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The malaise of the squeezed middle: Challenging the narrative of the 'left behind' Brexiter

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Abstract:

The result of the referendum in the United Kingdom in 2016 to leave the European Union sparked much interest on the socio-economic characteristics of 'Brexiters'. In this article we challenge the popularised view of the Leave voter as an outsider and find that individuals from an intermediate class, whose malaise is due to a declining financial position, represent an important segment of the Brexit vote. We use individual-level data from a post-Brexit survey based on the British Election Study. Our analysis tests three predictive models. First, although our analysis confirms the negative association between education and Leave vote, we find that voting Leave is associated more with intermediate levels of education than with low or absent education, in particular in the presence of a perceived declining economic position. Secondly, we find that Brexiters hold distinct psycho-social features of malaise due to declining economic conditions, rather than anxiety or anger. Thirdly, our exploratory model finds voting Leave associated with self-identification as middle class, rather than with working class. We also find that intermediate levels of income were not more likely to vote for remain than low income groups. Overall our analysis of the Brexit vote underlines the importance of considering the political behaviour of the declining middle.

Keywords: Brexit, squeezed middle, globalization, left behind, inequality

Introduction

In June 2016, the United Kingdom voted, with a marginal majority of 51.89 per cent, to withdraw its membership ('Brexit') of the European Union. Analyses of the vote in respect to the rising level of inequality and the socio-economic conditions of Leavers have followed. In this article we contribute to the existing literature on the socio-economic causes of the Brexit vote by investigating individual-level explanations through a post-Brexit panel run in June/July 2016. Offering a new perspective on the topic, we argue that Brexit is best explained as the social malaise of intermediate classes, which have experienced a declining financial position in the last years - the so called 'squeezed middle'.

Public debates and first academic contributions have converged, at least initially, on the interpretation of the Brexit vote as a vote of the 'left behind', of the 'outsiders' and, overall, of 'globalisation losers' (Hobolt, 2016a; Goodwin and Heath, 2016b). Some public commentators have interpreted Brexit as the voice of the angry working class—a view which has gained much public coverage (Mckenzie 2016). Previous studies have found that while the Leave vote reflects the lack of opportunities across the country, the profile of the Leave voters is not homogenous, both with respect to education (Goodwin and Heath, 2016a) and to socio-economic conditions (Swales 2016a). The Leave vote appears to be less socially uniform than popular coverage would concede, but the socio-economic and psycho-social factors that made voting Leave appealing for a significant segment of the British population are yet to be explained. Previous contributions have referred indirectly or directly (see Colantone and Stanig, 2016) to Brexit as the effect of a social/economic malaise. This broad concept refers to the idea that the vote was driven both by negative socio-economic

and psycho-social conditions – two elements that we explore in this article. Our article fills the existing gap by proposing an alternative narrative of the Brexit voter that overcomes the dichotomous vocabulary in the literature (globalisation winners versus losers, economically affluent versus deprived voters). We present three core findings that elaborate the relationship between voting Leave and the socio-economic and psycho-social characteristics of the declining middle.

Our first hypothesis is that the probability of voting Leave is high, not only among those with low levels of education, but also those with intermediate levels of education, in particular this interacts with negative dynamics in personal finance. In our second model, we selected feelings that permit an exploration of Leavers' social malaise and exclusion in psycho-social terms (in particular anxiety, anger whether *life had got complicated*, whether respondent feels left *out of society*, and whether what respondent does *in society has any worth*). We hypothesize that anxiety about one's life could be a potential contributing factor to the decision to vote Leave, in particular in the context of a declining financial situation. We further test whether experiencing feelings of *anger* influences Leavers, which allows for an examination of particular emotions. In our third exploratory model we explore vote Leave in relation to class identification. We hypothesise that self-identification with the working class was not a driver of the Leave vote. Rather we expect higher proportions of Leavers among those identifying themselves as middle class or even identifying with no class at all.

We have structured the article in the following way. After examining the main issues covered in the political sociology of Brexit, we present our theoretical framework to explore Brexit. We then discuss the methodology, covering the data, sampling and analysis of the three different models. The fourth section discusses the findings of

the three models: the relationship between education and declining economic position; psycho-social factors; income and social class self-identification. Our findings in respect to these three areas challenge the profile of the Brexit voter as socio-economically left out or angry 'globalisation loser' (Hobolt 2016a). We find that Brexiters are voters in intermediate positions which have declined in economic terms and experience a general feeling of social malaise. In the conclusion we discuss some of the implications of our findings for the Brexit debate and for future studies in political economy, political sociology and social policy.

