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Internal migration and ethnic groups: evidence for the UK from the 2001 Census

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Internal migration is responsible for the changing geography of Britain's ethnic group populations. However, relatively little is known about the internal migration behaviour of different ethnic groups. This paper reviews existing evidence and analyses 2001 Census data to provide an overview of patterns and trends in levels of migration, geographies of migration and characteristics of migrants for ethnic groups separately. It finds that counter-urbanisation, a north-south shift and dispersal from areas of co-ethnic concentration are common to all ethnic groups. If 'white flight' is to be identified, 'non-white flight' should be also.

Those who migrate in each ethnic group have the same characteristics leading to the assertion that differences in levels of migration result from differing socio-economic and age compositions of ethnic groups. This is confirmed through regression analysis. Differences in distance migrated, however, is not explained by the composition of ethnic groups. This, and other notable exceptions to the general patterns, are highlighted as avenues for further investigation.

Keywords: Internal migration, ethnic group, Census, UK, dispersal

1. Introduction

The geography of ethnicity in Britain, as elsewhere, has received much attention over several decades; where people of different ethnicities live continues to be socially and politically relevant. Residential patterns by ethnic group have been the focus of a large body of work in the UK, with particular attention being paid to whether minority ethnic groups are residentially concentrated, segregated, isolated or dispersed. There is a consensual conclusion that levels of segregation akin to American-style ghettos cannot be found in Britain (e.g. Robinson, 1993; Peach, 1996; Simpson, 2004; Johnston *et al,* 2005; Rees and Butt, 2004).

Where research in this field does diverge is in the conceptualisation of ethnic group population change. While most authors focus on patterns of ethnic residence and the number of areas with relatively few White residents, we have argued that the focus should be more on the processes that produce the mosaic of ethnic geography, of which migration is one key component (Simpson *et al*, forthcoming). Such an approach is long overdue: “there is a need for an integrated programme of research to understand better the spatial dynamics of Britain’s ethnic and ethnic minority populations” (Robinson, 1992a: 199).

Despite the recognition from many disciplinary standpoints that migration is a major force in shaping patterns of residence (e.g. Castles and Miller, 2003; Champion, 1989; Rowland, 2002), relatively few studies have attempted to understand internal migration of each ethnic group (it is absent, for example, in a recent review of internal migration studies, see Flowerdew, 2004). Recent studies of settlement and migration in Britain have concentrated on particular migrant groups such as refugees (Robinson, 2003), people from EU Accession Countries (Stenning *et al,* 2006) and children (Bushin, 2005). With an ethnic group dimension, Robinson (1992) and Champion (1996) both analysed 1991 Census data and a small number of studies have made use of data from the 2001 Census (e.g. Simpson, 2004, 2007; Stillwell and Phillips, 2005;

Stillwell and Duke-Williams, 2005). This paper fills a surprising gap in the research literature by reviewing and extending this evidence. In doing so it not only develops this body of work but also provides an alternative perspective on current debates about diversity, segregation, integration and community cohesion (for a representative sample of the debates see Phillips, 2006; Phillips, 2005; DCLG, 2007).

Interest in internal migration of different ethnic groups is not confined to the UK or indeed to western nations (for example, see Kontuly and Tammaru, 2006 for a study of Estonia and Skop, 2006 for work on Brazil). However, in the international literature the topic is usually framed in terms of the links between immigration and internal migration (see Skeldon, 2006 for a discussion of the interlinkages). Two relevant hypotheses are evident in the literature on western countries: that immigration to cities leads to out-migration of indigenous residents (displacement hypothesis); and that internal migration leads to dispersal of settled immigrants.

There is not conlcusive evidence about the displacement hypothesis in Europe (Bontje and Latten, 2005) or North America (Frey, 1995; Hou and Bourne, 2006). Greatest support for the theory is found in studies focusing on small areas (Hempstead, 2002). In terms of dispersal, Ellis and Goodwin-White (2006) found that US internal migration was not resulting in dispersal of immigrant or indigenous groups from areas of immigrant concentration. This similarity of migration behaviour of immigrant and non-immigrant groups challenges well established theories of the links between spatial dispersion and integration over time.

