**Voting to Leave:**

**Labour market factors and the Brexit vote**

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The victory of the Brexit camp in the recent UK referendum on whether to stay or leave the European Union (EU) represents a turning point in the history of EU integration. In this short empirical contribution, I explore the determinants of individual support for Brexit. I focus on several labour market factors: income, unemployment, poverty, the level and type of education, and occupations; that have all received significant attention in broader political economy debates about the influence of labour market factors on individual preferences.

My analysis pays particular attention to the labour market position of individuals and the labour market risks they face. I look at how the risk of being unemployed, the risk of being in poverty and housing risk (whether or not the individual rents her accommodation) influence support for Brexit. I also investigate the impact of income level and source, of being in low skills occupations where immigration has been particularly salient, and of having studied a higher education degree that is ‘protective’ (medicine or law).

Results from a logistic regression analysis of the British Election Study suggest that gender has no effect but age matters in the anticipated way. White respondents, those at higher risk of poverty, below the median income, with no formal education are more likely to vote for Brexit. Surprisingly, those that self-identify as being at greater risk of unemployment and those that rent their accommodation are less likely to vote for Brexit. Finally, workers in routine or low occupations, which I show have been more exposed to immigration, are more likely to vote for Brexit, while respondents that have studied ‘protected’ disciplines such as law and medicine are less likely to support Brexit.

**Empirical approach**

To explore the determinants of the Brexit vote, I rely on the 6th wave of the British Election Study[[1]](#footnote-1) that asked respondents about their voting intentions for the referendum before it took place. The question about the referendum was as follows: “If there was a referendum on Britain's membership of the European Union’ turnout, how do you think you would vote?”[[2]](#footnote-2) I create a dummy variable coded 1 if the respondent chose leaving and 0 otherwise (‘don’t knows’ are recoded missing).

I create a female dummy variable to capture the gender of the respondent and a dummy variable that captures whether the respondent answered ‘white’ to the ethnicity question in the survey. To measure the impact of age of the respondent I create two variables: a ‘young’ dummy variable (1 if respondent is under 25, 0 otherwise) and an ‘elderly’ dummy variable (1 if respondent is above 65, 0 otherwise). Young people are typically less Eurosceptic and the elderly are typically more Eurosceptic.

The survey also asks respondents about their gross household income. Rather than including all possible categories from under 5,000 to above 150,000 pounds per year, I decide to use a cut-off point. In most political economy models, the crucial variable is the position of an individual relative to the median income so I create a variable ‘above median income’. Given that the median household disposable income in the UK for 2014/15 was £25,600,[[3]](#footnote-3) I code all respondents with household income above £25,000 as being above median.

In addition, I look at the role of education which is meant to constitute a clear dividing line between the losers and winners of European integration. The absolute losers are likely to be those with no education so I create a dummy that takes value 1 if respondents have no formal qualification. Among those that have undertaken higher education, the survey asks them what subject they have studied. This provides an opportunity to test whether respondents that have studied different subjects feel differently about Brexit. In particular, I hypothesise that respondents that studied medicine or law are more likely to want to remain because these subject areas are more ‘closed off’ to foreign competition than natural, social sciences and humanities.

Next, I analyse the effect of various risks on support for leaving. The first risk is whether the respondent is at high risk of poverty, understood as being “fairly likely” or “very likely” to have times when the respondent does not have enough money to cover day to day living costs during the next 12 months (coded 1, 0 otherwise). To the extent that those that are at greater risk of poverty are more dissatisfied with the system, they may be more likely to vote for Brexit, but if they believe forecasts about the economy they should be less likely to vote to leave. The second risk is unemployment risk understood as being fairly or very likely to be out of work in the next 12 months (coded 1, 0 otherwise). The third risk variable is coded 1 if respondents are renting and 0 otherwise. The fourth risk variable captures whether the main income of the respondent comes from employment (coded 1) or from other sources (coded 0, for instance receiving benefits).

