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Alabrese, Eleonora; Fetzer, Thiemo René

Working Paper

Who is NOT Voting for Brexit Anymore?

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Eleonora Alabrese, Thiemo Fetzer

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Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de
Editors: Clemens Fuest, Oliver Falck, Jasmin Gröschl
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Who is NOT Voting for Brexit Anymore?

Abstract

Using estimates of support for Leave across UK local authority areas constructed from a comprehensive 20,000 strong survey, we show that both the level and the geographic variation capturing differential degrees of support for Leave have changed significantly since the 2016 EU referendum. A lot of area characteristics, many of which were previously associated with higher levels of support for Leave, are now significant correlates capturing a swing towards Remain. They include, for example, the degree to which local authorities receive transfers from the EU or the extent to which their economies rely on trade with the EU, along with past electoral support for UKIP (and the BNP) and exposure to immigration from Eastern Europe. Lastly, exposure to austerity since 2010 is among the strongest individual correlates weakening the support for Leave. The evidence is consistent with the argument that the small margin of victory of Leave in 2016 was, to a significant extent, carried by protest voters, who used the EU referendum to voice their discontent with domestic social and economic developments, particularly, austerity. Lastly, we present some evidence suggesting that the UK public, even in Leave supporting areas, would be much more willing to make compromises on free movement and aspects of single market membership compared to what appears to be the UK governments negotiation objective.

JEL-Codes: D720, F500, F600, H300, H500.

Keywords: Brexit, protest voting, globalization, European Union.

Eleonora Alabrese
Department of Economics
University of Warwick
United Kingdom – Coventry CV4 7AL
E.Alabrese@warwick.ac.uk

Thiemo Fetzer
Department of Economics
University of Warwick
United Kingdom – Coventry CV4 7AL
T.Fetzer@warwick.ac.uk

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1 Introduction

Brexit is a watershed moment in European history, and is widely seen as marking the beginning of a wider populist revolt affecting the Western World. The close outcome of the Referendum came to many, including many academics, as a surprise. Since then, a rich but mostly descriptive literature in the social sciences has developed to interpret what the underlying factors are that capture different degrees of support for Leave versus Remain. Becker et al. (2017) show that long-standing and slow moving economic and demographic factors capture most of the variation in regional support for Leave across the UK. Much of political science argues that the vote for Brexit should not be seen as a protest vote. Ford and Goodwin (2017), similar to Kaufmann (2016), suggest that the vote for Brexit has a cultural and explicitly, non-economic foundations; Carl et al. (2017) argues Britons' (specifically, English) weak sense of European identity was a key contributor to the Brexit vote, while Inglehart and Norris (2016) suggests that the rise of populism is due to rapid cultural changes that appear to be eroding the basic values and customs of Western societies.

This paper presents evidence that is consistent with the hypothesis, that the *marginal vote* shifting the EU referendum in favor of Leave likely was a protest vote, as opposed to a vote representing a well-informed choice. Contrasting between the average versus the marginal voter is particularly important, as most of the existing literature, being purely cross-sectional, is unable to make this distinction and thus, mechanically is limited to characterize the average voter in both, the Leave and the Remain camp.[1] The tight outcome of the Referendum, however, puts specific emphasis on understanding those voters who were on the margin of the issue of EU membership. Drawing on new estimates of Leave support across the UK constructed from a comprehensive survey of more than 20,000 individuals conducted by Survation (which had correctly predicted a Leave victory in 2016). The overall level of support for Leave has shrunken considerably, with support

[1] Alvarez et al., 2018 for a recent review article building a taxonomy of different types of protest voting.

for Leave estimated to be six percentage points lower across the UK. However this level shift masks interesting heterogeneity across the UK and indicates that the patterns underlying the geographic distribution of support for Leave- versus Remain have changed between 2016 and 2018. In particular, we show that many areas that supported Leave in 2018, now see a significant swing to Remain. More importantly, many variables that were significantly correlated with explaining higher levels of support for Leave in 2016, are now driving the swing towards Remain.

Our specific approach follows closely the one pursued in Becker et al. (2017). Yet, rather than studying the correlates driving the *level of support for Leave*, we focus on studying which correlates are driving the *changes in support for Leave* across local government areas in the UK between 2016 and 2018. The analysis indicates that some of the reductions in the support for Leave since 2016 suggests that the electorate across the UK may have become more informed about potential economic consequences of leaving the EU. For example, while areas whose economy significantly depend on trade with the EU were more likely to support Leave in 2016, this link has become markedly weaker since 2016. Similarly, while an area's receipt of structural funds from the EU was uncorrelated with support for Leave in 2016, it now is strongly associated with weaker levels of support for Leave in 2018. Similarly, we see that areas that saw significant influx of migrants from Eastern Europe and the rest of the world (non-Europe) between 2001 and 2011 are also significantly swinging towards Remain, while many of these factors were correlated with stronger levels of support for Leave in 2016. The evidence is consistent with the idea that, in the course of the more than two and a half years since the referendum, the UK public has become more informed about how integration with the EU benefits their local communities. While most of the EU referendum campaign was explicitly negative from both sides of the campaign, it suggests that they failed to inform the public about the intricacies of the economic cross-dependencies between the UK and the EU.

The analysis further suggests that the single most important correlate capturing geographic variation in the swing away from Leave towards Remain across

local authority areas, is the extent to which these areas were affected by austerity-induced welfare reforms since 2010. This evidence complements earlier work by Fetzer (2018) arguing that a non-negligible share of the support for Leave is due to austerity-induced protest voting. The hypothesis is that for many voters, a vote for Leave in the referendum conflated a lot of factors capturing the wider discontent with social and economic developments in the UK. Specifically, Fetzer (2018) shows that the steep rise in support for UKIP and broader anti-establishment sentiment was to a significant extant caused by an area's or an individual's exposure to welfare cuts since 2010. The estimates provided suggest that the Leave support could have been between 3.5-9.5 percentage points lower, had it not been due to austerity-induced protest voting. The observation that popular support for Leave is falling most pronouncedly in areas most exposed to austerity is further evidence consistent with the argument that a non-negligible fraction of the UKIP and Leave support was reflecting a broader protest vote going beyond the specific issue of EU membership.[2]

Lastly, we draw on further survey questions, which ask respondents on various aspects relevant to the Withdrawal Agreement formalizing the UK's departure from the EU. The survey specifically asked respondents, in which salient areas of the negotiations the UK should be willing to make concessions in order to successfully negotiate a Withdrawal Agreement. The profile of responses is quite stark. When asked, whether, if the only way the UK could reach a deal with the EU would be for the UK to agree to continued free movement, the overarching majority of respondents would be willing to accept, what is essentially, freedom of movement. This is in stark contrast to the EU referendum Leave campaign, which to a significant extent was shaped by stoking fears of mass immigration. Similarly, the UK public would be willing to make compromises regarding continued

[2]According to the comprehensive Understanding Society Household Panel, less than 5% of respondents express that they are a supporter of UKIP of feeling closer to UKIP than to any other party, suggesting that UKIP and its platform never commanded broad public support. Nevertheless, in elections, UKIP achieved easily double digit vote shares, especially after 2010, furthering the interpretation that a vote for UKIP, which is a strong correlate of support for Leave, should be interpreted as a protest vote.

regulatory alignment concerning manufactured goods.

The paper is related to a growing literature studying the causes of Brexit. A mostly correlational literature has attempted to characterize the underlying characteristics of support for populist parties. Goodwin and Heath (2016) study aggregate data for the EU referendum; Becker et al. (2017) who use a machine learning method to systematically characterize the correlates driving support for Leave. Garmann and Potrafke (2018) perform a similar exercise studying the correlates of support for the Alternative fuer Deutschland in Germany. Turning to individual level data, Alabrese et al. (2018) characterize correlates of support for Leave at the individual level; Clarke et al. (2017) study support for Leave using a short panel around the EU referendum date. More generally, Hobolt (2016) explores the patterns of support for Euroscepticism across the EU more broadly.

While there now exists a good understanding of the different correlational factors driving support for Leave in the 2016 EU referendum, there is still a lack of evidence pointing towards the underlying causal drivers, with a few notable exceptions. Backlash against globalisation is said to have been another important factor in the Leave vote, especially to the extent that it deteriorates economic and social conditions for a subset of voters (see Lewis-Beck and Stegmaier, 2000 and Druckman and Lupia, 2000). Colantone and Stanig (2018) provide causal evidence suggesting that pressures due to globalization is an important factor driving support for Leave in the 2016 EU referendum. Fetzer et al. (2018) complements and extends their analyis specifically focusing on the role that the welfare state plays. He shows that areas most affected by import competition studied in Colantone and Stanig (2018), see a steady rise in benefit claimant recipients, consistent with a gradual structural transformation induced by globalization. This trend growth in benefit claimants comes to an abrupt halt from 2010 onwards, as welfare reforms and cuts started to take effect. Many of these austerity induced welfare reforms activated and exacerbated already existing economic grievances and generated economic insecurity going beyond those that can be explained by globalization afforded pressures alone, which helped to channel electoral support towards

UKIP since 2010. The role that the welfare state plays is highlighted by Findlay and O'Rourke (2007), who argue that globalisation is difficult to maintain unless domestic institutions develop and adapt accordingly. This typically involves a strong role for the state, for instance through the provision of education, training and welfare programmes. In the context of the UK, the austerity induced reforms resulted in a withdrawal of the state from many public domains. As a result, economic insecurity spread, while has been found to be a causal driver of support for populist parties also in other contexts (see Dehdari, 2017 and Bó et al., 2018 for evidence from Sweden).

The paper proceeds as follows. We first discuss the context and the data, before turning to the empirical approach and the presentation of the results. The last section presents a short discussion and concludes.

2 Context and Data

2.1 Trends and extent of EU skepticism prior to the EU referendum

A central challenge to research on Brexit is the lack of a panel dimension, as the EU referendum has been held only once and thus, it is difficult to cast light on those Leave supporters, who have supported Brexit out of a long-standing EU skepticism, vis-a-vis those, that were either swayed by the referendum campaign or that supported Leave as they saw it as a way to voice broader discontent. While it is unclear what the relative shares of the population are of each of these types of Leave supporters, a consistent long opinion poll panel highlights a high degree of variability of support for the EU in the UK over time. Figure 1 plots out the share of respondents saying that EU membership is a good thing or a bad thing across 30 Eurobarometer surveys covering the UK since 2000. The share of respondents saying that EU membership is a bad thing peaked around the financial crisis but has hovered between a low of 23% and a high of 38% and an overall average of around 31% consistently throughout the time. Similarly, the share of respondents

stating that EU membership is a good thing has ranged between a low of 26% and a high of 48% (in 2015 prior to the referendum).

The remarkable observation however is, that the perception of EU membership being a good thing has distinctly grown in the years prior to the EU referendum, while perceptions of the EU being a bad thing actually have declined markedly. This suggests that much of the support for Leave may have been garnered by mobilizing those who saw the UK's EU membership as neither a good nor a bad thing in the 2016 EU referendum; similarly, low turnout in 2016 among those positively inclined towards the EU may have plaid a crucial role (Goodwin and Heath, 2016). If this latent structure of support for UK membership is indicative, it does suggest that hardline Leave positions do not command a broad majority across the UK, which again, puts the crucial emphasis on the role of the marginal voter who was undecided about the EU issue.

The role of the undecideds and marginal voters becomes even more evident when zooming in to Opinion polling in the two years prior to the EU referendum. Figure 2 presents data from 198 Opinion polls conducted prior to the 2016 EU referendum. The respective leave, remain and undecided shares are plotted out as scatters, while a lowess smoothed trend lines is also indicated. This figure suggests that while the high level of support for Remain is stable throughout, the support for Leave only grew distinctly in the last months of the campaign drawing in pools of voters who indicated that they were undecided. This is suggestive of two things. First, support for Remain is much more cohesive and consistent over the course of the two years prior to the EU referendum mimicking the patterns observed in the Eurobarometer data. On the other hand, support for Leave only markedly picks up close to the end of the referendum campaign, as the share of undecideds also drops. This further suggests that the marginal Leave voter is unlikely to be a long-standing EU skeptic, but rather, a voter that was compelled by arguments of the Leave campaign just prior to the end of the campaign.

The suggestive evidence presented implies that Leave support is less stable compared to support for Remain indicating that Leave voters may be more likely

to be swayed in either direction. We next present the data that we use to study how support for Leave has changed in its structure between 2016 and 2018.

2.2 Survation poll Leave estimates and individual level data

The newly released Survation poll it is by far the biggest independent survey of its kind on Brexit. The survey is based on 20,000 people interviewed online, with participants across each local government area in the UK and was conducted from October 20th to November 2nd. Among other questions, the survey, due to its comprehensive nature allows the construction of precise local area estimates of support for Leave or Remain in a hypothetical second referendum. Further, the individual level data allows us to shed some light on the underlying mechanisms behind these changes.

