The internal migration of ethnic groups in Britain: a study using the census macro and micro data

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Abstract
This paper examines the internal migration propensities and spatial patterns of ethnic groups in Britain using three different census products. Special Migration Statistics provide evidence of variation in aggregate ethnic group migration flows and rates for the 12 month period prior to the Census. Micro data from the Individual Licensed Sample of Anonymised Records (SAR) are used to indicate how age differentials and distance moved have been maintained between 1991 and 2001. Age-specific flow data, commissioned from the national census agency, are used to explore age variations for different ethnic groups for England and Wales using an area classification and to investigate net migration in relation to ethnic population concentration and deprivation in London. Whilst the paper provides new insights into the compositional and spatial characteristics of 'ethnomigration' in Britain, it also provides an opportunity to compare the benefits and limitations of different census macro and micro data.

1 Introduction

The structure and composition of Britain's population is undergoing significant change due to the consequences of ageing, reduced fertility, later childbearing, lower mortality and increasing international migration. In 2001, Britain's ethnic non-white minority population was 8% of the population of 57.1 million and there has been plenty of research in the geographical literature on ethnic composition and distribution, e.g. Ratcliffe (1996), Peach (1996), Phillips (2006), Scott *et al.* (2001), Rees and Butt (2004), Lupton and Power (2004), Simpson (2004) and Johnson *et al.* (2002; 2006). There have been fewer studies of the ethnic complexion of internal migration, e.g. Champion (2005) and Finney and Simpson (2008), and it is this dimension of population change that is the focus of this paper.

People move home for a wide range of different reasons and migration intensity is well known to fluctuate with stage in the life course (Rogers and Castro, 1981). Children's propensities to migrate tend to decline as they get older in parallel with those of their parents up until school-leaving age, at which point there is a marked increase that coincides with the age of entrance to higher education or to first job for those aged 18. In most countries, the decline in migration with older working age levels out around retirement age and may increase in older old age as the need for institutional or informal support becomes more necessary. Whilst age is a familiar characteristic for migration selection, gender is thought to be much less of a selective influence whilst socio-demographic characteristics may vary as economic conditions change over time. Much less is known about the influence of ethnicity or the differences in migration propensity experienced by different ethnic groups in the UK, particularly in recent years as ethnic minority populations have swollen through natural increase and immigration (Dunnell, 2007).

This paper examines the internal migration propensity differentials for different ethnic groups in Britain and attempts to answer the following research questions using different census products.

- Are there distinctive variations in the *propensities to migrate* for different ethnic groups at the national level? This question extends to age variations and differences in the distance moved as well as changes over time, making use of both macro and micro data.
- What differences are apparent in the *spatial patterns* of ethnic group migration across the country at local authority district scale? The analysis relating to this question uses two national area classifications in order to summarise the spatial distributions of net migration by ethnic group.
- Is there any evidence of *linkage* between internal migration and ethnic minority population concentration? This question focuses on whether, across the country as a whole, white migrants are leaving areas with lower shares of white population.
- What spatial patterns of movement of ethnic groups are apparent in *London*? In answering this question, we consider spatial patterns of net migration at ward level using specially commissioned data and examine population concentration as well as area deprivation.

We attempt to answer these questions in later sections of the paper as well as providing evidence of the utility of census macro and micro migration data introduced in the next section.

2 Data aspects

The results presented are based on three different census products, all of which involve the measurement of migration taking place over the 12 month period prior to the census. Firstly, data from Table MG103 in the *Special Migration Statistics* (SMS) of the 2001 Census provide evidence of aggregate ethnic group migration origin-destination flows taking place at local authority district level, extracted via the Web-based Interface to Census Interaction Data (Stillwell and Duke-Williams, 2003). Migrant counts are available for one white and six non-white ethnic groups in the SMS and corresponding population denominators are derived from the Key Statistics by aggregation from 16 groups (Table 1) so that migration rates can be calculated. These data have been adjusted by the Office of National Statistics (ONS) to ensure confidentiality (Stillwell and Duke-Williams, 2007).

Table 1: Ethnic groups defined in the Census

Ethnic group defined in the Key Statistics	**Ethnic group defined in the SMS and used for SAR**
White British; White Irish; Other white	White
Indian	Indian
Pakistani; Bangladeshi; Other Asian	Pakistani and Other South Asian
Chinese	Chinese
Caribbean; African; Other black	Caribbean, African, Black British and Black Other
White and Black Caribbean; White and Black African; White and Asian; Other Mixed	Mixed*
Other	Other

* This group is combined with the Other group for analysis based on SARs because the Mixed ethnic category was not identified in 1991 Census

Counts of ethnic migrants for these groups are only produced by ONS at level 1 where districts involve the 33 London boroughs, 36 metropolitan districts, 68 unitary authorities, 239 other local authorities in England and Wales and 32 council areas in Scotland (Figure 1). Northern Ireland is not included in the analysis: although data for the province were produced in 2001, the spatial units are parliamentary constituencies, for which population counts are difficult to estimate. Moreover, no migration data by ethnic group were available for Northern Ireland in the 1991 Census, thus preventing any analysis of change over time.