This overview of internal migration by ethnic group in Britain is wider in its remit than dispersal, though this is the focus of the latter part of section 3.2 below. Instead we take our cue from past reviews of migration without an ethnic group dimension by using standard indicators to measure a range of patterns and trends. Quantitative approaches to internal migration have focused on

levels of migration, geographies of migration, the impact of migration on the population and the characteristics of migrants (Rees *et al,* 2000; Champion and Fielding, 1992; Stillwell, Rees and Boden, 1992; Robinson 1996). This paper aims to build on this work and provide a foundation for further investigations through analysis of data from the 2001 Census. The methods used are established in migration analysis (Rowland, 2002; Seigel and Swanson, 2004; Plane and Rogerson, 1994) and draw on the recommendations of Bell *et al* (2002) and Rees *et al* (2000).

Some patterns of migration are expected to be the same for all ethnic groups including suburbanization and greater propensity to migrate at certain ages and life stages. However, there are some patterns that may well differ between ethnic groups. This may be a consequence of immigration, for example that an ethnic group is clustered for some time before migrating a short distance. Conversely, migration patterns could be the result of negative forces of racism and discrimination (distinguished as 'bad' segregation by Peach, 1996). There may also be cultural explanations for internal migration patterns that differ between ethnic groups; and effects of the varying composition of ethnic groups by age, income, immigration status and other characteristics.

This paper first reviews the data available in the UK to investigate comparatively the internal migration of each ethnic group, and their quality, in Section 2. It then investigates three themes of migration and ethnic group using data from the 1991 and 2001 Censuses, in the three parts of section 3. First, the overall level of migration within the UK and from overseas is assessed together with its strong relationship with age which explains some but not all of the different group migration rates. Second, the geographies of migration are investigated, particularly distance of migration, suburbanisation and the impact of migration on ethnic group population distribution. The specific theories of cascading counter-urbanisation from London to cities to mixed urban areas to rural areas, the North-South shift, and the dispersal of immigrants are

each tested for each ethnic group. Many of the migratory patterns found for the population as a whole are repeated for each minority ethnic group, though often shaped by their current settlement patterns, and with some clear exceptions. Third, determinants of migration are found among individual characteristics and the extent of their common impact on each ethnic group is assessed. Finally, section 4 synthesises some of the previous results by using regression analyses to assess the extent to which differences in the probability of migrating and the distance migrated are due to varying composition of ethnic groups in relation to common determinants of migration.

2. Measuring migration and ethnic group

There are many general challenges to measuring and analysing migration and ethnic group that should be highlighted because they have implications for how results from the analysis in this paper are interpreted. Bell *et al* (2002) provide a useful discussion of measurement of internal migration and identify four groups of problems. First is the issue of how migration is measured, in particular the distinction between transition data (which compares place of current residence with place of residence at a defined time in the past) and event data (which records every migration event). Second, the timing of data collection affects findings as does the frequency of data collection and the time interval for which migration data is collected. For example, migration data collected in times of economic depression in the UK has been found to underestimate movement for times of prosperity (Stillwell *et al,* 1992). Third is the issue of the quality of migration data, discussed in more detail below in relation to UK census data.

A fourth issue when measuring internal migration is the division of space and the measurement of distance. The scale of the areas used and the position of their boundaries have implications for findings about population movement: moves between large areas may be rare in comparison

to the many moves within them; the definition of geographies to some extent defines migration. Similarly, care should be taken when interpreting distance of migration; the usual straight-line measurement may not represent travelling distance or cost.

The methods used to measure ethnic group must also be considered. Definitions of ethnic group have been much debated and it is recognized that factors such as race, skin colour, place of origin, ancestry, cultural memory, cultural practices, religion and language may complexly combine in the identity of a group (Ballard, 1996; Bulmer,1996; Guibernau and Rex, 1997; Coleman, Compton and Salt, 2002). The meaning of an ethnic group may vary between people and over time adding an extra challenge to measurement (Simpson and Akinwale, 2007).

