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Location impacts on attitude adjustment: Evidence from UK movers

August 13, 2024

Abstract

I estimate the overall contribution of location factors on immigration attitudes in the UK. Using the British Election Study Internet Panel (BESIP) dataset, I track the changes in opinions towards whether immigration improves Britain's economy and whether immigration enriches Britain's cultural life for people in the UK who move once between 2014 and 2023 to elicit how much of these attitudes are shaped by local context. I find that overall, location does not play a statistically significant role in explaining shifts in attitudes when people move. Rather, attitudes are driven by individual factors that are fixed when people move across locations. However, these results are not consistent across all sub-groups. For people who identify as supporting the Conservative Party, location explains 47.6% of the shift in attitudes towards immigration's impact on the economy, and 54.4% of the shift in attitudes towards immigration's impact on cultural life. For young people aged between 15-24, location does not have an immediate effect on attitudes, but explains 75.5% of the shift in attitudes towards immigration's impacts on the economy after a few survey waves.

I. Introduction

Political discourse on immigration has intensified over the last decade (Tabellini, 2020). Immigration featured heavily in the 2016 US presidential election, the Brexit referendum, the recent 2024 UK general election, and is now at the center of major violent riots in England. These events have shown there are marked differences in attitudes towards immigration across individuals and locations.

What drives these differences: one’s individual traits, or their local context? I explore this question for the UK using the British Election Study Internet Panel (BESIP). Specifically, I (1) estimate the overall contribution of location factors in explaining variations in immigration attitudes across locations, (2) analyse which subgroups of people are most influenced by location across age, race, party affiliation, education and gender, and (3) explore whether the characterisation of location influences the results.

Literature suggests that local context plays a crucial role in shaping attitudes towards minorities and immigrants Markaki & Longhi (2013). Residential context determines the diaspora of immigrants or ethnic groups an individual sees and interacts with everyday, providing a filter through which they might form perceptions of minority groups (Stein et al., 2000; Studlar, 1977). Prevalent theories such as intergroup competition and intergroup contact provide some insight into how interactions with immigrants in one’s neighbourhood can either lead to more negative perceptions towards immigrants if they are viewed as a threat or competition, or to more positive perceptions if frequent contact reduces prejudice against them (Pettigrew, 1998; Pettigrew & Tropp, 2011; O’Connor, 2017; Christ & Kauff, 2019; Berg, 2009).

While previous research has explored the individual and spatial determinants of attitudes towards immigration, it is uncertain what the relative importance of each is in shaping attitudes. In this paper tackle this question by specifically estimating the overall contribution of location-based factors in explaining variations in immigration attitudes when people move from one location in the UK to another. I consider two specific aspects of immigration attitudes - (1) those held towards immigration’s impacts on the economy, and (2) those held towards immigration’s impacts on cultural life.

Understanding the overall contribution of location factors is important for determining the relative importance of policies targeting local-level influences such as neighbourhood demographics, local economic conditions, and community cohesion programs. It also helps empirically test, albeit indirectly, whether theoretical frameworks such as intergroup conflict and intergroup contact are observed in data. Finally, it provides the basis for further research into specific individual- or location-based factors driving attitude formation for more specific policy interventions.

My estimation strategy is a mover regression based on Finkelstein et al. (2016). Broadly, a mover regression decomposes the the change in some outcome variable into individual factors and location factors by looking at how the value of the outcome changes when individuals move from one location to another. In the context of this paper, I define on the basis of the average attitudes toward immigration in a political constituency, and apply this analysis to examine how a person's attitudes toward immigration might change when they move to a new location where the average immigration attitudes differ from those in their original location.

To understand the rationale behind this design, consider a person who moves from Bradford South where attitudes towards immigration are less favourable, to Bristol West, where attitudes are more favourable. If the entire difference in attitudes between these locations were hypothetically a result of location factors such as the number of community events organised by the local council to foster cultural cohesion, or the number of immigrants based in the location, then the mover's position towards immigration would become positive immediately post move, to a level that matches the average immigration attitudes of people in Bristol West. Conversely, if the entire difference were driven by individual traits of the people living in these locations, then the mover's attitudes would be remain constant. A change in attitudes to some level between the average levels in the two locations determines the relative impact of location and individual traits.

I find that for the full sample, location does not explain any variation in shifts in attitudes towards immigration, both in terms of how people feel towards immigration's impacts on the economy, and towards immigration's impacts on cultural life. Instead, these attitudes are likely shaped by individual-level factors supported in literature such as education (**ref**),

that people carry with them when they move across locations. However, location does have an impact when focusing on certain sub-groups. For people who state they support the Conservative Party, location explains 47.6% of the shift in attitudes towards immigration's impacts on the economy, and 54.4% of the shift in attitudes towards immigration's impacts on cultural life. For young people aged between 15-24, location explains 75.5% of the shift in attitudes towards immigration's impacts on the economy on average across waves 5 and 6.

I also test the main event study findings against two alternative specifications of location. In the first alternative specification, I change the geographic boundaries that define 'location' from parliamentary constituencies (UKPCONs) to Lower Layer Super Output Areas (LSOAs). This is to check whether the main findings are an artefact of the way location is defined. I find that the initial results continue to hold with the new boundaries, with location playing no statistically significant role in explaining any shifts in attitudes towards immigration post moving. In the second alternative specification, I re-estimate location impacts when location is characterised by party affiliation rather than average immigration attitudes in the region. I choose party affiliation because of existing evidence that links party identity to political attitudes (Harteveld et al., 2017). Since voter behaviour across party lines tends to be stable over time, it is particularly interesting to explore whether location plays a significant role in changing attitudes when moving to some destination location that exhibits different average party affiliation from one's origin location. As in the first robustness check, I find that location does not influence attitudes towards immigration across both characterisations.

The remainder of the paper is set out as follows: Section II provides an overview of related literature, Section III details the estimation strategy, identification assumptions and model restrictions, Section IV summarises the features of the dataset, Section V summarises the findings and Section VI provides robustness checks. Section VII concludes.

II. Related literature

The role of local context in shaping political attitudes and behaviours has been researched in a range of contexts. The notion of place has been found to be important in driving party affiliation and voting behaviour (Johnston et al., 2004; Ben-Nun Bloom et al., 2023; Cantoni & Pons, 2021), political trust in institutions Maxwell (2013), and even in shaping populist radical sentiments (Arzheimer & Bernemann, 2023). Jurisdictional voting rules and the local media environment have been proposed as some possible place-based factors affecting political behaviours in the United States (Moskowitz, 2021).

Studies have also analysed how residential contexts shape attitudes towards immigration specifically (van Heerden & Ruedin, 2019; Newman, 2013; Frasure-Yokley & Wilcox-Archuleta, 2019; Hopkins, 2010, 2011). For example, Hopkins (2010) showed that immigrant hostile political rhetoric after the September 11 attack interacted with local conditions such as an influx of immigrants in one’s neighbourhood to trigger anti-immigration attitudes in the neighbourhood (deemed the politicised places hypothesis). Other US-based research finds that geographic characteristics such as density can impact attitudes towards undocumented adult immigrants living and working in the US, even after controlling for standard explanatory factors such as socio-demographic characteristics (Frasure-Yokley & Wilcox-Archuleta, 2019). This is also true for the UK, where contextual conditions such as the number of immigrants in a neighbourhood are influenced by the national political environment, such that a salient rhetoric of immigration being a political issue leads to more negative impacts towards immigration (Hopkins, 2011).

A substantial part of the literature evaluating the dynamics of place has been through the lens of how economic, political, cultural and demographic influences in one’s local environment shape attitudes Caputo (1987); Hopkins (2009); Welch et al. (2001). These influences can be delivered indirectly or directly through interpersonal interactions with those in proximity. In the specific context of immigration attitudes, there are two prominent theories that predict how local context can influence attitudes towards immigration. The first of these is intergroup competition, which is a rational conflict framework proposed by Allport in 1995 that posits that perceived competition for scarce resources and privileges such as jobs,

housing and social services can increase hostility towards immigrants (Christ & Kauff, 2019; O'Connor, 2017). Under this framework, a larger local immigrant population would intensify perceived competition and result in more negative attitudes towards immigrants (Quillian, 1995). The second is intergroup contact, which posits that more frequent interactions with immigrants in one's local environment reduces prejudice, increase acceptance, and foster more positive attitudes towards immigrants (Pettigrew & Tropp, 2011; Berg, 2009).

Negative perceptions towards immigration are not limited to perceived competition in an economic sense. Some research from the United States showed that increased European immigration post World War I increased discontent among natives not because of changes to the labour market (in fact, employment for natives increased due to increased industrial production) but because of perceived cultural differences between migrants and natives (Tabellini, 2020). This showed that even when immigration is economically beneficial for natives, it can be socially disapproved of.

