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RSCAS 2019/38
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EUI Working Paper **RSCAS** 2019/38

ISSN 1028-3625

Printed in Italy, May 2019
European University Institute
Badia Fiesolana
I – 50014 San Domenico di Fiesole (FI)
Italy
www.eui.eu/RSCAS/Publications/
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Abstract

Research on ethnic penalties in the labour market now contains a paradox, which is exemplified in the UK: the second generation performs relatively well in education, despite predominantly lower social class origins, while labour market disadvantage persists. Taking account of social class background leads to a picture of ethnic minority advantage in education, at the same time as it helps to explain disadvantage in the labour market. This paper engages with this paradox, and argues research needs to account for ethnic minority advantage as well as disadvantage. We develop a framework for ethnic minorities' achievement in education based on two mechanisms: social class misallocation or immigrant advantage; and discuss the extent to which we might expect to see such advantage replicated in labour market outcomes. Drawing on a longitudinal study of England and Wales spanning 40 years and encompassing one per cent of the population, we analyse education and labour market outcomes for men and women from four ethnic minority groups compared to white British, whose social origins were observed in childhood. We find clear evidence of educational advantage across social origins, which we relate to the immigrant advantage mechanism. We find this advantage is not reflected in labour market outcomes. We consider the implications for standard approaches to modelling ethnic penalties in the labour market.

Keywords

Ethnic penalties, second generation, educational attainment, labour market outcomes, social mobility, England and Wales.

1. Introduction*

Ethnic differences in educational and labour market outcomes have been subject to extensive study across Europe (Alba & Foner, 2015; Heath & Cheung, 2007). While much analysis has traditionally focused on immigrants themselves, increasing attention is now being paid to the outcomes of the second generation, as they pass through education and reach adulthood in greater numbers (Crul & Schneider, 2010; Heath, Rothon, & Kilpi, 2008). Studies on the second generation have typically attempted to explain minorities' relative disadvantage compared to majorities in both education and the labour market, net of relevant background factors. In particular, they have controlled for social origins as well as, for labour market outcomes, educational attainment (Gracia, Vázquez-Quesada, & Van de Werfhorst, 2016; Li & Heath, 2016). Any remaining inequality is then identified as an 'ethnic penalty', deserving further explanation and likely to include discrimination (Heath & McMahon, 1997). Since immigrants tend to cluster in lower socio-economic positions, it makes sense that part of the socioeconomic disadvantage of the second generation is attributable to social class inequalities rather than to specific ethnic penalties. Research incorporating social origins to account for ethnic differences in labour market outcomes has been empirically and conceptually fruitful in developing our understanding of ethnic inequalities (Platt, 2005b; Zuccotti, 2015).

However, there remains a paradox not addressed in such accounts, and clearly evident in the UK context: the second generation is performing relatively well in education (e.g. Crawford, Duckworth, Vignoles, & Wyness, 2010), while labour market disadvantage persists (e.g. Zwysen & Longhi, 2018). As a result, taking account of social class background leads to a picture of ethnic minority *advantage* in education, while, at the same time, it also helps to explain *disadvantage* in the labour market. In this paper, we engage with this paradox. We outline the need to account for ethnic minority advantage as well as disadvantage, and consider the implications for standard approaches to modelling ethnic penalties in the labour market, which assume that social class origins as well as educational performance have equivalent impacts on life chances across all groups.

Specifically, we elaborate a theoretical perspective that is able to account for ethnic advantage as well as disadvantage. We introduce the idea of *social class misallocation* and *immigrant advantage* to explain ethnic minorities' overperformance in education, and reflect how and why this may (or may not) be translated into the labour market. We present social class misallocation as the process by which immigrant parents of the second generation may end up in occupations that do not reflect their 'true' class; while immigrant advantage links differences in performance to migrant selection and the distinctive characteristics of migrant working class versus majority working class families. We outline what we would expect to observe if these processes are operating and the implications for our understanding of ethnic penalties in labour market outcomes.

In presenting the implications of this model, we challenge the classic concept of ethnic penalties, which assumes the independence of educational attainment and social origins, by arguing that a 'zero'

* The permission of the Office for National Statistics to use the Longitudinal Study is gratefully acknowledged, as is the help provided by staff of the Centre for Longitudinal Study Information & User Support (CeLSIUS). In particular, we would like to thank Wei Xun and Rachel Stuchbury for their help in different stages of this work. CeLSIUS is supported by the ESRC Census of Population Programme (Award Ref: ES/K000365/1). The authors alone are responsible for the interpretation of the data. This work contains statistical data from ONS, which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets, which may not exactly reproduce National Statistics aggregates. The permission of Dr Paul Norman, School of Geography, University of Leeds, to use the 2011 Carstairs Index of Deprivation he created is gratefully acknowledged. Please see Norman and Boyle (2014), for use of the Carstairs Index in conjunction with the ONS LS.

The research leading to these results has received funding from the European Union's 7th Framework Programme (FP7/2007-2013) under grant agreement n° 262608, DwB - Data without Boundaries.

penalty in labour market outcomes – normally identified in statistical terms, as the absence of an ethnic effect – does not necessarily mean the absence of ethnic minority disadvantage.

To substantiate our discussion, we use a large longitudinal dataset – the ONS Longitudinal Study (ONS-LS) – to study educational and labour market outcomes among second generation Indians, Pakistanis, Bangladeshis, Caribbeans, which are the ethnic groups with the largest second generation in the UK, and white British individuals in England and Wales. This dataset, which covers forty years (1971-2011), has the greatest sample of ethnic minorities in the UK and allows us to study social mobility across ethnic groups prospectively. It is rich in relevant variables and allows us to identify the socioeconomic context in which individuals were raised, including the parental social class and neighbourhood characteristics.

We find relatively high educational attainment from both high and low socio-economic origins across minority groups compared to the majority; but we find limits in the extent to which this translates into labour market success. We conclude that ethnic minorities have unmeasured characteristics that support improved educational attainment, even from lower social class backgrounds (i.e. 'against the odds'), but that this 'immigrant advantage' has less traction in the labour market. Given that social class background is less salient for educational attainment for minorities, we argue that we cannot straightforwardly include it as an explanatory factor for labour market outcomes, as has previously been argued. Instead, we need to consider how the failure to achieve labour market success commensurate with educational success may itself constitute a form of disadvantage.

Our contributions are threefold. First we present new data on social mobility of ethnic minorities in the UK using the most suitable and comprehensive source for this analysis, and using multiple measures of social origin. Second, we are able to shed light on how patterns are changing across groups, even for those typically considered the most 'disadvantaged'. Third, we develop a framework for considering ethnic advantage in a way that complements the contemporary focus on ethnic disadvantage, to reflect increasing evidence of minority 'success'. We present a model that allows us to interpret the findings from this study and that can be extended to future research.

The paper proceeds as follows. First (section 2) we give an overview of the literature on ethnic penalties in the labour market and on educational achievements across groups; next (section 3) we develop our theoretical framework. In section 4 we present the data and in section 5 we report our empirical results. We conclude with discussion and implications of our analysis.

2. Ethnic minorities' labour market outcomes in the UK

2.1 The concept of ethnic penalties

In the rich literature on labour market outcomes of ethnic minorities in Europe, attention is increasingly focusing on the children of immigrants (OECD, 2017; Papademetriou, Sumption, & Somerville, 2009). As the second generation reaches maturity and is set to make up an increasing proportion of national populations, not only their educational outcomes but also their labour market experience is coming under scrutiny. Overall, the evidence shows that while immigrants typically fare less well in the labour market than native populations (Kogan, 2006; Reyneri & Fullin, 2011), the gap reduces but still persists for their children (Heath & Cheung, 2007).

Coined by Heath and McMahon (1997), the concept of 'ethnic penalties' refers to "all the sources of disadvantage that might lead an ethnic group to fare less well in the labour market than do similarly qualified Whites" (p.91). For the first generation, a large share of the penalties in unemployment chances or in terms of access to highly qualified occupations is attributed to factors that are directly connected to migration and reception processes. These include the difficulty of transferring educational certificates into the new context, lack of host country language fluency, poor knowledge of the labour market, more

limited job search networks, etc. (Papademetriou et al., 2009). For the second generation, who are born and brought up in the country of destination, other factors gain importance: in particular, discrimination (Di Stasio & Heath, 2019), as well as inherited cultural orientations or practices which are associated with labour market behaviour (Polavieja, 2015; Zuccotti, 2018).

In statistical analyses, identifying ethnic penalties has often involved controlling for a wide range of factors that vary across ethnic groups and that are expected to affect labour market outcomes. In particular, controlling for educational qualifications has been fundamental to the conception and analysis of the ethnic penalty (Heath et al., 2008). In the original paper by Heath and McMahon and in much subsequent analysis, controlling for educational qualifications reduces – even though it does not eliminate – labour market gaps, because immigrants, and historically the second generation as well, tend to be less well qualified than majority populations (Dustmann, Frattini, & Lanzara, 2012; Kristen & Granato, 2007). This evidence on ethnic penalties typically showed that remaining disadvantage, not accounted for by education, was more pronounced in terms of access to jobs than occupational position within employment.

2.2 The role of social origins

While the concept of ethnic penalties has been useful for describing disadvantage, it was limited in that in its initial formulation it did not take account of the fact that labour markets are typically not fully meritocratic, even for the majority population, and that education is not the only predictor of labour market success. Attention to the role of the *social class of origin* (i.e. parental social class) as continuing to shape occupational attainment across national contexts – both through and net of education ("the OED model", see Blau & Duncan, 1967) – has been one of the major contributions of the sociology of stratification throughout the last decades (Hout & DiPrete, 2006), and continues to generate a large volume of contemporary studies. An improvement on the analysis of 'unequal chances' in the labour market among the growing second generation minority groups in Western Europe was introducing measures of social origins. That is, it could reasonably be argued that part of the reason why second generation ethnic minorities continue to be disadvantaged in the labour market is that they typically have lower social class origins and have experienced higher rates parental worklessness when growing up (Zuccotti & O'Reilly, 2018), due to poorer opportunities faced by migrants on migration. In the UK, this was exemplified in a number of studies (Heath & McMahon, 2005; Heath & Ridge, 1983; Platt, 2005a; Zuccotti, 2015). In one of the most recent papers on this topic, Li and Heath (2016) found that ethnic penalties in *access to jobs* persisted for most non-white ethnic minorities even after considering parental occupational characteristics (only Indians had a zero penalty); while *occupational* outcomes are much more favourable, revealing zero penalties or an occupational advantage. Similar findings are observed in Zuccotti (2015).

What is perhaps most revealing about these studies is that they show how more positive labour market outcomes for minority groups are achieved *through* education. When only social origins are considered in the analysis, ethnic minorities experience relatively good outcomes compared to white British individuals in similar class positions; but when education is included, this relative advantage disappears or even reverses, because the level of qualifications for those of similar class origins is higher among ethnic minorities. This leads us to the core of the argument as to why we need to rethink our understanding of the role of social background and how we interpret findings on ethnic penalties. If there is no mechanical relationship between social class origins and educational attainment across ethnic groups, on what basis should we assume the existence of such a relationship between social class origins and labour market outcomes? Yet such an assumption is central to these studies of social mobility across ethnic groups. Before elaborating our alternative approach, we first outline the key empirical elements of the relationship between ethnicity, social origins and educational outcomes in the UK.