The political sociology of Brexit: debates and issues

The aftermath of the UK's referendum on EU membership has sparked several debates regarding the socio-political causes of the referendum's outcome and the wider sociological implications of Brexit. The first set of explanations concerns the idea that the outcome of the vote reflects wider socio-economic dynamics, although there is no agreement on the specific socio-economic drivers of Brexit. Davies (2016) explains the political support for Brexit in the North East as a long-term effect of the economic crisis experienced in the region since the 1970s. According to this reading, Leave voters represent socio-economic groups that have been affected by processes of post-industrialisation. For Dorling (2016) the political frustration expressed via Brexit reflects the social costs of austerity and cuts in public spending post-2008. The first empirical analyses seem to confirm this reading. Voting Leave is associated with individual characteristics of voters (education, age and status), area characteristics (manufacturing employment, low income and high unemployment), and, crucially, also local spending cuts (Becker *et al* 2016).

These socio-economic processes behind the Brexit vote do not simply reflect the UK's political economy, but can be interpreted as the effect of the wider political phenomenon of a rejection of globalisation by those who have been most affected by it (Hobolt 2016a). This interpretation would be in line with long-standing theory arguing that globalisation, in particular in the shape of free trade, would penalise some segments of the population defined as the 'globalisation losers' (Hays *et al,* 2005: Rodrik, 1998). The evidence showing that Leave voters were more present in regions hit harder by import shocks from China (Colantone and Stanig 2016) seems to support this idea.

Further elaborating this argument, a number of authors have supported the widely popularised view of the Leave vote as an expression of society's 'left behind' (Hobolt, 2016a: Goodwin and Heath, 2016b). Hobolt (2016a) argued that Leave and Remain voters reflect two sharply divided social profiles: leave voters that represent globalisation losers lacking education and employment opportunities, while Remain voters are globalisation winners and reflect the profile of the educated urban voter. Similarly, Goodwin and Heath argue that "the vote for Brexit was delivered by the 'left behind' – social groups that are united by a general sense of insecurity, pessimism and marginalization" (2016b).

Kaufman (2016) has rejected socio-economic explanations of Brexit and has argued that the vote is mostly explained by the authoritarian values held by Leave voters. His analysis is, however, limited by the fact that the connection between Leavers' education and their socio-economic conditions are unexplored in his model. At the same time, even studies showing that a portion of Leave voters have been economically disadvantaged, concede that the success of the Leave vote "was underpinned by a broad-based coalition of voters which is much more wide-ranging

than the 'left behind'" (Swales 2016a: 2). This does not mean that socio-economic explanations of Brexit have to be excluded, but simply that those explanations have to account for socio-economic changes affecting more wider segments of the population. Although several scholars have used education to operationalize the 'left behind' argument (Hobolt 2016a, Goodwin and Heath 2016a), a missing element in the puzzle is how education is linked to socio-economic conditions.

Some sociologists have suggested that the Brexit vote reflects a shift by the working class towards right-wing politics, which is the result of the lack of a left-wing option (Winlow *et al,* 2017: Mckenzie 2016). The lack of left-wing political support amongt the working class, however, is not an unknown phenomenon in political science scholarship and has characterised politics for a several decades (Inglehart, 1997; Evans 1999; Houtman, 2003). Using the helpful distinction by Houtman *et al* (2009), while we know that Brexit reflects cultural voting (voting for an authoritarian agenda), we lack evidence that it represents class voting (defined as voting on the grounds of economically egalitarian political values generated by a weak class position).

The image of the Leave voter as left behind is not only related to personal finance and class, but also to specific psycho-social conditions, such as the anger of the globalisation losers. Previous studies on Brexit have left untapped the distinct psycho-social characteristics of Leavers and how this relates to their socio-economic conditions. The culture of risk and of manufactured uncertainty described by risk scholars such as Beck (2009) has permeated the referendum campaign, both from the Leave and the Remain side (Burgess 2016). It has also resulted in a confusion between objective and imaginary risks. For example migration has been a core motivation behind the vote (Ashcroft 2016) despite its lack of objective impact on

the lives of Leavers (Becker *et al* 2016). Anger and fear expressed by the Leave voters could therefore be the reaction to uncertainty that reflects the passage to a globalised society where risk is more prevalent (Beck 1992, Giddens 1991). As well as understanding Leavers' individual socio-economic context it is, therefore, crucial to interpret their psycho-social profile and to clarify how this might be related to their personal economic conditions. In our study we specifically address the issue of globalisation in relation to social risks. In the next paragraph we describe our framework to contribute to these unanswered issues.