In addition to insights into mechanisms by which local context can play a role in shaping immigration attitudes, literature also provides insights into specific location- and individual-based factors that influence these attitudes. For example, ample research shows that education is positively correlated with attitudes towards immigrants (Finseraas et al., 2018; Dražanová et al., 2024; Velásquez & Eger, 2022; Borgonovi & Pokropek, 2019; Margaryan et al., 2018). Further, Markaki & Longhi (2013) find that strong cultural identities held by those considered native to a region can induce anti-immigrant attitudes if they feel the incoming immigrants do not fit the mould of the local culture. Sides & Citrin (2007) find that perceived labour market threat can reduce support for immigration. Other research shows that individual demographic characteristics such as age, gender and education play a key role in shaping political attitudes as well as policy preferences (Alesina & La Ferrara, 2005). Some research goes further to suggest that members of different social groups hold distinctive political attitudes due to the identities that are linked to demographic characteristics such as race, religion, gender and sexuality (Jones, 2023).

While studies looking at individual factors affecting immigration attitudes provide a compelling evidence base for policy in this space, they do not provide any insight into the relative importance of these individual drivers relative to location based drivers. Further,

these studies also do not provide any insights into the total contribution of either individual or location based factors. This is likely because individual factors and location factors can be correlated because of geographical sorting into locations by age, ethnicity, income and other individual traits, making it difficult to parse out the effects of each using existing methods. Instead, these studies aim to isolate a single factor from the impacts of other, potentially co-moving factors to identify a causal relationship between the driver in question and immigration attitudes. In the regression design employed in this paper, co-moving factors are captured in the net total location effects.

Furthermore, policymakers still do not have a consensus on why the impacts of individual factors vary from context to context. For example, while some researchers (Dražanová et al., 2024) have shown that perceived labour market competition from immigrants of a similar skill level can reduce support for them because they are perceived as a threat, others (Hainmueller & Hiscox, 2007) have shown that higher education and skills levels of the natives is correlated with higher support for immigration across the board, regardless of the skill levels of the immigrants. Haaland & Roth (2020) showed that administering a treatment where people are told there are no adverse labour market impacts of immigration leads to people updating their beliefs about the perceived threats from immigration and subsequently increasing their support for immigrants. By capturing the combined effect of all factors varying across locations and individuals, these contextual differences become somewhat absorbed or irrelevant. The combined effect also captured the impacts of variables that are unobserved or difficult to measure.

Understanding the overall importance of individual versus location drivers has further policy implications. If the root causes of an individual's negative attitudes are characterised by the prevailing attitudes in the region they live in, then policies aimed at making attitudes more positive might be better tailored to geographical context. On the other hand, if one's attitudes are broadly driven by their individual traits such as education levels, then policies might be better directed towards these drivers.

Only a few studies have explored how location factors affect immigration attitudes in the UK (Markaki & Longhi, 2013), and even fewer have looked at both individual and location factors in the same study (Dustmann & Preston, 2007). None have analysed the overall

contribution of individual and location factors on immigration attitudes in the UK. I bridge this gap by estimating the total contribution of location in explaining shifts in attitudes towards immigration's impacts on the economy and immigration's impacts on cultural life when people move across parliamentary constituencies in the UK.

In addition to estimating the overall contribution of location for the entire sample in my analysis, I also analyse how this impact varies for different sub-groups of people. This is to understand whether different groups are more susceptible to location influences on attitudes. One sub-group I analyse is those who state they support the Conservative Party in the UK. I focus on this group because of prior evidence showing immigration attitudes tend to be linked to a party identity (Harteveld et al., 2017). Literature does not provide insight into whether Conservative party identity makes one more susceptible to location influences on immigration attitudes. However, there is evidence making the link from immigration in one's local context to Conservative party identity. Research from Austria shows that the inflow of immigrants in one's neighbourhood increases support for the right-wing government because the community feels there are adverse labour market impacts of immigration, and that the quality of the neighbourhood decreases (Halla et al., 2017).

A second sub-group I focus on is young people. I look at age because literature suggests that local factors have different impacts on political attitude formation for people at different ages. One theory that formalises this concept is political socialisation, which refers to the process by which political attitudes, values, and identities are shaped by one's environment when they are young, and that these attitudes, values and identities remain relatively persistent throughout later life. In its original conception by Hyman in 1959 and then its subsequent edition in 1969 (Dogan & Hyman, 1960), these political orientations were said to be developed through social interactions with agents in one's local context, such as neighbours and peers. Political socialisation has been widely evidenced in literature Neundorf & Smets (2017) across a range of political attitudes and behaviours including political participation (Holbein, 2017). Finally, I analyse whether location has a heterogenous influence on people with different levels of education, by gender, and by race, though there is a dearth in literature with respect to these sub-groups.

III. Model

A. Event study specification

To estimate the relative contribution of location on the change in immigration attitudes, I use an event study specification modelled after Finkelstein (2016). An event study allows one to track the change in a variable of interest after an event. In the context of this paper, the event is moving to another location, and the variable tracked is one of two immigration attitudes measured. The jump or drop at the move captures the contribution of location on the shift in attitude. That is, a statistically significant jump of 0.4 would mean that 40% of the change in attitudes is due to moving to the new location, while 60% is due to fixed characteristics movers take with them across locations. The specification allows for opposing directions for the change in immigration attitudes and provides an estimate of the share of the change that is attributable to location factors, rather than estimating specifically what the direction and size of the change is.

The event study specification is captured in equation (1). Movers are indexed by i , location (captured by parliamentary constituencies) by j and waves by w . The outcome y for individual i in year t is:

$$y_{it} = \tilde{\alpha}_i + \theta_{r(i,w)}\hat{\delta}_i + \tau_w + \rho_{r(i,w)} + \epsilon_{iw} \quad (1)$$

Here, $\tilde{\alpha}_i = \alpha_i + \gamma_{o(i)}$, which is a combined individual fixed effect composed of individual fixed effects α_i and origin area effects faced by the individual $\gamma_{o(i)}$. Further, τ_w is wave fixed effects, which absorb any characteristics of the wave that might impact the outcome variable. Individuals are either *movers*, who move from one location to another exactly once during the sample period, or *non-movers*, who remain in one location throughout. Movers who live in both the origin and destination locations during some wave w are omitted from the model for that wave.

The term $\rho_{r(i,w)}$ is a fixed effect for a mover in $r(i,w)$, and accounts for any arbitrary changes in the outcome variable for movers occurring from the move, and are restricted by the assumption that these changes are the same regardless of the origin and destination neighbourhoods. An example of such a change is a political shock associated with an election

that coincides with a wave, such as increased awareness of the impacts of immigration. The fixed effect is normalised to 0 for non-movers.

The wave relative to the move is defined by $r(i, w) = w - w_i^*$. This means that if a mover moves in 2005, then $r(i, w)$ is -2 if the wave in consideration is two survey waves prior to the one conducted in 2005, and 1 if the wave in consideration is the first survey wave conducted after the one in 2005. The waves are conducted at least once per year. The model assumes that $E(\epsilon_{iw} | \alpha_i, \rho_{r(i,w)}, \tau_w) = 0$.

The parameter of interest is $\theta_{r(i,w)}$ for each relative wave $r(i, w)$, which captures the mover's change in immigration attitudes y_{it} around the move, relative to the difference in average outcomes for the sample between the destination and origin $\hat{\delta}_i = \hat{y}_{d(i)} - \hat{y}_{o(i)}$. Therefore, a statistically significant discontinuity at the time of the move would indicate how much location factors impact immigration attitudes. An immediate change that is sustained over time might suggest that there are contextual factors that can be easily adopted that influence the change. On the other hand, changes over time (after a few survey waves) might suggest that there are contextual factors that take time to shape attitudes that might be at play, such as peer effects or social learning from neighbours in the destination location.

To explain why this specification allows for the estimation of the relative contribution of location and individual factors on changes in immigration attitudes, I delve further into how the decomposition occurs based on Finkelstein et al. (2016). Below is a simplified interpretation of the model, where the entire change in immigration attitudes post move for an individual i is attributable to either individual factors or location factors. That is, the wave fixed effects τ_w and mover fixed effects in the relative wave period $\rho_{r(i,t)}$ are non-existent. Then,

1. Let $c_{i,w} = \alpha_i + \rho_{r(i,w)}$, i.e. the combined total individual effect driven by individual fixed effects α_i and mover effects in relative wave $\rho_{r(i,w)}$.
2. Let $\bar{y}_{j,w}$ be the expectation of attitudes across individuals living in location j during last wave w .
3. Let \bar{y}_j be the average of $\bar{y}_{j,w}$ across waves.

4. Let $\bar{c}_{j,w}$ be the expectation of combined individual effect $c_{i,w}$ across individuals living in location j during wave w across individuals living in location j during last wave w .
5. let \bar{c}_j be the average of $\bar{c}_{j,w}$ across waves.