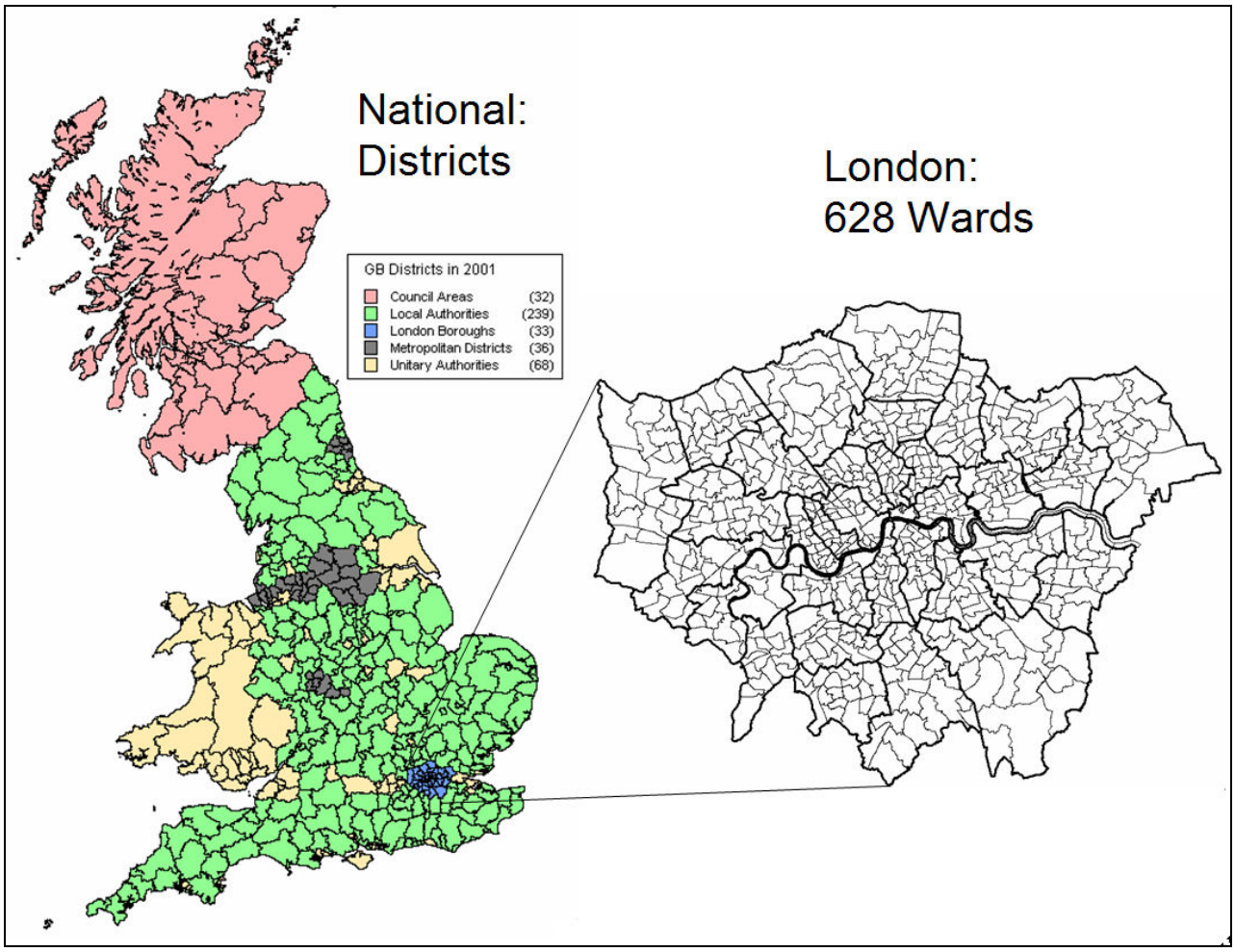


Figure 1: Districts of Britain and wards of London

Analysis of ethnic migration change between 1991 and 2001 is complicated because of the changing definitions of the ethnic classification, the way in which migration is measured, the methods used to adjust counts for to reduce the risk of disclosure and the impact on boundary lines of local government reorganisation (Stillwell and Duke-Williams, 2007). Given these difficulties, we restrict our analysis of change to the national level and make use of the *Individual Licensed Sample of Anonymised Records (SAR),* a 3% sample of the population in 2001 and 2% sample in 1991. In this case, the study population involves household and communal establishment residents in England and Wales, excluding recent immigrants. One key advantage of the SARs is the opportunity to derive variables consistent for 1991 and 2001 that the literature shows to be related to the propensity to migrate: social class, educational achievement (degree), tenure (owners, public renters, private renters, communal), employment status (active, unemployed, other) and health (reported limiting long-term illness). In this instance, it is the age and ethnic group variables that are of most interest and to establish what changes have occurred since 1991. Whilst the SAR micro data benefits from having no small cell adjustment measure applied, the comparatively small sample size reduces its value for geographical analysis. Although data is available for Government Office Region (GOR), we restrict our use here to the national level and will compare migration rates by ethnic group and age modelled using the SAR with those obtained from the complete population in the commissioned tables.

The commissioned data are tables of migration counts *specially commissioned and purchased from the Office of National Statistics* (ONS), the national census agency for England and Wales that, in this instance, provide counts of migrants in the seven ethnic groups disaggregated by age.

Following negotiation concerning data detail with ONS, two sets of gross migration flow data were provided for seven age groups (0-15; 16-19; 20-24; 30-44; 45-59; 60+) relating to key stages in the life course and containing flows between households and communal establishments. The first commissioned table (Table CO711) contained flows between districts in England and Wales by ethnic group for these ages whilst the second data set supplied by ONS (Table CO723) was for wards and came in two parts: (i) ward to region flows, and (ii) region to ward flows. Given the small cell adjustment (SCAM) procedures that have to be applied to each commissioned table (involving the removal of values of 1 and 2, see Stillwell and Duke-Williams, 2007, for more detail), ward to ward matrices for each ethnic group by age group were unsuitable, but region to ward and ward to region flows allowed net migration for each ward by ethnic group and age to be calculated. However, the impact of SCAM means that the flows into and out of wards within any one region will not necessarily be consistent. Our comparison of the total flows into wards in London (see Figure 1) from London region and flows out of wards in London to the London region suggests relatively small differences in the flows from the two parts of the table for each ethnic group, amounting to a difference 246 out of a total of nearly 642,000 migrants within London. The precise magnitude of migration of taking place within London derived from the commissioned table is comparable with the total of 644,904 migrants moving within and between the wards extracted from SMS Table 203, which is composed of 444,755 whites and 200,149 non-whites. Thus the commissioned tables provide counts for total, white and non-white migrants that are lower in each case than totals from the SMS. This difference is likely to be due to SCAM. In both cases, flows with no usual residence one year ago and with origins outside the UK one year ago have been excluded.

3 Ethnic migration propensities

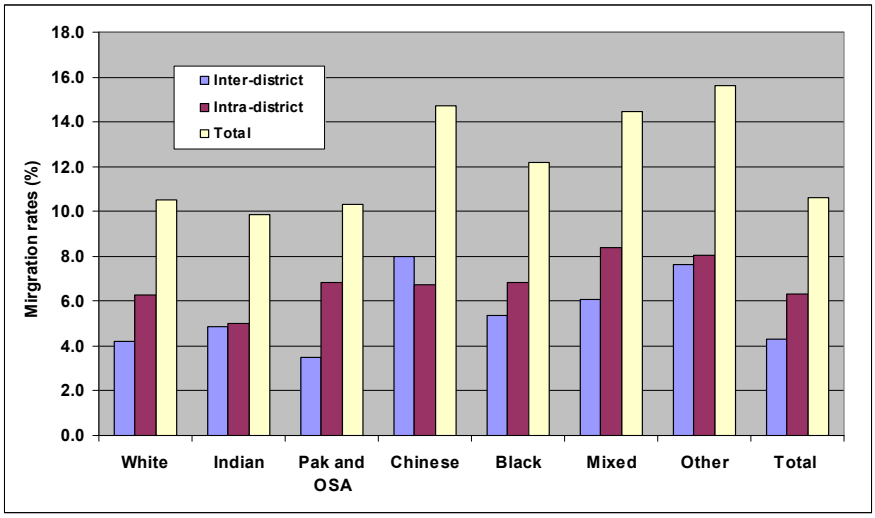
In aggregate terms, almost 92% of Britain's population of 57.1 million are white, with the largest ethnic minorities being the Pakistani and other South Asians (2.2%), black (2%) or Indian (1.8%). The remaining non-white groups include those of mixed ethnicity (1.2%), Chinese (0.4%) and other (0.4%). SMS data can be used to identify national variations in internal migration propensity by ethnic group. In the 12 month period before the 2001 Census, over 6 million migrants moved usual residence, equivalent to approximately 1 in 10 of the population, and 91% of the migrants were white (Table 2). Amongst the non-white minorities, the black groups had the largest shares of both inter and intra-district migrants; Indians had 2.1% of longer distance inter-district movement whereas the Pakistani and other South Asian (POSA) group had 2.4% of shorter, intra-district flows.

Table 2: Ethnic group migration volumes and shares, 2000-01

Ethnic group	Migration between districts*	%	Migration within districts*	%	Total migration*	%
White	2,215,010	90.4	3,295,652	91.4	5,510,662	91.0
Indian	50,997	2.1	52,460	1.5	103,457	1.7
POSA	44,567	1.8	87,051	2.4	131,618	2.2
Chinese	19,476	0.8	16,317	0.5	35,793	0.6
Black	61,748	2.5	78,063	2.2	139,811	2.3
Mixed	40,930	1.7	56,519	1.6	97,449	1.6
Other	17,498	0.7	18,380	0.5	35,878	0.6
Total	2,450,226	100.0	3,604,442	100.0	6,054,668	100.0

* Excludes persons with no usual address 12 previously (456,736 in total)
Source: Special Migration Statistics

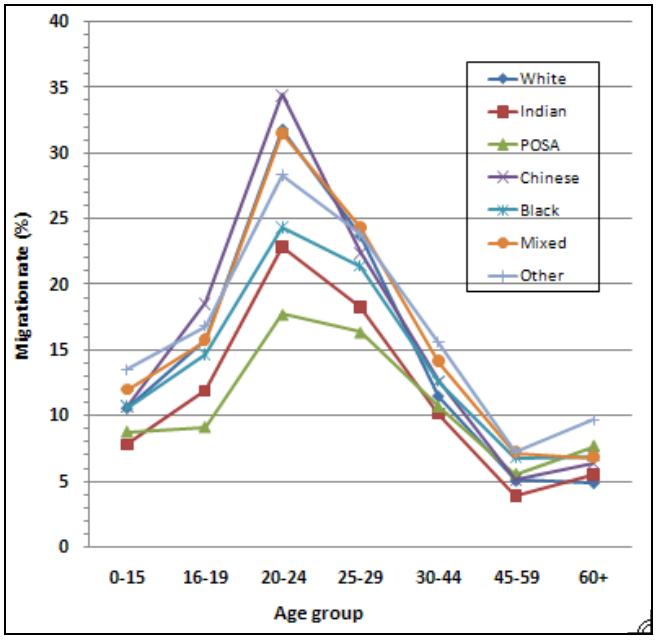
Rates are computed by dividing the migrant number by the population of the respective ethnic group at the end of the period (census date). Although absolute numbers of migrants are higher for the main ethnic minority groups, Figure 2 shows us that higher migration rates are experienced by the smaller groups; the Chinese, mixed and other non-white groups have the highest migration intensities with the Chinese having rates of inter-district migration that are almost twice the national average, whereas the Indians exhibit migration rates that relatively low in comparison with white-British.