3. Ethnicity and educational outcomes in the UK: a story of advantage

In the European context, a substantial strand of literature continues to emphasize educational disadvantage among ethnic minorities (Alba & Foner, 2015) – albeit migration provides educational gains relative to remaining in the origin country (Kanas & van Tubergen, 2009; Luthra, 2010; Zuccotti, Ganzeboom, & Guveli, 2017). Background influences account for much of the differences (Marks, 2005). In the UK, however, on many measures and for most groups there is now a second generation *advantage*, even for relatively socially disadvantaged groups. For example, ethnic minorities tend to improve their test scores at a faster rate throughout compulsory schooling than the majority population (Strand, 2011; Wilson, Burgess, & Briggs, 2011) and test scores at the end of compulsory schooling now suggest an advantage for a number of minority groups compared to the majority. Recent statistics from the Department for Education, without any adjustment for social background, show that for the UK's main ethnic groups, while 66 per cent of White British children attained the 'recommended level'[1] at age 16 (the end of compulsory schooling) in 2014, 81 per cent of Indian children, 87 per cent of Chinese children, 73 per cent of Bangladeshi children and 68 per cent of Black African children attained this level. The rates for Pakistani children, one of the most disadvantaged ethnic groups, were only a small number of percentage points below that of the majority at 62 per cent, while Black Caribbean children fared somewhat worse with 58 per cent reaching this level (Department for Education, 2016). Ethnic minorities are also more likely to stay on in post-compulsory education than the white majority (Bradley & Taylor, 2004; Fernández-Reino, 2016) and to attend university (Crawford et al., 2010). This advantage in university participation is also observed among minorities from lower class backgrounds; while the attainment gap between socio-economically disadvantaged and other pupils is much smaller for minorities than for the majority (Exley, 2016). This suggests that ethnic minorities are less dependent on their social origins in their educational trajectories. The evidence therefore suggests that the role of social class background or 'cultural capital' (Bourdieu, 1997; Lareau, 2003) in accounting for educational inequalities is insufficient as explanatory framework – at least when applied to minorities (Modood, 2004). Instead, a new framework is needed to explain advantage, rather than disadvantage (Modood, 2004; Shah, Dwyer, & Modood, 2010).

4. Developing a new framework

Together, these findings on labour market outcomes and on educational attainment mean that when modelling labour market outcomes of ethnic minorities in the UK compared to the majority, the effects of education and of social class tend to go in opposite directions. Adjusting for education will tend to increase the ethnic gap in labour market outcomes because second generation ethnic minorities are more educated than white British individuals; social class, conversely, decreases the gap, because ethnic minorities tend to have parents with poorer social origins. Although this seems reasonable from a statistical point of view, treating education and social class origins as if they are independent in this way presents challenges from a conceptual and substantive point of view. In the standard OED model of Blau and Duncan (1967), the independent effect of social class is net of that part which goes through education. If ethnic minorities tend to have parents from lower social class backgrounds, one would expect that both education and parental social class would help explain differences across groups, since poorer social origins are consistently associated with lower educational attainment (Breen & Jonsson, 2005). Conversely, if ethnic minorities are able to achieve in education despite their social class origins, one might expect this advantage to also apply to their labour market outcomes. In this light, any statistical absence of a labour market penalty, for example in occupational outcomes, cannot necessarily be viewed as an absence of disadvantage, as scholars have typically maintained.

[1] This is the level of attaining 5 or more GCSEs at grades A*-C. If the stricter measure of 5 or more GCSEs including English and Maths at grades A*-C is used, the ranks are mostly comparable (the only differences is that White British is then marginally higher than Black African).

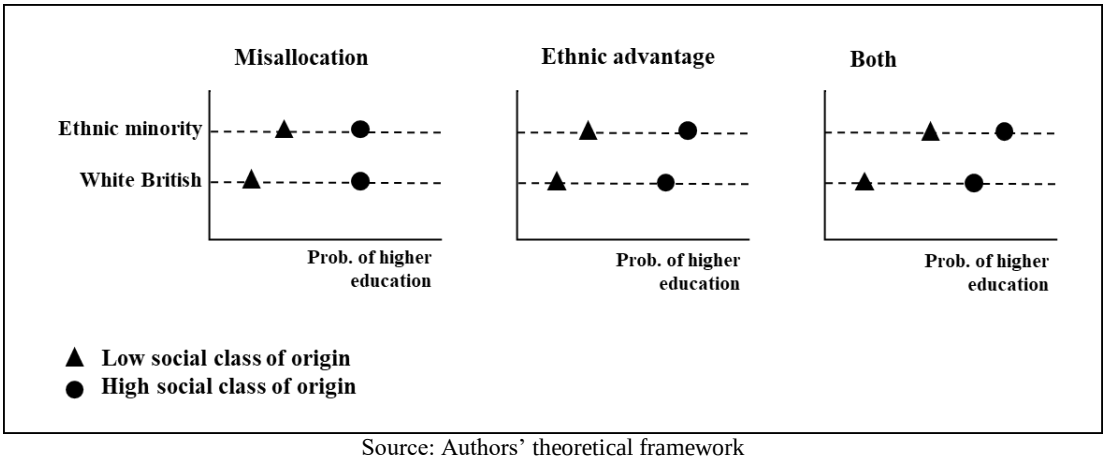
In order to better understand these patterns, we need to outline processes of how educational advantage is achieved, how that might differ across different ethnic and social origins, and what labour market outcomes might be expected to stem from such models of educational attainment. In the next section we outline two broad mechanisms of educational advantage and what labour market expectations might stem from them. We then compare these expectations with the findings from our empirical analysis.

4.1 'Social class misallocation' and 'immigrant advantage'

Theoretically, and following from the previous discussion, we identify two general mechanisms as to why ethnic minorities may experience an advantage in education despite low social class origins. We call these *social class misallocation* – which applies only to those second generation ethnic minorities with parents from lower social classes – and *immigrant advantage* – which applies across all social class origins.

The first mechanism, *social class misallocation*, implies that ethnic minorities' parental social class does not accurately reflect 'true' parental social class. First generations' labour market integration is often more problematic than that of later generations. In many cases, immigrants perform occupations for which they are overqualified, resulting in downward mobility on migration, relative to what their position was in their country of origin. Occupational status in the destination country might therefore be a biased measure of their social status and of the extent that they retain the cultural capital (Bourdieu, 2008), education, expectations, work experience and social networks/social capital (Coleman, 1988) and expectations for the next generation associated with their 'true class' (see also Modood, 2004). If this is the case, and we are wrongly measuring parental class, then the greater educational achievement among ethnic minorities who come from lower social classes becomes less surprising. Given the overrepresentation of ethnic minorities in lower social classes (see Table S1 in the supplementary material), this mechanism might potentially play a substantial role in the mismatch between disadvantaged origins and educational outcomes. In a scenario where this mechanism prevails, we would expect to see something like the first graph in Figure 1; here the educational advantage occurs among those from lower social classes, while those who have achieved more advantaged class positions, matching their 'true' class position, should perform similarly to their comparably advantaged white British peers.

Figure 1: Theoretical framework: misallocation and ethnic advantage



Source: Authors' theoretical framework

The second process, *immigrant advantage*, does not require that first generation ethnic minorities are allocated to the 'wrong' occupational class, but that the incumbents of those stratified class positions retain specific orientations that are out of line with majority members of that class. Here we might think of two scenarios. The first scenario would imply that at each level of achieved social class, minorities

have, for example, higher expectations and greater relative investment in their children's educational and occupational success. This derives from the fact that first generation ethnic minorities (i.e. those who migrated) are often positively self-selected on characteristics that make them want to improve themselves and the lives of their children: motivation, aspirations and the desire of a better life in the country of destination (Ramos, Polavieja, & Fernández-Reino, 2018; van Zanten, 1997), as well as their relative position in the country of origin (Ichou, 2014). Existing research on educational success among ethnic minorities has highlighted the relevance of (parental) aspirations as absorbed by the young people themselves (Strand, 2011, 2014). In the UK such aspirations have been shown to contribute to minorities' greater post-compulsory and tertiary participation, compared to equivalent majority peers (Fernández-Reino, 2016; Shiner & Noden, 2015). Under this scenario, and if this selection and associated ethnic resources effect predominates, we would observe something like the middle graph in Figure 1. Here, the overachievement of ethnic minorities in education is not associated with a specific class background but with the experience of belonging to a migrant family. Within this set of explanations, ethnic networks or teachers' encouragement might also play a role, which might themselves be based on stereotypes of attainment (Archer & Francis, 2007; Burgess & Greaves, 2013). We would also expect this effect to dominate more for those whose parents migrated as a choice than as a result of coercion.

Of course, it is perfectly possible that social class misallocation and immigrant advantage are both present as explanatory mechanisms for different groups or within the same group (see last graph of Figure 1). This is an empirical question. However, before turning to our analysis, we consider the implications of our models for labour market outcomes.

4.2 Translating gains in education into the labour market

The question then arises: how far might we expect such mechanisms of educational advantage to translate into labour market outcomes? And does that differ for employment compared to occupational success?

First, if social class misallocation contributes to educational outcomes, we might argue that it will also affect labour market outcomes. Social class misallocation mechanisms are relevant for labour market outcomes because, following models of social stratification (Blau & Duncan, 1967), parental backgrounds are known to have a direct impact on individuals' labour market outcomes on top of the impact that they have via education. This 'black box' of the independent effect of social class on labour market outcomes might include knowledge of the job market, help to find a job, social networks, but also cultural capital, and corresponding expectations. If social class misallocation is present, these factors will be of 'better quality' than the ones we would expect from observed parental socio-economic status that we are actually measuring. This should lead us to see labour market advantage alongside educational advantage.

For the mechanisms connected to an immigrant advantage, we could also argue that parental encouragement or high parental expectations and motivation for social mobility will not be restricted to educational careers. On the contrary, one might expect these mechanisms to play a role when ethnic minorities go in the labour market. At the same time, however, there are reasons as to why such unobserved influences on education might not translate into the labour market. First, the mechanisms might not be the same nor have the same effect in educational and labour market contexts. The importance of social networks, or the quality of such networks, might also vary (Lin, 2001) between education and labour market contexts, particularly if the immigrant advantage mechanism rather than the misallocation mechanisms dominates. While access to education is universal and not dependent on knowing members of the mainstream society, bridging social networks might play a greater role for finding a (good) job. The 'market value' of qualifications might also differ, particularly where there is less cultural capital to guide decisions. The high rates of participation of minorities in tertiary education have invited discussion of the quality of both the institutions attended and the degrees received

(Richardson, 2008, 2015). It seems clear that minorities in general tend to select into less prestigious institutions (Shiner & Noden, 2015) and there is some evidence that they are more likely to be rejected from prestigious institutions when they apply (Boliver, 2013; though see Noden, Shiner, & Modood, 2014 who find lower offer rates across the board). Their degree level success may therefore be less salient for the job market than for their majority peers, even if they are gaining tertiary qualifications at higher rates. However, much of the difference in university selection can be accounted for by social class background, prior subject choice and other school-level factors (Shiner & Noden, 2015). At the same time, analysis of early labour market outcomes among graduates, indicates that even if degree choice and institution differ across ethnic groups, they have relatively little explanatory power in relation to recent graduates' labour market experience (Zwysen & Longhi, 2016).

For explaining why both mechanisms of misallocation and immigrant advantage may vary between educational and labour market contexts, discrimination might be pertinent. While there is some evidence for teacher stereotyping of minority groups (Burgess & Greaves, 2013; Campbell et al., 2007), the evidence for labour market discrimination, particularly at point of access to employment, is much more compelling (Di Stasio & Heath, 2019; Heath & Cheung, 2006; Riach & Rich, 2002). Finally, while educational expectations for education may be high across the board, there may be differences in how family formation and responsibilities interact with labour market opportunities, which differ for different groups. For example, South Asian women, even those with a degree, tend to be more likely to prioritise family responsibilities over employment (Dale, Fieldhouse, Shaheen, & Kalra, 2002; Dale, Lindley, & Dex, 2006), partly informed by community norms (Zuccotti & Platt, 2017). This would, however, be expected to affect participation rather than unemployment.

If we fail to see labour market advantage corresponding to educational advantage, this might therefore not only imply ethnic disadvantage – even if the ethnic penalty is statistically zero – but also shed some light as to the mechanisms involved. While, we are unable to directly test the different mechanisms within this paper and the available data, the different observed patterns may, we hope, provide a starting point for thinking and studying ethnic minorities' integration in destination societies that recognises immigrant advantage and its interplay with disadvantage.

In the next section we investigate patterns of social mobility – educational and labour market outcomes relative to social origins – for four ethnic minority groups relative to the white British majority; and we relate them to the framework outlined above. The analysis is divided in two parts. The first part is dedicated to studying access to higher education across groups, and educational mobility with respect to social origins. This analysis will be our baseline for defining 'expected' labour market gains. In the second part, we study labour market outcomes in terms of access to the labour market, to employment and to highly qualified occupations. We incorporate analysis of returns to education and changes over time: if any of the above-mentioned mechanisms that explain advantage in education were present in the labour market, then these should be 'materialized' (in terms of increasing employment probabilities or access to better jobs) especially among those with a *university degree*, and also among the *most recent cohorts* in the sample. Time is indeed an important factor in integration processes, not only at the individual level or from the perspective of generational change, but also in terms of the receiving context. On the one hand, time makes immigrants – and eventually their children – more familiar with the society in which they live; on the other hand, time renders the receiving society more tolerant – in the long run and over the period covered by this study, reflected, for example, in anti-discrimination laws and integration policies. This study therefore includes a comparison between labour market outcomes in 2001 and 2011.