In this simplified specification, the difference in average immigration attitudes between two locations j and j' is the total of the difference in location and individual fixed effects between the destination and origin locations since all other effects are set to 0. That is,

$$\bar{y}_j - \bar{y}_{j'} = (\gamma_j - \gamma_{j'}) + (\bar{c}_j - \bar{c}_{j'})$$

Then, the relative share of location and individual factors in the total effect post move would be as captured in the following two equations, where $C_{location}(j, j')$ would capture the relative contribution of location factors, and $C_{individual}(j, j')$ would capture the relative contribution of individual factors, and be additively equal to 1:

$$C_{location}(j, j') = \frac{\gamma_j - \gamma_{j'}}{\bar{y}_j - \bar{y}_{j'}}$$

$$C_{individual}(j, j') = \frac{\bar{c}_j - \bar{c}_{j'}}{\bar{y}_j - \bar{y}_{j'}}$$

If a large number of people then move from some origin location j to some destination location j' , and there is a resultant shift in the immigration attitudes in the destination location, then the difference between outcomes pre and post move would be a consistent estimator of $\gamma_j - \gamma_{j'}$. That is, the estimator would become closer to the true value as the sample of movers increases. Further, since this specification assumes that the total outcome shift is entirely attributable to either location or individual factors that sum to 1, the difference between the total outcome change and the location effect change $y_j - \gamma_j$ would be a consistent estimator of the change driven by individual effects.

The simplified version of the model can be extended to the event study representation with some additional considerations. Firstly, if all movers in the sample only had one direction of move from one origin location j to one destination location j' , then an event study plot could be derived from the trajectory of the immigration attitudes for each successive wave. However, with multiple origins and destinations, this would no longer make sense in aggregate. To account for this, the event study design from Finkelstein et al. (2016)

employed in this paper implements a specification that scales the outcome (immigration attitudes) in a way that makes the jump a useful estimator of location impacts despite the many different combinations of origin and destination locations. This scaled outcome is:

$$y_{i,w}^{scaled} = \frac{y_{i,w} - \bar{y}_{o(i)}}{\bar{y}_{d(i)} - \bar{y}_{o(i)}} \quad (2)$$

This outcome will be 0 if the mover's immigration's attitudes are exactly equal to the average attitudes in the origin location, 1 if the attitudes are exactly equal to the destination location and between 0 and 1 if between the two averages. The average scaled outcome will thus be constant before and after the move and the change at the move will determine the impact of the location if the model is correct.

In addition to the above, the event study would need to account for the controls that were previously set to 0, namely, the wave fixed effects τ_w and mover fixed effects in the relative wave period $\rho_{r(i,t)}$. Secondly, individuals could move from origin to destination locations that have a negligible difference in average immigration attitudes, making the denominator in equation (2) very small and the estimate $y_{i,w}^{scaled}$ behave poorly. To prevent this from occurring, the model proposes the event study specification used in this paper which parameterises the interaction with $\bar{y}_{d(i)} - \bar{y}_{o(i)}$ for the sample as a flexible function of the relative wave to arrive at equation (1). Here, the sample version of $\bar{y}_{d(i)} - \bar{y}_{o(i)}$ is captured as $\hat{\delta}_i$. Then, the relative wave coefficients can be interpreted similarly to the average $y_{i,w}^{scaled}$ as they estimate the shifts in the outcome $y_{i,w}$ in the wave around the move. The full derivation of the model can be found in Finkelstein et al. (2016).

Attitude adjustment

My research question aims to estimate the overall contribution of location factors on immigration attitudes. However, by characterising location on the basis of average immigration attitudes in a region, the empirical specification also helps shed some light on attitude adjustment. This is because the $\theta_{r(i,w)}$ is relative to the difference in average attitudes between the destination and origin locations, so the estimate post move captures the convergence towards the average attitudes in the destination location. Thus the model is helping test whether exposure to a location where people who have a particular attitude or belief shapes one's

own attitude or belief. In this section I detail what it means for location to be characterised by average immigration attitudes in that region and how I do this in the model.

To characterise location on the basis of average attitudes, I compute the average score that respondents from that location give in response to two specific dimensions of immigration attitudes measured in the dataset - (1) how good or bad immigration is for Britain's economy, and (2) how much immigration undermines or enriches Britain's cultural life. These attitudes are elicited through two questions in BESIP on a scale of 1 to 7, with 1 being bad for (1) and undermining for (2), and 7 being good for (1) and enriching for (2). The exact wording of the questions used in the analysis can be found in Appendix A Table A.2. Note these two questions are also used as the outcome variables.

It is important to note that while the interpretation of the overall contribution of location in explaining shifts in attitudes towards immigration post move is causal, an interpretation of whether the impact is due to people converging to the incumbent views in a region or due to other location factors is not. The underlying mechanisms driving any shifts in perceptions have not been tested for with the current empirical framework, rendering any predictions around attitude adjustment only exploratory.

Party affiliation

As a robustness check I also present an alternative characterisation of location where location is defined on the basis of average party affiliation in that region rather than average immigration attitudes. In this specification, I use a variable in the BESIP panel that measures vote intention in each parliamentary constituency. Survey respondents are asked which party they would vote for if there were a general election held the following day. The exact wording of the question and the list of options provided to the survey respondents can be found in Appendix A Table A.2. While the question measures party affiliation for each individual respondent, the combined mean affiliation in each constituency is used to measure the general level of *partisanship* in each location, where a majority support for a given party is an indicator of stronger partisanship in that area, relative to an area where there is a bigger spread of support across the different parties. Details around why party affiliation is specifically considered can be found in Chapter VI. Robustness checks.

B. Identification

The model aims to estimate the relative contribution of location and individual factors to the change in immigration attitudes. The effects would therefore be identified only if the specification is able to attribute the jump up or down at the time of the move in the event study to destination location factors.

The key assumption in the model that would need to be satisfied to achieve identification is that the *changes* in movers' attitudes are not systematically correlated with the differences in the average attitudes between the destination and origin locations, meaning that movers who are say becoming more positive towards immigration over time do not then respond by moving to a location where there are more positive attitudes. This pre-trend would mean that the jump up or down at the time of the move would not necessarily be attributable to the new location because a shift was already occurring prior to the move. This is similar to the identifying assumption in a regression discontinuity.

Notably, any possible correlation between individual factors that do not change over time and differences between origin and destination locations does not threaten identification. This is because these *level* effects are already captured in the individual fixed effects in the model. An example of this would be someone who was always pro immigration living in constituencies where people tend to be pro immigration. The critical point to note here is that the attitude this person holds is not changing overtime to coincide with a move to a location where there are more pro immigration attitudes. On a larger scale, if this were the case for many movers, this would show up in the model as a pre-trend which can be observed. These level differences are instead captured as individual fixed effects. Further, since the data contains people moving from different pairs of origin and destination locations, the model is able to observe differences in the changes in immigration attitudes for different movers across different pairs by comparing the changes in individual attitudes to differences between average attitudes across locations. In the absence of movers, the individual effects would be absorbed into location effects.

C. Model restrictions

If the key identifying assumption aforementioned is not fulfilled, then the event study would return a biased estimate. In other words, if factors that influence immigration attitudes systematically correlate with differences in immigration attitudes between a mover’s origin location and destination locations, then the jump post move would at least partly be a result of the pre-moving factors rather than factors attributable to the new location. I test for whether this is a restriction by looking at pre-trends in the event study specification and find that there is no evidence of pre-move changing factors, maintaining the causal interpretation of the estimate (see plots in Figure 3).

Second, a shock that occurred exactly at the time of move and affected immigration attitudes would bias the estimate since the jump post-move would be partly attributable to this shock. An example of this would be a major national anti-immigrant protest, such as the recent violent clashes with the police that took place in the North of England. While these shocks cannot be directly tested for, they are unlikely to bias the estimate because they would need to affect a large number of people in the sample who are also coincidentally moving at the time of the protests, and also induce a unidirectional change in attitudes. In reality, such protests might induce negative attitudes towards immigrants for some people and induce sympathy or empathy for others. One major shock that could have a significant effect is Brexit. To account for this, I remove wave 6 from my analysis, since it coincided with the 2016 Brexit referendum.

IV. Data

A. British Election Study Internet Panel (BESIP)

I use the British Election Study Internet Panel (BESIP) to measure immigration attitudes in the UK. The BESIP is a longitudinal dataset that captures detailed information about the political attitudes, behaviors, and demographic characteristics of British voters. Conducted by the British Election Study team based at the University of Oxford and Manchester, the BESIP contains data from 25 waves from February 2014 to May 2023, allowing for an analysis of changes in public opinion on immigration, voting patterns, and the impact of various

political events. It also includes a wide range of variables related to electoral choices, party support, policy preferences, and socio-economic factors. I use UK parliamentary constituencies (UKPCONs) as the geographic boundaries for my main analysis, and Lower Layer Super Output Areas (LSOAs) as the geographic boundaries for one of my robustness tests.