Source: SMS Table MG103

Figure 2: Migration rates by ethnic group, 2000-01

When age-specific migration rates are computed (Figure 3) using data from the commissioned table CO711, the schedules provide clearer evidence of the variations between ethnic groups. Despite their relative magnitude, the Indian and POSA groups experience the lowest migration rates in almost all ages and the rate differentials are most noticeable at ages 16-19, 20-24 and 25-29. At age 20-24, the POSA rate is only about 17%, less than half the rate of migration for the Chinese, the most mobile group at this age and at age 16-19 years also.



Source: Commissioned Table CO711

Figure 3: Age-specific migration rates by ethnic group, 2000-01

The difference between ethnic group migration intensities is most noticeable in the 20-24 age range although the gap between the rates for Asians and others is apparent for those in their late teens. It is particularly interesting to note that POSA migrants aged 16-19 are only marginally higher than those aged 0-15. Given the inclusion of students on the 2001 Census migration counts, we conclude that Pakistanis and Other South Asians are less inclined to move away from home to study in higher education or in fact to leave home aged 20-24. Evidence from elsewhere (Phillips *et al.,* 2004; Johnson *et al*., 2007) indicates that Bangladeshis have the highest levels of segregation amongst all ethnic groups.

Whilst the SMS and commissioned tables allow some analysis of district migration by ethnicity and age, we turn to the SARs to confirm these findings for 2001 and to examine change between 1991 and 2001. The flexibility of the micro data (Dale *et al.,* 2000) allows variables to be derived so that the classification of ethnic groups in the macro data table is matched as closely as possible in the SAR.

Since other aspects influence the likelihood of migration (Boyle *et al.,* 2002), the aim here is to model the probability of migration by ethnic group, age and sex, controlling for additional migration relevant variables such as social class, educational achievement (degree), tenure (owners, public renters, private renters, communal), employment status (active, unemployed, other) and health (reported limiting long-term illness). A binary logistic regression model is appropriate here with the dichotomous outcome, did not (0) / did migrate (1) (during the year before the census) and categorical explanatory variables. Model outputs include the odds ratio which shows the influence of a variable category compared with a base/reference level of that variable (e.g. the odds of an outcome for females compared with those for males). The odds ratios can be converted to probabilities of the outcome based on (combinations of) variable characteristics. See Dale *et al.,* 2000: 165-174 for further details on this procedure. Here then we have fitted a series of binary logistic regression models for both 1991 and 2001 to estimate the probabilities of migration by age, sex and ethnic group whilst controlling for other variables which may influence migration. Whilst not reported here in detail, note that the odds of migrating decreases for progressively lower social classes, increases when individuals have a degree and that those in private rented accommodation are more likely and those in public housing less likely to migrate in comparison with owner occupiers, for example.

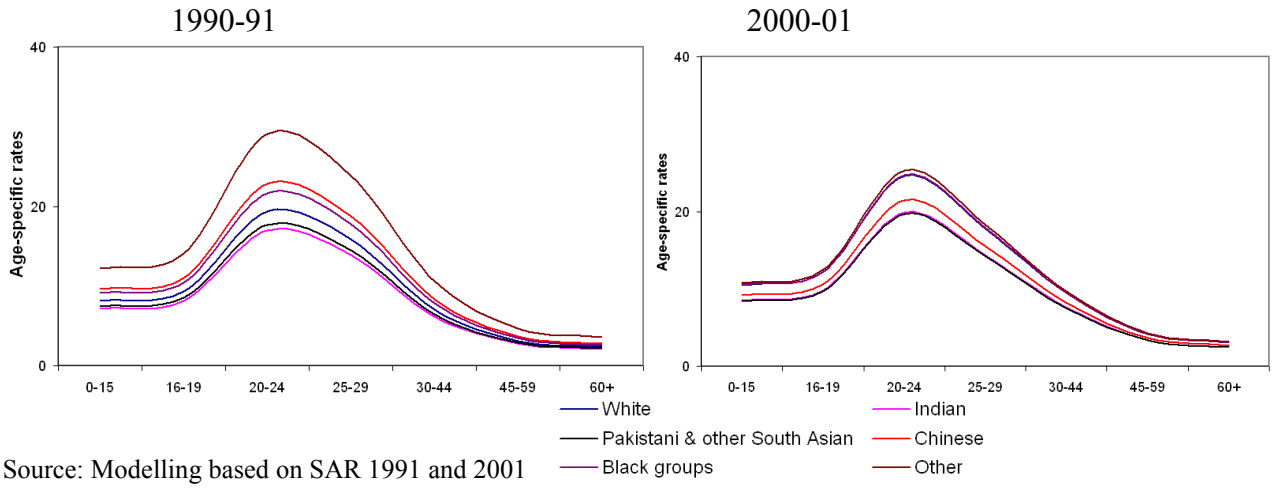
The odds ratios in the final models using micro data on migrants and non-migrants show a large element of agreement with the differentials identified from the macro data. The age-specific odds ratios for each age group compared with the 0-15 group indicate an increase in the likelihood of migrating to age 20-24 before declining from being almost two and a half times more likely to migrate at age 20-24 to being almost three quarters less likely to migrate at age 60+. There is a small, but significant difference by sex with females more likely to migrate than males.

Compared with the white group (the reference level), South Asian groups are shown to be less likely to migrate in both 1991 and 2001, though the difference by 2001 is less. In 1991, Chinese, black and Other groups are more likely to migrate than the White group but by 2001, the Chinese are less likely and for the black and others there is no difference. These comparisons must be set in the context that the modelled probability (expressed as a percentage) of whites migrating rose between 1991 and 2001; with those aged 20-24 increasing from 19.34% in 1991 to 24.60% in 2001, for example. Figure 4 illustrates that the differences in migration probabilities between groups reduced during the last decade of the twentieth century. All groups experience an overall rise except the Chinese and Other groups whose modelled rates for those aged 20-24 fell by 1.39% and 3.83% respectively.

Table 3: Odds ratios for migration variables in logistic model using SAR data

Variable category	Variable	Odds ratio 1991	Odds ratio 2001
Ethnic group	White		
	Indian	0.88**	0.81**
	Pakistani and OSA	0.91**	0.80**
	Chinese	1.18***	0.87**
	Black	1.12***	1.00ns
	Other	1.51***	1.03ns
Age group	0-15		
	16-19	1.15***	1.15**
	20-24	2.38***	2.34**
	25-29	1.95***	1.69**
	30-44	0.87***	0.90**
	45-59	0.38***	0.40**
	60+	0.29***	0.29**
Sex	Male		
	Female	1.05***	1.02**

*** significant at 99% level; ** significant at 95% level; ns not significant

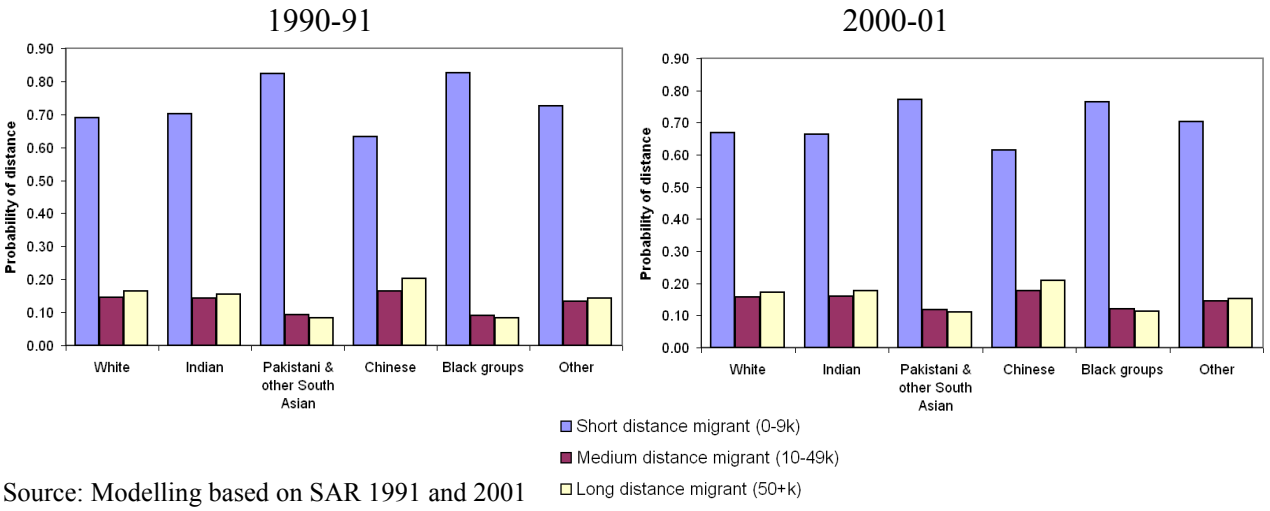


Source: Modelling based on SAR 1991 and 2001

Figure 4: Migration probabilities by ethnicity and age group, 1990-91 and 2000-01