We leverage estimates of Leave and Remain support across local government areas, which were the counting areas for the 2016 Referendum, across the The Leave and Remain area estimates are constructed leveraging the detailed micro data together with socio-economic characteristics, applying multilevel regression and post-stratification (MRP). This is a method commonly used in political science to tackle selection bias in non-representative data.[3] The resulting local area estimates are much more precise compared to what would be obtained when just collapsing using simple averages and further, tackle the selection bias given that most opinion poll samples are rather small and invariably, will not match population characteristics on all dimensions (see Hanretty et al., 2018; Hanretty, 2017 for methodological background). In the multilevel regression stage, the responses given by respondents are modelled on the basis of their demographic characteristics and information at about their geographical area (e.g. past voting history). In the subsequent post-stratification stage, census data are used to calculate how many people of each demographic type live in each area and combine this with additional relevant contextual information to predict how many of these people

[3] Gelman et al. (2016) is a recent example of how MRP as a method can succesfully tackle selection bias that is not accounted for using conventional demographic poststratification.

will have a certain opinion.[4] All results presented here are robust to using just the simple averages collapse to arrive at (more noisy) proxy measures of an area's support for Leave or Remain.

Our results are robust and not an artefact of the MRP methodology used to construct local area estimates. We find very similar results when studying simple local authority averages of Leave and Remain vote shares.

The survey instrument used asks the following sets of questions:

- Imagine there was a referendum tomorrow with the question "Should the United Kingdom remain a member of the European Union or leave the European Union?" How would you vote?

- If there were to be another referendum on membership of the European Union, on a scale of 0-10, where 10 is certain and 0 is would not vote, how likely would you be to vote?

In this specific survey the approach is used to state the Leave versus Remain opinion at the local authority level which in turn permit the comparison to the actual local authority results from the 2016 referendum to track any changes using this two-period panel. The analysis will indeed focus on the estimated change in support for Leave and the local authority level as key dependent variable (Change in support for leave 2016-2018).

The modelled MRP results for opinion in every local authority are also available for attitudes to: current support for the type of deal the UK government is aiming to secure with the EU (Would accept a deal); the Northern Ireland border question Freedom of movement after Brexit (Accept free movement); whether the UK should continue to follow EU regulations on goods after Brexit (Accept EU regulation on manufactured goods; Accept goods checks in Irish Sea); and the ability for the UK to make trade deals outside the EU after Brexit (Accept limits to independent trade policy). We will use these additional questions to see in which areas survey respondents would be most willing to make a compromise

[4]See Brexit: What the nation really thinks, accessed 15.11.2018.

with the EU in order to guarantee a withdrawal agreement and how this differs systematically across Leave versus Remain supporting areas across the UK.

2.3 Socio-economic characteristics of areas

We leverage the data constructed and studied in Becker et al. (2017), which provide a wide range of local authority specific measures across the 380 local authority areas, which were the counting areas used for the EU referendum in 2016.[5] A detailed description of the data can be found in Becker et al. (2017). The large set of covariates studied can be broadly categorized into five distinct groups:

1. Measures of past political preferences
2. EU exposure through immigration, trade and structural funds;
3. Local public service provision and fiscal consolidation;
4. Demography and education;
5. Economic structure, wages and unemployment.

We proceed by discussing the empirical approach before presenting the main results.

3 Empirical Approach

We perform two sets of exercises. The first one is a systematic analysis of the changes in the correlation structure behind the support for Leave between 2016 and 2018. The second analysis specifically focuses on the role of austerity and import competition, as for these the (causal) evidence of their impact on the Leave vote in 2016 is most compelling.

[5]Due to missing covariates, we drop Northern Ireland and Gibraltar from the available maximum of 382 areas. A few covariates are also missing for some additional local authority areas, which is why some specifications in our regression tables contain fewer observations.

3.1 Patterns behind changes in support for Leave

We begin with a systematic analysis of the correlates that drive the changes in support for leave, using a wealth of covariates on which data was collected from a host of sources. The empirical specification we focus on takes the following form:

$$\Delta y_c = \beta_0 + \sum_{k \in P} \beta_k \times x_{k,c} + \epsilon_c$$

where Δy_c measures the change in support for Leave between 2016 and 2018. Hence, rather than understanding levels of certain variables x_c correlate with levels of support, we aim to understand how these covariates are related to changes in support for Leave between 2016 and 2018. As such, the estimated β_k coefficients provide us with the change in the strength of correlation between a vector of covariates x_c and the level of support for leave y_c. The first-differencing of the two period panel naturally absorbs local authority specific fixed shifters.[6]

To allow for direct comparison to Becker et al. (2017), we use the same machine-learning approach to identify sets of covariates that are driving the changes in the geographic structure of support for Leave between 2016 and 2018, rather than explaining their respective levels.

We use best subset selection algorithm which finds the solution to the following non-convex combinatorial optimization problem:

$$min_\beta \underbrace{\sum_{c=1}^{C} (y_c - \beta_0 - \sum_{j=1}^{p} x_{cj}\beta_j)^2}_{\text{Residual sum of squares}} \text{ subject to } \sum_{j=1}^{p} \mathbf{I}(\beta_j \neq 0) \leq s, \tag{1}$$

where p is the set of regressors of which a subset s is chosen to maximize overall model fit. The result is a sequence of models $\mathcal{M}_1, ..., \mathcal{M}_s, .., \mathcal{M}_p$, where the overall

[6]The above specification is isomorphic to the following difference-in-difference specification controlling for local authority area and time fixed effects,

$$y_{ct} = \alpha_c + \gamma_t + \sum_{k \in P} \beta_t \times Year_t \times x_{k,c} + \epsilon_{ct}$$

.

optimal model $\mathcal{M}_{s*}$ is chosen by using either cross validation or some degree-of-freedom-adjusted measure of goodness of fit such as the Akaike information criterion (AIC). Throughout, we use the AIC to decide upon the overall optimal model $\mathcal{M}_{s*}$ robustly explaining the variation in the dependent variable.

3.2 Focusing on austerity

The previous analysis will highlights the specific role that an area's exposure to austerity plays in driving whether support for Leave in an area is shrinking relative to 2016. However, as we have seen, places that had a higher level of exposure to austerity could also be those that had low turnout, and thus, it could be that the results are simply capturing changes in support for Leave due to a change in the composition of the electorate, whereby more voters in austerity hit areas now turn out.[7]

To account for this, we estimate a set of heterogenous effect specifications

$$\Delta y_{c,n} = \alpha_n + \gamma \times A_c \times X_c + \eta \times A_c + \nu \times X_c + \epsilon_c$$

where now α_n is either a constant, or a NUTS1 or NUTS2 level fixed effects, which are coarser then the local authority level resolution of the data. The inclusion of these fixed effects allows us to account for some region specific shifts in support for Leave.[8] The above specification allows for a separate slope linking the Austerity measure A_c to the size on swing to Remain depending on either, the level of support for Leave in 2016 or the overall turnout in 2016, or both, captured by the inclusion of the variable X_c.

This will test whether, for a given level of support for Leave in 2016 (or a given level of turnout), the swing to Remain is stronger in areas that had higher exposure

[7]This is not unrealistic as, for example Goodwin and Heath (2016), presents evidence that turnout was higher in Leave supporting areas, while Becker et al. (2017) show that turnout was lower in areas affected by significant rainfall in Southern England. This however, did not appear to bias the referendum result in either direction.

[8]Since we are still estimating a first-difference specification, this is akin to estimating a difference-in-difference on the two period panel with local authority fixed effects and NUTS1 or NUTS2 specific non-linear time effects.

to austerity.

4 Results

4.1 Factors driving changes in support for Leave

In this section we discuss which group of political and socio-economic variables relates to the geographic variation of the swing towards Remain and how. We first divide our variables into groupings and regress the change in support for Leave separately on each of the groups. This approach serves the purpose of disentangling the relative importance and the predictive power of variables within a thematic group. For each of the groups we perform the best subset selection procedure. Also, we repeat the same procedure later in the section where we pool all the groups of variables together which allows for further comparison across groups.

Political Variables In Tables 1 we present results from regressions based on different past party support. We use the party vote shares from the most recent European Parliamentary elections in 2014, since the counting areas for these are identical to the local authority areas at which the referendum result was collated. The results suggest that areas where previous UKIP support was larger are those, which see a stronger shift away from Leave. This is of particular relevance keeping in mind the strong association between the UKIP support and the vote for Leave as a result of a strong UKIP campaign pushing for Brexit. Talking about magnitude, one standard deviation larger UKIP vote share amount for a 0.46 p.p. reduction in estimated support for Leave in 2018 (accounting for 8% of the average change in support for Leave). This is consistent with the Brexit vote been the result of a protest vote, as this electorate may be the one that is most subject to regret. A similar pattern also emerges for previous BNP and Lib-Dem supporters. On the other hand, areas where the Conservative vote share was higher are those where the support for Leave is not falling as much. Hence, while in Figure 4 (Panel B) we observed a general drop in support for Leave in every local area, Table 1 adds

that this change is stronger in areas with large UKIP support and more contained in areas that had high electoral support for the Conservatives in 2014.

The best model constructed from this group of covariates includes six variables and captures around 61% of the variation in the change the support for Leave between 2016 and 2018.

EU, Migration and EU Trade exposure In Table 2 we explore to what extent changes in the support for Leave are driven by measures of an area's exposure to various aspects of the European Union. Interestingly, we see that those areas that saw significant influx of Eastern European migrants and from outside of Europe between 2001 and 2011, are among those that see significantly stronger swings away from Leave towards Remain. This is of particular interest considering the large role played by the migration topic during the EU referendum campaign.

The other two striking observations are that the role that an area's trade integration with the EU plays in capturing variation in support for Leave significantly changed. The analysis of the 2016 EU referendum result presented in Becker et al. (2017) suggest that areas whose local economies are most dependent on trade with the EU were particularly strongly supporting Leave. In 2018, studying the change in support for Leave, suggests that places in which livelihoods most strongly depend on trade with the EU are among those, that see the strongest decline in support for Leave. This pattern driving the change in support for Leave could suggest that many of the original Leave supporters may have not been well-informed about the consequences of a rupture of trade relationships between the UK and the EU, or they may have believed the misleading campaign promises by the Leave side, which claimed that the UK could cherrypick and retain the benefits of single market membership, without accepting free movement.

A further stark observation is that the swing towards Remain is driven by places which receive significant structural funds from the EU. While this variable did not meaningfully correlate with support for Leave in 2016, this variable is now strongly associated with lower levels of support for Leave in 2018. This is again suggestive, that voters in 2018 are better informed about some of the consequences

that leaving the EU may have for regional development policies and structural support.

The best model constructed from this group of covariates includes seven variables and captures around 39% of the variation in the change the support for Leave between 2016 and 2018.

Public Service Provision and Austerity In Table 3 we focus on a set of variables that capture quality of public service provision and exposure to austerity. Among the covariates studied here, the exposure of an area to welfare cuts between 2010 and 2015 is a significant correlate indicating a significant reduction in support for Leave. This is particularly interesting as in a related paper, Fetzer (2018), shows that individuals exposure to austerity-induced welfare reforms since 2010 is a strong causal driver of increased support for UKIP (which in turn is a driver of the Leave vote) and an increase in anti-establishment sentiment, along with increased perceptions of political marginalization. The observation that the swing to Remain is strongest in these areas is suggestive that the vote for Leave in these places was not an informed choice, but rather, a type of protest vote against the status quo. In terms of magnitude, one standard deviation increase in fiscal cuts relates to a 1.7 p.p. lower support for Brexit, accounting for 27% of the average swing towards Remain between 2016 and 2018.

The austerity exposure measure plays a dominant role in capturing the variation in the estimated changes in the support for Leave between 2016 and 2018. We will further study this in a separate section. The best model constructed from this group of covariates includes five variables and captures around 53% of the variation in the change the support for Leave between 2016 and 2018.

Demography and Education In Table 4 we focus on a set of demographic characteristic and measures of the educational attainment of the resident population in a local authority area. The swing towards Remain between 2016 and 2018 is strongly driven by those areas that have a higher share of individuals with no qualifications; low educational attainment was among the key characteristics of support for Leave in 2016 as has been noted by many other papers (see Goodwin

and Heath, 2016; Hobolt, 2016). The swing away from Leave towards Remain is most pronounced in areas with a high resident population share with no formal education, and least pronounced in those areas where the resident population is highly educated (which predominantly was voting for Remain to begin with). This yet again, suggests that the underlying structure of support for Leave has changed across the UK.

The Referendum result has further highlighted a stark intergenerational divide across the UK, with the young predominantly voting for Remain, while the old supported Leave. If anything, this pattern has become even starker, with support for Leave falling much less strongly in areas with an ageing demographic, suggesting that relative to 2016, the age gradient in the support for Leave has actually become steeper (see Eichengreen et al., 2018; Liberini et al., 2017).

The best model constructed from this group of covariates includes seven variables and captures around 59% of the variation in the change the support for Leave between 2016 and 2018.

Economic Structure, Wages and Unemployment Table 5 study how the reduction in support for Leave is related with variables capturing the economic structure of an area, wages and unemployment. Areas, which between 2001 and 2011 saw a decline in the manufacturing sector employment share are shifting stronger towards Remain, compared to those that saw an expansion. An area's employment shares in retail and manufacturing sector were strong correlates of support for Leave in 2016 (see Becker et al. (2017)). Areas that have significant manufacturing sector presence in 2001 were most likely to be exposed to import competition as studied in Colantone and Stanig (2018). We also add the Colantone and Stanig (2018) measure of import competition exposure to our model, yet, the variable itself is not retained in the regressions. This is not surprising, given that the change in manufacturing sector employment shares between 2001 and 2011 is highly correlated with the Colantone and Stanig (2018) import competition measure.