The data for the British Election Study Internet Panel (BESIP) is collected through online surveys administered by YouGov, who poll approximately 30,000 participants in each wave. Participants are selected to reflect the demographic and political diversity of the British electorate from a larger pool of approximately 1 million respondents who have opted in to participate. In total, there were 8,450 movers who moved from one parliamentary constituency to another exactly once within the period of analysis.

While one of the most comprehensive datasets on the political attitudes in the UK, BESIP contains some notable limitations. First, only 2.5% of the original sample from 2014 have stayed until 2023 due to panel attrition (see Appendix A Table A.1). This can potentially induce bias in the sample if attrition results in a sample that is no longer representative of the broader population. The research team managing BESIP accounts for this by regularly topping up the dataset to maintain representativeness. While top-ups would mitigate bias, attrition still impacts studies that rely on tracking the same individuals over time. This is not a major limitation for the current study design, which mainly relies on data immediately post a move, and a few waves after move.

Second, the dataset contains either duplicate values for some waves, insufficient observations for some locations, or missing values across some individuals and waves for questions that are not mandatory to answer. Depending on who chooses not to answer, missing values could induce bias in the dataset when calculating average attitudes in a region, or simply reduce the sample size. To address the issue of duplicate values, I remove observations for wave 21 where the doubling values occur within the wave. To address insufficient observations, locations where there are fewer than 5 unique survey respondents are removed (see sub-section C in Section IV for details). To address missing values, people with missing weights or values are also removed from the final sample for analysis.

Third, observations are not equally weighted across geographical regions. The BESIP team account for this by assigning weights to regions to create a balanced sample.

Finally, some waves coincide with major political events that might affect attitudes towards immigration, namely Brexit. While it is unlikely Brexit would induce major bias in the sample because it the referendum would have to occur exactly at the time people moved across locations for a relatively large number of people. Nevertheless, I remove wave 6 which coincided with the 2016 referendum.

B. Summary statistics

The model is estimated using a sample of 8,450 movers who relocate from an origin location to a destination location exactly once, and 89,664 non-movers, who never move for the whole duration of analysis. On average, both movers and non-movers display similar demographic characteristics over gender and ethnicity. Both movers and non-movers are also well matched for political affiliation across the two major parties (Labour and Conservative), on the basis of which partisanship for the locations has been characterised. Movers are slightly younger with a mean age of 47 than non-movers with a mean age of 53. They are also more educated on average, with a higher proportion of those with an undergraduate degree (41.5% versus 36.8%) and postgraduate degree (13.7% versus 8.7%). Full summary statistics are captured in Table 1 below.

Table 1: Summary statistics for movers and non-movers

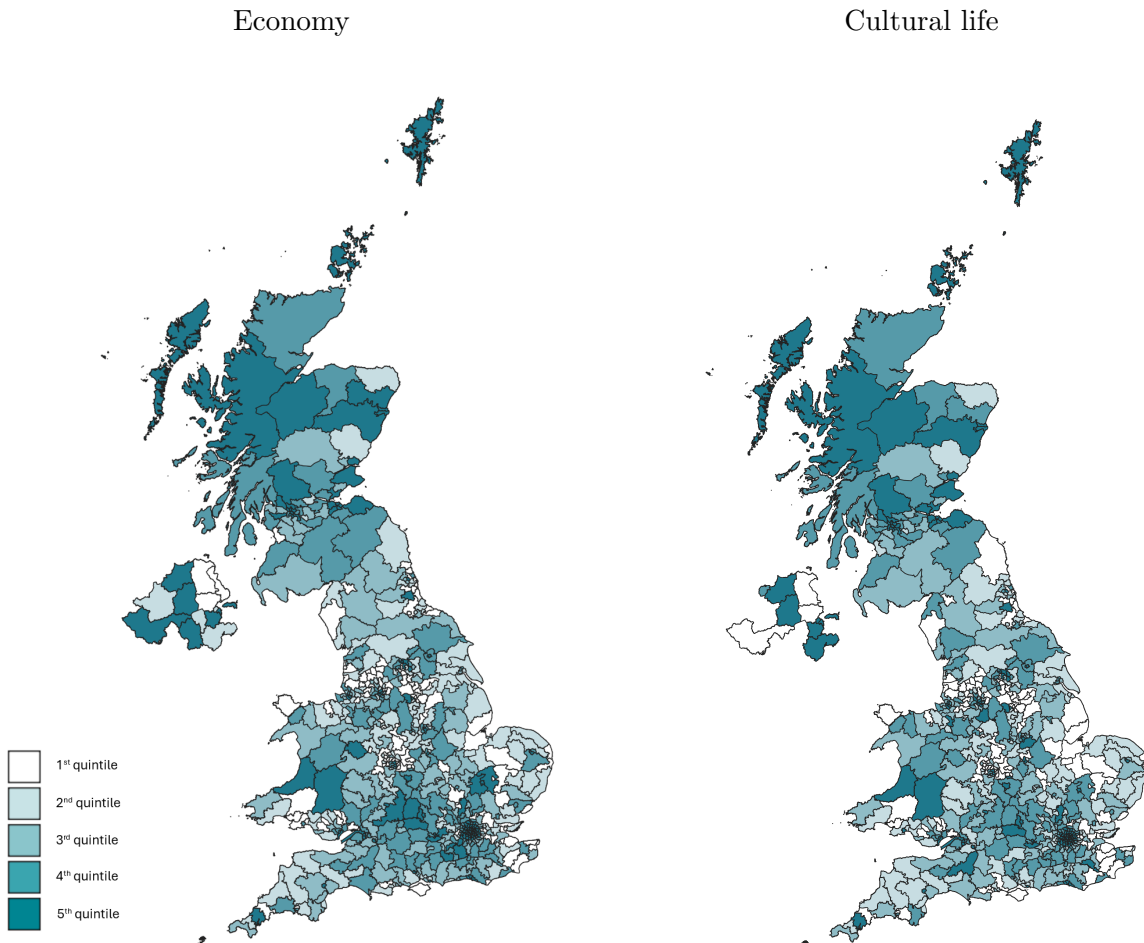
	Movers (1)	Non-movers (2)
Female	53.4%	52.6%
Mean age	46.7	53.5
Race [†]		
<i>White</i>	93.4%	92.3%
<i>Asian</i>	3.1%	2.6%
<i>Black</i>	1.7%	2.2%
<i>Other</i>	2.3%	2.9%
Highest qualification		
<i>Postgraduate</i>	13.7%	8.7%
<i>Undergraduate</i>	41.5%	36.8%
<i>A-level</i>	21%	21%
<i>GCSE</i>	15.9%	21.5%
<i>Below GCSE</i>	3.1%	4.5%
<i>None</i>	4.8%	7.5%
Country		
<i>England</i>	82.5%	79.1%
<i>Scotland</i>	12.5%	13.1%
<i>Wales</i>	5.0%	7.8%
Party affiliation ^{††}		
<i>Labour</i>	26.6%	24.9%
<i>Conservative</i>	27.6%	29.9%
<i>Liberal Democrats</i>	9.3%	8.3%
<i>Reform UK</i>	6.2%	7.5%
Sample size (N)	8,450	89,664

Notes: Columns (1) and (2) report summary statistics for movers (those who move across locations exactly once) and non-movers (those who never move across locations for the duration captured in the sample). Table based on Cantoni & Pons (2022). [†]Race variable recoded from ethnicity variable. ^{††}Party affiliations not captured in the table include: Scottish National Party (0.051; 0.049), Plaid Cymru (0.007; 0.008), Change UK (0.001; 0.001), Other (0.012; 0.011); Independent candidate supporters (0.001; 0.001); and non-voters (0.039; 0.037).

C. Average attitudes across the UK

The following maps visually depict average immigration attitudes in the UK towards the economy and towards cultural life. The left panel contains the average score given by respondents when asked how good or bad immigration is for Britain’s economy, while the right panel contains the average score when asked how much immigration undermines or enriches Britain’s cultural life. Both responses are measured on a scale of 1 to 7, with 1 being ‘bad’ for the economy, and ‘undermining’ for cultural life, and 7 being ‘good’ for the economy or ‘enriching’ for cultural life. The average of these scores have been computed for the each constituency and presented as quintiles, where the first quintile contains the lowest 20th percentile of support, and the 5th quintile contains the highest 20th percentile of support.