In the UK, monitoring of ethnic group has been motivated by political advocacy of racial equality and corresponding Race Relations legislation since the 1970s (Aspinall, 2000; Coleman and Salt, 1996). The theoretical position that ethnicity should be self identified, that members of that group should be conscious of being members (Bulmer, 1996), has transferred into self-identification questions in censuses and surveys. However, the very asking of a question and the construction of ethnic group categories assumes the importance of ethnic group for an individual and can be considered prescriptive in this way and in terms of the group options that are provided.

A large number of large-scale social surveys in the UK include questions on dimensions of ethnicity (Afkhami, 2006). Of these, only a few also contain measures of migration. For international migration (immigration) these are the decennial population census and its special datasets the Samples of Anonymised Records (SAR, including the Small Area Microdata, SAM) and interaction data (Special Migration Statistics, SMS); and the Labour Force Survey. The Home Office Asylum and Immigration Control Statistics and the National Health Service Central

Register may also be used to investigate immigration and ethnic group if nationality and birthplace respectively are used as proxies (Salt, 2002; Kalogirou, 2005). Data sources on ethnic group and internal migration, which is primarily of interest here, are reviewed by Scott and Vickers (2002). The potential sources are the census and its special datasets the SAR, SAM, SMS and the Longitudinal Survey; the Labour Force Survey; the Pupil Level Annual Schools Census (PLASC); the General Household Survey; and the British Household Panel Study.

As Scott and Vickers (2002) explain, the census (and its datasets) is the only data source that can provide sufficiently precise information on internal migration and ethnic group, particularly for investigations of sub-regional areas and characteristics of migrants. In surveys such as the General Household Survey, the British Household Panel Study, and even the Labour Force Survey which has a larger sample size (0.3% of the population), the numbers of migrants in each ethnic group are so small that they are unreliable (Scott and Vickers, 2002).

Ethnic group and migration have been simultaneously measured in only two UK Censuses: 1991 and 2001. The relevant questions are given in Table 1. Both questions will remain in the 2011 Census and it is likely that the broad 1991 ethnic group categories will be the core framework for future questions. The data from the 2001 Census on ethnic group and migration is transition data, measuring migration since one year prior to Census day, for the population resident in the UK on that day. A summary of 2001 Census standard and commissioned tables that include ethnic group and migration, and the details available from the SARs and SMS is given in MRPD (2007).

Table 1: Migration and ethnic group questions in the 1991 and 2001 UK Censuses (England and Wales)

1991: 21st April	2001: 29th April
Ethnic group. *If you are descended from more than one ethnic or racial group, please tick the group to which you consider you belong, or tick the 'Any other ethnic group' box and describe your ancestry in the space provided.* White Black-Caribbean Black-African Black-Other [write in] Indian Pakistani Bangladeshi Chinese Any other ethnic group [write in]	What is your ethnic group? White British Irish other background [write in] Mixed White and Black Caribbean White and Black African White and Asian Mixed background [write in] Asian or Asian British Indian Pakistani Bangladeshi Other Asian background [write in] Black or Black British Caribbean African Other Black background [write in] Chinese or Other Ethnic Group Chinese Any other [write in]
Usual address one year ago *If your usual address one year ago was the same as your current usual address please tick 'Same'. If not, tick 'different' and write in your usual address one year ago.* *For a child born since 21st April 1990 tick the 'child under one' box.* Same Different [write in] Child under one	What was your usual address one year ago? *If you were a child at boarding school or a student one year ago, give the address at which you were living during the school/college/university term.* *For a child born after 29 April 2000 tick 'No usual address one year ago'.* The address shown on the from of the form No usual address one year ago Elsewhere [write in]

The definition and quality of the UK census migration datasets are important to bear in mind, particularly when making comparison between the 1991 and 2001 outputs. The Census recorded 6.05m internal migrants in the year 2000-2001, significantly more than the 4.69m recorded in the year 1990-1991. However, the difference is entirely due to procedural changes which in 2001 made a more complete allowance for non-response, included infants and students' moves to term time address, and migration between Northern Ireland and Great Britain (Stillwell and Duke-Williams, 2007: 440-41).