5. Data and methods

We use the ONS Longitudinal Study, a unique dataset that links census records for a one per cent sample of the population of England and Wales across five successive censuses (1971, 1981, 1991, 2001 and 2011). The original (1971) sample selected individuals based on their birthdate (with four possible

dates); and each census, the sample is updated with intercensal births and immigrations of those with the same birthdays. Slightly more than 500,000 individuals can be found at any census point. About 400,000 people provide records at any two census points; while there are linked records across all five censuses for around 200,000 individuals.

In addition to its large sample, a special feature of this dataset is that both household and aggregated census data can be attached to each individual and for each census point. That is, we have information on the co-resident parents of the individuals when they were children, on the characteristics of their households in childhood and adulthood, and we can also match in characteristics of the neighbourhoods in which they reside at different periods. Following a design used previously by Platt (2007), we study individuals who lived with at least one parent between 0 and 15 years of age in any of the three so-called 'origin' years: 1971, 1981 and 1991. These individuals are then followed in 2001 and 2011 ('destination years'), when they are between 20 and 45[2] years old, when their educational and labour market outcomes are measured. In accordance with works employing panel-like data, we constructed our sample in a way that allows for more than one measurement *per* individual. When individuals had more than one measurement of 'origin' characteristics when they were growing up (i.e. between 0 and 15 years old), we counted them twice; we did the same when individuals had measurements both in 2001 and in 2011. Given the age restrictions (individuals can be between 0 and 15 years old only in only two 'origin' census points) each individual can have up to 4 measurements (e.g. 1971-2001; 1971-2011; 1981-2001; 1981-2011). The total sample comprises more than 350,000 observations; around half of those are 'unique' individuals. In order to account for double measurement, we control for the 'origin' and 'destination' years and we use clustered standard errors in the regression models. More details on the sample can be found in (blinded).

We focus on white British and second generation ethnic minorities of Indian, Pakistani, Bangladeshi and Caribbean origins. These are identified with a question on ethnic self-identification (measured in 2011; or 2001 if missing in 2011). Our definition of second generation is broad. In accordance with the sample design, it includes both individuals born in Britain and individuals born abroad who arrived before age 16 (around half of Bangladeshis and one fourth of Pakistanis are in this situation, while the shares for the other groups are below 20 per cent). White British individuals need to have two parents (or one, in the case of single-parent households) born in the UK to be included in the sample; second generation ethnic minorities need to have two parents (or one, in the case of single-parent households) born abroad.

Four outcomes are studied: attainment of a university degree (vs. other educational level), activity (vs. inactivity;[3] only for women), employment (vs. unemployment) and current or previous access to the service class, which comprises professional and managerial occupations (vs. other social classes/occupations).[4] Independent variables measured in 2011/2011 are: age, gender, (detailed) education and family characteristics. We include a range of measures of social class origins, measured in 1971/1981/1991: parental social class,[5] tenure, number of cars, number of persons per room and

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2 We exclude those between 46 and 55 years old, given that they are present only in 2011.

3 Includes individuals doing housework, individuals with long-term disabilities or illness, and all other inactive situations, excluding students.

4 Social class is measured with the National Statistics Socio-Economic Classification (NS-SEC) (Erikson & Goldthorpe, 1992). The NS-SEC includes 7 categories from higher managerial/professional occupations to routine occupations. The so-called 'service class' includes those in classes 1 and 2: Class 1 comprises higher managerial, administrative and professional occupations, while Class 2 comprises lower managerial, administrative and professional occupations.

5 The parental social class is available through a 7-category class schema whose members broadly share similar market and work situations, and which is based upon the 36 categories of the Hope-Goldthorpe scale (Goldthorpe & Hope, 1974). This is the only social class measure available and harmonized for the three origin years (1971, 1981 and 1991). We used a reduced version of 5 categories. The class schema was devised for men, but is widely used for both men and women. The parental social class takes the maximum between fathers and mothers (or the value of the father/mother in case of single-parent households).

neighbourhood deprivation.[6] Details of all independent variables are provided in Table S1 in the supplementary materials. We estimate logistic regression models for each of the outcomes and report average marginal effects and predicted margins/probabilities, and graphically illustrate some of our key results.

6. Analysis

6.1 Descriptive statistics

Table 1 shows descriptive statistics of the key variables, by ethnic group. The first thing to note is that there is substantial variation in terms of parental social class across ethnic groups: second generation Indian, Pakistanis, Bangladeshis and Caribbeans have higher shares of manual social origins compared to white British individuals; and all groups have lower shares of service class origins, but this is especially marked for Pakistanis and Bangladeshis.

Table 1: Descriptive statistics

	White British	**Indian**	**Pakistani**	**Bangladeshi**	**Caribbean**
Parental social class					
Not codable/No earners	5.6	6.4	16.4	28.4	11.9
Manual	38.9	54.0	61.8	52.0	51.2
Routine non-manual	15.8	10.1	3.4	3.0	21.0
Bourgeoisie	11.2	13.2	11.6	11.3	2.1
Service class	28.5	16.3	6.8	5.3	13.8
Individual outcomes					
Men					
Level 4+	26.0	52.5	35.0	34.8	26.5
Employed	94.3	92.9	87.2	86.5	88.3
Service class	37.1	50.2	30.9	32.3	31.3
Women					
Level 4+	27.6	49.8	31.1	27.9	36.4
Inactive	80.7	85.0	57.8	58.1	84.7
Employed	95.6	94.4	88.2	83.8	91.0
Service class	31.6	42.9	22.5	18.7	35.3
Totals					
Total parental social class	354,498	5,986	3,738	1,142	2,890
Men					
Total education	173369	3033	1787	526	1285
Total active	162037	2867	1572	483	1158
Total occupation	173369	3033	1787	526	1285

[6] Neighbourhood deprivation is measured with the Carstairs Index (Norman & Boyle, 2014; Norman, Boyle, & Rees, 2005), which summarizes four dimensions: % male unemployment; % overcrowded households; % no car/van ownership; and % low social class. The variable is expressed in population-weighted quintiles and is obtained at the ward level. The ward is the key building block of UK administrative geography and is used to elect local government councillors. Wards vary in terms of size and population, with the average population amounting to 4,000. In general, the smallest and most populous wards are in metropolitan areas, where the majority of ethnic minorities are found.

	White British	Indian	Pakistani	Bangladeshi	Caribbean
Women					
Total education	181,129	2,953	1,951	616	1,605
Total active and inactive	181,129	2,953	1,951	616	1,605
Total active	146,203	2,510	1,128	358	1,360
Total occupation	181,129	2,953	1,951	616	1,605

Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Educational outcomes are in line with the results highlighted above. Most ethnic minority groups have high university achievement, even if they are overrepresented among low social backgrounds. For example, more than 35 per cent of Asian men had a university degree, even though almost half of them had parents with manual jobs and only 16 per cent of them had parents with professional/managerial positions. Conversely, although the proportion of white British men with higher class parents stood at 29 per cent, only 26 had a university degree. While a part of these differences might be explained by ethnic minorities' relative youth, they are still notable. Similar patterns (with variations) are observed among women.

Labour market outcomes are more varied. Some of these seem to align more with groups' low social origins, such as higher unemployment rates for some minority groups. This also suggests that the observed progress in education is not fully transformed into better employment opportunities. For example, Pakistani and Bangladeshi men have much higher unemployment rates and similar or lower probability of attaining professional managerial occupations compared to white British men, despite their high educational attainment. Most minority group women have higher unemployment levels than the white British, even though they are in general more educated, and most importantly, gained this education "against the odds". Of all second generation ethnic minority groups, Indians seem to have best transferred educational advantage into the labour market, especially in their occupational attainment.

We go on to explore these relationships in detail, in multivariate models controlling for age, as well as other social origin controls. Table S1 in the supplementary materials shows that in additional to differences in social class background, all ethnic minority groups are more likely to have lived in overcrowded households and in deprived neighbourhoods when young, compared to the white British individuals, which might also play a role in accounting for educational and labour market outcomes.

6.2 Educational outcomes

Table 2 shows the probability of attaining a university degree by ethnic group and gender. Model 1 controls for age, origin and destination years and number of census points; Model 2 adds social origin variables, measured when the individual was between 0 and 15 years old: parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation. Full models are provided in the supplementary materials, Table S2.

We see that all minority groups have an equal or higher probability of attaining a university degree compared to white British individuals (Model 1). There is thus no 'disadvantage' to be explained here, but rather a zero effect or an advantage for the ethnic minorities. Once we control for the fact that most groups are raised with parents with relatively lower social status and have, in general, poorer socio-economic conditions at origin (Model 2), we observe – as expected – a positive difference for all minority groups. These educational advantages are substantial: controlling for age and social origins, ethnic minority men and women have between 14 and 34 percentage points higher probabilities of attaining a university degree compared to their white British counterparts. It is important to stress that given the predominantly low social origins of ethnic minorities we would have expected to see an initial

educational disadvantage for them, which, in typical analysis of ethnic educational attainment in Europe, low social origins would have helped to explain (e.g. Kristen & Granato, 2007).

Table 2: Attainment of a university degree; AME. Men and women

	Men		**Women**	
	Model 1	**Model 2**	**Model 1**	**Model 2**
Ethnic group (ref. white British)				
Indian	0.251***	0.331***	0.197***	0.280***
	(0.014)	(0.012)	(0.014)	(0.013)
Pakistani	0.090***	0.241***	0.010	0.158***
	(0.016)	(0.016)	(0.015)	(0.016)
Bangladeshi	0.097***	0.339***	-0.021	0.226***
	(0.027)	(0.028)	(0.021)	(0.025)
Caribbean	0.014	0.140***	0.090***	0.218***
	(0.018)	(0.020)	(0.018)	(0.018)
Basic	X	X	X	X
Basic + social origin[1]		X		X

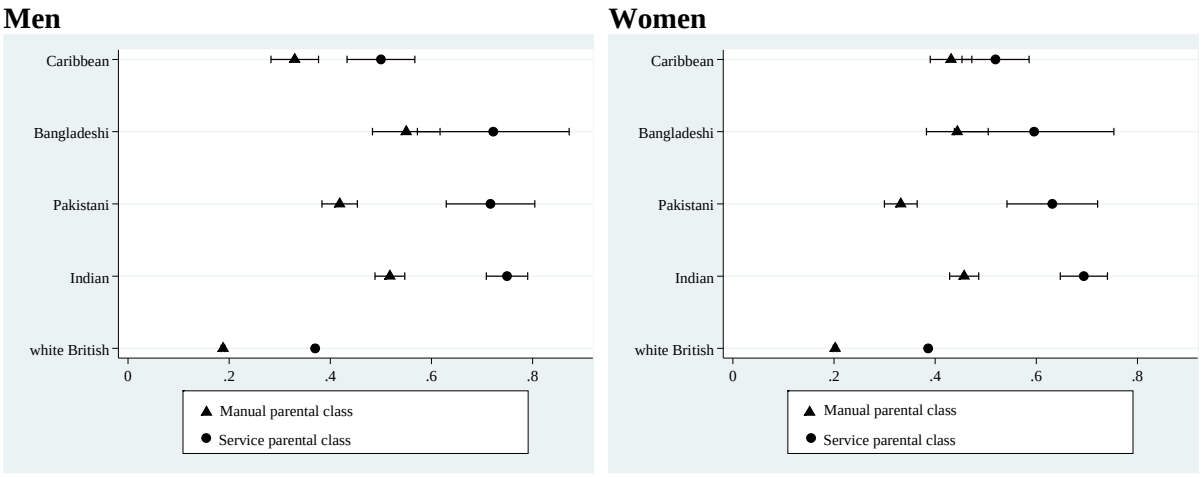
[1] Basic controls include age, origin and destination years and number of census points; social origin controls include parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation, measured when the individual was between 0 and 15 years old.
* p-value<.10 ** p-value<.05 *** p-value<.01. Robust (clustered) standard errors in parentheses
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Next, we attempt to gain traction on whether these results imply misallocation or immigrant advantage for the different groups by interacting parental social class with ethnic group. Following the theoretical model, we are particularly interested in comparing individuals who had service class parent(s) when they were young with those who had parents in manual occupations. The interpretation of interactions in logistic regression models is not straightforward as in linear regression models (Norton, Wang, & Ai, 2004). We have hence computed contrasts[7] from these models (in Stata 14: StataCorp, 2015). Contrasts show the marginal effects of ethnicity in the interaction, and are illustrated in Figure S1: when confidence intervals do not cross the zero line, it means that the effect of parental social class is different between the groups being compared at a p-value<0.10.[8]

[7] This command "tests linear hypotheses and forms contrasts involving factor variables and their interactions from the most recently fit model" (StataCorp, 2013).