The conceptual framework

The terminology of the 'left behind' (see Hobolt, 2016a; Goodwin and Heath 2016b) suggests that Brexit has been the voice of a small and marginalised segment of the population, but authors have suggested that the Brexit vote represents a more general malaise amongst the 'ordinary' British people (Hobolt 2016b). The Leave vote is not uniformly represented by one social group and is much more widespread among the population than the left behind argument would suggest.

We discuss the social malaise expressed through the Brexit vote by including a missing category in the analysis of the vote: the intermediate class. In doing this we are implicitly rejecting the dichotomous class division 'middle' versus 'working class'. The recent literature in contemporary social policy shows that the economic vulnerability of the intermediate class has increased in the last years. This intermediate group has been defined as the 'squeezed middle', a term originally coined in the United States, which has been also applied to describe the situation of British ordinary workers coping with the increasing cost of living and inflation (Parker, 2013). The squeezed middle constitutes an intermediate social position that is slowly declining these are 'ordinary' families with intermediate/upper-

intermediate levels of education, stable jobs, but which face an increasing challenge in maintaining their life-style (*ibid*.). This group is experiencing a decline in economic circumstances due to the widening inequalities between classes which rewards those at the top (Hills, 2014) and the declining capacity of contemporary welfare states to protect the 'middle' against social risks (Hacker, 2008 and 2011). It is not, therefore, a group that can be defined as 'left out', 'outsider' or responds to the description of the low skilled globalisation loser in classical terms. It is rather a group in the middle which has been affected by the increasing social vulnerability in the society (Vaughan-Whitehead, 2016; Ranci, 2010).

Our models broadly explore the links between voters' financial position, in absolute as well as dynamic terms, and the referendum vote, in relation to three groups of key individual characteristics; education, psycho-social conditions, and social class identification. Ultimately, we hypothesise intermediate classes to be more likely to vote Leave. We present and test our hypotheses using the following three groups of models, which allow to operationalize the theory of the squeezed middle as the core segment of the population to drive the Leave vote:

The educational and declining economic position of 'leavers' The left-behind argument has been pointed to in terms of voters having low levels of education (and therefore low skills) to compete in the globalised economy, as opposed to those with a university degree (see Hobolt, 2016a; Goodwin and Heath, 2016a). We problematize this notion of the left behind. In early descriptive studies, educational differences found among Remainers and Leavers could simply reflect the fact that the younger generation, which were more likely to vote for Remain, are also better educated. Moreover, the higher percentage of people with lower educational attainments among Leavers could reflect the fact that people with low education hold

more authoritarian values, which according to Kaufman (2016) are the ultimate drivers of the vote. Analyses exploring the relationship between the propensity to vote Leave and education in relation to other socioeconomic variables have found a more nuanced picture of the Leave voter than extends beyond their lack of education. For example, Goodwin and Heath (2016a) have explored the relationship between education and regional opportunities, finding that Leave vote is explained by an interaction effect between individual level of education and the profile of the area where they live. Their analysis shows that in 'low skilled communities' even graduates were more likely to vote for Brexit than graduates from high skilled communities and had similar profiles to those with low education from the same communities. In our first model, we explore why the probability of voting Leave is high only among those with low levels of education or whether it includes those with intermediate levels of education. Further, we try to understand how the probability of voting for Leave among different educational groups changes in respect to dynamics of personal finance.

Leavers and the psycho-social effects of globalisation

Some authors have hinted at Leavers displaying distinct psycho-social feelings of malaise regarding globalisation (Goodwin and Heath, 2016b; Hobolt,2016a). It has not yet been clarified, however, whether this reflects objective change in standards of living or a generalised attitude towards the new risks associated with globalisation.

The idea that globalisation is associated with emotional sentiments is not new in the literature and Brexit can be interpreted as another case of the 'political economy of uncertainty' described by Beck (1999). Among Leavers we can recognize, for example, the risk of losing one's individual position as a consequence of higher

migration flows linked to EU membership – a risk that the vote in itself offered to resolve. Authors have previously found negative feelings associated with the management of risk stemming from globalisation. Beck's notion of 'individualisation' is described as "a default outcome of a failure of expert systems to manage risks." (Beck, 2006: 336). Globalisation generates negative feelings: individuals are described to be resentful (Brown, 1993) and fearful (Pain, 2009). Some of these feelings are related to issues at the core of the Brexit debate, such as migration. The study by Clarke (2009), for example, describes how the possibility of migration *per se* poses a symbolic threat to the "emotional construction of the white identity" built around the imaginary golden age of English white communities.