Any study of the determinants of migration using census data is limited because the measured characteristics are those at the time of the census, rather than at the time of migration or before it. A move may be connected to a change of employment status and a change in tenure, but this will not be evident from the census data as currently collected.

Finally, like all other 2001 census output, migration tabulations are subject to removal of all 1s and 2s by random rounding to 0 or 3. This adds approximation to all analyses including those of this paper, as discussed by Stillwell and Duke-Williams (2007).

3. Internal migration and ethnic groups

3.1 Level of migration

It has consistently been found that, since the mid 1980s, non-white groups have higher migration rates than white with the notable exception of the Indian group (Owen and Green, 1992; Robinson, 1992b; Owen, 1997; Champion, 1996; Stillwell and Duke-Williams, 2005; Bailey and Livingstone, 2005). 1991 Census data revealed ‘Chinese and Other’ to be the most mobile ethnic group (19.5% internal migration rate) and ‘South Asian’ (9.6%) to be least mobile (Owen, 1997). 2001 SARs figures show ‘Other’ and ‘Other White’ to be the most mobile ethnic groups (20.8% and 20.0% respectively) and Irish to be least mobile (10.7%) (All analyses in this paper include migrants of all ages including 0 because in 2001 infants were allocated the migration status of their next of kin. Cases with imputed ethnic group have been excluded from SAR analyses).

Table 2: Migration rates (%) by ethnic group, Great Britain, 2000-2001

GREAT BRITAIN	All GB residents 2001	% residents in each ethnic group	Migrant residents GB*	Migrant residents as proportion of all resident	Migrated within GB	Migrated within GB as proportion of all resident**	No usual address one year ago	No usual address one year ago as proportion of all resident	Immigrants	Immigrants as proportion of all resident***
ALL PEOPLE	57,103,927	100.0	6,925,083	12.1	6,069,113	10.7	456672	0.8	399,298	0.7
White: all	52,481,200	91.9	6,174,380	11.8	5,523,668	10.5	370889	0.7	279,823	0.5
Mixed: all	673,798	1.2	121,931	18.1	97,850	14.5	11435	1.7	12,646	1.9
Indian	1,051,844	1.8	136,919	13.0	103,941	9.9	11963	1.1	21,015	2.0
Pakistani	746,619	1.3	93,091	12.5	71,445	9.6	12172	1.6	9,474	1.3
Bangladeshi	282,811	0.5	34,533	12.2	26,746	9.5	5368	1.9	2,419	0.9
Chinese	243,258	0.4	57,874	23.8	35,969	14.8	7395	3.0	14,510	6.0
Other Asian	247,470	0.4	49,100	19.8	33,599	13.6	6122	2.5	9,379	3.8
Black Caribbean	565,621	1.0	65,399	11.6	52,234	9.2	8801	1.6	4,364	0.8
Black African	484,783	0.8	108,784	22.4	77,262	15.9	14042	2.9	17,480	3.6
Other Black	97,198	0.2	13,639	14.0	10,542	10.8	2031	2.1	1,066	1.1
Other	229,325	0.4	69,433	30.3	35,857	15.6	6454	2.8	27,122	11.8

Source: 2001 Census commissioned table M816g

** includes within-GB migrants, immigrants and those with no usual address one year ago.*

***Note: does not include those with no usual address one year ago.*

****Note: immigrants are to GB from outside UK (excludes migrants from Northern Ireland).*

Table 2 presents internal migration and immigration rates by ethnic group for 2000-2001. It can be seen that Black Caribbean and White have the lowest overall migration rates at 11.6% and 11.8% respectively. The Other group has the highest rate with over 30% migrant residents, followed by Chinese, Other Asian and Mixed which have proportions of migrants of between 18.1 and 23.7%. Of all groups comparable between 1991 (Champion, 1996) and 2001, only Black Other, Black African, Other Asian and Bangladeshi have a lower migration rate in 2001. The biggest increase is in the Other group which increased from 17.7% in 1991.

