provided evidence of a positive correlation between the size of the immigrant population in an area and the desire for immigration reform (Filandra and Pearson-Merkowitz, 2013; Quillian, 1995; Mclaren, 2003). I will test this hypothesis by examining the size of immigration population per county in the UK compared to the way in which the county voted in the Brexit referendum. I expect a higher percentage of votes in favor of Brexit in counties with higher immigrant-to-total population shares. Other studies have indicated a stronger correlation between immigration of ethnic minorities and immigration reform compared to just white immigrants (Hatton, 2014). A related hypothesis is that a higher percentage of votes to leave the EU is expected in counties with higher ethnic minority immigrant-to-total population shares.

Filandra and Pearson-Merkowitz’s (2013) study concerning immigration reform in Arizona found that in times when doubts about the economy were prevalent, people were more likely to view immigrant populations negatively. In a similar study in Europe, Hatton (2014) found comparable results. Based on these studies, my second hypothesis is that economic conditions at the county level, for example, in terms of unemployment, will be directly correlated to voting results. In particular, I expect that both the size of the immigrant population and the economic condition of a county are positively correlated with Brexit votes.

I have verified that all data I require at the county level are available from the UK’s Office of National Statistics. Preliminary reading of the literature suggests that other factors besides immigrant population size and unemployment rate might have affected the vote to leave the EU. To explore this, I will use regression analysis to study how multiple factors might have affected the Brexit vote. Regression analysis will provide a more accurate depiction of how immigrant population size affected the Brexit vote, controlling for unemployment rate and other factors. My study will be useful in predicting the probability of other countries potentially leaving the EU.

Timeline

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<tr>
<th>January</th>
<th>Continue with literature review</th>
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<tr>
<td>February</td>
<td>Complete literature review. Finalize regression model based on information found in the literature review. Collect Brexit votes, immigrant-to-total population share, and unemployment data by UK county. Begin analysis of data.</td>
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<tr>
<td>March and April</td>
<td>Continue with statistical analysis and begin the first draft of the paper</td>
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<tr>
<td>May</td>
<td>Under Dr. Co’s guidance and with many revisions, finish writing the paper</td>
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Student/Faculty Mentor Roles

Prior to starting the paper, I will conduct an extensive review of the existing literature. I will then collect county data level data on Brexit votes, immigrant population, and unemployment rates. Dr. Co will provide guidance on the modelling and statistical analysis of the data. After analysis of the data, I will write a paper compiling the results of the statistical analysis and stating any implications of my work to other scenarios.
**Budget Justification**

I am requesting a $2,000 stipend as financial support for this project.

**References:**


October 10, 2016

FUSE Grant Committee

Dear FUSE Reviewers:

It is with great pleasure that I write this letter of support for Sean Watson’s FUSE project titled “A Quantitative Analysis of the Causes of Brexit.” Sean is in the Honors Program. He is a biotech and economics major, and has a minor in mathematics. He expects to graduate in May 2019.

Sean came to me with the idea for this FUSE project prior to the start of the Fall semester. Since I have not had him in any of my classes, as a condition to taking him on as a FUSE student, I asked him to (informally) audit my graduate Research Methods in Economics and Business class. To date, he has been diligently attending class. This shows strong commitment to learning about the research process. If successful in obtaining a FUSE grant, Sean should be well-prepared to handle the demands of the FUSE project.

The FUSE project is completely Sean’s idea. He is interested in understanding why despite benefiting from European Union (EU) membership, a majority of Britons would vote ‘Yes’ to exiting the EU in June 2016 (popularly termed Brexit). Anecdotal evidence suggests that the ‘Yes’ vote is due to Briton’s concerns over EU immigration policy (which the United Kingdom (UK) must adhere to), the resulting increase in number of permanent and temporary migrants into the UK (i.e., half of UK’s population growth in 1991-2014 is due to net migration), and immigration’s effects on the local labor market. This topic is both timely and relevant.

Sean has read some relevant literature and has put together a good proposal for your review. He has successfully completed Business Statistics in Spring 2016, so should have the statistical knowledge to study ‘Brexit’ voting patterns across UK counties, and its relationship with the relative size of the immigrant population in the counties. Moreover, literature suggests that other factors such as a county’s unemployment rate may matter as well.

Sean is highly capable of completing this project successfully. As mentor, I will provide guidance related to additional literature Sean needs to read, and most important, that his empirical approach is appropriate in answering the research questions. We will work closely together so he can produce a quality paper which we both can be proud of.

Sincerely,

Catherine Y. Co