In our framework, we begin by exploring the effect of basic emotions, untested in the Brexit debate, to build the foundation for discussing more specific psycho-social feelings, such as life satisfaction, and standing in society. While *anxiety* has been linked to voting behaviour in terms of increased information search and a propensity for opinion change (e.g. Marcus *et al* 2000), anxiety effects are untheorised in relation to declining finances and/or supporting an anti-elitist agenda, and only anecdotal evidence linked it to the Brexit vote. We thus hypothesize that anxiety over one's life could be a potential contributing factor to the decision to vote Leave, in particular in the context of a declining financial situation. Further, we test whether a distinct *anger* effect describes Leavers, who are, much more likely to challenge the status quo as 'blame' is not uncertain (as in anxiety), but aimed at the specific actor (namely the European Institutions, see Wagner 2014).

We then proceed to explore the crucial issue of psycho-social features, in particular in relation to personal economic conditions. Our psycho-social wellbeing indicators concern quality of life, and we explicitly test whether the feeling of being left

behind, feeling life has got complicated, and negative feelings over doing something worthwhile in life characterise Leavers as a group. We conclude our discussion by exploring whether the feeling of being left behind is related to a deteriorating financial position, which would affect, not only the working class, also the 'squeezed middle'

Leavers, social class self-identification and income. Immediately after the UK's referendum vote on the member of the EU, a popular view, albeit lacking empirical ground, was that of the Brexit vote as a voice of the working-class, in particular in the North of England (Mckenzie, 2016). The first evidence from Lord Ashcroft's survey presented by Dorling (2016) showed that most Leave voters were in the South and that 59 per cent of all those who voted for Leave were in the middle classes (A, B or C1), with the lowest two social classes (D and E) representing only 24 per cent of the Leave vote. Similarly, Swales' analysis (2016a) indicates that, in addition to attracting groups with limited economic resources, Brexit has also mobilised voters that belong to the 'middle class'.

The Brexit vote raises interesting questions regarding the reconfiguration of the class structure. Recent studies on self-perception of class in the UK show that most people perceive themselves as 'working class' even if they hold 'middle class jobs' (Swales, 2016b) and, therefore, they rather belong to what we define as the squeezed middle. The dichotomous nature of the class debate in the UK creates confusion in interpreting the class politics behind Brexit. For example, sociologists who interpret Brexit as working class vote assume that this class vote carries egalitarian claims (see Winlow *et al,* 2017; Mckenzie, 2016). Empirical studies have found that the vote of Leavers with limited socio-economic resources was associated to

authoritarian (Ashcroft 2016) and anti-immigrant sentiments associated with the vote of economically deprived Leavers (see Swales 2016a).

Through our final exploratory model we will attempt to overcome the current limitations of Brexit's analyses in relation to class by investigating the self-identification of class of Leave voters and we also analyse this in relation to objective measures of inequality. We hypothesise that the self-identification as working class was not a driver of the Leave vote, rather we expect a higher proportion of Leavers among those identifying themselves as middle class or those that have no class identification.

Methodology

To investigate our hypotheses and explore measurement options to describe the 'squeezed middle', we rely on three data sources: our online opt-in panel implemented shortly after the referendum that ran from 28 June until 10 July 2016, the British Election Study Internet Panel referendum campaign wave (Evans *et al* 2016) and our own referendum campaign study running through June 2016.

Our sample respondents are recruited from the pool of users of our UK *Voting Advice Applications* (VAAs), available on the web in 2015 (during the General Elections campaign) and 2016 (during the Brexit campaign). VAAs are relatively new online information tools attracting potentially millions of users designed to make party and candidate positions more accessible by comparing users and parties on an interactive landscape (see Garzia and Marshall, 2012).