There are clear differences between ethnic groups which would not be apparent from the broad categories contained in standard output from the census SMS, highlighting the importance of microdata and especially commissioned tables. For example, an overall migration rate of 12.2% for Black hides the difference between the low Caribbean rate, the average Other Black rate and high African rate shown here. Similarly, the breakdown of Asian groups here reveals the difference between the low rates of internal migration for Indian, Pakistani and Bangladeshi and a high rate for Other Asian. The high rate of migration for Other White (20.0%) is notable in comparison to White Briton (11.0%) and White Irish (10.8%). The high migration rate for Other White is probably related to its high proportion of recent immigrants.

Between 2000 and 2001 the White group had the lowest proportions of immigrants (Table 2), followed by Black Caribbean and Bangladeshi. Indian, Chinese, Other Asian and Black African had proportions between 2 and 6%; Other had the highest level at 11.83%. Particularly noteworthy is the relatively low rate for Bangladeshi of 0.8%. For immigration the same pattern is observed between ethnic minorities, but a lower proportion of whites immigrated. The similarity in patterns suggests that immigration is followed by higher likelihood of relocation within Britain relatively soon after immigration. Movement from immigrant settlement areas is discussed

further in section 3.2. Later analyses of this section suggest that these group differences in migration rates are associated with the groups' varied age and social composition.

Table 3: Within-Britain migrants as a percentage of residents by ethnic group and age, Great Britain, 2000-2001

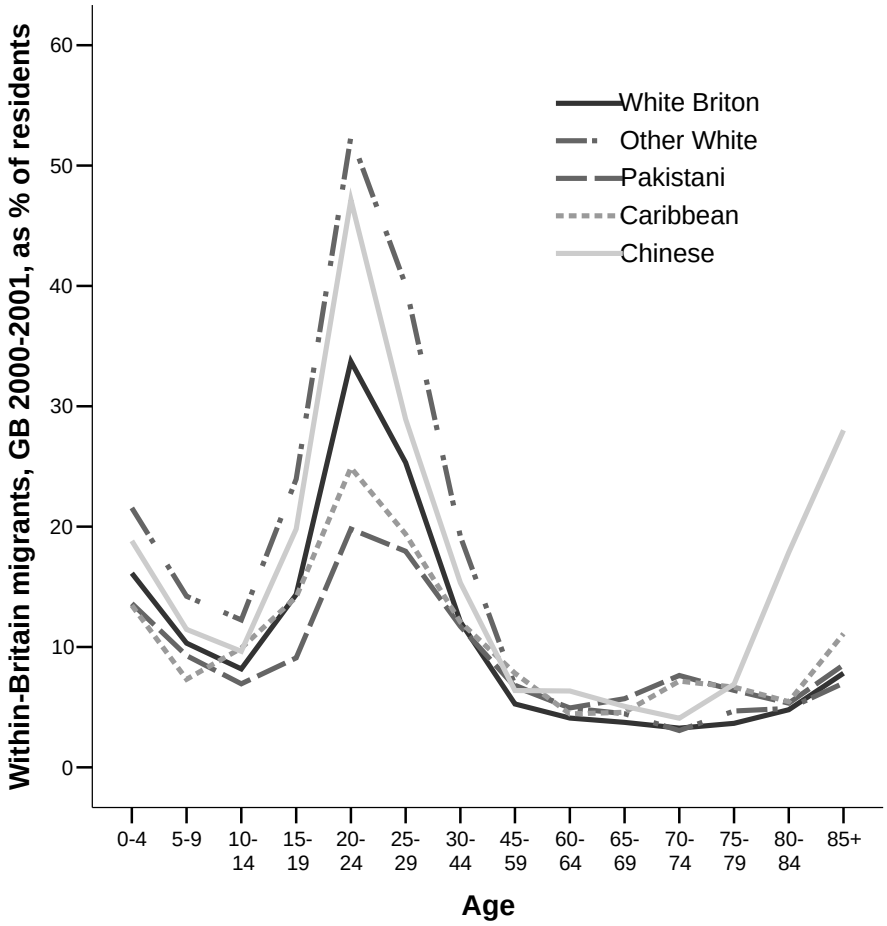
	0-15	16-19	20-29	30-44	45+	*All ages*
White Briton	11.0	16.3	29.1	12.1	4.7	*11.0*
Irish	9.9	20.1	36.0	14.2	4.5	*10.6*
Other White	14.3	21.1	35.3	17.7	5.6	*17.9*
Mixed	12.9	16.6	31.9	16.4	7.6	*16.1*
Indian	8.9	13.1	22.2	11.1	4.3	*10.9*
Pakistani	9.8	9.7	18.4	11.6	6.3	*11.3*
Bangladeshi	10.0	11.0	18.3	10.8	6.0	*11.5*
Other Asian	12.8	14.9	27.4	18.5	7.2	*15.7*
Caribbean	9.6	16.5	21.5	12.0	6.5	*11.3*
African	15.1	19.4	31.5	18.0	9.4	*18.5*
Other Black	10.4	13.9	20.8	13.2	9.0	*13.0*
Chinese	11.5	20.5	35.2	14.5	6.6	*17.6*
Other	14.9	23.2	30.3	18.0	8.6	*18.4*
All	11.1	16.2	29.0	12.4	4.8	*11.4*