[8] Each ethnic group is compared to white British individuals. Figure S1 shows that the effect of having parent(s) with a service class on educational attainment is similar to white British for Indians and Bangladeshis, but it is weaker for Caribbeans and stronger for Pakistanis. For women, results are not statistically significant for Pakistanis; however, they are very similar to that of men.

Figure 2: Attainment of a university degree by parental social class; predicted probabilities



Controls include age, origin and destination years, number of census points, parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation. CI: 90%.
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

To illustrate the interactions, Figure 2 shows average predicted values for all groups, for manual and service social class. All ethnic minority groups from low social classes perform better than white British peers; this also applies to all groups from high social classes, which implies a dominance of the immigrant advantage mechanism. For Indian and Bangladeshi men and women this advantage is quite pronounced (of around 30% points) and appears to be the same for individuals with manual and service class origins. The results observed for Pakistanis also seem to fit better the immigrant advantage mechanism, but with a difference. While a higher social background provides them with a higher chance of holding a university degree (similar to that of Indians or Bangladeshis), this is coupled with relative lower gains among those with lower social origins (although still higher than those of white British individuals). The case of Caribbeans might be one that more clearly combines immigrant advantage with social class misallocation, given that the educational advantage over white British individuals is slightly higher among those with a manual parental class. Finally, while white British women have a slight advantage over white British men, and the same is observed among lower class Caribbeans, the opposite occurs among South Asian groups. South Asian women have on average lower educational attainment than co-ethnic men from the same social class. This shows that immigrant advantage and misallocation mechanisms might have different consequences for daughters and sons.

Overall, the results show that ethnic minority men and women from both advantaged and disadvantaged origins have higher probabilities of attaining a university degree than their white British counterparts. The question that emerges next is to what extent such educational advantages translate into the labour market.

6.3 Labour market outcomes

6.3.1 Average effects

Tables 3 (men) and 4 (women) show the probability of being employed, of being in professional/managerial positions and, only for women, of being economically active. As in the previous table, Model 1 shows results with basic controls, while Model 2 controls for social origins characteristics. Model 3, finally, adds education and family composition. Models with all controls are shown in Tables S3 and S4 of the supplementary material online.

Table 3: Labour market outcomes. Men. AME

	Employment			Professional/managerial		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Ethnic group (ref. white British)						
Indian	-0.007	0.007	-0.004	0.141***	0.220***	0.072***
	(0.005)	(0.005)	(0.005)	(0.013)	(0.012)	(0.01)
Pakistani	-0.044***	-0.008	-0.021***	-0.036**	0.105***	-0.002
	(0.008)	(0.006)	(0.007)	(0.015)	(0.016)	(0.013)
Bangladeshi	-0.033***	0.016***	0.006	0.001	0.217***	0.066***
	(0.012)	(0.006)	(0.007)	(0.027)	(0.028)	(0.024)
Caribbean	-0.057***	-0.017**	-0.012	-0.056***	0.055***	0.003
	(0.012)	(0.008)	(0.007)	(0.018)	(0.019)	(0.016)
Basic	X	X	X	X	X	X
Basic + social origin[1]		X	X		X	X
Basic + social origin + education[2]			X			X

[1] Basic controls include age, origin and destination years and number of census points; social origin controls include parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation, measured when the individual was between 0 and 15 years old.

[2] Also includes family composition

* p-value<.10 ** p-value<.05 *** p-value<.01. Robust (clustered) standard errors in parentheses

Population: Individuals between 20 and 45 years old

Source: Authors' own calculations based on ONS-LS

Going back to our theoretical discussion, if we were to assume that educational institutions and the labour markets operate in the same way in terms of opportunities and constrains across groups; and if educational success is informative about unobserved aspects of social background, then we would expect to see ethnic advantage in educational attainment translated into the labour market. However, it is clear from Tables 3 and 4 that this is not the case for all groups and genders, nor it is for all labour market outcomes. Model 2 in both tables shows the extent to which labour market outcomes vary across ethnic groups on equality of social origin characteristics, and the results do not reveal a consistent ethnic minority advantage as we say in terms of education.

Table 4: Labour market outcomes. Women. AME

	Activity			Employment			Professional/managerial		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Indian	0.040***	0.063***	-0.002	-0.007	0.003	-0.013**	0.106***	0.176***	0.03***
	(0.009)	(0.008)	(0.011)	(0.005)	(0.004)	(0.006)	(0.012)	(0.012)	(0.01)
Pakistani	-0.232***	-0.146***	-0.191***	-0.052***	-0.021***	-0.035***	-0.093***	0.016	-0.051***
	(0.015)	(0.014)	(0.014)	(0.01)	(0.007)	(0.008)	(0.013)	(0.016)	(0.012)
Bangladeshi	-0.227***	-0.069***	-0.154***	-0.071***	-0.007	-0.038***	-0.123***	0.058**	-0.045**
	(0.024)	(0.02)	(0.02)	(0.016)	(0.008)	(0.012)	(0.020)	(0.029)	(0.019)
Caribbean	0.047***	0.084***	0.029**	-0.05***	-0.018**	-0.020***	0.036**	0.138***	0.024*
	(0.012)	(0.009)	(0.012)	(0.011)	(0.008)	(0.008)	(0.017)	(0.017)	(0.014)
Basic	X	X	X	X	X	X	X	X	X
Basic + social origin[1]		X	X		X	X		X	X
Basic + social origin + education[2]			X			X			X

[1] Basic controls include age, origin and destination years and number of census points; social origin controls include parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation, measured when the individual was between 0 and 15 years old.

[2] Also includes family composition

* p-value<.10 ** p-value<.05 *** p-value<.01. Robust (clustered) standard errors in parentheses

Population: Individuals between 20 and 45 years old

Source: Authors' own calculations based on ONS-LS

For access to employment, only Bangladeshi men are more likely to be employed (rather than unemployed) than white British men for similar backgrounds and demographics. Among women, we observe an ethnic minority advantage in the probability of being active for Indian and Caribbean women. In all other cases, we either observe equal probabilities or a penalty for the ethnic minorities. Results differ when we look at occupational outcomes: except for Pakistani women, all groups are more likely to have professional/managerial positions than white British individuals, on equality of social origin characteristics. These general results suggest that the positive unobserved characteristics present when studying educational outcomes play a role in occupational outcomes, but not so much in terms of access to jobs. This is also consistent with a role played by factors such as motivation and drive, which are more likely to be revealed within a job and associated with immigrant advantage, rather than the networks resources, associated with misallocation, which would be more valuable in access to employment.

When we turn to Model 3, which controls for educational attainment, the findings become more complex. Any observed ethnic minority advantages reduce or transform into a zero difference; and when there was no observed difference or a penalty, this remains the same or becomes a stronger ethnic penalty (the only exception are Caribbean men, for whom the employment penalty reduces). While this result is not surprising given that we have seen that ethnic minorities are more educated, and we would expect education to affect labour market outcomes, can we argue that the newly observed "zero penalties" in Model 3 of Tables 3 and 4 mean the absence of ethnic disadvantage? Is education an unambiguous route to success? To what extent are the advantages observed in terms of occupational status reflecting what ethnic minorities should truly be achieving, given educational attainment, and unobserved advantages? It is empirically difficult to respond to this question, first, because we do not know (nor we can measure) the cause of the observed overachievement in education; second, because even if we measured it, we do not know if this should work equally in the labour market.

Table 5: Education and labour market outcomes: predicted values and ratios

	Men			**Women**			
	University	**Employed**	**Prof/ Manag**	**University**	**Active**	**Employed**	**Prof/ Manag**
Predicted values							
British	25.6	93.4	37.1	27.3	80.7	95.6	31.7
Indian	58.7	93.6	44.3	55.3	80.5	94.3	34.6
Pakistani	49.7	90.6	36.8	43.1	61.7	92.0	26.5
Bangladeshi	59.5	95.1	43.7	49.9	65.3	91.8	27.2
Caribbean	39.7	94.0	37.4	49.0	83.7	93.6	34.1
Ratios[1]							
Indian	2.29	1.00	1.20	2.03	1.00	0.99	1.09
Pakistani	1.94	0.97	0.99	1.58	0.76	0.96	0.84
Bangladeshi	2.32	1.02	1.18	1.83	0.81	0.96	0.86
Caribbean	1.55	1.01	1.01	1.80	1.04	0.98	1.08

Controls include age, origin and destination years, number of census points, parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation.

[1] The ratio between each ethnic minority groups' probability and white British individuals' probabilities.

Population: Individuals between 20 and 45 years old

Source: Authors' own calculations based on ONS-LS

In order to take a different perspective, Table 5 shows predicted values for each ethnic group based on their educational success, and ratios comparing each ethnic minority group with white British individuals. These values are based on Model 3 of Tables 3 and 4. For example, while on equality of

social background characteristics, white British men have on average a 26 percent probability of attaining a university degree, Indian, Pakistani and Bangladeshi men have at least twice the probability of reaching that level: between 50 per cent and 60 per cent. However, they are not twice as likely to be employed or to attain a professional/managerial position, on equality of education and social background characteristics. Although achieving good occupations is relatively easier than getting a job in the first place for ethnic minorities, educational advantage is still not fully transformed into an occupational advantage either. Among women the results are similar, and in some cases ethnic minority women are even worse off, especially Pakistani and Bangladeshi women. For example, while their probabilities of attaining a university degree are 43 per cent and 50 per cent respectively – 1.6 and 1.8 times more than that of white British women – they have poorer labour market outcomes in all three dependent variables. In particular, their probabilities of being active and of attaining a professional/managerial position are around 0.8 times those of white British women.

As noted, there are many reasons why educational advantages might not transform into equivalent labour market advantage. The factors that enable educational success in a relatively open and accessible educational system might not translate into labour market success, where motivation is not sufficient to gain employment opportunities. Discrimination, as noted, is much more limited in education than in employment, and without gaining work, it is also harder to demonstrate qualities that may overturn stereotypes. Once in work, unobserved strengths may pay off – but our findings would suggest that the payoff is still not as large as would be expected by educational attainment. At the same time, those class advantages associated with networks, social capital, and social markers of status, are somewhat relevant for education (Bourdieu, 1997; Lareau, 2003), but may be crucial in access to employment and to 'good jobs' and be less available to ethnic minorities.

6.3.2 Exploring the role of education

Rather than simply controlling for education, it might be more relevant to consider the labour market outcomes among those who have actually achieved a university degree, those who have demonstrably been able to 'materialize' their immigrant advantage. We therefore add interactions between education and ethnic group, to explore whether having a university degree has a more positive effect on labour market outcomes for ethnic minorities than for white British individuals (tables available upon request). As before, we calculated contrasts (shown in Figure S2) to identify statistically significant interactions. Tables 6 (men) and 7 (women) show predicted values of labour market outcomes for those with a low education and those with a university education; statistically significant differences in the effect of education for each ethnic minority group relative to their white British counterparts are indicated (see also Figure S2). We again calculated ratios to explore to what extent the overachievement observed in terms of education is translated into the labour market among those who have a university degree, and also illustrate the differences in ratios between those with low and those with higher education.

Tables 6 and 7 show that for several of the South Asian ethnic minority groups, education has a greater value in the labour market, i.e. offers greater returns to education than it does for white British men and women. For example, Indian men gain a greater advantage over white British men in terms of occupational outcomes among those with a university degree: specifically, while among those who have level 1 or less education, there is only a 3% points advantage for Indian men (21% minus 18%), this increases to 11% points (79% minus 68%) among those with a university degree. Similarly, Pakistani men reduce their disadvantage in terms of employment, while obtaining an advantage in terms of occupational outcomes. Among women, Pakistanis and Bangladeshis who have a university degree improve significantly their activity rates, and to a greater extent than white British women do. Pakistani women also show a greater improvement in employment rates compared to white British women, while Bangladeshi women experience a greater improvement in terms of occupational outcomes.