While interacting with these tools, VAA users have the option to sign up for follow-up surveys, which is how we accessed data for our pre- and post- referendum studies. Although we did obtain a reasonably large and diverse sample in the post-

referendum wave (N = 2,809), we acknowledge self-selection bias on a host of indicators. VAA users and opt-in respondents tend to be more urban, male, politically interested individuals with higher education (Pianzola and Ladner, 2011). Thus we benchmark our sample to the British Election Study, and compute post-stratification weights to each respondent in our panel. This enables us to use a non-representative sample to make reasonable population-level inference (Popp *et al* (2016) provides a more detailed review).[1] The next section describes our key measures of model building and hypothesis testing.

Models

We fit five mixed-effects logistic regressions with probability to vote Leave as the dependent variable and a host of individual-level variables exploring education (also in relation to personal economic conditions), psycho-social wellbeing and class. We also control for age, gender, and political support.

Leavers' education & lowering economic position. As we have seen in the first part, the class differences behind Brexit have often been discussed in relation to the level of education achieved by voters (Hobolt 2016a, Goodwin and Heath 2016a). Our intent, in Model 1.1 (Figure 1) is to explore the probability of vote in relation to education to test the view of the Leave voter as the globalisation loser, with lower levels of education and skills. The education variable has ordered categories of levels 'no education', 'GSCE D-G', 'GSCE A*-C', 'A-level', 'Undergraduate', 'Postgraduate'[2]. This follows the variable coding convention used in the British

[1] The full discussion of the methodology (e.g. modeling, weights and stratification) is available as an online appendix at www.voteadvice.org/squeezed-online.html

[2] GSCE refers to the General Certificate of Secondary Education, the UK qualification of secondary education. The GSCE leads to two types of qualifications depending on the grade: Level 1 qualification for GCSE at grades D to G and Level 2 qualification for GSCE at grades A* to C. A-level refers to the General Certificate

Election Studies. A clear advantage is that intermediate levels of education, namely those between 'no education' and higher education, could be differentiated enough, especially with a split between low (and mandatory) grades of GCSEs and higher grades of GCSEs

In Model 1.2 (Figure 1) we take a step further by looking at the relationship between Leave vote and education in relation to the dynamic aspect of personal finances. We are interested in how a perceived change in personal finances in the past five years might moderate the education effects and thus define an interaction between them. Our analysis is limited by the fact that we analysed changes in dynamics of personal finances by relying on the self-report of respondents which might be biased. We find, however, that this is the only indicator, albeit limited, that can grasp economic dynamics among referendum's voters.

We measure the dynamic change in personal finances through the following variables (see Table 1 in Appendix 2): Δ*personal fin.—same* which compares the effect of stagnation to that of a positive change and Δ*personal fin.—worse* which compares the effect of worsening conditions as opposed to positive change. We also explore if this dynamic changes depending on education levels.

Psycho-social effects of globalisation. We explore the effects of Quality of Life indicators (adapted from European Foundation for the Improvement of Living and Working Conditions (2012)) as well as emotions in Models 2.1 and 2.2. The first set of predictors concentrate on current evaluations of 'life in general': to what extent they would describe their life with emotions of *anxiety and anger*, whether *life had got complicated*, whether respondent feels being *left out of society*, and whether what

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of Education (GCE), an advanced certificate offered in the UK which leads to Level 3 qualifications and permits to access Further and Higher Education.

respondent does *in society has any worth*. These are feelings of quality of life that permit to explore if Leavers feel to be left out in psycho-social terms.

In Model 2.2 we explore whether the widely cited 'left out effect' has any foundation in worsening economic conditions. We therefore explore an interaction effect between psycho-social factors and evaluations of changes in personal finance. As before, we acknowledge that our analysis is limited through our reliance on self-report. As this Model entirely relies on personal perceptions we do not find that self-assessment of financial changes might be affected by specific feelings expressed by the voter.

Income and social class self-identification. We treat Model 3 separately as an exploratory analysis of self-assessment of class and income categories. We take this data from the smaller, common set of respondents of the post-referendum study and the campaign wave study,. We explore respondent's identification with the following social classes: working class, middle class, or none of the above (the latter is our baseline category). This helps us to clarify which classes, if any, Leavers identify with and allows us to critically analyse the interpretation of the referendum as 'a vote of the working class'. We acknowledge the limitations of relying on self-assessment of class using the existing literature on class self-assessment. To complement our analysis in Model 1.2 we also analyse vote Leave in relation to reported income. This allows us to evaluate whether the results are consistent with the squeezed middle class argument that we propose.

Findings

The full results of our five models are presented in Table 1 in the Appendix 2. In this section we briefly report on the behaviour of our basic geographic, demographic as

well as political support predictors, and the sections below detail the specific effects we present as evidence of our hypotheses.