Whilst the differences between ethnic groups in their probabilities of being a subnational migrant appear to be reducing over time, there may be differences in the distance over which migration events are made. If certain ethnic groups tend to move shorter or longer distances compared with others then there may be different impacts on the ethnic mix of areas. To investigate this phenomenon, variables on distance moved were made consistent in the 1991 and 2001 SARs. This resulted in an ordinal categorical variable distinguishing three migration distances: short (0-9km); medium (10-49km); and long (50+km).

Ordinal logistic regression is an extension of the binary outcome model (O'Connell, 2006) and can be used here for the modelling of distance moved. Selecting a study group of migrants during the year before each census, the model output (Figure 5) indicates the proportion of each ethnic group's migrants in each distance category. These models for 1991 and 2001 control for factors known to affect distance moved such as education (higher education is associated with further migration distance) and tenure (the public sector housing tends to constrain migration events to shorter distance). Apart from the exclusion of non-migrants, the models for 1991 and 2001 are equivalent to the binary models (but sex here is not significant) and the effects are consistent with those reported in the literature.



Source: Modelling based on SAR 1991 and 2001

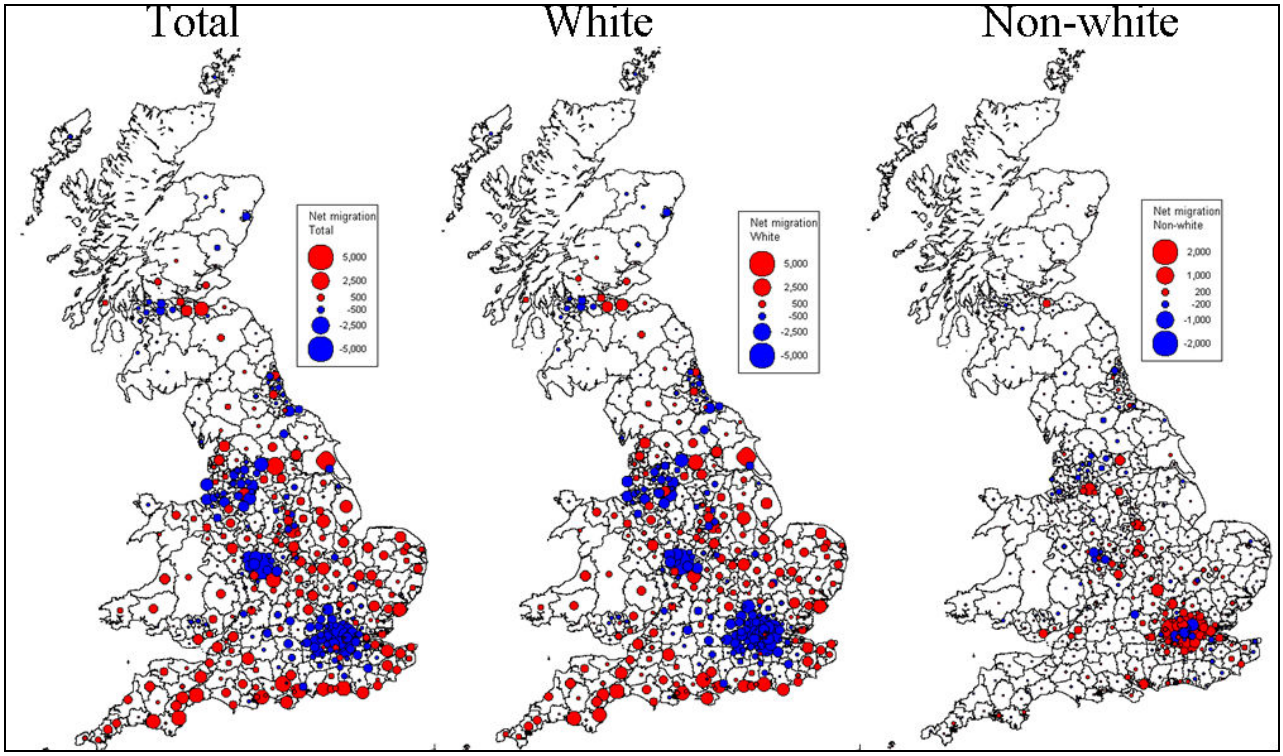
Figure 5: Migration probabilities by ethnicity and distance moved, 1990-91 and 2000-01

Figure 5 shows the modelled probability of a migrant from each ethnic group moving a particular distance. Short distance migration dominates the system and, whilst acknowledging that short distance migration might involve crossing a district boundary, it is likely that most will be intra-district moves. There is little difference for all groups between the probability of medium and long distance moves. In both 1991 and 2001, the Indian group has the same pattern as the White group and the POSA and black groups are the most likely of all groups to be short distance, though this differential is marginally less strong in 2001. The Chinese are less dominated by short distance migrants and more likely to be medium and long-distance migrants as Table 2 also suggests. Overall, there is less difference in the pattern of distance moved between groups in 2001 than in 1991, but this is marginal.

4 Spatial patterns of ethnic migration at district scale

Geographical patterns of migration in Britain are the result of the combination of complex processes involving various sets of driving forces or explanatory factors. Urban decentralisation or dispersal movements by those in older age, on the one hand, may be counterbalanced by urban centralisation or concentration movements by young adults, on the other. Moreover, different processes are taking place at different spatial scales; gentrification and residualisation tend to occur at an intra-urban scale, whereas counterurbanisation, for example, occurs over longer distances than suburbanisation and tends to dominate the aggregate pattern of net migration between local authority districts in Britain (Figure 6), as documented by Champion (2005) and by Dennett and Stillwell (2008). The different spatial patterns of net migration for whites and non-whites are illustrative of the different processes taking pace, with the net losses of white migrants in metropolitan areas and net gains in rural Britain dominating the aggregate patterns, whereas

significant net migration gains and losses for the non-white population are confined to urban areas and their immediate surrounds.



Source: SMS Table MG103

Figure 6: Net migration by district for total, white and non-white groups, 2000-01

Whilst the detailed district-level maps in Figure 6 are valuable as a means of visualising spatial concentrations of net migration loss or gain, it is helpful to summarize the patterns for the whole country using an area classification framework. Here we present two summaries. Firstly, the net migration balances for ethnic groups (Table 4) are summed into each of the five categories of district identified in Figure 1, indicating an almost mirror image of the pattern of net losses and gains between the urban and rural categories. London boroughs are losing around 52,000 migrants in 2000-01 whereas other local authorities (rural England) are gaining a similar number; metropolitan districts are losing around 20,000 migrants whereas unitary authorities and council areas in Scotland are collectively gaining a similar number in net terms. The major net flow for the non-white groups is the net loss from London boroughs of black migrants although other metropolitan areas have a positive balance. The aggregate pattern is reversed for the Chinese. However, it should be remembered that, in this instance, the losses and gains shown in Table 4 are the result of adding up the net respective net migration balances for each district in each category; they are not the overall net flows between these categories discounting the flows between districts within each category.