Source: 2001 Census two percent individual Sample of Anonymised Records (SARs)
Note: Rows may not sum to exactly 100 because of rounding.

Table 3 and Figure 1 show the internal migration rate in each age group for each ethnic group. It is clear that the overall age profile of migration is the same for each ethnic group, with people aged 20-29 being most mobile in all cases. Migration rates are lowest for those aged over 45. Some differences are worth noting: for Other White, Mixed, African and Chinese, around one third of people aged 20-29 migrated between 2000 and 2001, compared to 18% of Pakistani and Bangladeshi people and 22% of Indian people in the same age group. One explanation for this is differences in household formation between ethnic groups: it is common for Asian[1] families to remain in the same household until children leave to marry and establish their own family homes. For non-Asian groups, a period of living outside family homes is more common. This may be compounded by Asian university students living close to large universities in the south east, midlands and north of England, and thus being likely to remain at home whilst studying.

[1] Unless otherwise stated, Asian refers to Indian, Pakistani, Bangladeshi and Other Asian groups, as in the 2001 England and Wales Census. Chinese is not included within this Asian group.

Figure 1: Proportion of migrants, Great Britain 2000-2001, in each age group by ethnic group



Source: 2001 Census two percent individual Sample of Anonymised Records (SARs)

The crude migration rates of Table 2 are affected by the age structure of a population. For example, since the most mobile age category is 20-29, if an ethnic group has a large proportion of the 20-29 age group the overall migration rate will be raised. It can be important to standardise for age in calculations of migration rates i.e. to calculate the migration rates as if all ethnic groups had the same age structure. Champion (1996: 145) suggests that for internal migration between 1990 and 1991 “if [the non white] age-specific proportion of migrants was to be applied to the age distribution of Whites, the within-Britain migration rate for the minority

ethnic population would be significantly lower than that for Whites". Age standardized internal migration rates for 2000-2001 are displayed in Table 4. These are higher than the non-standardised rates for White Briton and Irish and lower for all other groups. The low White Briton and Irish crude migration rates are partly due to a relatively old population age structure that has few in the age groups most likely to migrate. Conversely, the high crude rates of the top six groups (Other, African, Other White, Mixed, Chinese, Other Asian) is partly a result of their relatively high numbers of young adults, although age standardized rates remain high.