We also observe that areas with higher wage inequality see smaller reductions in the support for Leave. Lastly, areas that have higher unemployment rate mea-

sured in 2015 are more likely to swing to Remain; this is suggestive again, as those very same areas exhibit a stronger support for Leave in 2016.

Among this set of correlates, our best model captures around 47.2% of the variation in the changes in the estimated support for Leave between 2016 and 2018.

Best linear model We can combine the different sets of covariates to construct an overall best model. The resulting model is presented in Appendix Table A1 for reference. Our best model is able to capture 72% of the variation in the changes in the support for Leave between 2016 and 2018.

In Figure 5 we present a coefficient plot of the best linear model that we could obtain using a non-blocked approach to the best subset selection problem, choosing among the full set of 41 covariates. Since all variables are standardized to have mean zero and standard deviation of 1, this implies that we can directly compare the point estimates and their respective magnitudes. The figure highlights the dominant role that the austerity variable seems to play, capturing by itself the most significant share in the reduction in the estimated level of support for Leave between 2016 and 2018.

The austerity variable is a stable feature included in 40 out the 41 best models along the best subset selection search path. Figure 6 plots the coefficient estimate on the austerity coefficient across all the best models $\mathcal{M}_j$. The point estimate is quite stable throughout, despite the inclusion of more controls, suggesting that it plays an important role, not only in understanding how support wax and wanes, but also in highlighting the potential role that it can play in capturing protest voting, as argued in Fetzer (2018).

4.2 Role of austerity, turnout and past support for Leave

The previous analysis, and previous research highlights the role that exposure to austerity-induced welfare reforms and the resulting discontent may have had both in explaining high levels of support for Brexit in 2016, and conversely, a significant swing away from Leave since then.

Austerity and support for leave Visually, the tight link between austerity and changes in support for Leave since 2016 becomes quite striking in Figure 4. The left panel presents the distribution of the local authority specific austerity shock, as studied in detail by Fetzer (2018). The right panel presents the estimated change in support for Leave since 2016. It is quite evident that many of the areas that were color coded red in the left panel, are among those that are color coded yellow, indicating a significant swing in excess of 6 percentage points away from Leave since then. This encompasses many of the parts of Cornwall, Wales, the North and the heart of England. Another form to visualize the tight link between austerity and the swing away from Leave since 2016 is presented in Figure 7. Blackpool, the local authority area with the highest exposure to the austerity shock, was among the local authority areas that saw the most pronounced swing towards UKIP over the period from 2010 and 2015 as many of the welfare reforms started to take effect. There, support for leave is estimated to have declined by 10.7 p.p. falling from 67.5% to 56.8%.

The observation that the swing away from Leave is most pronounced in the most austerity-hit areas is suggestive evidence that some of the political support that UKIP and Leave was drawing in came from traditional Labour party heartlands. In order to understand why those areas most affected by austerity (which are also the traditional Labour heartlands), see the most significant swing away from Leave, it is important to understand why people in these areas voted Leave in the first place. Fetzer (2018) presents comprehensive evidence suggesting that austerity-induced welfare reforms since 2010 were an important catalyst, contributing to the built up of anti-establishment sentiment among the electorate that long felt disenfranchised from the political system. Individuals exposed to various welfare reforms are more likely to perceive that "public officials do not care", that they are "not having a say in what the government does" and that their vote is "unlikely to make a difference", driving support to UKIP and for Leave.

Those are the very same areas in which the swing away from Leave towards Remain is most pronounced, suggesting that many of the original UKIP and Leave

supporters have voted for Leave out of political protest.

Turnout versus preferences To what extent are the changes in support for Leave driven by changes in turnout or reflect changes in preferences? Naturally, it is difficult to measure turnout in a hypothetical referendum. Yet, there is some evidence presented in Appendix Figure A2 suggesting that the areas with highest level of support for Leave in 2016 also had significantly higher turnout.

In Table 6, we study the extent to which the swing away from Leave to Remain is heterogenous in the extent of turnout in the 2016 referendum or in the level of support for leave in 2016. The different columns add different sets of fixed effects, starting with no controls, moving to NUTS1 (Regions) and NUTS2 fixed effects. The analysis in columns (1) - (3) suggests that, for a given level of support for Leave in 2016, the reductions in support for Leave since then are strongly driven by those places that had more exposure to the welfare reforms since 2010. This suggests that, even holding constant the level of support for Leave in 2016, places with higher exposure to austerity see a more significant swing away from Leave.

In columns (4) - (6) we perform the same exericse, now studying whether there is a heterogenous effect in the level of turnout. This does not appear to be the case. For a given level of turnout, it does not appear that the swing away from Remain is driven by places that were more exposed to austerity, indicating that this may indeed be a shift in preference of the electorate.

Columns (7) - (9) study both interactions together. The effect is strongly driven by the interaction between austerity and baseline levels of support for Leave.

In appendix table A8, we show that the results from this exercise are robust to using a simple local authority level average of the support for Leave in 2018, rather than using the MRP method used by Survation to construct local authority level estimates of support for Leave in 2018. The results are broadly robust, but estimated with more noise which is not surprising.

4.3 What would an UK withdrawal agreement that commands popular support look like?

The question what shape of a withdrawal agreement could command broad popular support across the UK is relevant. The Survation poll asked participants in the survey to what extent they support the Withdrawal Agreement, to the extent to which features of the agreement were known already during the survey period from October 20th to November 2nd 2018. Support for the withdrawal agreement is overall quite low as suggested by Appendix Figure A1, with average support well below 50% throughout. Yet, support appears to be weakly higher in places that were most strongly supporting Leave in 2016.

Given the overall low level of support for the Withdrawal Agreement, a relevant question becomes which are the politically salient areas in which survey participants would be most willing to make a compromise with the EU in order to guarantee a Withdrawal Agreement. The Survation poll also asked the survey participants a range of question pertaining to the Withdrawal Agreement and in what areas the UK could or should make compromises on.

These question make salient a range of features that constitute various red lines of the UK government. Since the draft Withdrawal Agreement has been published, it becomes evident that the primary objective of the Withdrawal Agreement is to ensure that the UK is not participating in the EU citizens right to exercise free movement within the European Union. The above questions allow us to study to what extent the UK public would be willing to make compromises on certain dimensions in order to guarantee a deal with the EU. We next study, how the willingness to make compromises on these features relate with an area's original support for Leave in 2016.

The result from this analysis is presented in Figure 8. The most striking feature is presented in Panel A. It suggests that a vast majority, even in Leave supporting areas of the UK would favor a compromise that does involve free movement of people between the UK and the EU. This suggests that the UK governments negotiation objective far from meeting with the reality of what the broader public

would be willing to make compromises on.

Turning to Panel B, the figure suggests that support for continued alignment in regulations governing manufactured goods has broad public support across the UK. While it is lower in Leave supporting areas, the overall level of support for continued regulatory alignment, facilitating goods trade with the EU is widespread across the UK.

In Panels C and D, we observe that overall support for the UK to compromise on allowing goods checks for trade in the Irish sea, a central hurdle for the negotiations of the Withdrawal Agreement is, overall, very low. However, the willingness to accept goods checks on trade between United Kingdom and Northern Ireland is highest in areas that had the strongest support for Leave in 2016.

Panel D explores the extent to which the public share the view that the UK should accept limitations to its ability to conduct an independent trade policy. This is the dimension that fewest Britons appear to be willing to make compromises on.

The overarching analysis of this does suggest that a Withdrawal Agreement or a future economic relationship between the UK and the EU, such as that offered by single market membership, or the EEA membership, which would entail free movement of people and alignment on EU regulations governing manufactured goods trade, would likely command rather broad public support. As membership in the single market does not preclude a Customs Union membership as evidenced by the case of Norway, allowing the UK to conduct an independent trade policy.

The analysis thus does suggest that the UK's solution as is currently envisaged in the Withdrawal Agreement, with the prime objective of ending free movement, appears to be inconsistent with what the wider UK public would be willing to accept. This suggests that UK politics may, in the present incarnation of the Withdrawal Agreement may be solving, what is perceived to be a non-problem.

Naturally, the fact that these data have been gathered through a survey instrument raises several flags or questions, namely, whether the surveyed individuals are fully aware of the various distinctions and implications that, for example, single market membership entails. The apparent inconsistency in what voters would

be willing to compromise on, with regard to the government objectives, may further simply reflect the fact that the UK public is only very poorly informed about the actual consequences that leaving the EU entails. The degree of confusion in the public may have been furthered by the fact that the EU referendum campaign was so rife with falsehoods and misinformation, such as the claim by the Leave campaign that the UK's place in the single market would not be threatened by Brexit, which has since met its reality test.

5 Conclusion

The previous analysis highlights the role that austerity plays in capturing changes in support for Leave. Fetzer (2018), using various difference-in-difference designs and detailed individual level panel data, shows that the withdrawal of the welfare state due to austerity, has fuelled support for UKIP, anti-establishment sentiment and support for Leave sharply since the welfare reforms introduction. The argument in Fetzer (2018) is that a significant share of those voters who shifted to UKIP and to support for Leave did do so as a protest, that does not represent an informed choice.

This paper adds the suggestion that those same areas now significantly swing away from supporting Leave. Indeed, we show that many area characteristics that were previously associated with higher levels of support for Leave, exposure to austerity above all, are now associated strongly with a swing towards Remain.

We also show evidence suggesting that the UK public would be much more willing to make compromises on the red lines promoted in the current Withdrawal Agreement. The analysis does suggest that the UK's solution as is currently envisaged in the Withdrawal Agreement, with the prime objective of ending free movement, appears to be inconsistent with what the wider UK public would be willing to accept. This suggests that UK politics may, in the present incarnation of the Withdrawal Agreement may be solving, what is perceived to be a non-problem.

This new evidence strongly reinforce the hyphothesis that some of the electorate support for Brexit was based on a sentiment of protest against the status

quo. As time has passed, the possible implication of a weak relationship with the EU have possibly become more clear to voters which may explain the current shift to support for Remain.

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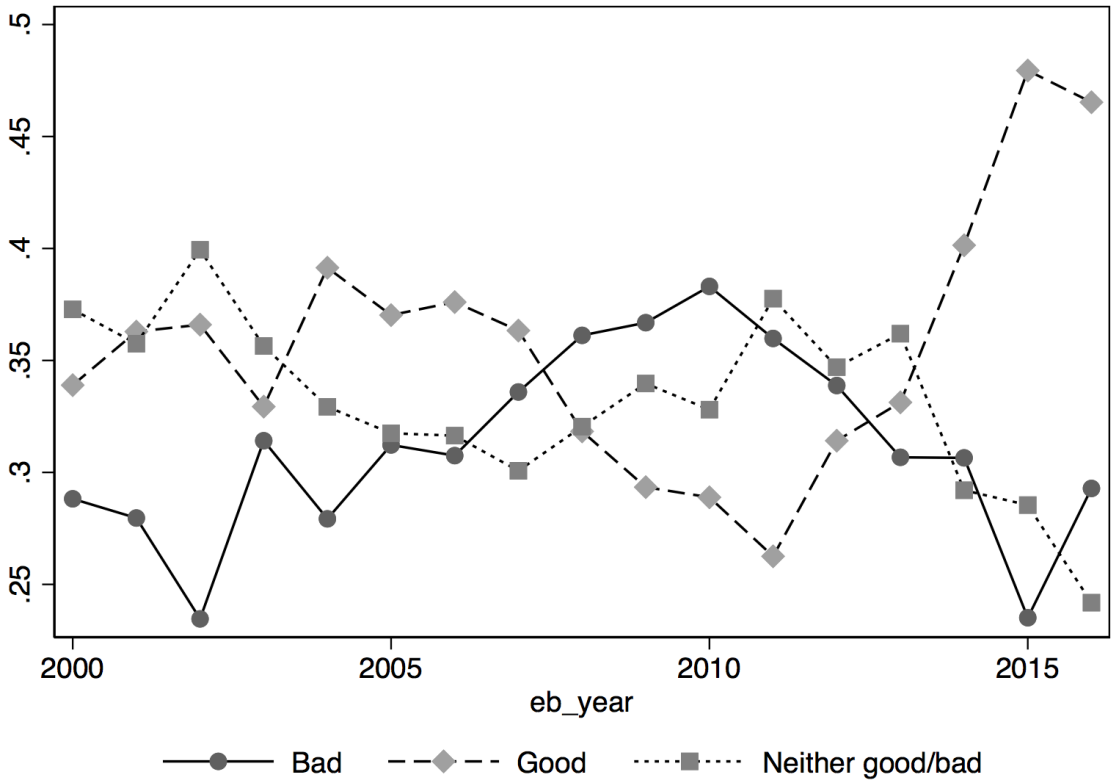
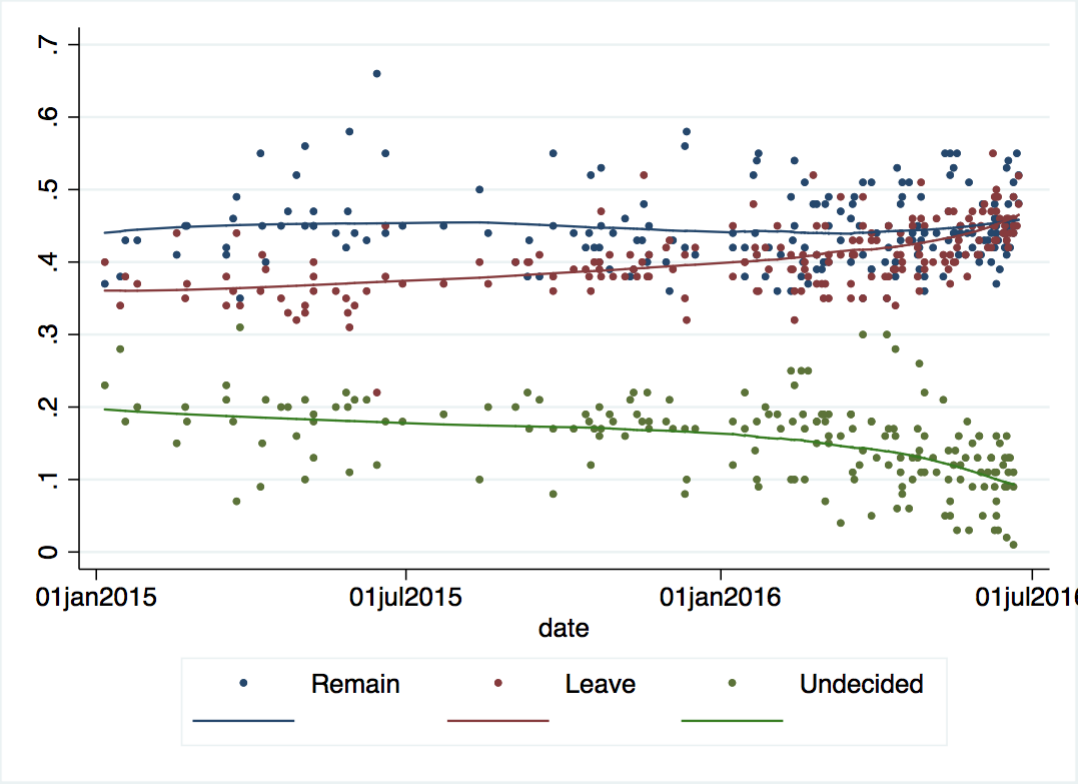
Tables and Figures for Main Text