Table 6: Labour market outcomes by educational level: predicted values and ratios. Men

	Employed			Prof/Manag		
	Level 1 or less	Level 4	Diff.	Level 1 or less	Level 4	Diff.
Predicted values						
British	92.3	96.4	4.2	18.1	67.6	49.4
Indian	92.5	96.6	4.1	22.1	79.1	57.0*
Pakistani	89.3	96.2	7.0*	13.9	73.7	59.9*
Bangladeshi	93.9	96.5	2.6	25.6	77.0	51.4
Caribbean	92.1	97.0	4.8	19.6	66.3	46.7
Ratios[1]						
Indian	1.00	1.00	0.00	1.22	1.17	-0.05
Pakistani	0.97	1.00	0.03	0.76	1.09	0.33
Bangladeshi	1.02	1.00	-0.02	1.41	1.14	-0.27
Caribbean	1.00	1.01	0.01	1.08	0.98	-0.10

* The difference in the effect of education between the ethnic minority group and white British individuals is statistically significant at p-value<.10

[1] The ratio between each ethnic minority groups' probability and white British individuals' probabilities.

Population: Individuals between 20 and 45 years old

Source: Authors' own calculations based on ONS-LS

Table 7: Labour market outcomes by educational level: predicted values and ratios. Women

	Active			Employed			Prof/Manag		
	Level 1 or less	Level 4	Diff.	Level 1 or less	Level 4	Diff.	Level 1 or less	Level 4	Diff.
Predicted values									
British	71.0	89.8	18.8	92.9	97.4	4.5	12.9	61.3	48.4
Indian	72.7	92.1	19.4	96.0	95.7	-0.3*	16.1	65.2	49.1
Pakistani	46.0	79.4	33.3*	87.9	95.6	7.8*	8.2	55.0	46.8
Bangladeshi	44.0	88.2	44.2*	90.4	95.2	4.8	4.7	62.5	57.8*
Caribbean	81.7	93.1	11.3*	93.1	94.6	1.5*	19.6	61.6	42.0*
Ratios									
Indian	1.02	1.02	0.00	1.03	0.98	-0.05	1.25	1.06	-0.19
Pakistani	0.65	0.88	0.24	0.95	0.98	0.04	0.63	0.90	0.26
Bangladeshi	0.62	0.98	0.36	0.97	0.98	0.00	0.37	1.02	0.65
Caribbean	1.15	1.04	-0.11	1.00	0.97	-0.03	1.53	1.01	-0.52

* The difference in the effect of education between the ethnic minority group and white British individuals is statistically significant at p-value<.10

[1] The ratio between each ethnic minority groups' probability and white British individuals' probabilities.

Population: Individuals between 20 and 45 years old

Source: Authors' own calculations based on ONS-LS

Tables 6 and 7 also show that the observed higher returns to education are often related to a positive difference in ratios (i.e. a positive difference between the ratio for Level 4+ and the ratio for Level 1 or less). Generally, higher education does seem to allow a better materialization of unobserved 'positive' factors, which were assumed to play a role in educational achievements, in the labour market. Nevertheless, while having a university degree (vs. being low educated) improves the relative position of ethnic minority groups, their ratios are still much smaller than those observed in Table 5 (see education column). This implies that the advantage they obtain in education is not fully translated into

a labour market advantage. As noted, this implies that the factors that ensure educational success are not the same as those which ensure labour market success, and ethnic minorities may still struggle to overcome discrimination or attain the additional resources that provide benefits in the labour market over and above education.

Finally, there are some cases in which returns to education are similar or even smaller than those observed for white British individuals. In particular, Caribbean women are the only group that experiences lower returns to education compared to white British women (see Figure S2). This implies that a university degree positions this group in a worse relative position, compared to those with low education. While this is particularly worrisome in terms of access to employment (see Table 7), Caribbean women are better off than white British women in terms of activity and in gaining highly qualified occupations among those with low education. This may provide some support for the existence of class misallocation processes.

6.3.3 Exploring changes over time

We argued before that studying labour market outcomes among those with a university degree is a better way to test how unobserved advantages might translate into the labour market; and that a similar argument can be made about more recent cohorts. Integration policies have improved in the past decades (Cheung & Heath, 2007; Heath & Yu, 2005), and one would also expect some replacement in cohorts, with younger cohorts doing better than older cohorts. This section compares the labour market outcomes of 20 to 45 year old individuals in 2001 and in 2011, with the expectation of finding a better relative position of ethnic minorities in the most recent year.[9] For this purpose, we added interactions between year and ethnic group in our models (tables available upon request), and created predicted values shown in Tables 8 (men) and 9 (women). As before, we indicate statistically significant interactions with a star (*), meaning that the effect of year is different between a certain ethnic minority group and white British individuals. Contrasts are shown in Figure S3.

In 2011 employment probabilities became more similar across white British, Pakistani and Caribbean men. The situation of Bangladeshi and Indian with respect to that of white British individuals continued to be the same. The relative position of most groups in terms of their probability of achieving a professional/managerial occupation has not changed significantly between both years. An exception are Caribbean men, who in 2011 seem to be doing better relative to white British. Among women (Table 9), the results show no relative change in most cases. Pakistanis and Bangladeshis are the only exception: they are more likely to be employed in 2011 and Pakistanis were also more likely to attain high status occupations. Being the most disadvantaged groups in 2001, these results point to a reduction in ethnic penalties between both years. The positive change in the ratios that accompany these changes, for both men and women, show that these groups have improved their position with respect to white British. This would suggest that they seem to be better able to materialize unobserved characteristics (which we presume have allowed them to achieve high educational levels) in the labour market, as time goes by. Still, most ethnic minority groups, and women in particular, lag behind the white British. Also, Indian women were the only group that is in a worse-off position with respect to white British women as regards access to employment.

[9] Although this is a comparison of two cross-sections, they should be informative of average changes in the decade.

Table 8: Labour market outcomes by year: predicted values and ratios. Men

	Employed			Prof/Manag		
	2001	**2011**	**Diff.**	**2001**	**2011**	**Diff.**
Predicted values						
British	94.8	93.6	-1.2	39.6	34.5	-5.0
Indian	93.8	93.6	-0.2	46.1	42.4	-3.7
Pakistani	90.1	93.1	3.0*	37.9	35.5	-2.4
Bangladeshi	94.0	94.9	0.9	49.1	40.2	-8.9
Caribbean	92.0	94.3	2.3*	37.3	37.8	0.4*
Ratios						
Indian	0.99	1.00	0.01	1.17	1.23	0.06
Pakistani	0.95	1.00	0.04	0.96	1.03	0.07
Bangladeshi	0.99	1.01	0.02	1.24	1.16	-0.08
Caribbean	0.97	1.01	0.04	0.94	1.09	0.15

* The difference in the effect of education between the ethnic minority group and white British individuals is statistically significant at p-value<.10

[1] The ratio between each ethnic minority groups' probability and white British individuals' probabilities.

Population: Individuals between 20 and 45 years old in 2010 and 2011

Source: Authors' own calculations based on ONS-LS

Table 9: Labour market outcomes by year: predicted values and ratios. Women

	Active			Employed			Prof/Manag		
	2001	**2011**	**Diff.**	**2001**	**2011**	**Diff.**	**2001**	**2011**	**Diff.**
Predicted values									
British	79.6	82.1	2.5	96.3	94.8	-1.4	33.2	30.2	-3.0
Indian	78.9	82.3	3.4	96.3	92.5	-3.9*	35.9	33.5	-2.4
Pakistani	59.6	64.1	4.6	90.3	92.4	2.1*	24.9	27.1	2.2*
Bangladeshi	62.2	67.7	5.5	89.1	92.0	2.9*	26.7	26.7	0.0
Caribbean	82.1	85.7	3.6	94.4	92.7	-1.7	37.2	31.3	-5.9
Ratios									
Indian	0.99	1.00	0.01	1.00	0.97	-0.03	1.08	1.11	0.03
Pakistani	0.75	0.78	0.03	0.94	0.97	0.04	0.75	0.90	0.15
Bangladeshi	0.78	0.82	0.04	0.93	0.97	0.04	0.81	0.88	0.08
Caribbean	1.03	1.04	0.01	0.98	0.98	0.00	1.12	1.03	-0.09

* The difference in the effect of education between the ethnic minority group and white British individuals is statistically significant at p-value<.10

[1] The ratio between each ethnic minority groups' probability and white British individuals' probabilities.

Population: Individuals between 20 and 45 years old in 2010 and 2011

Source: Authors' own calculations based on ONS-LS

7. Conclusion and discussion

The concept of ethnic penalties has long dominated the literature on educational and labour market integration of migrants and their children in destination societies. While useful for describing the disadvantages experienced by these ethnic minorities, it is limited for understanding more recent findings, which show a mix of both advantage and disadvantage. The experience of ethnic minority

groups in the UK, with their high rates of educational success, but persistent unemployment disadvantage, offers a very clear case of this phenomenon, and calls for the development of a new framework. In this paper we aimed to develop such a framework, while at the same time presenting an updated empirical analysis of social mobility in relation to education and labour market attainment across ethnic groups, drawing on the most substantial and complete longitudinal dataset covering ethnic minorities available for England and Wales.

Our starting point was the simple observation that, despite predominantly low social origins, second generation ethnic minorities do much better in terms of education than white British individuals, but struggle to translate these into commensurate labour market success. We hypothesised two general mechanisms by which educational advantage might arise. The first was social class misallocation, which reflects the fact that, due to downward mobility on migration, lower social class origins might encompass all the middle class attributes of their 'true' or pre-migration class that are relevant for higher educational outcomes. The second was immigrant advantage, which refers to those unmeasured factors of positively selected immigrants that have a positive effect on education, independently of the social class of origin. We argued that, whichever mechanisms holds, because social origins and education cannot be considered to impact outcomes independently across ethnic groups, we need to reconsider how we interpret analyses of ethnic penalties. In most studies, when the observed ethnic penalty disappears following the inclusion of social origins, it is interpreted as if there is no disadvantage. However, this disregards the fact that the same mechanisms that explain advantages in education (such as "hidden" middle-class features or drive and motivation) may well play a role in the labour market. If this is the case, then a 'zero penalty' might mean that positive unobserved attributes are failing to reap rewards in the labour market, rather than the disappearance of the ethnic disadvantage.

Our empirical analysis showed that conditioning on social origins, second generation ethnic minorities were substantially more likely to obtain a university degree than their white British peers. Indians had the highest probabilities, of more than 55 percent, with Bangladeshis, Pakistanis and Caribbean following closely, with probabilities around 40 per cent, compared to 30 per cent among the white British majority. Our analysis suggested that the main mechanism was immigrant advantage – or beneficial unobserved characteristics associated with immigration itself, since we observed overachievement for the second generation from both high and low social class origins. Only among Caribbeans the results suggested a mix of both mechanisms. There were some interesting variations across groups and social origins. Indian and Bangladeshi men and women were among the highest achievers, independently of origins; Pakistanis from high social origins got similar educational attainments to them, but not those from low social origins. While Indians have been associated with the migrant success story, Pakistanis and especially Bangladeshis, by contrast have been characterised as the most disadvantaged of the UK's ethnic groups (Modood, Berthoud, & Lakey, 1997). It would be worthwhile for future research to consider what underlies these differences and in particular the diverging trajectories of (lower class) Pakistanis and Bangladeshis, who have typically been combined in analysis of the UK's ethnic minorities.

The significant advantages of ethnic minorities in education were only partly translated into the labour market, with some variation by group, gender and the particular labour market outcome under study. For example, no minorities had a higher probability of finding employment than white British individuals; and Pakistani men and all female ethnic minority groups had lower probabilities of being in employment rather than being unemployed, compared to equivalent white British men and women. Pakistani and Bangladeshi women were also less likely to participate; and only Caribbean women had a higher activity rate than white British women. For occupational success, only Indian men and women and Bangladeshi men did better than white British men and women. Pakistani and Caribbean men, and Pakistani and Bangladeshi women showed either no differences (men) or a penalty (women) with respect to white British men and women. The absence of an ethnic penalty in labour market outcomes, observed for some groups in our analysis, might have previously been interpreted as a "positive outcome". However, given how well ethnic minorities performed educationally, we might have expected them to

perform even better in the labour market. We offered two explanations for the lack of correspondence between educational and labour market success, which both aligned with the greater evidence for immigrant advantage rather than class misallocation in educational attainment. First, those factors that produced returns in a relatively open education system, such as motivation and drive, might be harder to demonstrate in the labour market, particularly at the point of application. Instead, stereotypes or discrimination could obstruct minorities from having the opportunity to display these attributes that had served them well in education. Second, we conjectured that despite having unmeasured characteristics that benefited them in education, ethnic minorities may still lack class and status-based attributes that may be more relevant in the context of the labour market. These could be for example, social networks and cultural capital, which have been shown to facilitate the labour market success of individuals from more advantaged social classes, independently of qualifications.