Moreover, I want to investigate the impact of labour market occupations. The survey asks respondents whether they are ‘employers in large organisations and in higher managerial positions’, ‘higher professional occupations’, ‘lower professional and managerial occupations and higher supervisory’, ‘employers in small organisations and own account workers’, ‘intermediate occupations’, ‘lower supervisory and technical occupations’, ‘semi-routine occupations or routine occupations’. I create a dummy variable if the respondent chooses one of the last three occupations that are routine and/or low.

**Results**

*Logistic analysis on one independent variable at a time*

Table 1 reports the results for a series of models where each independent variable is included on its own. For ease of interpretation it reports the predicted probability of voting leave when the dummy variable is 1 and when it is 0. Where the 95% confidence interval of the predicted probability for different values of the variable overlap (last two columns) the variable does not have a statistically significant effect.

The predicted probabilities for male and female respondents are very similar and not statistically different. White respondents have a 40% probability of preferring to leave compared to 31% for non-white respondents (all probabilities in the discussion are rounded), elderly respondents have a 50% predicted probability of preferring leave compared to non-elderly whereas for the young it is 18% (compared to 42% for non-young respondents).

In contrast to accounts that downplay the role of material factors, respondents above the median income have a 33% predicted probability compared to 46% for those below median, while those with no formal education have predicted probabilities that are twice as large (65%) as those with formal education (38%). The effect of the discipline among those with higher education is striking: respondents that have done law and medicine, disciplines that may be harder to enter for foreigners, have a 29% predicted probability compared to 40% for other respondents. Individuals in low or routine occupations also have much higher predicted probabilities (55% versus 37%). As expected, respondents that derive their main earnings from employment have lower predicted probabilities of supporting Brexit (35% versus 41%).

Surprisingly, while the risk of poverty does seem to matter, the effect is small (39% versus 42%) and the risk of unemployment actually has the opposite effect than the one we would expect: respondents at high risks of unemployment have a lower predicted probability (36%) of choosing leave compared to other respondents (46%). Equally, renting also has the opposite effect of the one we would expect: respondents who rent their accommodation have lower predicted probability of supporting leave (35% versus 41%).

*Logistic analysis on several independent variables*

Figure 1 reports the results for different models that test the effects of several factors jointly. It plots semi-standardised coefficients – i.e. coefficients have been rescaled by the standard deviation of the variable in the data. A positive coefficient suggests the factor under consideration increases the probability of the respondent. For each variable, the figure also displays the 95% confidence interval which is shown by the line around the point estimate: when it intersects the 0-line, the coefficient is not statistically different from 0.

**Table 1: Logistic regression analysis of one independent variable at a time**

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| --- | --- | --- | --- |
| **Variable** | **Respondent** | **Predicted probability** | **95% confidence interval** |
| Gender | Male | 0.3978 | 0.3895 | 0.4060 |
|  | Female | 0.3980 | 0.3894 | 0.4066 |
| Ethnicity | Non-white | 0.3094 | 0.2855 | 0.3332 |
|  | White | 0.4032 | 0.3970 | 0.4093 |
| Elderly (65+) | Not elderly | 0.3676 | 0.3609 | 0.3743 |
|  | Elderly | 0.5008 | 0.4879 | 0.5135 |
| Young (18-24) | Not young | 0.4221 | 0.4157 | 0.4284 |
|   | Young | 0.1779 | 0.1624 | 0.1934 |
| Income | Not above median | 0.4658 | 0.4550 | 0.4766 |
|  | Above median | 0.3318 | 0.3231 | 0.3404 |
| Risk of poverty | Not high | 0.3893 | 0.3824 | 0.3961 |
|  | High  | 0.4243 | 0.4121 | 0.4364 |
| Risk of unemployment | Not high | 0.4051 | 0.3986 | 0.4116 |
|   | High  | 0.3582 | 0.3432 | 0.3730 |
| Education | Formal education | 0.3793 | 0.3732 | 0.3855 |
|  | No formal education | 0.6475 | 0.6254 | 0.6697 |
| Higher education discipline | Not protected | 0.4003 | 0.3943 | 0.4063 |
|   | ‘Protected’ discipline | 0.2872 | 0.2496 | 0.3248 |
| Housing | Not rent | 0.4086 | 0.4019 | 0.4152 |
|  | Rent | 0.3505 | 0.3370 | 0.3641 |
| Earnings from employment | No | 0.4055 | 0.3991 | 0.4118 |
|  | Yes | 0.346 | 0.3297 | 0.3622 |
| Occupations | Others | 0.3749 | 0.3686 | 0.3813 |
|   | Lower/routine occupations | 0.5489 | 0.5322 | 0.5656 |