Figure 1: Is the UK's EU membership a good thing or a bad thing or neither good nor bad?



Notes: Figure plots the share of responses across 30 Eurobarometer surveys from 2000 to 2016.

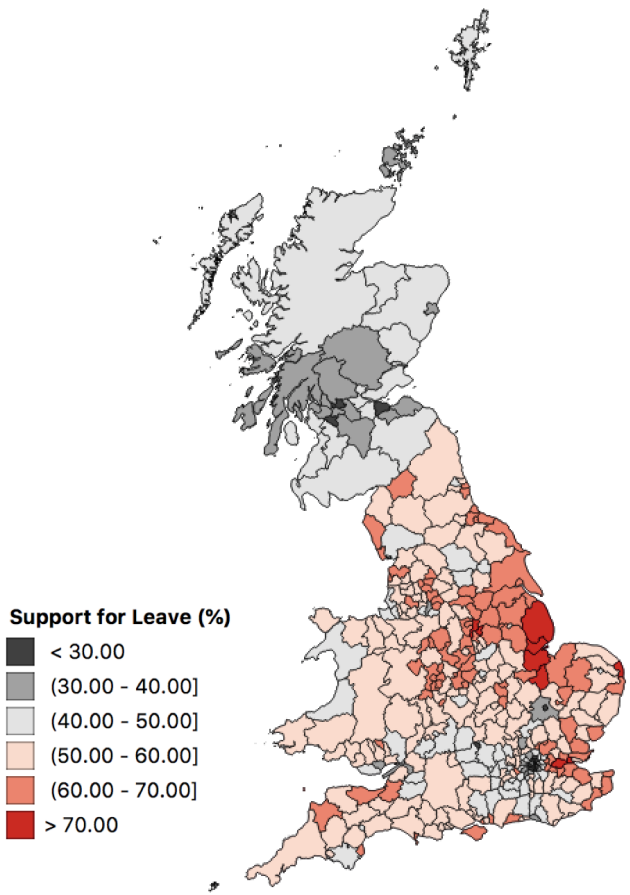
Figure 2: Poll of Polls around the EU referendum in 2016: Support for Leave grows as share of undecideds declines



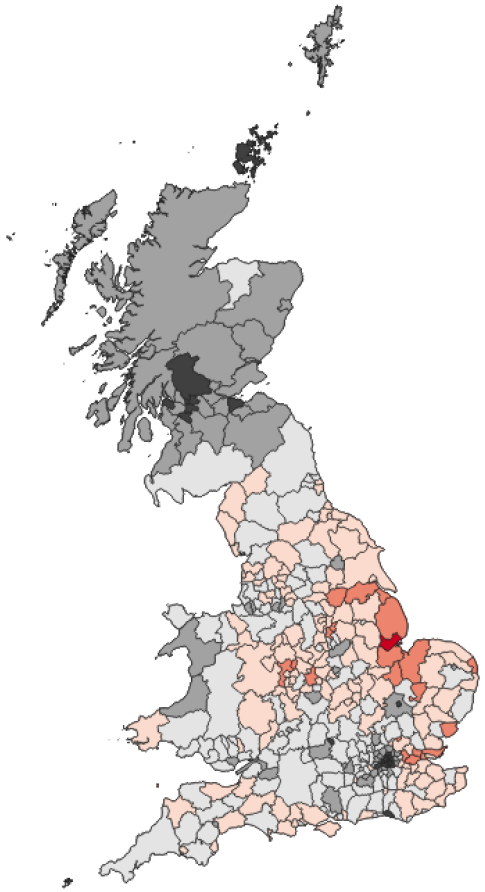
Notes: Figure combines data from 198 opinion polls prior to the 2016 EU referendum. Lowess smoothers are presented highlighting that the increase in support for Leave in the 2016 is driven by a reduction in the share of undecideds in the last months prior to the EU referendum campaign.

Figure 3: Geographic distribution of support for Leave in 2016 and estimated support for leave in 2018

Panel A: **Support for leave in 2016**



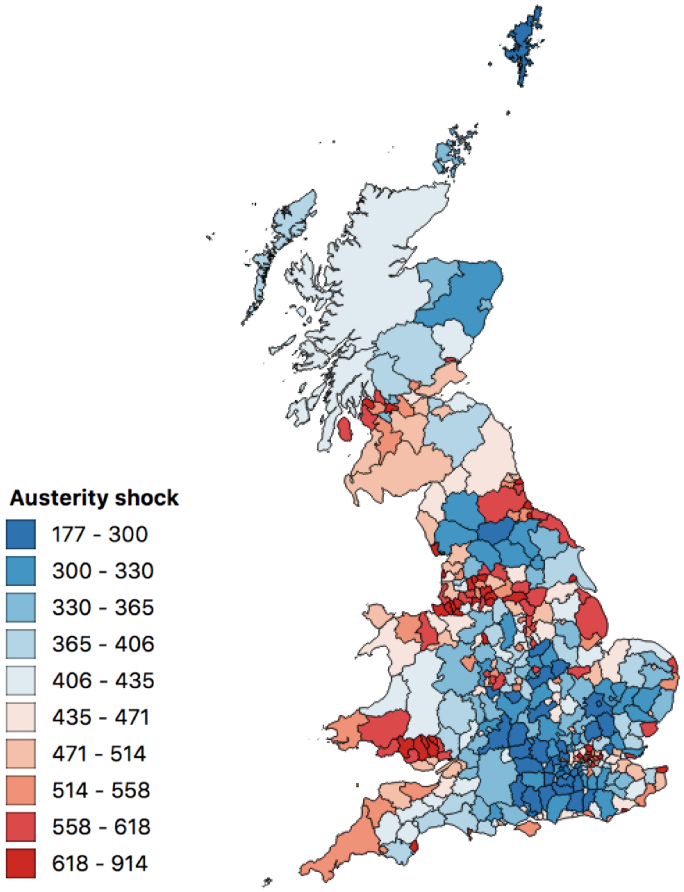
Panel B: **Estimated support for leave in 2018**



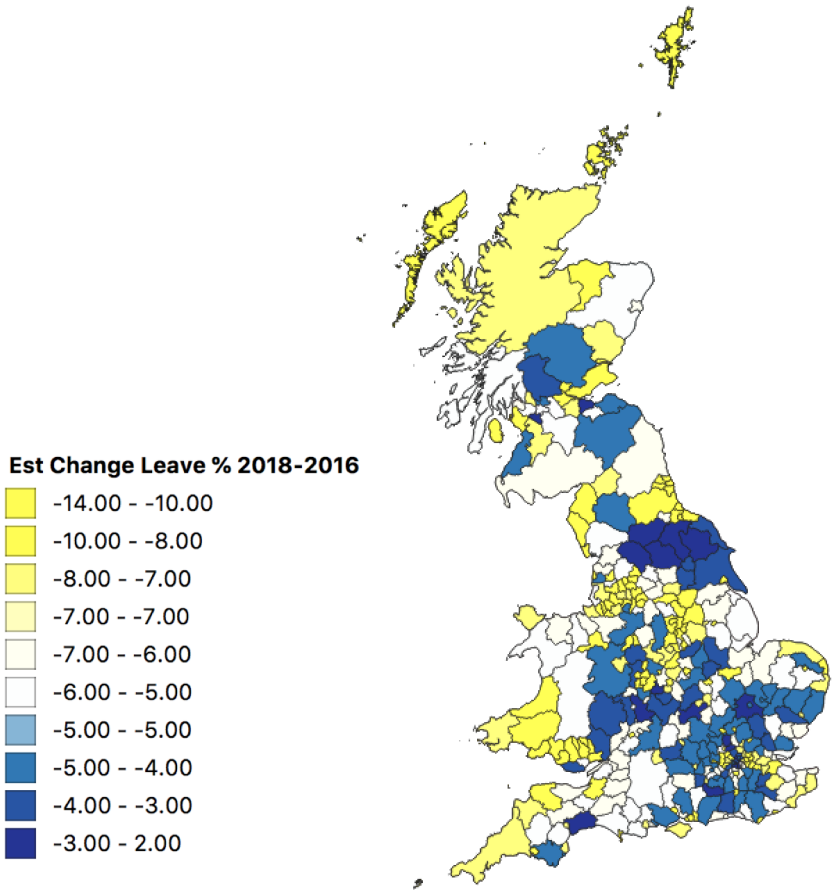
Notes: The left figure uses the official EU referendum results data, while the right figure uses local area estimates obtained from a comprehensive Survation poll conducted in fall 2018.

Figure 4: Exposure to austerity-induced welfare reforms and change in support for Leave since 2016