Our theoretical framework also suggested that it was those who successfully attained higher rates of education who would be most fully endowed with, or best able to 'materialize', the unmeasured characteristics associated with immigrant advantage. We therefore analysed specifically, whether labour market opportunities were enhanced for ethnic minorities who acquired a university degree. We showed that there were higher returns to education for some ethnic minorities, when compared to white British individuals, a finding that is consistent with our model. This was the case, for example, of Pakistani and Bangladeshi women in their activity rates: support or motivation to achieve higher education seemed to extend also to engagement with the labour market.

Finally, our study also explored changes in outcomes between 2001 and 2011, with the expectation that over time, the outcomes for ethnic minorities will improve. Again, only some groups experienced this trend, but these included those who had not been faring so well, such as Pakistani men and Pakistani and Bangladeshi women in employment outcomes. This result suggests that for some groups and outcomes, time can play a role in how advantages in education may be translated into the labour market. It also highlights the ways in which the dynamics of mobility can change relatively quickly for ethnic minorities, as contexts and communities themselves adapt.

The paper is not without its limitations. Informed by the literature, to some extent we can 'read off' the mechanisms driving the outcomes, from the ways in which they are patterned across groups and differ for different outcomes, but we are unable to measure them directly. For example, the literature has emphasised both the importance of aspirations in educational attainment and in discrimination in labour market disadvantage, which are both consistent with the findings we present, but we are unable to substantiate our argument that minorities may lack the networks or signalling power that would benefit them in the labour market. We are also unable to directly measure the ethnic resources that may play a role in accounting for some of the differences between groups (Lee & Zhou, 2015). Future research would benefit from finding ways to link such relevant measures to mobility analyses to refine the frameworks we offer here.

In sum, this paper has provided new, contemporary findings on labour market outcomes of ethnic minorities and their social mobility in England and Wales, findings that, in some cases, revise the conclusions from past analysis (for example Heath & Cheung, 2007; Platt, 2007; Zuccotti, 2015). More importantly, however, we offer a contribution to the ways in which the literature on employment inequalities may benefit from taking account not only of disadvantage but also of advantage, and the implications of such a mix for the interpretation of empirical findings. It is also an invitation to researchers working on education and labour market integration of ethnic minorities to develop strategies for analysis that are not framed purely in terms of a 'deficit' model; and it further highlights the ways in which studies of the complex mobility dynamics of ethnic minorities can help to shed further light on stratification processes more generally.

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Supplementary material

Table S1: Control variables

	white British	Indian	Pakistani	Bangladeshi	Caribbean
Tenure					
Owner	61.6	85.2	85.4	40.9	49.7
Social rent	28.9	7.8	7.7	43.1	39.2
Private rent	9.4	7.0	6.8	16.0	11.1
Number of cars					
None	25.4	33.4	44.8	69.1	58.4
1 car	54.0	51.6	47.4	27.4	36.0
2+ cars	20.6	15.0	7.9	3.5	5.6
Number of persons per room (ppp)					
Over 1.5 ppp	1.9	15.7	24.5	36.8	14.8
1.5 ppp	1.0	5.5	7.3	8.4	6.4
Over 1 but less than 1.5 ppp	9.6	23.3	31.0	27.3	25.7
1	19.0	21.3	18.4	13.9	22.0
Over 0.75 but less than 1 ppp	25.4	16.3	9.9	7.7	12.8
0.75 ppp	4.2	2.5	1.6	1.2	3.9
Over 0.5 but less than 0.75 ppp	28.6	12.1	5.8	3.7	10.1
0.5 ppp	6.4	1.8	1.0	0.9*	2.7
Less than 0.5 ppp	4.0	1.5	0.5	0	1.5
Carstairs quintiles					
Carstairs Q1	20.8	5.1	1.7	1.4	3.1
Carstairs Q2	21.2	6.7	3.6	3.4	6.7
Carstairs Q3	20.6	10.6	5.7	6.4	12.7
Carstairs Q4	20.0	18.8	17.5	11.3	22.7
Carstairs Q5	17.3	58.8	71.5	77.5	54.8
Education (men)					
No education + other	18.3	9.3	18.0	16.2	17.1
Level 1	22.2	14.4	21.3	22.6	26.5
Level 2	21.0	13.5	17.2	16.5	22.1
Level 3	12.5	10.3	8.5	9.9	7.7
Level 4+	26.0	52.5	35.0	34.8	26.5
Education (women)					
No education + other	13.4	7.7	18.8	17.0	7.0
Level 1	21.9	14.2	18.6	21.6	23.0
Level 2	24.0	16.7	18.7	21.4	21.6
Level 3	13.2	11.7	12.9	12.0	12.0
Level 4+	27.6	49.8	31.1	27.9	36.4
Family composition					
Single, no child	30.3	42.2	34.9	39.8	43.4
Partner, no child	35.4	31.0	29.4	28.7	20.2
Single, with child	7.5	3.6	6.0	5.6	19.2
Partner, with child	26.8	23.3	29.7	25.9	17.3
Origin year					
1971	33.7	18.6	12.1	3.2	41.5
1981	42.2	48.1	47.7	34.6	45.5
1991	24.1	33.3	40.2	62.3	13.0
Destination year					
2001	51.1	40.4	36.7	30.0	52.6

	white British	Indian	Pakistani	Bangladeshi	Caribbean
2011	48.9	59.6	63.3	70.0	47.4
Number of waves					
2	1.2	2.6	7.1	13.1	3.5
3	17.3	25.1	36.1	51.8	18.6
4	39.8	49.5	43.3	32.5	40.4
5	41.8	22.8	13.5	2.5	37.5
Total	**354,498**	**5,986**	**3,738**	**1,142**	**2,890**
Total men	173,369	3,033	1,787	526	1,285
Total women	181,129	2,953	1,951	616	1,605

Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Table S2: Attainment of a university degree; AME. Men and women. Full model

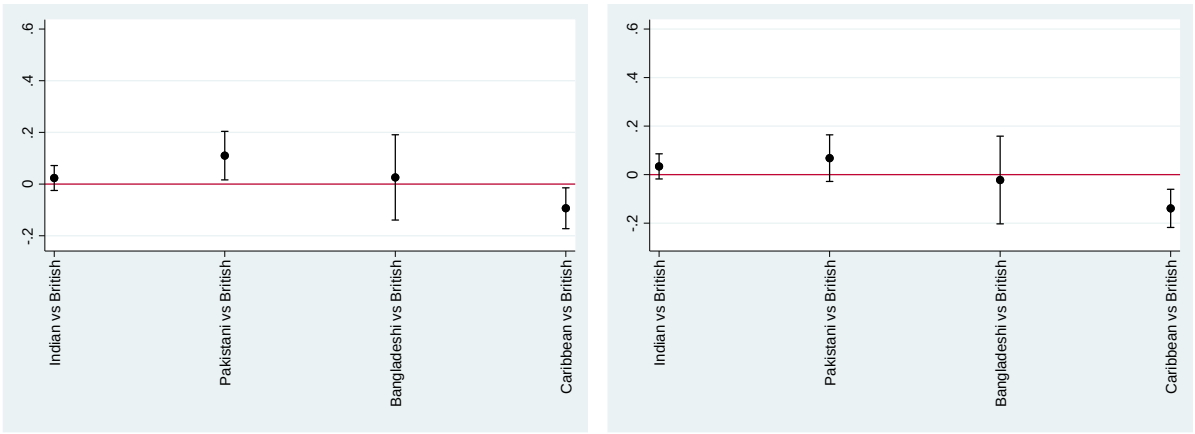
	Men		Women	
	Model 1	Model 2	Model 1	Model 2
Ethnic group (ref. white British)				
Indian	0.251***	0.331***	0.197***	0.280***
	(0.014)	(0.012)	(0.014)	(0.013)
Pakistani	0.090***	0.241***	0.010	0.158***
	(0.016)	(0.016)	(0.015)	(0.016)
Bangladeshi	0.097***	0.339***	-0.021	0.226***
	(0.027)	(0.028)	(0.021)	(0.025)
Caribbean	0.014	0.140***	0.090***	0.218***
	(0.018)	(0.020)	(0.018)	(0.018)
Parental social class (ref. manual)				
Not codable/No earners in hh		0.004		0.004
		(0.006)		(0.006)
Routine non-manual		0.053***		0.063***
		(0.004)		(0.004)
Bourgeoisie		0.001		0.021***
		(0.004)		(0.004)
Service class		0.185***		0.187***
		(0.004)		(0.004)
Tenure (ref. owner)				
Social rent		-0.118***		-0.126***
		(0.003)		(0.003)
Private rent		-0.063***		-0.064***
		(0.005)		(0.005)
Number of cars (ref. none)				
1 car		0.041***		0.045***
		(0.004)		(0.003)
2+ cars		0.061***		0.066***
		(0.005)		(0.005)
Number of persons per room (ref. 1)				
Over 1.5 ppp		-0.059***		-0.051***
		(0.008)		(0.008)
1.5 ppp		-0.042***		-0.030***
		(0.011)		(0.011)
Over 1 but less than 1.5 ppp		-0.022***		-0.035***

	Men		Women	
	Model 1	**Model 2**	**Model 1**	**Model 2**
		(0.005)		(0.005)
Over 0.75 but less than 1 ppp		0.034***		0.027***
		(0.004)		(0.004)
0.75 ppp		0.045***		0.044***
		(0.007)		(0.007)
Over 0.5 but less than 0.75 ppp		0.077***		0.071***
		(0.004)		(0.004)
0.5 ppp		0.105***		0.106***
		(0.006)		(0.006)
Less than 0.5 ppp		0.138***		0.141***
		(0.007)		(0.007)
Carstairs quintiles (ref. Q1: less deprivation)				
Carstairs Q2		-0.016***		-0.022***
		(0.004)		(0.004)
Carstairs Q3		-0.030***		-0.032***
		(0.004)		(0.004)
Carstairs Q4		-0.048***		-0.042***
		(0.004)		(0.004)
Carstairs Q5		-0.055***		-0.064***
		(0.004)		(0.004)
Age in destination				
Age	0.001***	0.001***	0.002***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Origin year (ref. 1971)				
1981	0.029***	-0.022***	0.021***	-0.029***
	(0.002)	(0.002)	(0.002)	(0.002)
1991	0.037***	-0.065***	0.042***	-0.064***
	(0.003)	(0.003)	(0.003)	(0.003)
Destination year (ref. 2001)				
2011.outyear	0.104***	0.099***	0.112***	0.116***
	(0.003)	(0.003)	(0.003)	(0.003)
Number of census points (ref. 2)				
3	0.074***	0.044***	0.106***	0.058***
	(0.007)	(0.008)	(0.008)	(0.009)
4	0.138***	0.081***	0.136***	0.072***
	(0.007)	(0.008)	(0.008)	(0.009)
5	0.127***	0.062***	0.076***	0.013
	(0.008)	(0.009)	(0.009)	(0.010)
N	**180000**	**180000**	**188254**	**188254**

* p-value<.10 ** p-value<.05 *** p-value<.01. Robust (clustered) standard errors in parentheses
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Figure S1: Contrasts: effect of having parents from the service class (vs. manual) on the probability of attaining of a university degree

Men **Women**



Controls include age, origin and destination years, number of census points, parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation. CI: 90%.
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Table S3: Labour market outcomes. Men. AME. Full models