We detect significant age and gender effects, and confirm that voters of UK Independence Party (UKIP) were most likely to vote Leave (up to 46 times more likely than Conservatives, the baseline category) followed by Conservative voters, and non-voters (their odds being about 50-50). This pattern is broken only in our exploratory, small-sample analysis on income and social class identification, where age and gender effects vanish.[3]

Education & lowering economic position

In Model 1.1 (Figure 1) we focus on the effect of formal education. We detect significant effects associated with each education level.

Figure 1

Predicted probabilities by education (Model 1.1, left panel) and by perceived change in financial situation (Model 1.2, right panel).

The link between education and voting Leave is negative in a general sense (β = 0.89, t(0.19), $p < .001$), but not linear. Analysing the vote in relation to the different educational categories we predict the highest probability to vote Leave in the GSCE A*-C category, with a median of 79 per cent. We also find that the largest chunk of our A-level predictions (therefore people which decisively hold intermediate levels of education) still fall to the 'leave' side, suggesting that the link between increasing

[3] We treat this as an artefact of a relatively complex model fitted on a small sample size, where small effects such as age in years are usually difficult to detect.

levels of education and voting Remain is mostly driven by the highest levels of education.

Our findings confirm that there is a general negative relationship between education and voting Leave: in general terms, the higher the level of education, the lower the possibility of voting Leave. It rejects, however, the dichotomous view of the low-educated Brexiter vs the high-educated Remainer (see Hobolt 2016a), by showing that two groups that can be considered with intermediate levels of education (voters with GSCE with high grades and A-levels) were more pro-Leave than the low-educated (those with no formal education and with GSCE with low grades).

In Model 1.2 we present the interaction between perceived change in personal finances and education, finding an ambiguous relationship. While worsening conditions increased the probability of voting Leave, the effect of stagnation is ambiguous. We present our predictions in Figure 1. The stagnation ('same') group resembles most the average effect of education, which we consider as an artefact of the majority reporting no change. In our model respondents with A-levels slide towards a Leave vote as their economic conditions worsen. Our model also predicts that those with lower grade GSCEs would vote Leave only if their economic conditions had not changed. This effect found in respondents with A-level qualifications mirrors the interaction effect described by Goodwin and Heath (2016a). These authors showed that those with A-levels had similar profiles to the 'left behind' group in terms of their support for Brexit if they came from low-skilled areas. Similarly, we find that those with A-level qualifications became more prone to leave as their personal finances worsened. Overall the position of those with A-levels seems to represent the profile of the squeezed middle as their probability of voting Leave changes depending on their structures of opportunities.

Despite the potential limitations of exploring personal finances by relying on individuals' perceptions, overall this evidence shows that the Leave vote is not more popular among the low skilled, but it is more prevalent among individuals with intermediate levels of education. Furthermore, it is not widespread among those with a lower education who experienced declining financial positions. The relationship between education and personal finances is much more evident in the intermediate groups.

Psycho-social effects

Our results with regards to emotions and quality of life variables partly confirm the losers of globalisation hypothesis.

Looking at the results of Model 2.1, we find no evidence that *feeling left out of society* is a predictor of voting leave. However, we find that other wellbeing indicators, such as *not feeling what one's doing in life is worthwhile* (β = 0.89*, t(*0.19*),* $p < .001$), as well as *feeling that one's life has got complicated* (β = 0.39*, t(*0.15*),* $p < .05$), are linked to voting Leave. We present the simulated probabilities in the left hand side panel of Figure 2.

Figure 2 here

Predicted probabilities by agreement with *'I feel what I do in life is worthwhile'* (Model 2.1, left panel) and feeling left out of society by perceived change in financial situation (Model 2.2, right panel)

We did not find evidence that anger about one's life is linked to the referendum vote. In contrast, the effect of anxiety is significant and negative ($\beta = -0.74$, $t(0.16)$, $p < .001$), suggesting that anxiety is typical of 'remain voters'. We believe, however, that those feelings are directly connected to the *outcome* of the referendum, rather than being a substantive cause of their vote.

Model 2.2 presents the interaction between perceived change in financial situation and the *feeling of being left out of society*. Interestingly, we find a correlation between feeling left out and voting Leave only amongst those who felt to have experienced worsening financial conditions ($\beta = 0.83$, $t(0.34)$, $p < .05$) (see the right side of Figure 2).