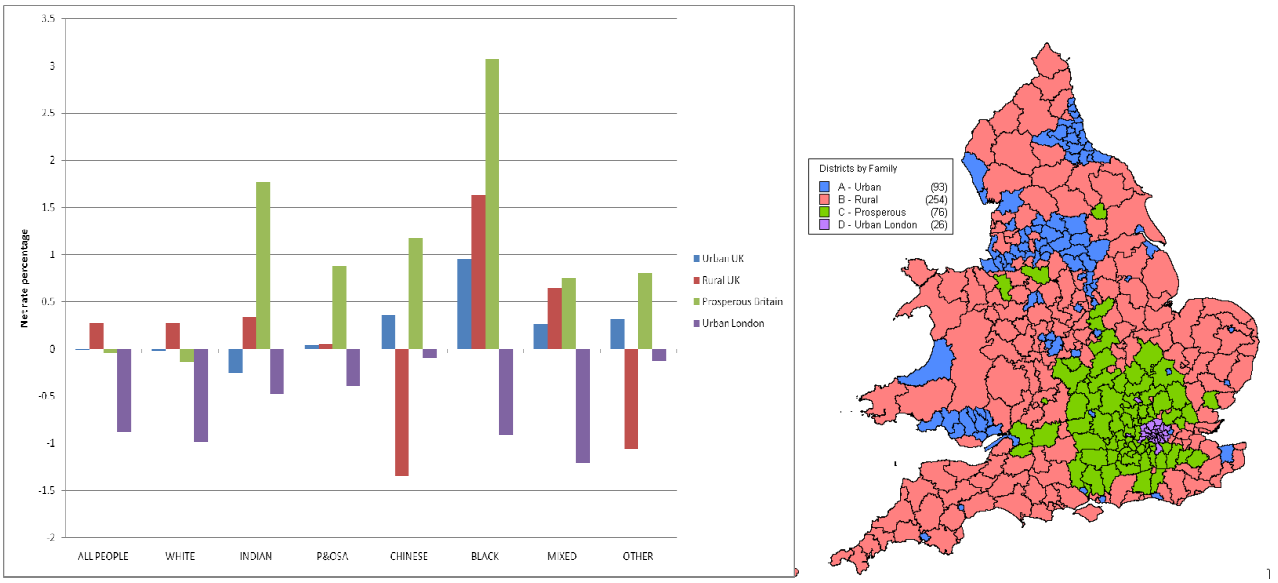
Table 4: Net migration summed by local authority type by ethnic group, 2000-01

Ethnic group	London boroughs	Metropolitan districts	Unitary authorities	Other local authorities	Council areas
	Net flow	Net flow	Net flow	Net flow	Net flow
White	-43,918	-19,880	17,459	45,761	578
Indian	-885	-696	478	1,169	-66
POSA	-1,525	125	835	602	-37
Chinese	353	57	51	-394	-67

Black	-4,456	452	2,260	1,800	-56
Mixed	-2,071	71	499	1,560	-59
Other	118	19	242	-419	40
Total	-52,384	-19,852	21,824	50,079	333

Source: SMS Table MG103

Secondly, the 2001 Census district classification for England and Wales devised by Vickers *et al.* (2003), which contains three tiers (families, groups and classes), can be used to give more detailed spatial summaries. In this section we present summaries of data from the commissioned Table CO117 for the top family level that has four categories labelled by the authors as follows: Urban London, Urban UK, Prosperous Britain and Rural UK. The net migration rates for these categories for each ethnic group are shown in Figure 7 and further analysis at class level is contained in Hussain and Stillwell (2008).

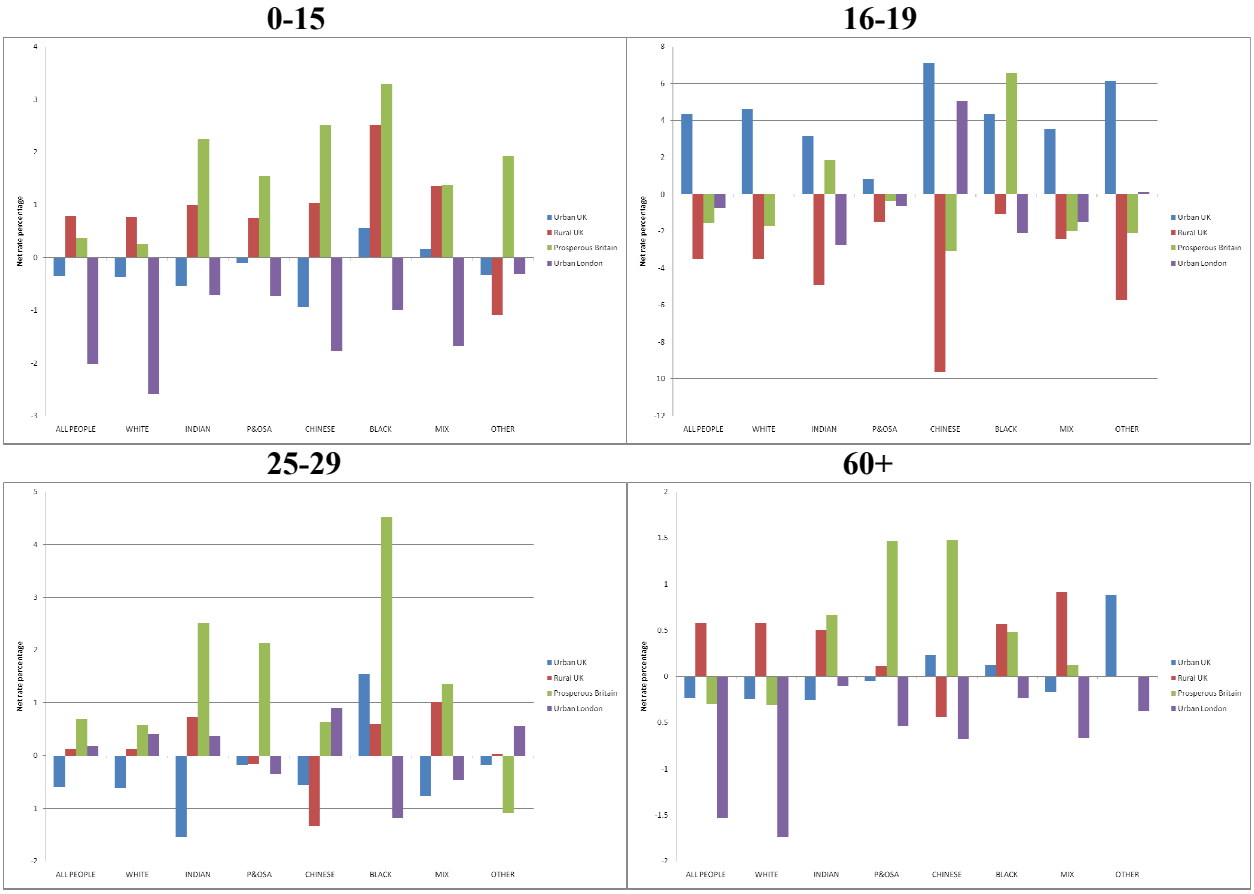


Source: Classification from Vickers *et al.* (2003); Data from commissioned table CO711

Figure 7: Net migration rates for ethnic groups in each family category, England and Wales, 2000-01

Figure 7 indicates that net migration rates across the four area categories vary significantly between non-white ethnic groups and in comparison with the dominant white pattern of high rates of net loss from Urban London, low rates of net loss from Prosperous Britain, marginal rates of net loss for Urban UK and gains only in Rural UK. Whilst all the non-white groups show rates of net loss from Urban London, all show striking rates of net gain in prosperous Britain and all groups except the Indians also show gains in Urban UK. In contrast to all the other groups, the Chinese and non-white other ethnic groups have negative net migration balances in Rural UK. Rates of Chinese net loss from London are low compared with those of other groups, particularly the mixed group. The ethnic group net migration rate patterns presented in Figure 7 can be disaggregated by age to reveal more of the complexity of the interactions between districts in different family types, as illustrated in Figure 8 where four age groups have been selected to represent different stages in the life course. It should be noted that, as with the aggregate rates, the age-specific rates for whites determine the total net rates because of their numerical dominance of the migration flows as well as the population denominators. However, there are some interesting differences in the age-specific net migration rates between the ethnic groups, not least when we compare the first two graphs in Figure 7, the net rates for 0-15 and 16-19 year olds. Rates for the 0-15 age group in each ethnic group show some degree of conformity with net losses from Urban London, although these are dominated by high rates of net-out migration for whites of a similar magnitude to those in the

parental age group, 30-44 (not shown). Indians, Chinese and mixed groups also show losses from Urban UK. Apart from children of other ethnicity, all the remaining rates are positive for Rural UK and Prosperous Britain, with highest rates in both these family types being associated with blacks. In contrast, the rates of net migration for the older teenagers (aged 16-19) are mostly negative for these two families whereas rates are mostly positive for Urban UK. The Chinese group experience the highest rates of net loss from Rural UK yet have the highest rates of net gain to Urban UK and Urban London, whereas the rates of black net in-migration to Prosperous Britain is more than double that of the 0-15 age group. Other than to the Chinese, London is not attractive in net migration rate terms to internal migrants from non-white ethnic groups, and the balance for white is zero; there are as many older white teenagers leaving Urban London as there are arriving.