	Employment			Occupation		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Ethnic group (ref. white British)						
Indian	-0.00660	0.00708	-0.00426	0.141***	0.220***	0.0724***
	(0.00548)	(0.00453)	(0.00522)	(0.0128)	(0.0117)	(0.00988)
Pakistani	-0.0436***	-0.00750	-0.0207***	-0.0359**	0.105***	-0.00245
	(0.00835)	(0.00593)	(0.00679)	(0.0153)	(0.0159)	(0.0126)
Bangladeshi	-0.0334***	0.0163***	0.00593	0.00128	0.217***	0.0663***
	(0.0119)	(0.00610)	(0.00735)	(0.0274)	(0.0277)	(0.0236)
Caribbean	-0.0574***	-0.0171**	-0.0117	-0.0556***	0.0551***	0.00302
	(0.0115)	(0.00791)	(0.00733)	(0.0179)	(0.0192)	(0.0161)
Education (ref. level 1)						
No education			-0.0492***			-0.134***
			(0.00318)			(0.00382)
Other			0.00954***			-0.0633***
			(0.00319)			(0.00531)
Level 2			0.00858***			0.0956***
			(0.00218)			(0.00402)
Level 3			0.0247***			0.172***
			(0.00230)			(0.00512)
Level 4+			0.0306***			0.462***
			(0.00205)			(0.00420)
Family composition (single, no child)						

	Employment			Occupation		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Partner, no child			0.0615***			0.0935***
			(0.00186)			(0.00306)
Single, with child			-0.0114			0.00315
			(0.00890)			(0.0125)
Partner, with child			0.0568***			0.0860***
			(0.00206)			(0.00354)
Parental social class (ref. manual)						
Not codable/No earners in hh		-0.0171***	-0.0153***		0.00533	0.0115**
		(0.00287)	(0.00265)		(0.00626)	(0.00561)
Routine non-manual		0.0109***	0.00711***		0.0767***	0.0445***
		(0.00179)	(0.00175)		(0.00402)	(0.00348)
Bourgeoisie		0.00484**	0.00449**		-0.00404	-0.00296
		(0.00237)	(0.00221)		(0.00470)	(0.00423)
Service class		0.0168***	0.00739***		0.185***	0.0825***
		(0.00179)	(0.00187)		(0.00406)	(0.00354)
Tenure (ref. owner)						
Social rent		-0.0229***	-0.0154***		-0.108***	-0.0406***
		(0.00182)	(0.00172)		(0.00376)	(0.00335)
Private rent		-0.00836***	-0.00550**		-0.0528***	-0.0189***
		(0.00221)	(0.00217)		(0.00498)	(0.00429)
Number of cars (ref. none)						
1 car		0.0232***	0.0187***		0.0407***	0.0153***
		(0.00178)	(0.00168)		(0.00364)	(0.00317)
2+ cars		0.0301***	0.0244***		0.0663***	0.0297***
		(0.00228)	(0.00221)		(0.00487)	(0.00424)

	Employment			Occupation		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Number of persons per room (ref. 1)						
Over 1.5 ppp		-0.0187***	-0.0104**		-0.0864***	-0.0435***
		(0.00466)	(0.00408)		(0.00813)	(0.00778)
1.5 ppp		-0.00998*	-0.00617		-0.0456***	-0.0209*
		(0.00572)	(0.00525)		(0.0120)	(0.0109)
Over 1 but less than 1.5 ppp		-0.00833***	-0.00568**		-0.0322***	-0.0150***
		(0.00244)	(0.00229)		(0.00502)	(0.00451)
Over 0.75 but less than 1 ppp		0.00837***	0.00638***		0.0301***	0.0114***
		(0.00181)	(0.00175)		(0.00393)	(0.00341)
0.75 ppp		0.00637**	0.00493*		0.0397***	0.0169***
		(0.00298)	(0.00290)		(0.00717)	(0.00617)
Over 0.5 but less than 0.75 ppp		0.00988***	0.00656***		0.0659***	0.0256***
		(0.00189)	(0.00185)		(0.00404)	(0.00350)
0.5 ppp		0.0117***	0.00805***		0.0881***	0.0338***
		(0.00278)	(0.00279)		(0.00607)	(0.00526)
Less than 0.5 ppp		0.00737**	0.00302		0.105***	0.0365***
		(0.00345)	(0.00351)		(0.00748)	(0.00634)
Carstairs quintiles (ref. Q1: less deprivation)						
Carstairs Q2		-0.00158	-0.000987		-0.0263***	-0.0179***
		(0.00192)	(0.00191)		(0.00396)	(0.00343)
Carstairs Q3		-0.00526***	-0.00410**		-0.0390***	-0.0236***
		(0.00199)	(0.00197)		(0.00418)	(0.00364)
Carstairs Q4		-0.0146***	-0.0126***		-0.0634***	-0.0380***
		(0.00206)	(0.00203)		(0.00434)	(0.00377)
Carstairs Q5		-0.0247***	-0.0212***		-0.0739***	-0.0418***

	Employment			**Occupation**		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
		(0.00226)	(0.00220)		(0.00472)	(0.00410)
Age in destination						
Age	0.00192***	0.00184***	0.000633***	0.00395***	0.00385***	0.00341***
	(0.000150)	(0.000147)	(0.000144)	(0.000293)	(0.000284)	(0.000269)
Origin year (ref. 1971)						
1981	0.0150***	0.00396***	0.00211	0.0284***	-0.0211***	-0.0109***
	(0.00153)	(0.00136)	(0.00129)	(0.00200)	(0.00221)	(0.00188)
1991	0.0182***	-0.00417**	-0.00267	0.0246***	-0.0776***	-0.0405***
	(0.00185)	(0.00190)	(0.00180)	(0.00333)	(0.00359)	(0.00311)
Destination year (ref. 2001)						
2011.outyear	-0.00522***	-0.00556***	-0.0112***	0.0173***	0.0138***	-0.0500***
	(0.00177)	(0.00177)	(0.00176)	(0.00331)	(0.00321)	(0.00298)
Number of census points (ref. 2)						
3	0.0455***	0.0218***	0.0200***	0.0596***	0.0201**	-0.00458
	(0.00714)	(0.00566)	(0.00519)	(0.00918)	(0.00999)	(0.00964)
4	0.0781***	0.0446***	0.0371***	0.132***	0.0654***	0.00982
	(0.00744)	(0.00594)	(0.00547)	(0.00933)	(0.0101)	(0.00972)
5	0.0990***	0.0640***	0.0542***	0.152***	0.0756***	0.0212**
	(0.00769)	(0.00623)	(0.00575)	(0.0101)	(0.0108)	(0.0103)
N	168117	168117	168117	180000	180000	180000

* p-value<.10 ** p-value<.05 *** p-value<.01. Robust (clustered) standard errors in parentheses
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Table S4: Labour market outcomes. Women. AME

	Activity			Employment			Occupation		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Ethnic group (ref. white British)									
Indian	0.0402***	0.0626***	-0.00249	-0.00678	0.00279	-0.0132**	0.106***	0.176***	0.0298***
	(0.00926)	(0.00830)	(0.0105)	(0.00519)	(0.00448)	(0.00583)	(0.0123)	(0.0122)	(0.00966)
Pakistani	-0.232***	-0.146***	-0.191***	-0.0517***	-0.0212***	-0.0354***	-0.0925***	0.0155	-0.0514***
	(0.0154)	(0.0141)	(0.0136)	(0.00981)	(0.00723)	(0.00846)	(0.0131)	(0.0159)	(0.0123)
Bangladeshi	-0.227***	-0.0692***	-0.154***	-0.0705***	-0.00726	-0.0380***	-0.123***	0.0576**	-0.0446**
	(0.0244)	(0.0198)	(0.0198)	(0.0158)	(0.00806)	(0.0121)	(0.0203)	(0.0291)	(0.0194)
Caribbean	0.0471***	0.0837***	0.0293**	-0.0498***	-0.0177**	-0.0201***	0.0356**	0.138***	0.0243*
	(0.0116)	(0.00934)	(0.0122)	(0.0108)	(0.00757)	(0.00777)	(0.0167)	(0.0174)	(0.0141)
Education (ref. level 1)									
No education			-0.217***			-0.0489***			-0.106***
			(0.00547)			(0.00412)			(0.00316)
Other			-0.000707			0.00770			-0.0239***
			(0.00824)			(0.00502)			(0.00711)
Level 2			0.0584***			0.0172***			0.0639***
			(0.00344)			(0.00215)			(0.00345)
Level 3			0.116***			0.0324***			0.149***
			(0.00386)			(0.00220)			(0.00463)
Level 4+			0.135***			0.0343***			0.461***
			(0.00340)			(0.00206)			(0.00409)
Family composition (single, no child)									
Partner, no child			-0.0408***			0.0219***			0.00674**
			(0.00275)			(0.00169)			(0.00340)

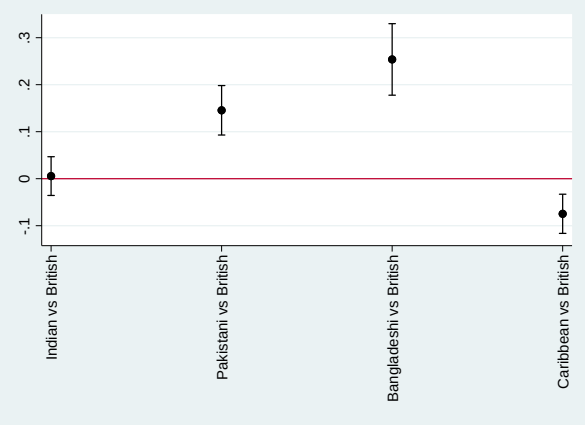
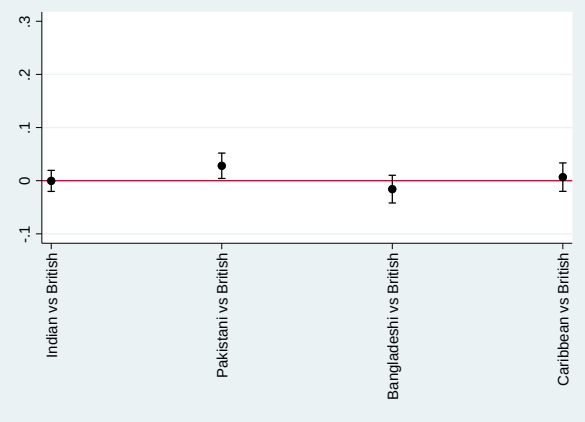
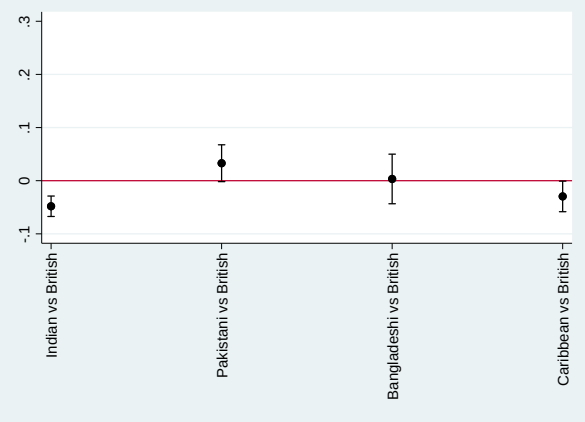
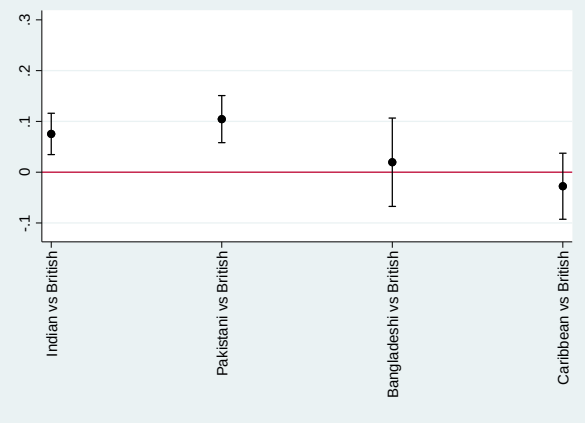
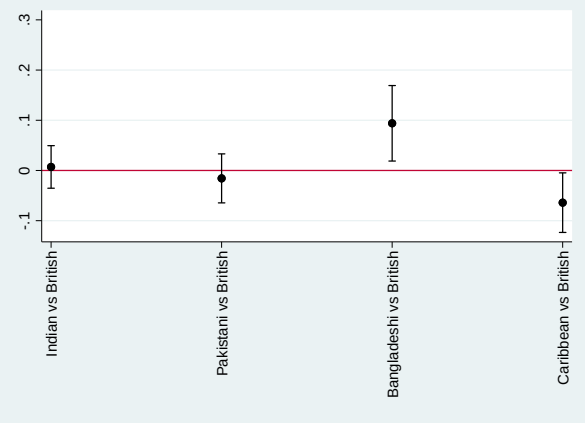
	Activity			Employment			Occupation		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Single, with child			-0.166***			-0.0439***			-0.102***
			(0.00403)			(0.00320)			(0.00455)
Partner, with child			-0.134***			0.0136***			-0.0705***
			(0.00342)			(0.00204)			(0.00373)
Parental social class (ref. manual)									
Not codeable/No earners in hh		-0.0610***	-0.0365***		-0.0148***	-0.00971***		-0.0155***	-0.00503
		(0.00481)	(0.00408)		(0.00261)	(0.00231)		(0.00553)	(0.00525)
Routine non-manual		0.0366***	0.0131***		0.00526***	0.000968		0.0586***	0.0223***
		(0.00305)	(0.00286)		(0.00168)	(0.00165)		(0.00375)	(0.00325)
Bourgeoisie		0.00633	-0.00258		0.00363*	0.00176		0.0160***	0.00367
		(0.00400)	(0.00359)		(0.00218)	(0.00207)		(0.00441)	(0.00393)
Service class		0.0440***	-0.00415		0.0110***	0.00191		0.138***	0.0379***
		(0.00309)	(0.00305)		(0.00167)	(0.00176)		(0.00381)	(0.00324)
Tenire (ref. owner)									
Social rent		-0.0645***	-0.0188***		-0.0211***	-0.0115***		-0.105***	-0.0319***
		(0.00302)	(0.00272)		(0.00171)	(0.00161)		(0.00346)	(0.00314)
Private rent		-0.0270***	-0.00386		-0.00910***	-0.00397*		-0.0527***	-0.0139***
		(0.00385)	(0.00358)		(0.00211)	(0.00204)		(0.00464)	(0.00404)
Number of cars (ref. none)									
1 car		0.0305***	0.0124***		0.0145***	0.00957***		0.0471***	0.0205***
		(0.00279)	(0.00255)		(0.00164)	(0.00156)		(0.00338)	(0.00299)
2+ cars		0.0395***	0.0150***		0.0191***	0.0135***		0.0741***	0.0359***
		(0.00392)	(0.00366)		(0.00216)	(0.00210)		(0.00457)	(0.00400)
Number of persons per room (ref. 1)									
Over 1.5 ppp		-0.0535***	-0.0145**		-0.0168***	-0.00843**		-0.0556***	-0.0151*