Overall these findings lead to two main results. First, our analysis rejects the image of the voter for Leave as the angry Brexiter or the one with specific feelings of anxiety. We can interpret the feeling of the Leave voter in terms of feeling *his/her own life as not worthwhil*e, with the failure in managing her/his own life in the risk society (Beck 2006: 336) and as unelaborated feelings of frustration deriving from globalisation.

Secondly, contrary to the interpretation of Brexit as reflecting a distinct outsider group, we found a more dynamic psycho-social explanation related to the perception of financial changes experience by Leavers. We found a relationship between voting Leave and the belief that *life has got complicated*. Further, *the feeling of being left out of society* was not sufficiently significant predictor of the vote to leave *per se*, but was only relevant in relation to a perception of worsening personal finances. This reinforces a different image of the Leave voter as an individual with a *worsening* social position, but not as perceiving that they are left out from society. This image

reflects the description of the impoverishment of intermediate class in the UK (see Parker 2013) and our argument of the Leave vote as the vote of the squeezed middle.

Income and social class self-identification

Regarding income in Model 3, our findings on class self-identification are contrary to the narrative that suggests that voting Leave is not associated with self-identification as working class, but rather with those that self-identify as middle class, or having no class at all (β = 0.94, t(0.39), $p < .05$). Although there is an obvious limitation in interpreting self-assessment of class, this finding is relevant if we consider that, as recently reported by the Swales (2016b), most British people tend to identify themselves as working class - even if they have middle class jobs.

Our interpretation does not deny that working class voters were part of the Leave vote. However, what we aim to show here is that, in contrast to what has been argued in public debates (and recently in academia by Winlow *et al* 2017), Leave is not the expression of a conscious working class vote. Further, it confirms that, as found by Swales (2016a), Brexit was not the voice of a unique segment of the society; rather was supported by a heterogeneous group including also the middle class. In addition we are able to confirm, as suggested by Dorling (2016), that the group that does not identify as 'working-class' is predominant in quantitative terms.

We then analyse whether Brexit has been supported by an intermediate group in objective terms. In order to do this, we look at the probability of the Leave vote in terms of income, which enables us to overcome the misleading analytical division between working and middle classes in the UK class debate. Relying on the observed range of income, we split up the distribution into equally-sized groups and used these quantiles in our model. The result is partly similar to previous reports in that higher

income would link to the 'remain' vote. However, we are also able to point out that it is only the top quantile, the richest respondents, that slant significantly to the 'remain' side ($\beta = -1.94$, $t(0.49)$, $p < .001$). We do not find enough evidence to show that the effect of income is incremental: that the intermediate class, in income terms, would be more likely to vote 'remain' than the poorest groups.

We show the predicted probabilities by income and class-identification in Figure 3. It is also apparent that our prediction intervals are wide, which further prompts us to interpret our small-sample results with caution.

Figure 3 here

Predicted probabilities by income quantiles and class identification (Model 3)

Conclusion

The Leave vote has presented a puzzle to social scientists: it is a vote that has reflected a widely felt socio-economic malaise, but it could not be interpreted as the voice of a socially homogenous social group. Our analysis of post-Brexit individual-level data offers a new reading, which challenges the dominant narrative of the Brexiter as an angry and left behind individual. We believe that socio-economic effects were central in interpreting the Brexit vote, but we also find the socio-economic malaise does not represent a group which has entirely lost out from globalisation, as opposed to one that has gained (Hobolt 2016a). The core group behind the vote is, according to us an intermediate group whose position is declining, a group which has been described as having high relevance for policy and politics (Parker, 2013; Hacker, 2011; Ranci, 2010). The reason for this decline of the middle could be found in overall processes of globalisation (Rodrik, 1998) or in more recent

dynamics of austerity affecting the Brexit voters (Bekker *et al* ,2016; Dorling, 2016). What we aimed to show here is that this segment of the population was more significant in driving the Leave vote than is assumed in the 'traditionally left out' working class thesis.

We make three main contributions to the literature. First, our model predicts that highest proportions of Leave vote is cast by segments with high GSCE grades and those with A-levels grades, rather than those with no qualifications or low grades at GSCE. We, therefore, found little evidence that those with a low education would be more likely to vote Leave than Remain as argued by Hobolt (2016a). We also find that some of the education effects were mediated by perception of worsening financial conditions amongst Leavers with A-levels (an intermediate level of education). This is not entirely a new finding (see Goodwin and Heath, 2016a), although scholars have previously overlooked these intermediate segments by referring to the negative correlation between education and Leave vote. We also confirm a negative relationship, but, by looking at different educational groups, we show that the link between increasing levels of education and voting Remain is mostly driven by those with top levels of education (given that intermediate voters were driving the Leave vote).