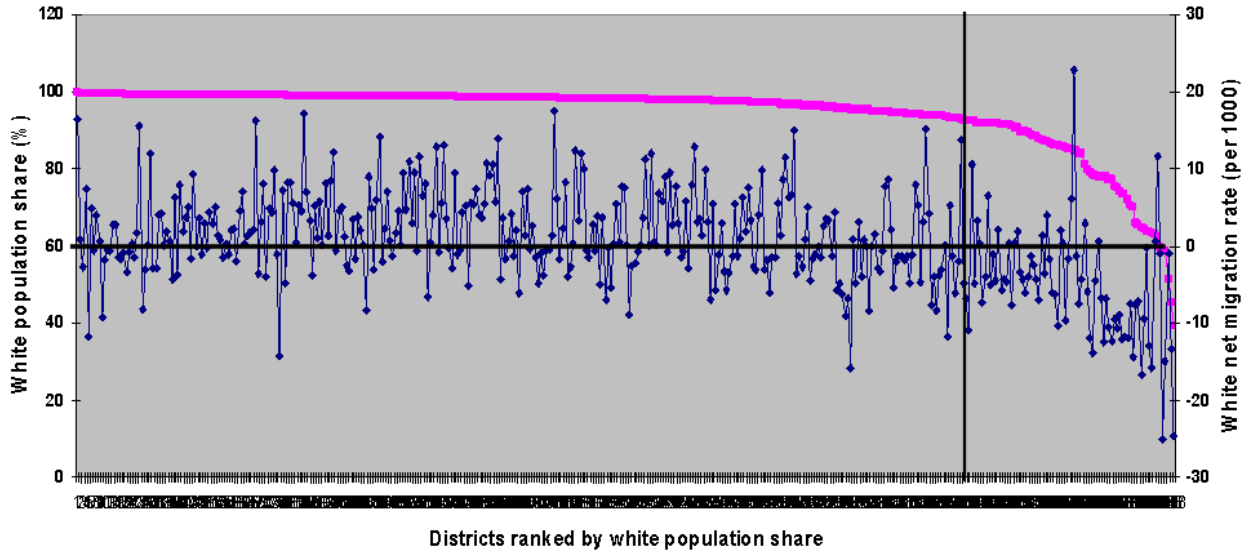
Source: Commissioned Table CO723

Figure 8: Net migration by ethnic group, age group and family group, England and Wales, 2000-01

Whereas London benefits very significantly from gains in the 20-24 age group for whites (not shown), the rate remains positive for those whites aged 25-29 and rates for Indians, blacks and non-white others are also positive. As with whites, it is the rates of net gain in prosperous Britain which are most striking in this graph for the Indian, POSA, black and mixed groups in particular. Urban UK has rates of net loss in each ethnic group apart from the Chinese whereas Rural UK is gaining in all groups except Chinese and POSA. The final age group of 60 and over shows the extent of net migration rate loss from Urban London across different ethnic groups and gains in Rural UK for all groups except the Chinese. Positive net migration rates for this age group of migrants are highest for the POSA and the Chinese groups moving into Prosperous Britain.

5 Migration and population concentration linkage

Whilst it is valuable to identify and understand the age-specific patterns of migration for each ethnic group, it is also important to question whether how these rates may be related to the underlying concentrations of population in different ethnic groups. In this section, we consider one relationship: whether there is any evidence of linkage between internal migration and ethnic population concentration at the district scale across Britain. This question can be restated as whether districts whose populations contain larger shares of non-white ethnic groups are those that experience higher levels of white net migration loss; in other words, are whites leaving areas where non-whites predominate at a disproportionate rate. There is some evidence of this from the graphs shown in Figure 9 where each district has been ranked on the basis of its white population share (from high on the left to low on the right) and the rates of net migration for each district have then been plotted simultaneously, shown by the much more haphazard series of points. The horizontal line represents zero net migration. To the right of the vertical line are the 74 districts whose white population shares are below the national figure of 91.9%. Despite significant variation in net migration rates between districts, there is an observable trend towards higher negative net migration balances with increasing shares of non-white residents.



Source: SMS, 2001

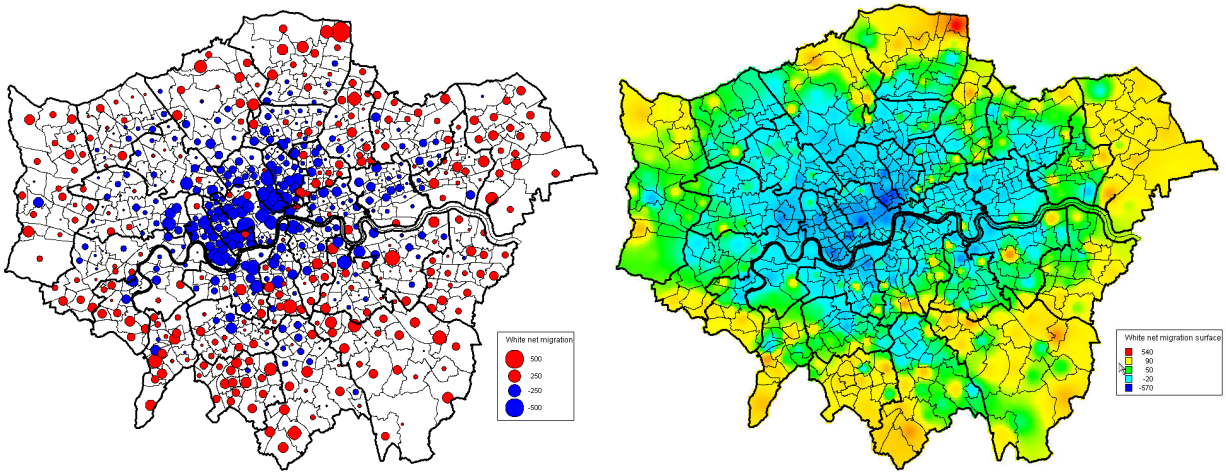
Figure 9: White net migration rates for 2000-01 against districts ranked by white population share in 2001

The two areas that are conspicuous in the upper right quadrant of the graph by having significantly high positive net migration balances are the London boroughs of City of London and Lambeth. City of London has only a very small resident population and is the focus of the capital's financial and business district, both factors affecting its migration rate balance. Lambeth is one of the inner London boroughs which has a large multiethnic population but still manages to attract white migrants in net terms.