	Activity			Employment			Occupation		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
		(0.00695)	(0.00585)		(0.00448)	(0.00375)		(0.00788)	(0.00787)
1.5 ppp		-0.0195**	0.00518		-0.00897*	-0.00329		-0.0344***	-0.00831
		(0.00918)	(0.00771)		(0.00535)	(0.00473)		(0.0110)	(0.0106)
Over 1 but less than 1.5 ppp		-0.0254***	-0.00933***		-0.00939***	-0.00517**		-0.0333***	-0.0117***
		(0.00391)	(0.00343)		(0.00233)	(0.00211)		(0.00463)	(0.00423)
Over 0.75 but less than 1 ppp		0.0173***	0.00455		0.00808***	0.00565***		0.0221***	0.00456
		(0.00305)	(0.00278)		(0.00169)	(0.00162)		(0.00368)	(0.00321)
0.75 ppp		0.0176***	0.00204		0.00328	0.000116		0.0304***	0.00470
		(0.00541)	(0.00509)		(0.00292)	(0.00289)		(0.00659)	(0.00571)
Over 0.5 but less than 0.75 ppp		0.0264***	0.00284		0.0104***	0.00614***		0.0572***	0.0161***
		(0.00318)	(0.00295)		(0.00175)	(0.00171)		(0.00380)	(0.00331)
0.5 ppp		0.0288***	-0.00378		0.0121***	0.00627**		0.0826***	0.0218***
		(0.00480)	(0.00467)		(0.00250)	(0.00260)		(0.00578)	(0.00485)
Less than 0.5 ppp		0.0241***	-0.0150**		0.00768**	0.000111		0.0975***	0.0201***
		(0.00602)	(0.00606)		(0.00320)	(0.00345)		(0.00721)	(0.00592)
Carstairs quintiles (ref. Q1: less deprivation)									
Carstairs Q2		-0.00150	0.00460		-0.000512	0.000752		-0.00916**	0.00239
		(0.00325)	(0.00313)		(0.00180)	(0.00185)		(0.00372)	(0.00317)
Carstairs Q3		-0.00536	0.00605*		-0.00426**	-0.00195		-0.0218***	-0.00349
		(0.00336)	(0.00321)		(0.00186)	(0.00190)		(0.00390)	(0.00332)
Carstairs Q4		-0.0123***	0.00559*		-0.00696***	-0.00310		-0.0287***	-0.00314
		(0.00344)	(0.00326)		(0.00192)	(0.00193)		(0.00407)	(0.00348)
Carstairs Q5		-0.0322***	-0.00354		-0.0121***	-0.00539***		-0.0482***	-0.00898**
		(0.00372)	(0.00347)		(0.00207)	(0.00203)		(0.00439)	(0.00382)
Age in destination									

	Activity			**Employment**			**Occupation**		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Age	-0.00144***	-0.00155***	0.00271***	0.00106***	0.00102***	0.00141***	0.00228***	0.00154***	0.00429***
	(0.000241)	(0.000237)	(0.000239)	(0.000150)	(0.000147)	(0.000153)	(0.000294)	(0.000288)	(0.000269)
Origin year (ref. 1971)									
1981	-0.00130	-0.0197***	-0.00678***	0.00336***	-0.00396***	-0.00293***	0.0199***	-0.0231***	-0.00485***
	(0.00164)	(0.00172)	(0.00161)	(0.00114)	(0.00108)	(0.00106)	(0.00184)	(0.00203)	(0.00174)
1991	0.0210***	-0.0195***	0.00412	0.00810***	-0.00746***	-0.00406**	0.0271***	-0.0625***	-0.0259***
	(0.00260)	(0.00302)	(0.00274)	(0.00149)	(0.00166)	(0.00160)	(0.00305)	(0.00325)	(0.00284)
Destination year (ref. 2001)									
2011.outyear	0.0695***	0.0682***	0.0256***	-0.00882***	-0.00824***	-0.0144***	0.0403***	0.0430***	-0.0293***
	(0.00271)	(0.00270)	(0.00273)	(0.00177)	(0.00176)	(0.00180)	(0.00332)	(0.00325)	(0.00299)
Number of census points (ref. 2)									
3	0.124***	0.0790***	0.0433***	0.0390***	0.0214***	0.0133***	0.0938***	0.0516***	0.0151
	(0.0109)	(0.00963)	(0.00831)	(0.00703)	(0.00568)	(0.00494)	(0.00878)	(0.00978)	(0.00961)
4	0.150***	0.0933***	0.0469***	0.0561***	0.0340***	0.0219***	0.135***	0.0788***	0.0286***
	(0.0113)	(0.00997)	(0.00861)	(0.00744)	(0.00604)	(0.00528)	(0.00893)	(0.00997)	(0.00976)
5	0.165***	0.105***	0.0634***	0.0617***	0.0396***	0.0281***	0.101***	0.0433***	0.0191*
	(0.0118)	(0.0106)	(0.00923)	(0.00786)	(0.00647)	(0.00570)	(0.00971)	(0.0107)	(0.0104)
N	188.254	188.254	188.254	151.559	151.559	151.559	188.254	188.254	188.254

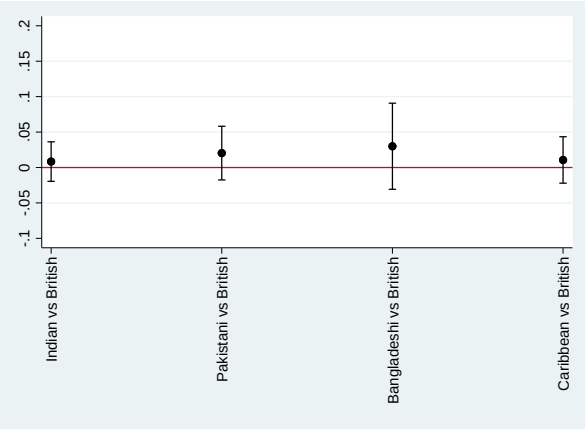
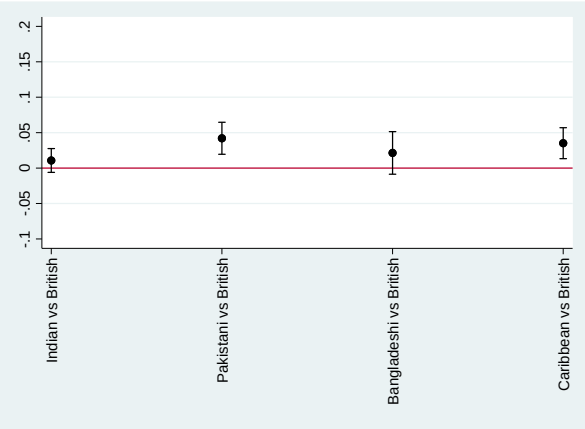
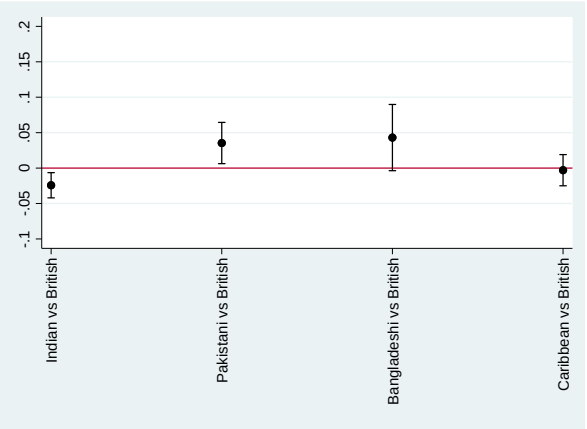
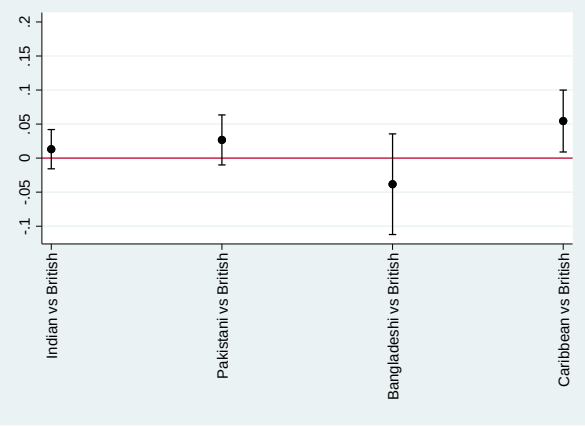
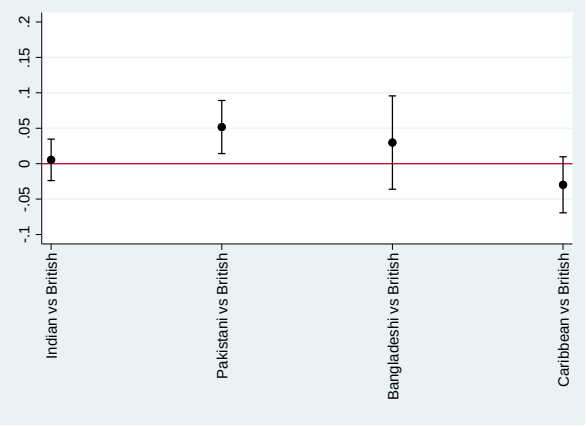
* p-value<.10 ** p-value<.05 *** p-value<.01. Robust (clustered) standard errors in parentheses
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Figure S2: Contrasts: effect of a university degree (vs. level 1 or less) on the probability of being active (women), of being employed and of having a professional/managerial occupation

Men	Women
Activity	
	
Employment	
	
Occupation	
	

Controls include age, origin and destination years, number of census points, parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation. CI: 90%.
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS

Figure S3: Contrasts: effect of destination year (2011 vs. 2001) on the probability of being active (women), of being employed and of having a professional/managerial occupation

Men	Women
Activity	
	
Employment	
	
Occupation	
	

Controls include age, origin and destination years, number of census points, parental social class, tenancy, number of cars, number of persons per room and neighbourhood deprivation. CI: 90%.
Population: Individuals between 20 and 45 years old
Source: Authors' own calculations based on ONS-LS