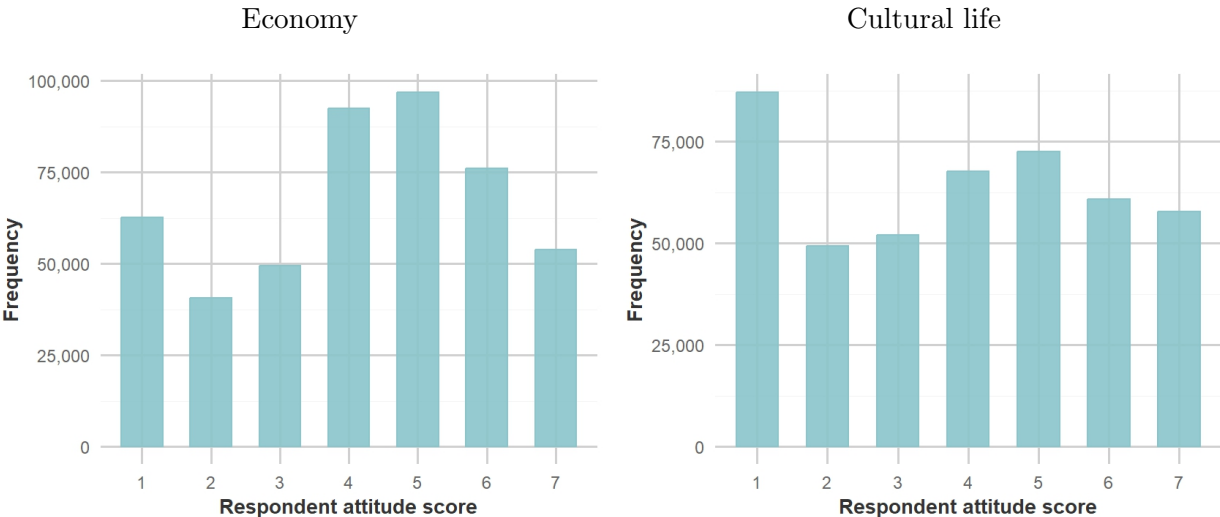
Figure 1: Average immigration attitudes by UKPCON



There are 650 geographic units in the map and the main event analysis corresponding to the total number of parliamentary constituencies in the UK (533 in England, 59 in Scotland, 40 in Wales, and 18 in Northern Ireland). The changes to constituency boundaries implemented in 2024 were not captured in period of analysis, so the maps correspond to the boundaries prior to 2024. Across all constituencies in the UK, the average score for the economy is 4.19 and 3.90 for cultural life, suggesting that people in the UK appear to be more favourable towards immigration’s impacts on the economy over its impacts on Britain’s culture. Further, people in London seem to contain a high density of people who are more favourable towards immigration, though this could partly be a result of a higher concentration of political constituencies in the region.

Some constituencies, particularly in Northern Ireland, contain fewer than 5 unique survey respondents in the BESIP panel and have been removed from the main analysis. These are: Mid Ulster, South Antrim, Belfast South, North Antrim, East Londonderry, North Antrim, Newry & Armagh and East Antrim. They have been included in the map but should be interpreted with caution due to the low sample size. The distribution of the respondent attitude scores for the economy and for cultural life used to compute the averages for each constituency are captured in the histograms in Figure 2. The floor effect noted for the right panel could be an indicator of even more hostile views towards immigration’s impacts on cultural life.

Figure 2: Distribution of immigration attitudes: raw scores

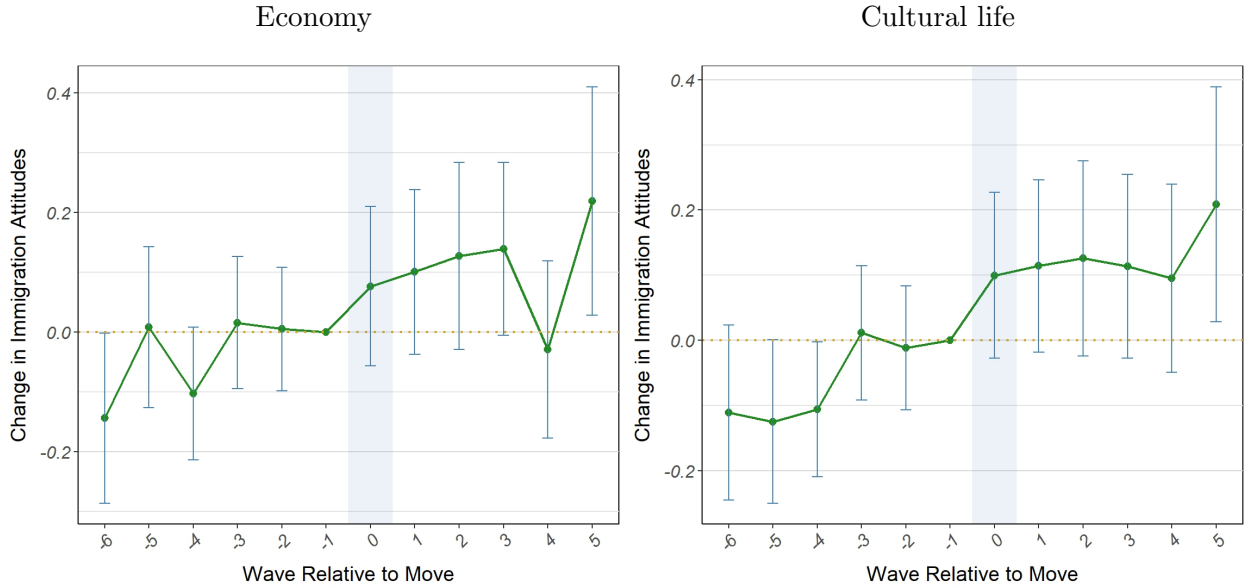


V. Results

A. Main findings

The main event study findings depicted in Figure 3, which plots the $\theta_{r(i,t)}$ coefficients from the event study estimation by equation (1) for attitudes towards immigration’s impact on the economy (left panel) and on cultural life (right panel). The coefficient for wave -1 is normalised to 0, so wave 0 highlighted in blue captures the first wave after the move, and the estimates for every successive wave is relative to the normalised wave.

Figure 3: Main event study plots



The $\theta_{r(i,t)}$ coefficients in the two plots capture the mover’s change in attitudes relative to the difference in average outcomes for the sample between the destination and origin $\hat{\delta}_i = \hat{y}_{d(i)} - \hat{y}_{o(i)}$ locations with 95% confidence intervals. The plots show that location does not explain any immediate variation in attitudes towards immigration, both towards its impact on the economy and its impact on Britain’s cultural life. The results are identified because the plots show no pre-trends prior to the move. In other words, there is no correlation between changes in attitudes and the destination-minus-origin differences in average attitudes prior to the move (waves -6 to -2), since the coefficients for θ_{-6} and θ_{-2} are close to 0 and confidence intervals cross 0.

I estimate the $\theta_{r(i,t)}$ coefficients for 5 waves post-move to ascertain both the immediate and long-term effects of the move in case attitudes take time to shape up. An increase in the post-move coefficients after a few waves would suggest that there are peer effects or other slow-moving factors that have an impact over time. The results show there are some longer term impacts of location for wave 5 in each panel. To check the reliability of this interpretation, I extend the analysis to 10 waves post-move and find that the significant effects disappear, suggesting wave 5 likely presents some random variation rather than reliable results. The point estimates for the regression are captured in Appendix B Table A.3.

B. Heterogeneity by mover characteristics

Next, I investigate whether location has an impact on changes in immigration attitudes for different sub-groups of people. I specifically look at heterogeneity by gender, party affiliation, age group, education level and race, by re-estimating the $\theta_{r(i,t)}$ coefficients for each filtered sub-group. I find that while location does not have an impact on attitudes for the entire sample, it has sustained impacts on those who state they support the Conservative party, and immediate impacts on young people aged between 15-24. The point estimates of the jump at move for these groups is summarised in Table 2, which capture the θ_0 estimated from equation (1) for each sub-group of interest. The following sub-sections contain further detail into each of these sub-groups.