Panel A: **Exposure to austerity**

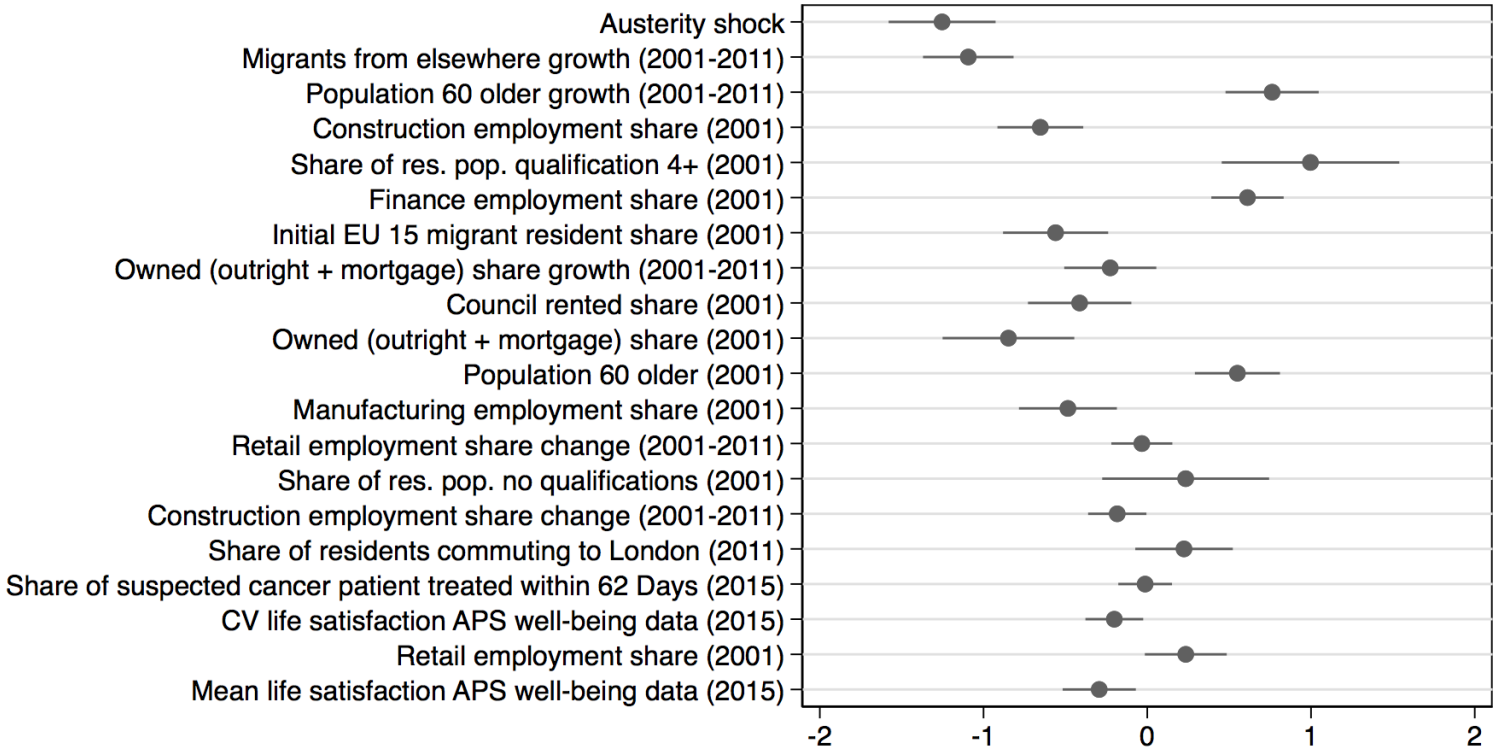


Panel B: **Change in support for leave 2016-2018**



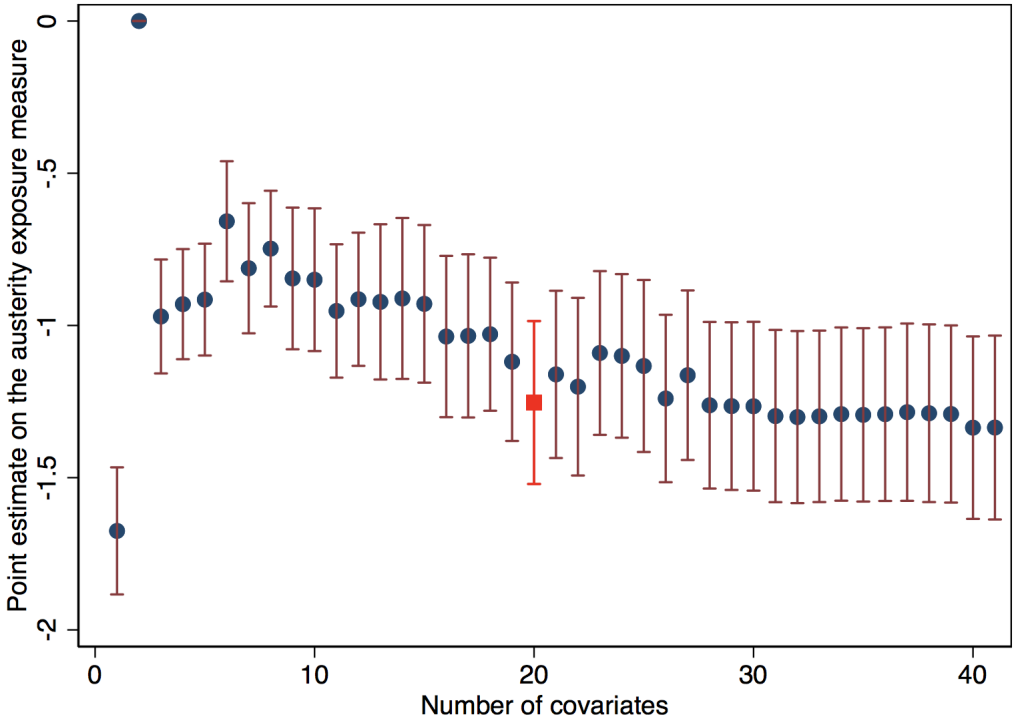
Notes: The left figure presents the geographic distribution of the austerity-induced welfare reform shock measure across the UK studied in Fetzer (2018). The austerity shock measures the financial losses per working age adult and year arising from the welfare reforms. The right panel presents the geographic variation in the estimated change in support for Leave since 2016 using the Survation poll data.

Figure 5: Coefficient plot of point estimates on the variables included in the best model capturing variation in the change of support for Leave between 2016 and 2018.



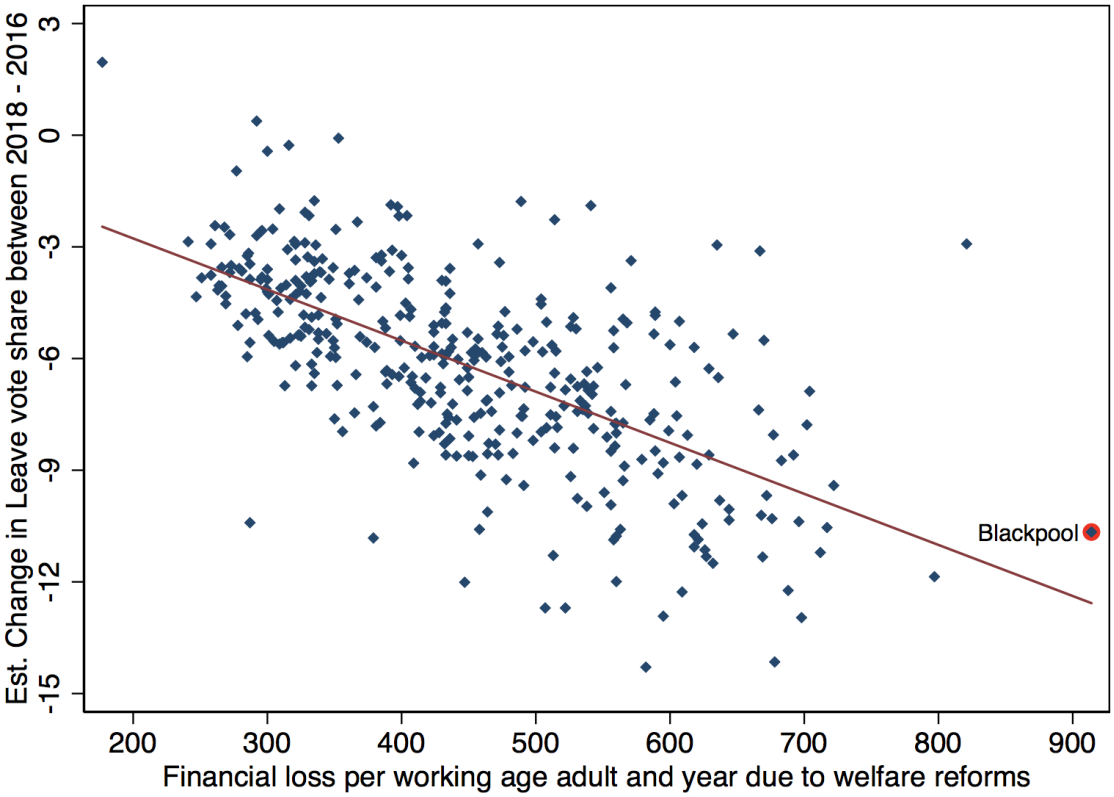
Notes: Coefficient plot of the best model selected using best-subset selection presented in column 1 of Table A1. 95% confidence intervals obtained from estimating robust standard errors are indicated.

Figure 6: Robustness of the effect of austerity on reductions in support for Leave between 2016 and 2018: Coefficient estimates along BSS search path



Notes: The horizontal axis plots out the model complexity as the number of covariates included in the best linear model. The vertical axis plots out the point estimate on the austerity exposure measure in the regressions explaining the change in vote leave share between 2016 and 2018. The austerity exposure is measuring the financial loss per working age adult per year in GBP and is described in more detail in Fetzer (2018). The coefficient associated with the best linear model is indicated with a square box. 90% confidence bands are provided.

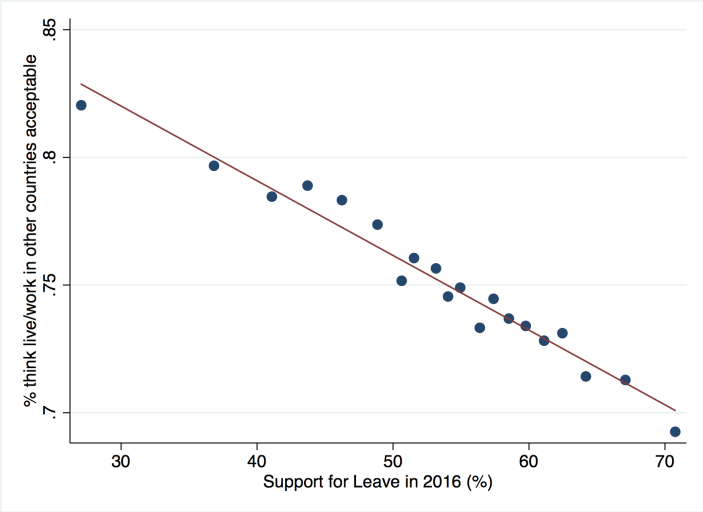
Figure 7: Austerity and the swing away from Leave



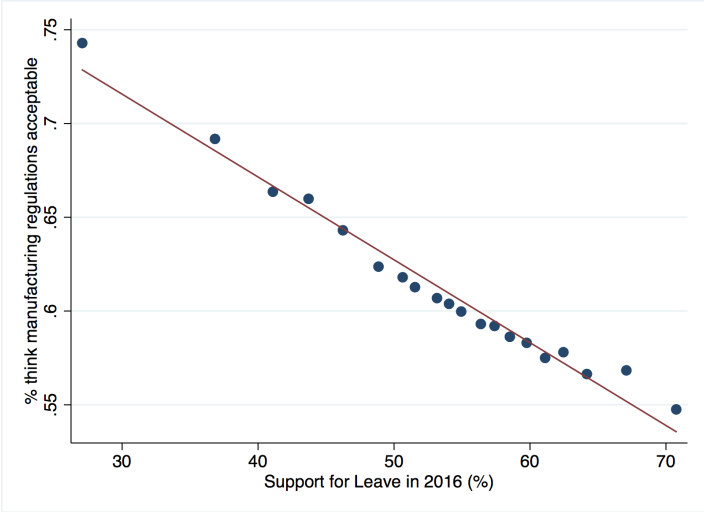
Notes: The figure presents a scatter plot of the austerity-induced welfare reform shock measure across the UK studied in Fetzer (2018) against the estimated change in support for Leave since 2016 using the Survation poll data. The austerity shock measures the financial losses per working age adult and year arising from the welfare reforms.

Figure 8: What dimensions salient to the Withdrawal Agreement would UK voters in Leave versus Remain supporting areas be willing to compromise on?

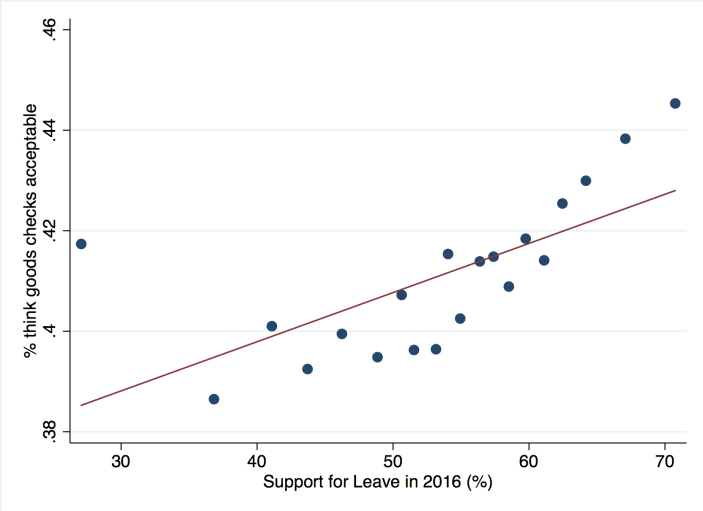
***Panel A:* Accept free movement**



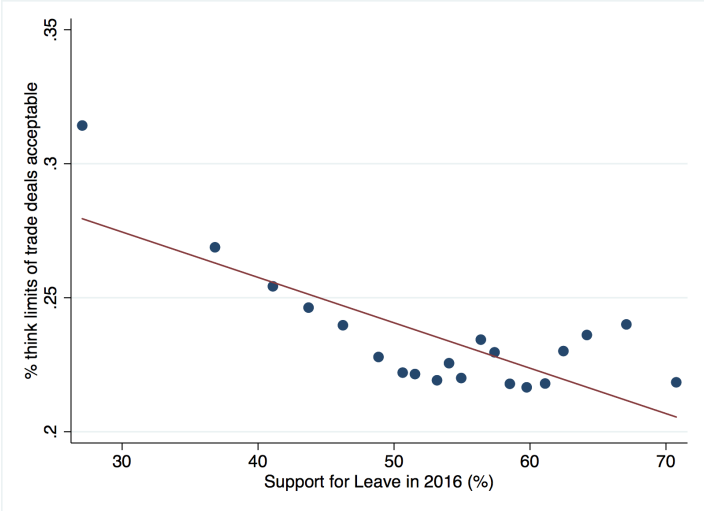
***Panel B:* Accept EU regulations on manufactured goods**



***Panel C:* Accept goods checks in Irish Sea**



***Panel D:* Accept limits to independent trade policy**



Notes: Binned scatter plots plotting the relationship between the support for Leave in 2016 across the UK and a set of questions relating to aspects that respondents feel that, if the only way the UK could reach a deal with the EU would be to compromise free movement, goods checks in the Irish sea, regulatory alignment for manufactured goods, and limits to the UKs ability to strike independent trade deals. Data from the Survation poll.