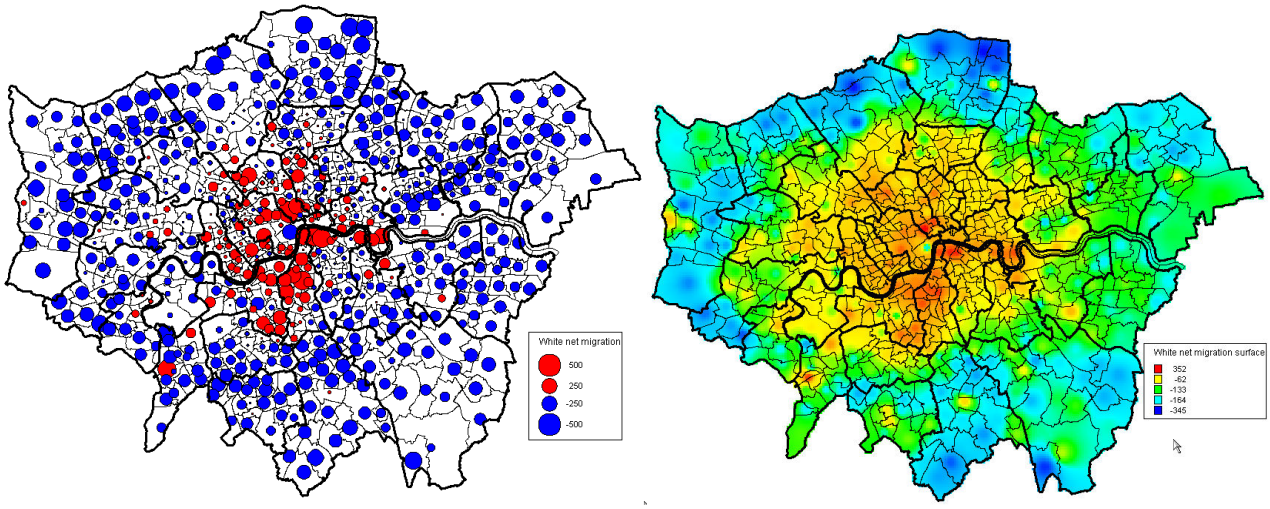
6 Net migration patterns for London

It is clear that London has an enormous impact on internal the migration system for the whole country but it also has its own internal dynamics and this section of the paper aims to examine what spatial patterns of net movement of ethnic groups are apparent in London before considering the relationship between ethnic migration and deprivation, on the one hand, and between ethnic migration and ethnic population concentration, on the other. In order to undertake this analysis in detail, we use data for the wards of London available from the commissioned Table CO723 and we disaggregate net migration into two types: (i) white net migration based on flows within London

and (ii) white net migration based on flows between London and the rest of England and Wales (Figure 9). The maps of the right hand side are continuous surface representations of the proportional symbol maps on the left hand side.



(i) Net migration between wards within London

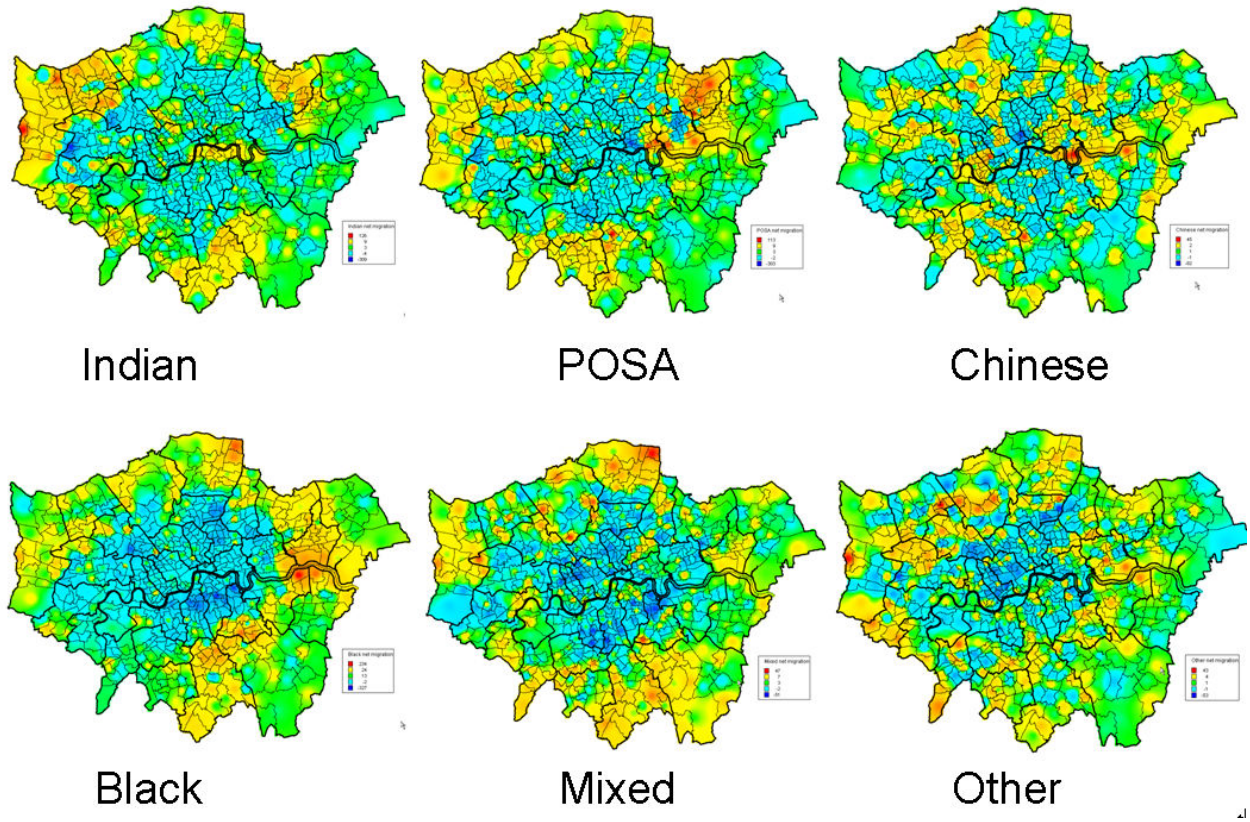


(ii) Net migration between wards in London and the rest of England and Wales

Source: Commissioned Table CO723

Figure 10: Net migration by ward, whites, 2000-0, based on flows between wards in London and between London wards and the rest of England and Wales (and surface representation)

The maps display a fascinating contrast in migration processes taking place in London. In general terms, the pattern of net migration within London shows inner wards losing migrants to more outer wards with the largest absolute losses occurring from the Central boroughs. However, the patterns of net migration between wards and the rest of England and Wales is the reverse, with net migration gains in the central wards and net migration losses from Outer London. These maps demonstrate emphatically that, as white migrants are leaving inner London for destinations in the outer suburbs, those living in Outer London are moving beyond the city boundary altogether whilst inner London wards remain the destination of in-migrants from the rest of the country. It is interesting therefore, to observe whether similar patterns of net migration are apparent for different ethnic groups. In Figure 11, we present just the patterns of net migration for non-white ethnic groups occurring within London in the pre-census period.



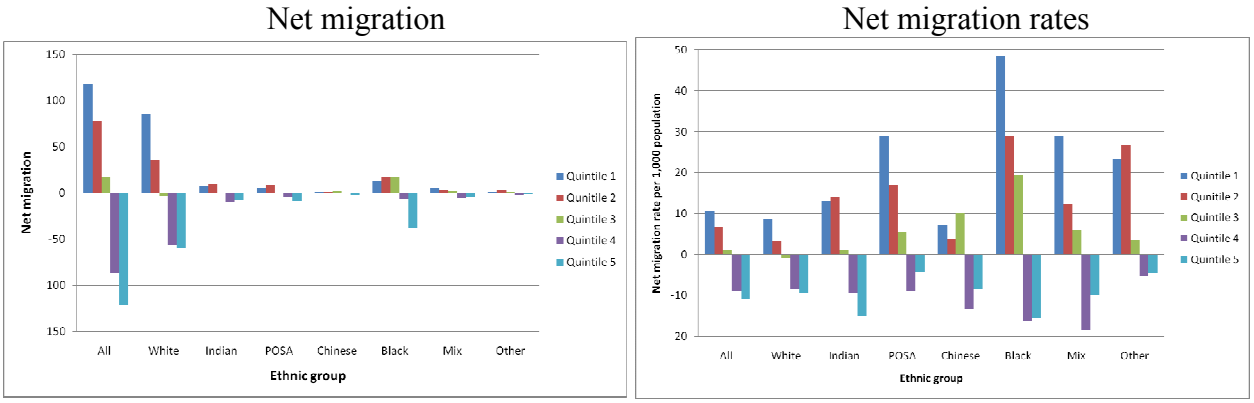
Source: Commissioned Table CO723

Figure 11: Patterns on ethnic net migration within London, surface representation, 2000-01

The maps in Figure 11 show a series of distinctive spatial patterns with different net migration hot spots and cold spots associated with each ethnic group. However, in general terms, and with the exception of the Chinese, there appears to be some replication of the white pattern with net losses concentrated in the centre and net gains in the outer wards. Indians appear to be moving from areas of concentration in Ealing and Brent further westwards into Hillingdon and Harrow, for example, whereas the POSA has concentrations of net migration gain in Redbridge and Newham. Higher net losses are from areas of high black population shares in Lambeth, Southwark and Tower Hamlets to parts of Greenwich and Barking and Dagenham in the east and Enfield in the north. The pattern of net migration for the Chinese appears much more complex with more discontinuity between areas of loss and those of gain. The pattern for the mixed group is similar to that of whites whereas the other non-white group appears to have more extensive gains and losses in wards to the north of the river.