Table 2: Results of sub-group analysis: θ_0 estimates (jump at move)

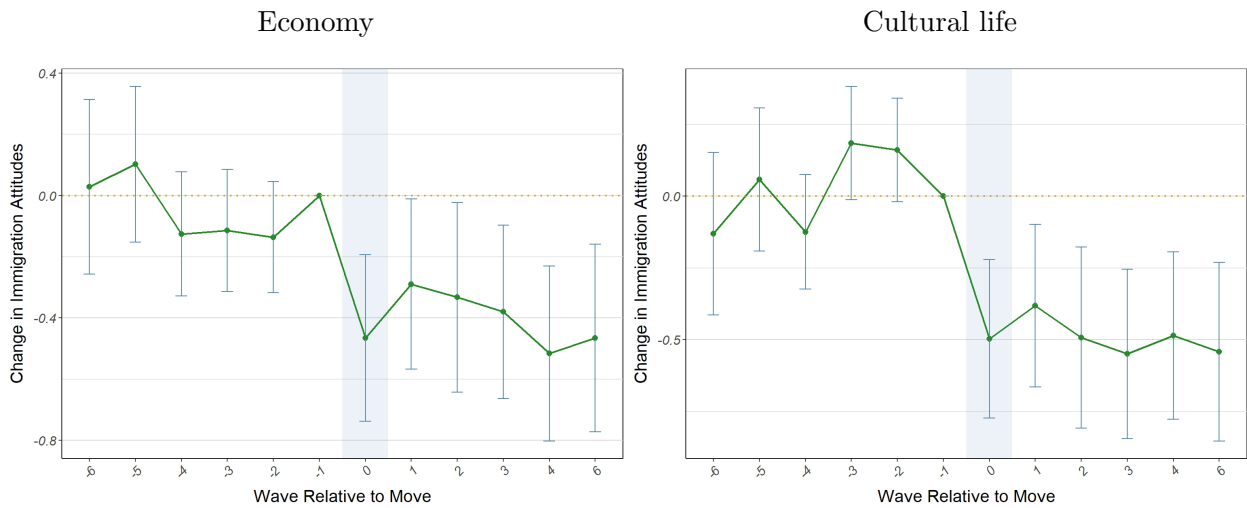
	Economy	N	Cultural life	N
Party affiliation	-0.476 (0.143)***	1,296	-0.544 (0.146)***	1,296
Age group				
15 – 24	0.114 (0.199)	744	0.150 (0.289)	744
25 – 49	-0.252 (0.082)	2,351	-0.151 (0.080)	2,351
50 – 64	0.076 (0.120)	1,121	-0.051 (0.158)	1,121
65+	-0.061 (0.212)	828	0.353 (0.218)	828
Education				
<i>No qualifications</i>	-0.346 (0.581)	159	0.163 (0.497)	159
<i>GCSE</i>	-0.547 (0.375)	501	0.209 (0.206)	501
<i>A-level</i>	0.067 (0.299)	693	0.232 (0.259)	693
<i>Undergraduate</i>	0.104 (0.119)	1,474	0.138 (0.112)	1,474
<i>Postgraduate</i>	-0.106 (0.173)	512	-0.065 (0.163)	512
Race [†]				
<i>White</i>	-0.344 (0.254)	259	-0.293 (0.248)	259
<i>Black</i>	NA		NA	
<i>Asian</i>	-0.259 (0.699)	115	-0.722 (0.636)	115
<i>Other</i>	NA		NA	
Female	0.066 (0.080)	2,771	-0.120 (0.110)	2,771

Notes: Table reports estimates of θ_0 capturing the jump at the time of move, as estimated by the event study in equation (2) for sub-groups characterised by gender, education, and age group. Location has been characterised by average immigration attitudes. [†]'Black' and 'Other' have been excluded due to small sample size of movers. Standard errors for each estimate are reported in parentheses. The statistical significance of each estimate is given by the p-value where $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

1. Party affiliation

I look at whether there are any impacts of location for people who specifically identify with the Conservative Party because of evidence that shows that attitudes towards immigration are strongly linked with conservative party identities (Harteveld et al., 2017). Following from this, it could also be possible that people who support the Conservative party are more susceptible to influences when moving to a destination location where people on average hold more different immigration attitudes than in their origin location. Furthermore, if locations where people hold more positive immigration attitudes on average are also locations where there are a higher number of immigrants, than the Conservative party identity could also lead to a higher likelihood of displaying intergroup competition where observable immigrants in one’s surroundings increase perceive threat from immigrants. The results from this subgroup analysis is visually depicted in Figure 5 below:

Figure 4: Conservative party affiliation



As seen in the event study plots, location has a statistically significant sustained impact on attitudes towards immigration for those who identify as supporting the Conservative party, both with respect to the economy as well as cultural life. Moving to a new location explains 47.6% of the shift in attitudes towards immigration’s impact on the economy, and 54.4% of the shift in attitudes towards immigration’s impact on cultural life.

2. *Age*

I look at age because literature suggests that contextual factors have different impacts on people at different ages. I rerun the event study for the following age groups: 15-24, 25-49, 50-64 and 65+. The youngest of these age groups (15-24) is created based on literature stating that the period between childhood and adulthood are the impressionable years during which social interactions form the basis of political attitudes and behaviours (Jennings, 1979; Highton & Wolfinger, 2001; Holbein, 2017). This is because people at this age are still exploring the political sphere and are thus more susceptible to contextual influences. Knoke et al. (1982) proposes it is between the ages of 17-25 when this occurs.

I find partial evidence for political socialisation with respect to immigration attitudes. The sub-group analysis reveals that individuals between the ages of 15-24 are affected by their surroundings 5 waves after the move (corresponding to between 1-2 years) when looking at attitudes towards immigration's impacts on the economy, suggesting peer effects. However, there are no effects for attitudes towards cultural life. The effect for attitudes towards the economy is sustained over waves 5 and 6 and can be seen in Appendix B Figure 1. I check whether these results are robust to a longer time frame and find that location impacts for attitudes towards the economy are sustained over time. There are no significant impacts for any of the other age groups, suggesting that only younger people seem to be impacted by their new environment. It should be noted that while these estimates are a reliable indicator of how much location influences changes in attitudes for young people, their interpretation in the context of political socialisation theory is only an exploratory prediction, since the underlying mechanisms of social interactions have not been formally tested.

3. *Education*

I look at education to see whether it affects susceptibility to location influences, though I do not find evidence for this in literature. Re-estimating the event study for people with different levels education shows that location does not explain shifts in immigration attitudes, both towards the economy and towards cultural life, consistent with the main event study findings. This finding holds true immediately post move as well as in the longer term.

4. Race

I look at race to understand whether people who are from an immigrant background themselves, either as the first generation or a few generations down with family heritage from another minority country affects susceptibility to location factors in determining attitudes towards immigration. Ideally, this analysis would be conducted at the ethnicity level for a richer understanding of these dynamics, particularly if it could be compared against the ethnicity spread across locations. However, due to sample size restrictions for most ethnicity groups in the dataset except 'British Whites', this analysis is not possible. Instead, I conduct this analysis for race groups that I create using the ethnicity variable contained in the BE-SIP panel. These race groups are *White*, capturing those that selected 'White British' and 'Any other white background', *Black*, capturing those that selected 'Black African', 'Black Caribbean', 'Any other black background', *Asian*, capturing those that selected 'Chinese', 'Indian', 'Bangladeshi', 'Pakistani', and 'any other Asian background' and *Other* for those that selected 'Other ethnic group'. The analysis does not include those of mixed race due to the low sample size of people identifying as mixed race. Table 2 reports the results from the event study conducted specifically for each of these race groups.

I find no significant effects of moving to a new location on attitudes towards immigration, both in terms of its impacts on the economy and its impacts on cultural life, when focusing on a particular race. This continues to be true over waves, suggesting there are also no peer effects that shape attitudes for a particular race over time. A caveat of this analysis is that due to sample size restrictions, the analysis could not be conducted for White and Asian people in the sample.

5. Gender

Finally, I look at whether location has different impacts on immigration attitudes by gender, though though I do not find strong precedence for this in literature. I find no statistically significant effects of moving to a new location on attitudes towards immigration, both in terms of its impacts on the economy and its impacts on cultural life, when focusing on a particular gender. This continues to be true over waves, suggesting there are also no

peer effects that shape attitudes over time. The analysis could only be conducted for those identifying as either 'female' or 'male' due to survey restrictions.

VI. Robustness checks

I re-estimate the model using two alternative definitions of 'location' to test the robustness of the finding that location does not affect changes in immigration attitudes.

1. Geographic boundaries: UKPCON to LSOA

The intuition behind redefining the geographic boundary from UKPCONs to Lower Layer Super Output Areas (LSOAs) is to check whether the impact of location on immigration attitudes is an artifact of the specific geographic boundary used. There are 650 geographic units in the main event analysis corresponding to the 650 parliamentary constituencies in the UK. LSOAs are smaller geographic units with an average population of 1,500 people or 600 households. The smaller size of these units results in a more granular analysis of location due and an increased sample size of movers from 8,450 to 27,392. Further, location characteristics that were not being captured within the larger UKPCON can now be captured as variations between locations.

Appendix C Figure 2 contains the plots for the $\theta_{r(i,t)}$ coefficients estimated by equation (2) for attitudes towards immigration's impact on the economy (left panel), and towards immigration's impact on cultural life (right panel). Both are plotted with 95% confidence intervals. As in the main findings, the $\theta_{r(i,t)}$ has been estimated for 5 successive waves to ascertain the long term effect of the move in case attitudes take time to shape up. The plots show that there is no statistically significant impact of location on shifts in immigration attitudes post move for the full sample, either immediately or over time. This is consistent with the findings from the main event study, suggesting the findings are valid across varied definitions of location in the UK.