Table 1: What best captures the change in support for Brexit since 2016? Political variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EP election British National Party vote share (2014)		-1.078***	-0.865***	-0.708***	-0.642***	-0.604***	-0.619***
		(0.092)	(0.077)	(0.085)	(0.111)	(0.114)	(0.111)
EP election UKIP vote share (2014)			-0.462***	-0.382***	-0.461***	-0.588***	-0.593***
			(0.115)	(0.120)	(0.120)	(0.142)	(0.142)
EP election Conservative Party vote share (2014)	1.704***	1.247***	1.490***	1.484***	1.370***	1.292***	1.325***
	(0.114)	(0.110)	(0.104)	(0.103)	(0.161)	(0.161)	(0.160)
EP election Labour Party vote share (2014)					-0.216	-0.448*	-0.426*
					(0.229)	(0.264)	(0.258)
EP election Green Party vote share (2014)				0.347***	0.334***	0.410***	0.423***
				(0.120)	(0.118)	(0.127)	(0.133)
EP election Lib-Dem vote share (2014)						-0.271**	-0.258**
						(0.122)	(0.126)
EP election turnout (2014)							-0.068
							(0.114)
Best Subset						X	
Mean of DV	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17	-6.17
Observations	377	377	377	377	377	377	377
R2	.427	.567	.589	.601	.603	.609	.609

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2: What best captures the change in support for Brexit since 2016? EU Exposure (Immigration, Trade and Structural Funds)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Initial EU accession migrant resident share (2001)						0.397**	0.356**	0.353**	0.365**
						(0.175)	(0.170)	(0.171)	(0.175)
EU accession migrant growth (2001-2011)				-0.417***	-0.425***	-0.518***	-0.503***	-0.512***	-0.502***
				(0.156)	(0.162)	(0.161)	(0.153)	(0.154)	(0.168)
Initial EU 15 migrant resident share (2001)	0.941***	1.479***	1.380***	1.398***	1.346***	1.126***	1.064***	1.001***	1.008***
	(0.156)	(0.294)	(0.275)	(0.289)	(0.278)	(0.309)	(0.306)	(0.341)	(0.336)
EU 15 migrant growth (2001-2011)								0.112	0.126
								(0.156)	(0.180)
Initial migrants from elsewhere resident share (2001)									-0.050
									(0.234)
Migrants from elsewhere growth (2001-2011)		-1.182***	-1.227***	-0.980***	-0.925***	-0.987***	-1.040***	-1.066***	-1.053***
		(0.159)	(0.150)	(0.157)	(0.162)	(0.153)	(0.148)	(0.145)	(0.165)
Total economy EU dependence (2010)							-0.290**	-0.277**	-0.279**
							(0.133)	(0.132)	(0.134)
EU Structural Funds per capita (2013)			-0.594***	-0.619***	-0.441***	-0.416***	-0.509***	-0.504***	-0.506***
			(0.146)	(0.147)	(0.160)	(0.159)	(0.178)	(0.178)	(0.179)
1975 referendum Leave share					-0.350**	-0.393**	-0.491***	-0.507***	-0.506***
					(0.155)	(0.161)	(0.169)	(0.173)	(0.173)
Best Subset							X		
Mean of DV	-6.17	-6.17	-6.18	-6.18	-6.18	-6.18	-6.18	-6.18	-6.18
Observations	377	377	367	367	367	367	367	367	367
R2	.13	.293	.344	.356	.368	.378	.385	.385	.386

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Predictors of Brexit Vote: Public Service Provision and Fiscal Consolidation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of residents commuting to London (2011)		0.433***		0.734***	0.502***	0.490***	0.502***	0.501***
		(0.144)		(0.136)	(0.144)	(0.145)	(0.145)	(0.145)
Owned (outright + mortgage) share (2001)			-1.025***		-0.607***	-0.624***	-0.603***	-0.604***
			(0.195)		(0.178)	(0.177)	(0.178)	(0.177)
Owned (outright + mortgage) share growth (2001-2011)				0.513***	0.509***	0.522***	0.498***	0.486***
				(0.134)	(0.133)	(0.133)	(0.141)	(0.143)
Council rented share (2001)			-1.068***	-0.786***	-1.128***	-1.124***	-1.106***	-1.137***
			(0.162)	(0.126)	(0.146)	(0.146)	(0.149)	(0.168)
Council rented share growth (2001-2011)								-0.064
								(0.139)
Austerity shock (Fetzer, 2018)	-1.675***	-1.748***	-1.635***	-1.359***	-1.449***	-1.414***	-1.420***	-1.426***
	(0.126)	(0.102)	(0.117)	(0.115)	(0.120)	(0.146)	(0.146)	(0.146)
Share of suspected cancer patient treated within 62 Days (2015)							0.085	0.083
							(0.100)	(0.101)
Public employment share (2009)						-0.094	-0.104	-0.106
						(0.151)	(0.149)	(0.149)
Best Subset					X			
Mean of DV	-6.17	-6.2	-6.17	-6.2	-6.2	-6.2	-6.21	-6.21
Observations	377	374	377	374	374	374	373	373
R2	.412	.458	.498	.518	.533	.534	.535	.535

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Predictors of Brexit Vote: Demography and Education

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of res. pop. no qualifications (2001)	-1.667***			-0.740***	-0.593***	-0.993***	-0.845***	-0.857***
	(0.100)			(0.181)	(0.208)	(0.222)	(0.282)	(0.280)
Share of res. pop. no qualifications growth (2001-2011)						-0.304	-0.226	-0.246
						(0.184)	(0.211)	(0.216)
Share of res. pop. qualification 4+ (2001)		1.580***	1.828***	1.174***	1.250***	1.224***	1.265***	1.272***
		(0.090)	(0.091)	(0.174)	(0.181)	(0.191)	(0.196)	(0.197)
Share of res. pop. qualification 4+ growth (2001-2011)					0.207*		0.155	0.144
					(0.114)		(0.136)	(0.141)
Population 60 older (2001)			0.763***	0.753***	0.706***	0.808***	0.781***	0.772***
			(0.089)	(0.090)	(0.097)	(0.103)	(0.107)	(0.109)
Population 60 older growth (2001-2011)		1.138***	1.044***	0.886***	0.861***	0.944***	0.937***	0.924***
		(0.098)	(0.088)	(0.095)	(0.099)	(0.112)	(0.113)	(0.115)
Mean life satisfaction APS well-being data (2015)						-0.222	-0.227	-0.223
						(0.152)	(0.150)	(0.152)
CV life satisfaction APS well-being data (2015)								0.046
								(0.100)
Best Subset							X	
Mean of DV	-6.17	-6.17	-6.17	-6.17	-6.17	-6.2	-6.2	-6.2
Observations	377	377	377	377	377	376	376	376
R2	.408	.502	.577	.595	.599	.592	.594	.594

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Predictors of Brexit Vote: Economic Structure, Wages and Unemployment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Retail employment share (2001)									-0.118	-0.126	-0.117	-0.134	-0.134	-0.146	-0.079	-0.199
									(0.142)	(0.145)	(0.144)	(0.146)	(0.146)	(0.147)	(0.149)	(0.140)
Retail employment share change (2001-2011)									0.099	0.087	0.063	0.062	0.062	0.062	-0.163	-0.153
									(0.138)	(0.139)	(0.139)	(0.140)	(0.140)	(0.140)	(0.151)	(0.151)
Manufacturing employment share (2001)						0.295	0.308	0.327	0.359*	0.322*	0.361*	0.374*	0.405*	0.397*	0.457**	0.360*
						(0.201)	(0.198)	(0.199)	(0.202)	(0.191)	(0.194)	(0.193)	(0.207)	(0.208)	(0.216)	(0.211)
Manufacturing employment share change (2001-2011)				0.413***	0.401***	0.619***	0.652***	0.589***	0.711***	0.678***	0.629***	0.618***	0.635***	0.631***	0.561***	0.547***
				(0.102)	(0.102)	(0.162)	(0.158)	(0.160)	(0.179)	(0.178)	(0.180)	(0.184)	(0.189)	(0.188)	(0.184)	(0.183)
Construction employment share (2001)							-0.200	-0.175	-0.176	-0.183	-0.157	-0.176	-0.176	-0.172	-0.262*	-0.168
							(0.125)	(0.128)	(0.132)	(0.131)	(0.134)	(0.139)	(0.139)	(0.141)	(0.144)	(0.138)
Construction employment share change (2001-2011)								-0.222*			-0.199	-0.209	-0.209	-0.212	-0.147	-0.098
								(0.124)			(0.131)	(0.132)	(0.132)	(0.132)	(0.134)	(0.134)
Finance employment share (2001)													0.080	0.086	-0.038	-0.098
													(0.143)	(0.146)	(0.137)	(0.130)
Finance employment share change (2001-2011)												-0.077	-0.055	-0.054	-0.160	-0.143
												(0.141)	(0.153)	(0.155)	(0.153)	(0.146)
Median hourly pay (2005)										-0.141	-0.039	-0.088	-0.116	-0.153	-0.177	-0.305
										(0.284)	(0.285)	(0.276)	(0.288)	(0.334)	(0.328)	(0.386)
Median hourly pay change (2005-2015)														-0.039	-0.113	-0.079
														(0.151)	(0.146)	(0.182)
Interquartile pay range (2005)	1.494***	1.307***	1.144***	1.058***	1.035***	1.110***	1.011***	1.049***	0.977***	1.087***	1.042***	1.104***	1.083***	1.091***	1.178***	1.253***
	(0.207)	(0.194)	(0.188)	(0.182)	(0.166)	(0.200)	(0.214)	(0.224)	(0.223)	(0.381)	(0.378)	(0.351)	(0.345)	(0.355)	(0.345)	(0.420)
Interquartile pay range growth (2005-2015)																-0.005
																(0.141)
Unemployment rate (2015)		-0.773***	-0.658***	-0.613***	-0.491***	-0.464***	-0.452***	-0.450***	-0.457***	-0.462***	-0.458***	-0.452***	-0.458***	-0.458***	-0.460***	-0.462***
		(0.111)	(0.113)	(0.113)	(0.118)	(0.116)	(0.115)	(0.116)	(0.120)	(0.121)	(0.121)	(0.125)	(0.126)	(0.126)	(0.126)	(0.125)
Self-employment rate (2015)			0.554***	0.453***	0.415***	0.442***	0.456***	0.517***	0.476***	0.462***	0.522***	0.523***	0.527***	0.524***	0.580***	0.526***
			(0.125)	(0.121)	(0.121)	(0.119)	(0.121)	(0.124)	(0.123)	(0.128)	(0.131)	(0.131)	(0.132)	(0.134)	(0.135)	(0.132)
Participation rate (2015)					0.313***	0.299**	0.333***	0.338***	0.327***	0.338***	0.334***	0.329***	0.334***	0.343***	0.379***	0.431***
					(0.117)	(0.119)	(0.118)	(0.119)	(0.119)	(0.120)	(0.120)	(0.119)	(0.118)	(0.119)	(0.117)	(0.116)
Import Competition (Colatone and Stanig, 2018)															-0.039	-0.043
															(0.146)	(0.146)
Best Subset							X									
Mean of DV	-6.23	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.26	-6.31	-6.28
Observations	369	367	367	367	367	367	367	367	367	367	367	367	367	367	343	340
R2	.333	.401	.435	.456	.467	.471	.475	.482	.479	.48	.484	.485	.485	.486	.512	.522

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Effect of austerity exposure on changes in support for Leave between 2018 and 2016: interaction effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Austerity shock × Leave vote share in 2016	-0.317***	-0.336***	-0.276***				-0.318***	-0.336***	-0.276***
	(0.085)	(0.115)	(0.088)				(0.086)	(0.116)	(0.089)
Austerity shock × Turnout in 2016				-0.051	-0.035	-0.032	-0.059	-0.033	-0.036
				(0.103)	(0.103)	(0.084)	(0.097)	(0.099)	(0.080)
Austerity shock	-0.418	-0.091	-0.144	-0.409	-0.072	-0.157	-0.441*	-0.105	-0.159
	(0.249)	(0.231)	(0.225)	(0.273)	(0.239)	(0.232)	(0.253)	(0.240)	(0.238)
Leave vote share in 2016	-1.076***	-1.360***	-1.249***	-1.151***	-1.420***	-1.255***	-1.063***	-1.348***	-1.238***
	(0.192)	(0.190)	(0.195)	(0.208)	(0.226)	(0.238)	(0.194)	(0.193)	(0.200)
Turnout in 2016	1.383***	1.780***	1.770***	1.370***	1.761***	1.745***	1.380***	1.780***	1.769***
	(0.239)	(0.205)	(0.196)	(0.241)	(0.196)	(0.205)	(0.237)	(0.206)	(0.198)
R2	.61	.704	.79	.594	.687	.78	.611	.704	.79
Observations	377	377	376	377	377	376	377	377	376
Clusters	40	40	39	40	40	39	40	40	39
Fixed Effect	.	NUTS1	NUTS2	.	NUTS1	NUTS2	.	NUTS1	NUTS2

Notes: The dependent variable measures the county level employment shares in sectors producing outputs affected by the countermeasures launched by the respective countries in the column head. The independent variable measures the county level republican vote share in the respective presidential elections. Standard errors are clustered at the state level and are presented in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

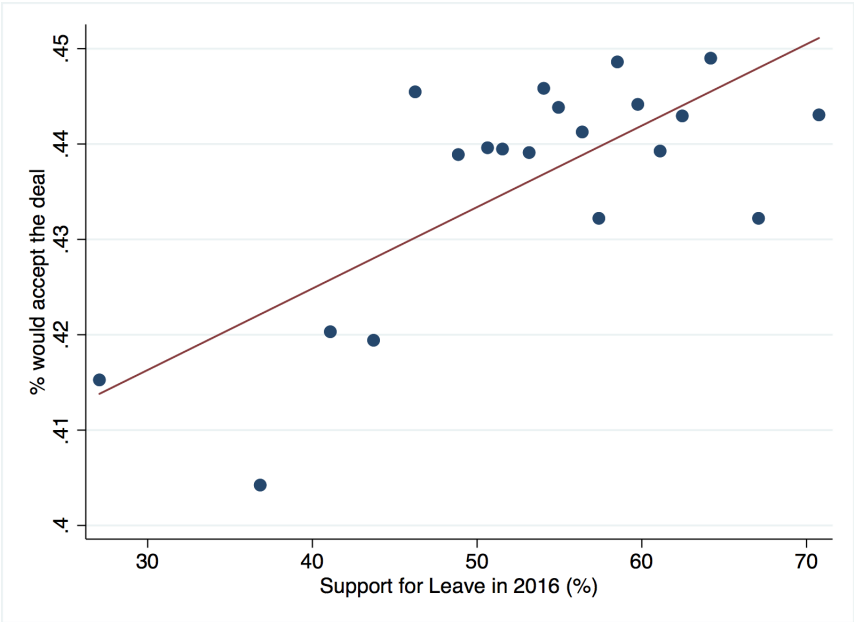
Online Appendix
"Who is NOT voting for Brexit anymore?"