Further analysing the Brexit vote, we wanted to understand the psycho-social profile of the Brexit voter, who has been described as being a society outsider and experiencing angry feelings. We did not find that such feelings characterised Brexiters, and neither did the feelings of anxiety described by Beck (1991). We found, that Leave voters had a specific negative feeling - *the feeling of being worthles*s - that could be interpreted as a failure in managing risks of globalisation (Beck 2006). Our hypothesis of the Leave vote as the vote of the declining middle

was further confirmed by the fact that Brexiters felt *that life has become more complicated*. We also find that those experiencing feelings of having been *left out from the society* are more likely to vote Leave only when they feel to have experienced worsening financial condition in the last years. This points to the dynamics experienced by the squeezed middle rather than to the presence a crystallised left behind group. Future studies could explore which specific elements of globalisation drove these feelings (for example, migration flows, the activity of multi-national companies).

A more extreme form of the 'left behind' argument, that has widely featured in public and political debates, suggests that Leave voters represent conscious working class voting. In our final exploratory model this hypothesis is rejected, as an association between identifying as middle-class and vote Leave was found – as well as no association with 'working class' self-identification. We also found that those in intermediate income groups were not more likely to vote for remain than those in low income groups. In this case, as in the case of education, those with top-income drive the negative correlation between income and voting for Remain. Individual-level explanations have therefore clarified that the groups behind the Leave vote are not just those at the bottom of the social scale.

Our attempt to operationalize the 'squeezed middle' in voting behaviour is, in many respects, exploratory and could be further expanded by including employment positions and salaries – crucial indicators that were not in our dataset. We intend to carry out further research on integrating the measurement of inequality with that of political behaviours to understand the role of the declining middle in forthcoming elections in Europe. Further, we acknowledge the limitation of the research design in that most of our predictor variables are measured after the vote has been cast and the

results determined, rather than prior to the referendum. It is possible that voters rationalise their responses given the referendum outcome. Nevertheless, we would argue that our relatively large sample in the post-election wave provides enough explanatory power.

Overall, our argument of the squeezed middle behind Brexit is of a broad relevance for the discussion of how the new politics of inequality influences voting. It shows that the social malaise and the changes in the voting dynamics are not just led by the 'left behind' (Goodwin and Heath 2016b), but rather include a significant segment of the population and require, therefore, public interventions that address inequality and not just social exclusion.

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Appendix 1

Further details on methodology

The following sections give further details on the methodology. For a full discussion, please consult our online appendix at www.voteadvice.org/squeezed-online.html

Our primary data source is the opt-in panel implemented as post-referendum study. In total, 2,809 respondents, previous VAA users, have opted in taking the survey. In this, our primary aim was to gauge the voting population's vote recall and search for possible explanations, through socio-demographics, political issue and party preferences, leader evaluations, as well as measures of psycho-social wellbeing.

Consistent with research on the use of VAAs for academic research (Pianzola and Ladner 2011), we find that the over-sampled segments come from urban areas, men, the age category of late-twenties to mid-thirties, as well as the higher educated.

Using this information, as well as vote intention amongst likely voters, we compute post-stratification weights so that the joint distribution of these variables mirrors that of the likely voter subsample of British Election Study pre-referendum wave. We use the package *survey* in R to perform this task.

To evaluate the outcome, we build a 'Null', random effects logistic regression model where the dependent variable is probability to vote Leave, predicted by region only. This allows us to generate 11 Leave probabilities, for each region:

$$Pr(y_i = Leave | y_i \in Leave, Remain) = logit^{-1}(\beta_0 + u^{region}_{j[i]})$$

This random component is common in all subsequent models we build for hypothesis testing. We use the package *lme4* (Bates *et al* 2015) in R to fit these models, accounting for the prior weights. We then exploit the ability of *arm* (Gelman

et al 2016) to generate (approximate) the posterior distribution of the outcome variable, to arrive at predicted probabilities. In all cases we use 95 per cent prediction intervals. At this stage, the importance of weights is crucial as predicted probabilities (percentage of people likely to vote Leave per chosen categories) would be unrealistic without the weighting component.

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