2. Partisanship

For the second robustness check I keep the original geographic boundaries to UKPCON but characterise location not by average immigration attitudes in each location but by party affiliation. Specifically, I look at whether attitudes towards immigration are affected by moving to a destination location that is more or less Conservative than the origin location. I use a BESIP variable that captures vote intention by asking people which party they would vote for if there were a general election the following day. The exact wording of the question is provided in Appendix Table A.2. This is the best available indicator of party affiliation in the BESIP dataset without observing actual voting behaviour. The total support for each party relative to the total support across all parties within a location gives a measure of average party affiliation at a constituency level. I use the average vote intention specifically for the Conservative Party to estimate how moving to a location that is more or less Conservative than the origin location explains changes in immigration attitudes post move.

Appendix C Figure 3 contains the plots for the $\theta_{r(i,t)}$ coefficients estimated by equation (2) for attitudes towards immigration’s impact on the economy (left panel), and towards immigration’s impact on cultural life (right panel). Both are plotted with 95% confidence intervals. The model specification is the same as in the main event study, with the exception that the $\theta_{r(i,t)}$ coefficients now capture the mover’s change in attitudes relative to the difference in average party affiliation for the sample between the destination and origin $\hat{\delta}_i = \hat{y}_{d(i)} - \hat{y}_{o(i)}$ locations, rather than the relative difference in average immigration attitudes between the destination and origin locations. As in the main findings, the $\theta_{r(i,t)}$ has been estimated for 5 successive waves to ascertain the long term effect of the move in case attitudes take time to shape up.

The results show that location still does not have an impact on changes in immigration attitudes post move, both immediately or over time. This is in line with the main event study findings. These results are notable in the context of prior research from the US that has shown that moving to a more conservative location can affect political preferences (Cantoni & Pons, 2021). In the UK, it seems this is not the case for immigration attitudes, which are more likely shaped by individual traits that people carry with them when they move.

VII. Discussion

In this paper I estimated the overall contribution of location in explaining shifts in attitudes towards immigration in the UK. Using the BESIP panel dataset, I tracked the changes in attitudes for people who moved exactly once during the time period between 2014 and 2023 post-move using an event study specification based on Finkelstein et al. (2016). The two specific dimensions of attitudes I considered in the analysis are (1) immigration's impacts on the economy, and (2) immigration's impacts on cultural life.

For the full sample, location does not play a statistically significant role in explaining shifts in attitudes towards immigration, both with respect to its impacts on the economy and its impacts on cultural life. However, I find that there are significant effects for young people and for those who state they support the Conservative Party. For people who state they support the Conservative Party, location explains 47.6% of the shift in attitudes towards immigration's impacts on the economy, and 54.4% of the shift in attitudes towards immigration's impacts on cultural life. For young people aged between 15-24, location explains 75.5% of the shift in attitudes towards immigration's impacts on the economy on average across waves 5 and 6. There are no statistically significant impacts for any other sub-groups analysed in tandem with the findings for the full sample.

These results suggest that on average, people carry with them the individual traits that help shape attitudes when they move across locations. However, for young people and those who state they support the Conservative party, environmental context does play a role. The empirical framework used in the paper does not allow for the underlying mechanisms behind these results to be analysed; however, I explore possible theories in literature that might help shed some light on the possible drivers at play. A possible explanation for why there is an effect of location on attitude shifts for young people is political socialisation, which has been strongly widely evidenced in literature. Political socialisation suggests that political attitudes, values, and identities are developed as a result of social interactions with agents in one's local context when they are young, such as neighbours and peers, and that this generally occurs when people are aged 17-25. This paper finds a significant location effect for young people aged 15-24 after a few waves (suggesting peer effects), and no effects for

any other age group.

For Conservative party supporters, the results show a statistically significant and sustained negative impact of moving to a location that is more positive in attitudes towards immigration on average, relative to the origin location. A possible explanation for this could be that Conservative party supporters tend to display a strong link between party identity and attitudes towards immigration. This could manifest in more negative perceptions towards immigration when they move to a destination location with more positive attitudes if they want to protect or preserve their party identity. Furthermore, if the destination location with more positive average attitudes also happens to have a higher concentration of immigrants, then intergroup competition or increased salience of immigration in the neighbourhood could play a role in driving the effect. It must be emphasised again that these explanations are only predictions based on literature and not formally tested in the paper.

The empirical method also sheds some light on attitude convergence. By characterising location on the basis of average attitudes in that region, the analysis also provides some insight into whether people update their attitudes based on their surroundings. A caveat to this interpretation is that while the estimate of the total contribution of location on attitude shifts is causal, deeper insights into whether this is because people converge to the attitudes of the people in their surroundings or whether there are other common location factors that explain this shift cannot be ascertained. That is, location-based factors that are not related to others' perceptions, such as the cultural diversity in the neighbourhood or local media circulation could be contributing factors.

Finally, I also explored whether the findings were robust to two alternative characterisations of location to ensure the results weren't an artefact of how location was defined. In the first alternative characterisation, I redefined the geographical boundaries from UKP-CONs to LSOAs, and found that location continued to play no statistically significant role in explaining attitude shifts for the full sample. In the second alternative characterisation, I characterised parliamentary constituencies on the basis of average party affiliation rather than average immigration attitudes. In addition to providing another validation check for whether the results were sensitive to specific characterisations of location, this alternative specification helped explore the link between attitude adjustment and partisanship. As in

the first case, the main event study findings were robust to this alternative specification, and location showed no statistically significant impact on attitude shifts.

The findings in this paper have important policy implications. For policymakers, knowing whether location impacts political attitudes can be just as important as knowing which individual traits shape attitudes. For example, knowing whether higher cultural and social diversity in a location leads to more positive views on immigration can be important in designing localities that foster cross-cultural integration. Similarly, knowing whether harsh local economic conditions such as unemployment distress, housing constraints, crime or poverty lead to more negative views towards immigration can be important in targeting welfare initiatives to specific regions facing distress.

Since this paper showed that attitudes towards immigration appear to predominantly be driven by individual factors that people carry with them when they move, a government aiming to improve attitudes might be best placed directing policies that target individual determinants of attitudes. In the short term, this could be education campaigns addressing misconceptions towards immigrants in terms of how they impact the economy. Further, campaigns that counter negative stereotypes of how immigrants impact cultural life could also be effective. In the longer term, this could be through policies that promote economic and social well-being or provisions for economic security so that immigrants are not perceived as a threat in the labour market. Since the event study does not explore specific individual factors that shape immigration attitudes overall, it is difficult to identify where exactly the policy focus should be. This would be an important future direction for this research.

The findings of this paper should be interpreted in the context of its limitations. First, the BESIP dataset contained notable limitations around sample maintenance, representativeness, attrition and incomplete responses, as addressed in the data section. Data limitations made it difficult to ascertain long-term effects past a few waves, which is a notable limitation in the context of attitudes because they can take time to shape up when entering a new environment. The paper also contained some technical limitations in interpreting results for Scotland, due to the pervasiveness of Independents and complexities around nation identity with respect to considerations around remaining a part of the UK. For example, Labour supporters might vote for SNP because they want a strong voice for Scotland in elections, or

Conservative supporters might vote for Labour in some elections to beat an SNP candidate. This means that incentives for voting Conservative are not as clearly related to identity and policy preferences. This is not a limitation for the main analysis but should be considered for the robustness check, where location has been characterised by Conservative party affiliation.

Several avenues for future research could further enhance research in this space. Testing whether the results are robust across different datasets and different jurisdictions would enable a comparison of attitudes in the context of differing political, social and economic contexts. For example, some research from the US has shown that local context influences party affiliation, voter registration and voter turnout, and these could also hold for immigration attitudes. If so, then the external validity of the findings in this paper is limited to the UK. Such comparisons could reveal whether similar patterns exist elsewhere and highlight any unique factors that specifically affect the dynamics in the UK.

Future research should also delve into the specific factors that seem to be driving shifts in attitudes. While this paper provides important insights on the overall contribution of location on attitudes, it does not go into specific factors, either individual-level or location-level that explain attitude shifts. In reality, there could be many different factors in one's locality that cause shifts in attitudes, such as personal interactions or experiences with immigrants in the location. Attitudes could also be influenced by the origin country of the immigrants in the neighbourhood, particularly if people exhibit homophily towards those from a similar ethnic background.

Finally, there is scope for further analysis of long term attitude formation. Due to panel attrition and missing values in the analysis sample, long-term attitude formation could not be specifically studied. However, if this analysis could be conducted over a longer time frame, one could also measure how these attitudes translate to relevant political behaviours. An example of this from the recent past would have been voting preferences on the Brexit referendum. Ultimately, immigration will likely continue to be at the forefront of public discourse for decades to come. Balancing strong conceptions of national identity with sustainable immigration will require a concerted effort to understand how attitudes are formed, how they change, and what causes these shifts in perceptions.

Code availability: https://osf.io/hfud4/?view_only=b2494560367e4a28b79e57b3eda1bcd2

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Appendix A

Appendix A provides information about the BESIP dataset. Table A.1 contains the frequency distribution of survey waves taken by respondents. Table A.2 contains the survey questions and response outputs used in the analysis.