For Online Publication

Eleonora Alabrese and Thiemo Fetzer

November 25, 2018

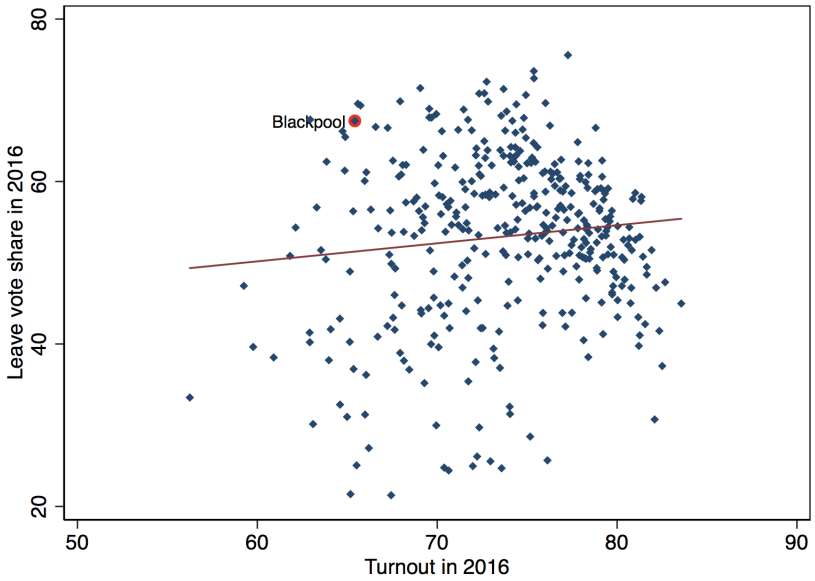
Figure A1: Leave support in 2016 and support for the UK and EU withdrawal agreement



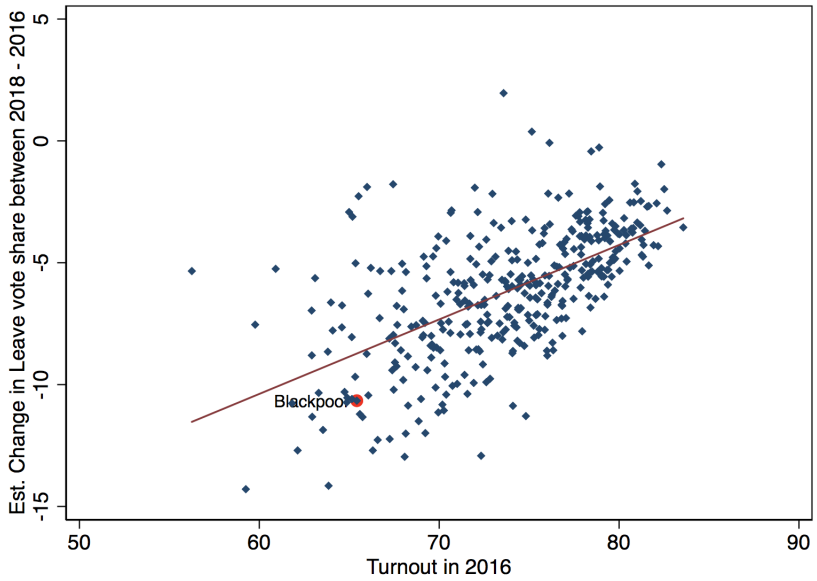
Notes: The question asks respondents "From what you have seen or heard so far, if there was a vote tomorrow on the type of Brexit deal that the UK Government is aiming to achieve from the EU, how would you be likely to vote?", giving voters the option to accept the deal.

Figure A2: Turnout in 2016, support for Leave in 2016 and link between estimated changes in support for Leave and 2016 turnout

Panel A: **Turnout & leave in 2016**



Panel B: **Change in support for leave & turnout in 2016**



Notes: The left figure is a scatter plot of the actual turnout in 2016 and the support for leave then. The right figure presents a scatter plot of the estimated change in support for Leave since 2016 using the Survation poll data and turnout in 2016.

Table A1: Predictors of Brexit Vote: Blocked Variable Selection Approach

	Combined		Different Best Subsets			
	(1)	(2)	(3)	(4)	(5)	(6)
Initial EU accession migrant resident share (2001)	0.324**	0.329**	0.356**			
	(0.130)	(0.137)	(0.170)			
EU accession migrant growth (2001-2011)		-0.023	-0.503***			
		(0.127)	(0.153)			
Initial EU 15 migrant resident share (2001)	-0.580***	-0.875***	1.064***			
	(0.212)	(0.180)	(0.306)			
Migrants from elsewhere growth (2001-2011)	-1.033***	-1.145***	-1.040***			
	(0.176)	(0.160)	(0.148)			
Total economy EU dependence (2010)	-0.180*	-0.194*	-0.290**			
	(0.105)	(0.101)	(0.133)			
EU Structural Funds per capita (2013)	-0.454***	-0.416***	-0.509***			
	(0.112)	(0.121)	(0.178)			
1975 referendum Leave share		-0.107	-0.491***			
		(0.140)	(0.169)			
Share of residents commuting to London (2011)		0.209		0.502***		
		(0.135)		(0.144)		
Owned (outright + mortgage) share (2001)	-0.746***	-0.778***		-0.607***		
	(0.192)	(0.185)		(0.178)		
Owned (outright + mortgage) share growth (2001-2011)	-0.370**	-0.513***		0.509***		
	(0.159)	(0.153)		(0.133)		
Council rented share (2001)	-0.325**	-0.311*		-1.128***		
	(0.156)	(0.160)		(0.146)		
Austerity shock (Fetzer, 2018)	-0.939***	-1.157***		-1.449***		
	(0.178)	(0.171)		(0.120)		
Share of res. pop. no qualifications (2001)		-0.247			-0.845***	
		(0.280)			(0.282)	
Share of res. pop. no qualifications growth (2001-2011)	-0.375**	-0.541***			-0.226	
	(0.156)	(0.207)			(0.211)	
Share of res. pop. qualification 4+ (2001)	0.708***	0.536**			1.265***	
	(0.201)	(0.259)			(0.196)	
Share of res. pop. qualification 4+ growth (2001-2011)		-0.184			0.155	
		(0.141)			(0.136)	
Population 60 older (2001)	0.486***	0.489***			0.781***	
	(0.131)	(0.148)			(0.107)	
Population 60 older growth (2001-2011)	0.687***	0.592***			0.937***	
	(0.142)	(0.130)			(0.113)	
Mean life satisfaction APS well-being data (2015)	-0.276**	-0.259**			-0.227	
	(0.115)	(0.114)			(0.150)	
Manufacturing employment share (2001)	-0.693***	-0.701***				0.308
	(0.114)	(0.207)				(0.198)
Manufacturing employment share change (2001-2011)		-0.019				0.652***
		(0.166)				(0.158)
Construction employment share (2001)	-0.542***	-0.593***				-0.200
	(0.133)	(0.142)				(0.125)
Interquartile pay range (2005)	0.500***	0.499***				1.011***
	(0.139)	(0.142)				(0.214)
Unemployment rate (2015)		0.038				-0.452***
		(0.098)				(0.115)
Self-employment rate (2015)		0.089				0.456***
		(0.101)				(0.121)
Participation rate (2015)		-0.061				0.333***
		(0.110)				(0.118)
Mean of DV		-6.28	-6.18	-6.2	-6.2	-6.26
Observations	358	356	367	374	376	367
R2	.718	.731	.385	.533	.594	.475

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Column 1 shows best subset across all 4 groups of variables analyzed in Tables 1 through 4. Column 2 is the full specification based on best subsets determined in Tables 1 through 4. For comparison, columns 3 through 6 re-display the optimal specifications from Tables 1 through 4. Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A2: Correlates of change in support for Brexit - Political Support for other parties in 2014: Robustness to Survation MRP estimation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EP election British National Party vote share (2014)	-5.419***	-4.855***	-3.350***	-2.517***	-2.421***	-2.707***	-2.757***
	(0.495)	(0.468)	(0.549)	(0.579)	(0.577)	(0.648)	(0.653)
EP election UKIP vote share (2014)		-2.365***	-3.655***	-3.228***	-3.103***	-2.660***	-2.676***
		(0.514)	(0.555)	(0.559)	(0.560)	(0.737)	(0.739)
EP election Conservative Party vote share (2014)			2.825***	2.792***	2.662***	3.172***	3.284***
			(0.628)	(0.617)	(0.667)	(0.895)	(0.904)
EP election Labour Party vote share (2014)						1.071	1.143
						(1.065)	(1.069)
EP election Green Party vote share (2014)				1.842***	1.579***	1.529***	1.574***
				(0.553)	(0.556)	(0.550)	(0.554)
EP election Lib-Dem vote share (2014)					0.805	1.144	1.188
					(0.849)	(0.829)	(0.876)
EP election turnout (2014)							-0.231
							(0.568)
Best Subset					X		
Mean of DV	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8
Observations	377	377	377	377	377	377	377
R2	.255	.301	.344	.364	.368	.37	.371

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Correlates of change in support for Brexit - EU Exposure (Immigration, Trade and Structural Funds): Robustness to Survation MRP estimation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Initial EU accession migrant resident share (2001)						1.211			0.763
						(0.744)			(0.960)
EU accession migrant growth (2001-2011)		-2.046***	-2.139***	-2.225***	-1.962***	-2.270***	-2.278***	-1.847*	-1.914*
		(0.691)	(0.672)	(0.665)	(0.690)	(0.703)	(0.761)	(0.989)	(0.999)
Initial EU 15 migrant resident share (2001)	3.516***	4.169***	3.903***	3.395***	4.134***	3.483**	3.505**	3.479**	3.201**
	(0.777)	(1.035)	(1.044)	(1.003)	(1.339)	(1.461)	(1.408)	(1.397)	(1.489)
EU 15 migrant growth (2001-2011)					-1.147	-1.265	-1.696*	-1.563	-1.473
					(1.017)	(1.009)	(0.980)	(1.004)	(1.046)
Initial migrants from elsewhere resident share (2001)							2.312*	1.868	1.446
							(1.311)	(1.407)	(1.535)
Migrants from elsewhere growth (2001-2011)							-1.076	-1.285	-1.257
							(1.028)	(1.019)	(1.009)
Total economy EU dependence (2010)			-1.210**	-2.118***	-2.266***	-2.192***	-2.213***	-2.492***	-2.448***
			(0.549)	(0.592)	(0.590)	(0.583)	(0.585)	(0.675)	(0.668)
EU Structural Funds per capita (2013)								-0.752	-0.709
								(0.914)	(0.909)
1975 referendum Leave share				-1.680*	-1.537*	-1.592*	-1.592*	-1.510*	-1.549*
				(0.872)	(0.899)	(0.914)	(0.913)	(0.863)	(0.871)
Best Subset					X				
Mean of DV	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8
Observations	377	377	377	377	377	377	377	367	367
R2	.107	.14	.152	.169	.173	.179	.182	.179	.181

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4: Correlates of change in support for Brexit - Public Service Provision and Fiscal Consolidation: Robustness to Survation MRP estimation method