To complete the analyses reported in this paper, we have attempted to use the ward-based data to identify, firstly, whether migrants in different ethnic groups are leaving areas of lower deprivation and moving to destinations of higher deprivation, and secondly, whether migrants are leaving areas where there is a relatively high concentration of those in the same ethnic group and moving to areas with lower concentrations. In order to test this assertion, we use the Townsend score for 2001 as a measure of deprivation. The Townsend score is one of the more mature measures of material deprivation, containing a combination of census variables including car ownership, home ownership, unemployment and overcrowding. High negative scores represent areas of lowest material deprivation whereas high positive scores represent areas of high material deprivation. The analysis presented in Figure 12 is based around average net migration balances and rates for quintiles where the average Townsend scores range from -2.82 for quintile 1 to 6.92 for quintile 5. The graph of net migration once again show the numerical domination of migration by whites and indicates how net migration losses are occurring from more deprived wards, with higher gains in

areas with lower deprivation. This is also manifest in the net migration rates, but the pattern is certainly not confined to whites, and there are significant differences in the balances between ethnic groups with blacks showing the highest rates of gain in less deprived areas at the extreme.. It appears to be the case that the spatial patterns of internal migration within London are associated with movement to better neighbourhoods for all ethnic groups.



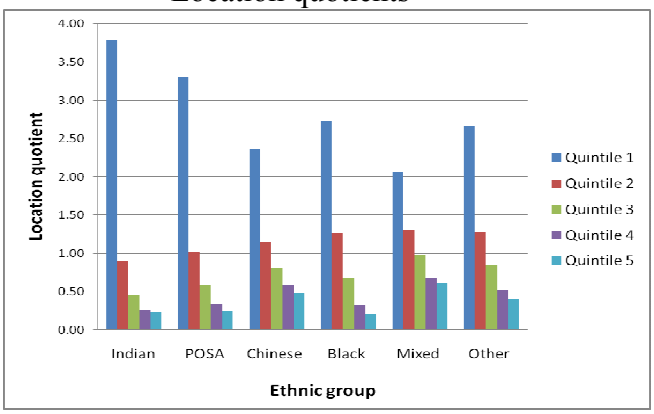
Source Commissioned Table CO723

Figure 12: Analysis of ethnic group net migration by quintile of deprivation, wards of London, 2000-01

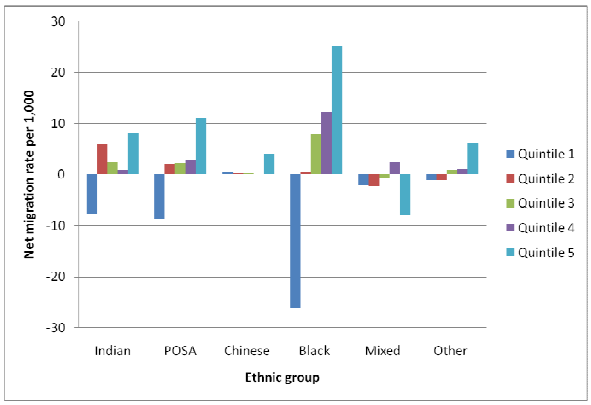
The second hypothesis to test is whether net migration rates for ethnic groups are related to ethnic population concentrations. In this case, we use location quotients as a measure of over or under-concentration by expressing the ethnic percentage of a ward's population as a ratio to that across the whole of London. The quotient id derived for one area for one ethnic group by dividing the proportion of that area's population who are members of that ethnic group by the proportion of the population of the whole city who are members of that ethnic group. A score above 1 indicates a greater than average concentration whereas a value below 1 suggest under-representation.

We have computed location quotients in this way and the average location quotients for each quintile are shown in the graph on the left in Figure 13. The graph on the right shows the average net migration rates for each quintile in each non-white ethnic group. Thus, for Indians, we observe a negative net migration for areas in the top quintile with a large over-representation of Indians in the population. The same observation is made for the POSA group and also for the black group where the rate of net migration loss is very significant. In both these groups, the net migration rates are positive, with increasing gains through the series of quintile so that gains are highest where the ethnic group has lowest representation. The patterns for the other three groups are less conspicuous. The Chinese appear to be gaining migrants most in areas with lowest representation of Chinese and the same is true for the non-white other group. In contrast, migrants in the mixed ethnicity group tend to have negative net migration rates in all quintiles except the fourth.

Location quotients



Net migration rates



Source Commissioned Table CO723

Figure 13: Analysis of ethnic group net migration by quintile of population concentration, wards of London, 2000-0

In summary, the results presented in this section demonstrate that not only are the major non-white ethnic group migrants moving to areas with less deprivation but they are also moving towards areas with lower shares of population in the same ethnic groups as themselves.

7 Conclusions

This paper provides new insights into the propensities and spatial patterns of internal 'ethnomigration' in Britain in 2000-01. Macro and micro data from the census have been used to demonstrate distinctive variations in the propensities to migrate by ethnic group and in the spatial patterns of net migration.

In response to the four initial research questions, we provide four concluding summaries. Firstly, there are distinctive variations in the all-age *propensities to migrate* for different ethnic groups at the national level and these variations are most apparent in the 20-24 age group, where the Chinese have the highest migration rates, as they do overall. The POSA group have the lowest rates aged 20-24, and the lowest propensities to move over longer distances, although the Indians have the lowest rates of all-age migration

Secondly, there are significant differences in the *spatial patterns* of ethnic group migration across the country at local authority district scale and also at ward level within London. The aggregate net migration flows are dominated by white counterurbanisation whilst net migration losses and gains for non-white ethnic groups are more concentrated in metropolitan parts of the country. The major feature of the redistribution at an aggregate scale is the loss from Greater London and the gains in rural local authorities although these patterns are not consistent across non-white groups. However, all non-white groups showed net migration gains in Prosperous England in the year before the 2001 Census.

Thirdly, our conclusion on *linkage* between internal migration and ethnic minority population concentration is that there is some evidence to suggest that as the white population share of a district declines, the net migration rate becomes increasingly negative; in other words, white migrants are leaving areas at higher rates as the percentage non-white increases. This is not to state categorically that 'white flight' is occurring because we know nothing about the motivations behind the migrations involved.

Finally, by decomposing the net migration for London wards into the balances of flows within London and the flows between London wards and the rest of England and Wales, we have been able to expose clearly the patterns of decentralisation from inner to outer wards within London, dispersal from outer London to the rest of the UK and centralisation from the rest of the country to inner London for white migrants. Comparing net migration flows for wards within London by ethnic group, distinctive spatial hotspots of net in-migration and cold spots of net out-migration have been identified. Whilst there is evidence of outward movement from inner London wards in the case of the southern Asian and black groups, the distribution of net migration for the Chinese is much more haphazard.

The research has drawn on a range of migration data sources, all of which are products of the census. In conclusion, the SMS are a valuable source of macro data on migration flows that have good spatial coverage but only provide uni-dimensional counts, i.e. separate counts of migrants by ethnic group and by age. They also suffer from small cell adjustment and this is a major consideration when commissioning special tables. It is to be hoped that less damaging measures to preserve confidentiality will be used to adjust data collected in the next census in 2011. The SAR micro data that have been used in this analysis, on the other hand, have excellent cross-classification potential and no adjustment limitations but are constrained by poorer spatial coverage. Further research is required to investigate the potential of the Small Area Micro data (SAM) (5% sample) for investigating internal ethnomigration in Britain.

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