*Note: each row reports the predicted probability of a dichotomous variable for its 2 values using a logistic analysis regressing a dichotomous variable ‘voting leave’ on that variable with robust standard errors.*

As was the case before, gender is not statistically significant, but this is also the case for earnings from employment. The young are much less likely to support Brexit while the opposite is true for the elderly (relative to middle aged respondents). The other results are the same as before but running the logistic regression with all the independent variables together allows us to compare the magnitude of the effects. This reveals that age is a strong predictor of voting leave and that the effect is reduced as more variables are included. Next, being below the median income, having no formal education, and being in low or routine occupations also have very large significant effects on voting leave.

It is worth noting that immigration from EU countries was particularly acute for certain occupations. Thus for instance, ONS data[[4]](#footnote-4) suggest that between 2010 and 2014, 164,000 immigrants with a professional or managerial occupational background immigrated to the UK from the EU while 169,000 immigrated from outside the EU. Thus, these occupations are under similar ‘pressure’ from non-EU and EU countries. By contrast, a much larger 277,000immigrants with a manual and clerical occupational background came from EU whereas only 64,000 came fromnon-EU countries. As a result differences between occupations may reflect different degrees of exposure to immigration from the EU.

One way to visualise the practical implications of these results is to calculate predicted probabilities of voting leave for two hypothetical individuals. A white male between 25 and 65, with no formal education, deriving most of his earnings from employment in a lower or routine occupation, renting his house, and reporting a high risk of unemployment and poverty has a 66% probability of voting leave. Contrast this with an individual that has the same characteristics in all respects except that he has at least some formal education, is not at high risk of poverty or unemployment, nor in a lower or routine occupation, and has studied a ‘protected discipline’: this individual would have a predicted probability of only 25% of voting leave.

**Figure 1: material determinants of voting leave**

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*Note: Robust standard errors clustered by country. Effects are rescaled by the standard deviations of the predictors.*

**Conclusion**

Overall, I find that gender has not played a role whereas age and ethnicity were important.

But labour market factors also have a profound effect on support for Brexit: Low income respondents with no formal education and in low skilled or routine occupations that are at risk of poverty and have faced the brunt of immigration from the EU are especially likely to support Brexit.

1. Fieldhouse, E., Green, J., Evans, G., Schmitt, H., van der Eijk, C., Mellon, J., Prosser, C. (2016). *British Election Study, 2015: Face-to-Face Post-Election Survey*. UK Data Service. SN: 7972, <http://dx.doi.org/10.5255/UKDA-SN-7972-1>. The survey includes 30,027 respondents. [↑](#footnote-ref-1)
2. 14,010 respondents (46.66%) responded “stay in the EU”, 10,357 (34.5%) “Leave the EU”, 883 (2.9%) said they “would not vote” and 4,775 (15.9%) answered “Don’t Know” (weights applied). [↑](#footnote-ref-2)
3. Accessed at: <http://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/nowcastinghouseholdincomeintheuk/2015-10-28> [↑](#footnote-ref-3)
4. Long-Term International Migration, estimates from the International Passenger Survey -Annual data. Source: Office for National Statistics (ONS). [↑](#footnote-ref-4)