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of residents commuting to London (2011)		2.644***	2.894***	2.947***	2.069***	2.278***	2.500***	2.510***
		(0.486)	(0.503)	(0.519)	(0.595)	(0.606)	(0.609)	(0.617)
Owned (outright + mortgage) share (2001)					-2.772***	-2.560***	-2.605***	-2.584***
					(0.923)	(0.935)	(0.925)	(0.942)
Owned (outright + mortgage) share growth (2001-2011)							0.755	0.933
							(0.579)	(0.592)
Council rented share (2001)					-2.680***	-2.850***	-3.226***	-2.773***
					(0.844)	(0.830)	(0.865)	(0.962)
Council rented share growth (2001-2011)								0.921
								(0.704)
Austerity shock (Fetzer, 2018)	-3.749***	-4.259***	-4.489***	-5.044***	-4.354***	-4.809***	-4.568***	-4.482***
	(0.574)	(0.517)	(0.529)	(0.631)	(0.620)	(0.677)	(0.682)	(0.674)
Share of suspected cancer patient treated within 62 Days (2015)			1.831***	1.669***	1.722***	1.580***	1.430**	1.465**
			(0.523)	(0.577)	(0.508)	(0.580)	(0.622)	(0.625)
Public employment share (2009)				1.227*		1.369*	1.283*	1.325*
				(0.719)		(0.741)	(0.753)	(0.744)
Best Subset								X
Mean of DV	-17.8	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9	-17.9
Observations	377	374	373	373	373	373	373	373
R2	.122	.2	.229	.239	.255	.267	.27	.275

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A5: Correlates of change in support for Brexit - Demography and Education: Robustness to Survation MRP estimation method

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of res. pop. no qualifications (2001)	-5.834***	-6.209***	-4.240***	-4.990***	-4.629***	-4.919***	-4.728***	-4.590***
	(0.497)	(0.508)	(0.998)	(1.027)	(0.950)	(1.136)	(1.130)	(1.371)
Share of res. pop. no qualifications growth (2001-2011)				-1.810***	-1.775***	-1.878***	-1.833***	-1.752**
				(0.685)	(0.669)	(0.667)	(0.665)	(0.828)
Share of res. pop. qualification 4+ (2001)			2.387*	2.914**	3.762***	3.664***	3.902***	3.935***
			(1.298)	(1.341)	(0.946)	(0.997)	(1.010)	(1.032)
Share of res. pop. qualification 4+ growth (2001-2011)								0.146
								(0.660)
Population 60 older (2001)		1.487***	1.799***	1.636***	1.908***	2.018***	2.087***	2.068***
		(0.488)	(0.489)	(0.481)	(0.479)	(0.522)	(0.531)	(0.526)
Population 60 older growth (2001-2011)							0.488	0.488
							(0.559)	(0.561)
Mean life satisfaction APS well-being data (2015)						-0.310	-0.552	-0.559
						(0.734)	(0.824)	(0.829)
CV life satisfaction APS well-being data (2015)					-0.783*	-0.771	-0.873*	-0.898*
					(0.473)	(0.476)	(0.505)	(0.510)
Best Subset					X			
Mean of DV	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8	-17.8
Observations	377	377	377	377	376	376	376	376
R2	.296	.314	.326	.34	.374	.375	.376	.376

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A6: Correlates of change in support for Brexit - Economic Structure, Wages and Unemployment: Robustness to Survation MRP estimation method

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Retail employment share (2001)			-2.752***	-1.938***	-1.892***	-2.053***	-1.732**	-1.669**	-1.970**	-1.971**	-2.118***	-2.234***	-2.217***	-2.201***	-2.202***	-2.204***
			(0.566)	(0.668)	(0.661)	(0.673)	(0.735)	(0.721)	(0.764)	(0.768)	(0.752)	(0.703)	(0.707)	(0.707)	(0.709)	(0.739)
Retail employment share change (2001-2011)									-0.671	-0.685	-0.659	-0.691	-0.674	-0.674	-0.683	-0.684
									(0.581)	(0.588)	(0.587)	(0.569)	(0.573)	(0.573)	(0.595)	(0.597)
Manufacturing employment share (2001)	-5.158***	-3.864***	-3.881***	-3.282***	-3.574***	-4.886***	-4.987***	-5.011***	-4.749***	-4.698***	-4.681***	-4.761***	-4.684***	-4.755***	-4.788***	-4.792***
	(0.490)	(0.566)	(0.507)	(0.549)	(0.598)	(0.724)	(0.720)	(0.707)	(0.712)	(0.730)	(0.731)	(0.712)	(0.759)	(0.753)	(1.003)	(1.034)
Manufacturing employment share change (2001-2011)															-0.050	-0.053
															(0.889)	(0.910)
Construction employment share (2001)							-1.294**	-1.457**	-1.463**	-1.431**	-1.320**	-1.036*	-1.053*	-1.004*	-1.003*	-1.004*
							(0.630)	(0.629)	(0.628)	(0.625)	(0.614)	(0.554)	(0.560)	(0.585)	(0.586)	(0.581)
Construction employment share change (2001-2011)										-0.254	-0.333	-0.430	-0.474	-0.454	-0.459	-0.458
										(0.458)	(0.475)	(0.447)	(0.458)	(0.452)	(0.451)	(0.460)
Finance employment share (2001)					-0.983	-1.528**	-1.457**	-1.427**	-1.437**	-1.393**	-1.421**	-1.602***	-1.575***	-1.510**	-1.518**	-1.517**
					(0.622)	(0.620)	(0.627)	(0.622)	(0.625)	(0.634)	(0.627)	(0.575)	(0.574)	(0.592)	(0.620)	(0.640)
Finance employment share change (2001-2011)														0.191	0.186	0.184
														(0.590)	(0.605)	(0.589)
Median hourly pay (2005)																-0.020
																(1.620)
Median hourly pay change (2005-2015)											-0.637	-0.486	-0.507	-0.518	-0.518	-0.522
											(0.602)	(0.549)	(0.542)	(0.544)	(0.546)	(0.706)
Interquartile pay range (2005)		2.679***		2.095**	2.542***	2.472***	1.952**	1.801**	1.722**	1.766**	1.525*	1.824**	1.790*	1.689*	1.690*	1.705
		(0.842)		(0.889)	(0.856)	(0.815)	(0.826)	(0.819)	(0.815)	(0.830)	(0.852)	(0.919)	(0.925)	(0.939)	(0.939)	(1.644)
Interquartile pay range growth (2005-2015)												0.206	0.229	0.228	0.228	0.231
												(0.505)	(0.514)	(0.515)	(0.515)	(0.617)
Unemployment rate (2015)			-1.857***	-1.579***	-1.484***	-1.408***	-1.469***	-1.158**	-1.205**	-1.201**	-1.173**	-1.397**	-1.366**	-1.387**	-1.392**	-1.392**
			(0.484)	(0.498)	(0.489)	(0.494)	(0.492)	(0.564)	(0.569)	(0.569)	(0.573)	(0.562)	(0.573)	(0.585)	(0.588)	(0.590)
Self-employment rate (2015)													0.216	0.202	0.203	0.201
													(0.647)	(0.647)	(0.648)	(0.680)
Participation rate (2015)								0.768	0.732	0.741	0.822	0.684	0.666	0.695	0.696	0.698
								(0.570)	(0.572)	(0.575)	(0.572)	(0.537)	(0.539)	(0.539)	(0.540)	(0.561)
Import Competition (Colatone and Stanig, 2018)						1.634**	1.524**	1.563**	1.617**	1.661***	1.591**	1.670***	1.654***	1.687***	1.680***	1.680***
						(0.638)	(0.632)	(0.624)	(0.630)	(0.640)	(0.633)	(0.629)	(0.635)	(0.632)	(0.644)	(0.643)
Best Subset							X									
Mean of DV	-17.8	-17.9	-17.9	-17.9	-17.9	-18.2	-18.2	-18.2	-18.2	-18.2	-18.2	-18.2	-18.2	-18.2	-18.2	-18.2
Observations	377	369	375	367	367	343	343	343	343	343	343	340	340	340	340	340
R2	.231	.28	.312	.336	.341	.371	.382	.386	.388	.389	.391	.419	.419	.419	.419	.419

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A7: Correlates of change in support for Brexit - Economic Structure, Wages and Unemployment: Robustness to Survation MRP estimation method

	Combined		Different Best Subsets			
	(1)	(2)	(3)	(4)	(5)	(6)
EU accession migrant growth (2001-2011)	-1.049*	-0.817	-1.962***			
	(0.549)	(0.747)	(0.690)			
Initial EU 15 migrant resident share (2001)	-2.107***	-1.405	4.134***			
	(0.614)	(1.252)	(1.339)			
EU 15 migrant growth (2001-2011)		-1.074	-1.147			
		(1.062)	(1.017)			
Total economy EU dependence (2010)		-0.858	-2.266***			
		(0.666)	(0.590)			
1975 referendum Leave share	-1.285	-1.508	-1.537*			
	(1.032)	(1.105)	(0.899)			
Share of residents commuting to London (2011)		1.034		2.510***		
		(0.872)		(0.617)		
Owned (outright + mortgage) share (2001)		0.182		-2.584***		
		(1.532)		(0.942)		
Owned (outright + mortgage) share growth (2001-2011)	1.738***	1.563*		0.933		
	(0.643)	(0.831)		(0.592)		
Council rented share (2001)	-1.562***	-0.988		-2.773***		
	(0.592)	(1.067)		(0.962)		
Council rented share growth (2001-2011)		0.496		0.921		
		(0.712)		(0.704)		
Austerity shock (Fetzer, 2018)		-0.252		-4.482***		
		(1.031)		(0.674)		
Share of suspected cancer patient treated within 62 Days (2015)		-0.118		1.465**		
		(0.655)		(0.625)		
Public employment share (2009)		0.516		1.325*		
		(0.652)		(0.744)		
Share of res. pop. no qualifications (2001)		-2.218			-4.629***	
		(1.835)			(0.950)	
Share of res. pop. no qualifications growth (2001-2011)		-0.649			-1.775***	
		(0.919)			(0.669)	
Share of res. pop. qualification 4+ (2001)	4.497***	3.691**			3.762***	
	(0.963)	(1.815)			(0.946)	
Population 60 older (2001)		0.579			1.908***	
		(0.658)			(0.479)	
CV life satisfaction APS well-being data (2015)	-0.723	-0.726			-0.783*	
	(0.558)	(0.597)			(0.473)	
Retail employment share (2001)		-0.099				-1.732**
		(0.753)				(0.735)
Manufacturing employment share (2001)	-4.688***	-3.553***				-4.987***
	(0.710)	(0.858)				(0.720)
Construction employment share (2001)	-1.591**	-1.740**				-1.294**
	(0.707)	(0.840)				(0.630)
Finance employment share (2001)		0.174				-1.457**
		(0.740)				(0.627)
Interquartile pay range (2005)		-1.072				1.952**
		(1.058)				(0.826)
Unemployment rate (2015)		-0.034				-1.469***
		(0.657)				(0.492)
Import Competition (Colatone and Stanig, 2018)	1.133*	1.348**				1.524**
	(0.618)	(0.625)				(0.632)
Mean of DV		-18.2	-17.8	-17.9	-17.8	-18.2
Observations	352	340	377	373	376	343
R2	.456	.476	.173	.275	.374	.382

Notes: Table reports results from OLS regressions. The dependent variable is the share of the Leave vote in a local authority area in England, Scotland and Wales. Empirical models selected using best subset selection on the set of predictors using the AIC information criterion. Best subset marked by "X". Robust standard errors are presented in parentheses, asterisks indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A8: Robustness to Survation MRP estimation - Effect of austerity exposure on changes in support for Leave between 2018 and 2016: interaction effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Austerity shock × Leave vote share in 2016	-0.872*	-1.058**	-0.979*				-0.876*	-1.058**	-0.981*
	(0.485)	(0.515)	(0.579)				(0.480)	(0.513)	(0.572)
Austerity shock × Turnout in 2016				-0.147	-0.063	-0.148	-0.167	-0.059	-0.162
				(0.333)	(0.339)	(0.348)	(0.319)	(0.335)	(0.343)
Austerity shock	0.423	0.092	0.292	0.445	0.169	0.232	0.358	0.065	0.224
	(0.755)	(0.982)	(1.178)	(0.867)	(1.118)	(1.293)	(0.774)	(1.011)	(1.178)
Leave vote share in 2016	-6.041***	-6.300***	-6.423***	-6.245***	-6.505***	-6.435***	-6.004***	-6.278***	-6.372***
	(0.387)	(0.498)	(0.699)	(0.392)	(0.553)	(0.766)	(0.402)	(0.510)	(0.694)
Turnout in 2016	3.933***	3.538***	3.619***	3.896***	3.478***	3.528***	3.924***	3.537***	3.612***
	(0.701)	(0.866)	(0.923)	(0.731)	(0.905)	(0.962)	(0.702)	(0.867)	(0.921)
R2	.401	.416	.442	.394	.406	.435	.401	.416	.442
Observations	377	377	376	377	377	376	377	377	376
Clusters	40	40	39	40	40	39	40	40	39
Fixed Effect	.	NUTS1	NUTS2	.	NUTS1	NUTS2	.	NUTS1	NUTS2

Notes: The dependent variable measures the county level employment shares in sectors producing outputs affected by the countermeasures launched by the respective countries in the column head. The independent variable measures the county level republican vote share in the respective presidential elections. Standard errors are clustered at the NUTS2 region level and are presented in parentheses, stars indicate *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.