Table A.1: Frequency distribution of waves taken by respondents

Waves	Frequency	Percentage %	Cumulative %
1	21,806	19.54	19.54
2	12,184	10.92	30.45
3	9,873	8.85	39.30
4	7,891	7.07	46.37
5	6,822	6.11	52.48
6	6,651	5.96	58.44
7	5,240	4.69	63.13
8	5,059	4.53	67.66
9	4,868	4.36	72.03
10	4,029	3.61	75.63
11	3,257	2.92	78.55
12	2,983	2.67	81.23
13	2,892	2.59	83.82
14	2,655	2.38	86.20
15	2,460	2.20	88.40
17	1,905	1.71	92.05
18	1,848	1.66	93.70
19	1,557	1.39	95.10
20	1,396	1.25	96.35
22	1,266	0.99	98.47
24	565	0.51	99.80
25	227	0.20	100

Notes: Table data as reported by the British Election Study Combined Waves 1-25 Internet Panel Codebook. Waves 16, 21 and 23 have been removed because they coincide with the Brexit referendum and because wave 21 has doubled up responses with wave 1.

The following table summarises the questions used in the main survey analysis. Measure 1 (Party affiliation) has been used in Robustness check 2 to characterise location by Conservative Party affiliation. Measures 2 and 3 (Immigration attitudes) have been used as the outcomes variables in all specifications, and to characterise location in the main specification.

Table A.2: Questions used for analysis from the BESIP

Measure	Question	Variable	Responses available
Party affiliation	If there were a general election tomorrow, which party would you vote for?	generalElection	0 - I would not vote 1 - Conservative 2 - Labour 3 - Liberal Democrat ... 99 - Don't know
Immigration attitude towards the economy	Do you think immigration is good or bad for Britain's economy?	immigEcon	max 7 (good) min 1 (bad)
Immigration attitude towards cultural life	And do you think immigration enriches or undermines Britain's cultural life?	immigCultural	max 7 (enriches) min 1 (undermines)

Notes: Table does not contain the demographic questions used in the section analysing heterogeneity by mover characteristics.

Appendix B

Appendix B provides supporting information for the results section. Table A.3 contains the $\theta_{r(i,t)}$ estimates for movers from the main event study. Figure 1 contains the event study plots for the sub-group analysis for young people aged 15-24.

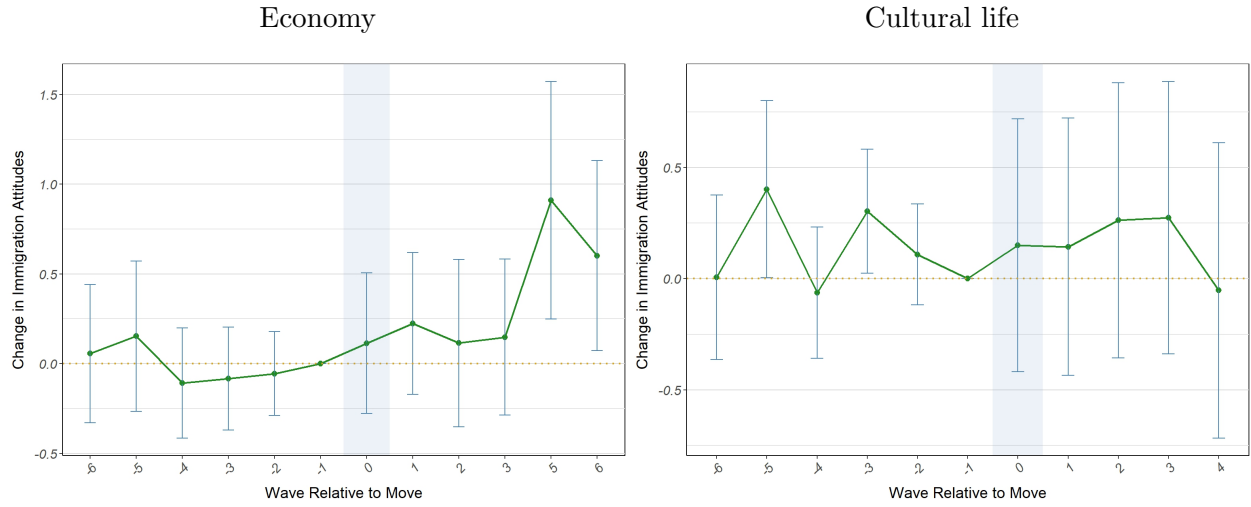
Table A.3: Main event study results

	Economy	N	Cultural life	N
6 waves prior to move θ_{-6}	-0.144 (0.009)	1,643	-0.111 (0.069)	1,643
5 waves prior to move θ_{-5}	0.009 (0.069)	2,071	-0.125 (0.064)	2,071
4 waves prior to move θ_{-4}	-0.103 (0.056)	2,325	-0.106 (0.053)	2,325
3 waves prior to move θ_{-3}	0.016 (0.057)	2,559	0.012 (0.053)	2,559
2 wave prior to move θ_{-2}	0.005 (0.053)	3,042	-0.012 (0.049)	3,042
1 wave prior to move θ_{-1}	0.000	3,118	0.000	3,118
<i>Wave of move θ_0</i>	0.077 (0.068)	5,044	0.099 (0.065)	5,044
1 wave post-move θ_1	0.101 (0.070)	3,749	0.114 (0.068)	3,749
2 waves post-move θ_2	0.127 (0.079)	3,406	0.126 (0.076)	3,406
3 waves post-move θ_3	0.139 (0.074)	2,731	0.114 (0.072)	2,731
4 waves post-move θ_3	-0.029 (0.076)	2,187	0.095 (0.074)	2,187
5 waves post-move θ_5	-0.029 (0.076)*	1,977	0.209 (0.092)*	1,977

Notes: Table contains $\theta_{r(i,t)}$ estimates for movers from the main event study for economy and cultural life. The estimates are from the event study specification for immigration attitudes for location as characterised by average immigration attitudes. Standard errors for each estimate are reported in parentheses. The statistical significance of each estimate is given by the p-value where * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The following event study plots correspond to the results for the sub-group analysis.

Figure 5: Young people aged 15-24



Appendix C

Appendix C provides supporting information for the robustness section. In Figure 6, geographic boundaries have been defined as LSOAs instead of UKPCONs. In Figure 7, location has been characterised by Conservative Party affiliation rather than average immigration attitudes.

Figure 6: Robustness check 1: UKPCON to LSOA

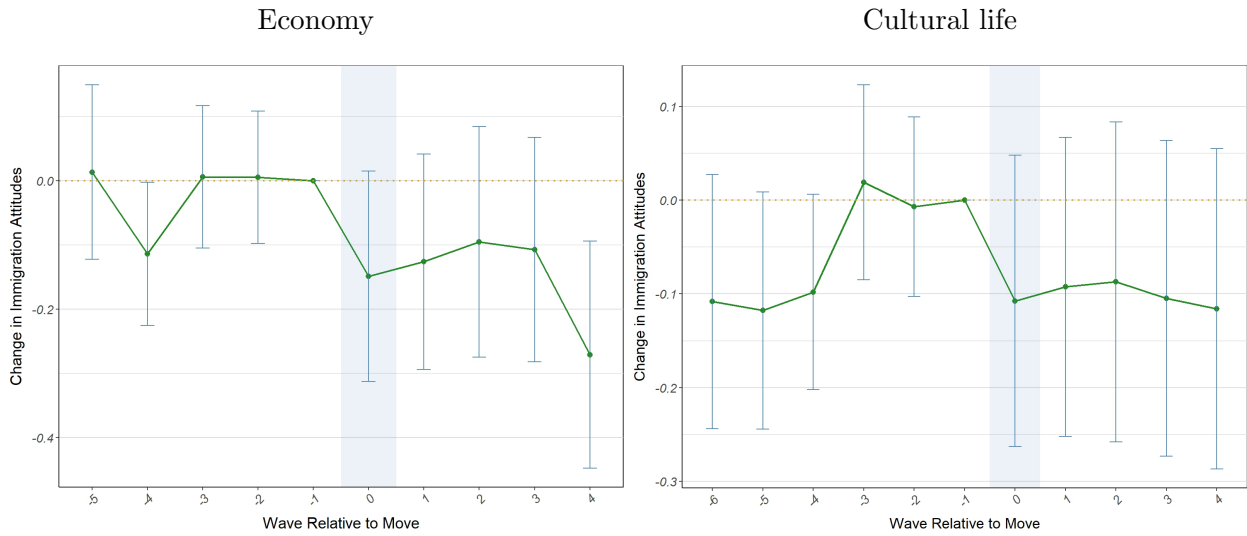


Figure 7: Robustness check 2: Conservative party affiliation