Table 4: Age-standardised ethnic group migration rates 2000-2001, within Britain, ranked

Rank	Crude Migration Rate (%)		Age-Standardised Rate (%)	
1	African	18.5	Other	15.5
2	Other	18.4	African	15.1
3	Other White	17.9	Other White	14.5
4	Chinese	17.6	Mixed	13.9
5	Mixed	16.1	Other Asian	13.8
6	Other Asian	15.7	Chinese	13.7
7	Other Black	13.0	Irish	12.7
8	Bangladeshi	11.5	Other Black	11.9
9	Pakistani	11.3	White Briton	11.3
10	Caribbean	11.3	Caribbean	10.9
11	White Briton	11.0	Pakistani	9.8
12	Indian	10.9	Bangladeshi	9.4
13	Irish	10.6	Indian	9.5

Source: 2001 Census two percent individual Sample of Anonymised Records (SARs)
Note: Age-Standardisation is direct using the all-group population as the reference.

This section has shown that levels of migration vary between ethnic groups, and that ethnic group differences observed in 1991 are also seen in 2001. Internal migration rates are highest for Chinese, Other and Black groups, and lowest for Asian and White groups. Groups that migrated most recently, and have highest immigration rates, are most internally mobile. Using fine ethnic group categories helps to reveal these patterns. The overall age profile of migration is followed by all ethnic groups though it is suggested that cultures of household formation and patterns of student migration may explain why a smaller proportion of Asian young people migrate compared to other ethnic groups. The importance of age-standardisation has been

illustrated, the most significant result of this being that Asian and Caribbean groups have the lowest migration rates when age structure is taken into account.

3.2 Geographies of migration

If ethnic groups exhibit different levels of migration, is the nature of the migration in terms of the distances and places involved also different? This section also explores the nature of each group's migration in relation to the ethnic composition of migration origins and destinations.

In 1991 non white groups were found to migrate significantly shorter distances than whites. Indeed, 55% of minority ethnic group migrants moved less than 5km compared to 47% of whites; and only 7% moved 200km and over, compared to 13% of whites. Chinese were most similar to whites and Blacks moved the shortest distance (Champion, 1996).

Analysis of the 2001 SAR confirms this trend. For all ethnic groups over 50% of moves between 2000 and 2001 were shorter than 5km except for Chinese for whom 45% of moves were this distance (Table 5). For Pakistani and Bangladeshi groups, seven tenths of moves were under 5km. Overall, a greater proportion of moves of non-white groups were of the shortest distance than of whites; and a smaller proportion of the longest distance.

The sample of individual census records contains the category of distance moved by each migrant. By imputing a representative distance for each category, the estimated mean distance migrated has been added to Table 5. The representative distance recognizes the skewed distribution of distances, so that, for example, the category 5-9 kilometres (more specifically 5.0-9.9km) is represented by 7 kilometres. The mean distances reveal a contrast between the short moves (less than 30km) of Pakistani, Bangladeshi, African, Other Black and particularly

Caribbean groups, and the longer moves (on average) of the White, Mixed, Indian, Other Asian, Other and particularly Chinese groups.

Table 5: Percent of each ethnic group moving each distance (km)

	Distance of move for internal migrants					*Mean distance migrated*	*Total Migrants*
Ethnic Group	0-4 km	5-9 km	10-49 km	50-199 km	200+ km		
All	*53.4*	*12.2*	*15.9*	*12.1*	*6.5*	*34.5*	*183,219*
All non-white	*57.6*	*12.5*	*13.9*	*10.7*	*5.3*	*33.5*	*16,386*
All white	*53.4*	*12.8*	*16.3*	*11.2*	*6.4*	*38.2*	*166,833*
White Briton	53.1	12.1	15.9	12.2	6.7	40.3	*158,253*
Irish	55.4	12.2	15.1	10.9	6.4	37.8	*1,966*
Other White	51.8	14.0	17.9	10.3	6.0	36.4	*6,614*
Mixed	55.4	12.3	15.0	12.0	5.4	35.0	*2,903*
Indian	52.6	10.4	15.0	15.6	6.3	43.2	*3,095*
Pakistani	68.2	9.3	9.6	8.2	4.6	28.3	*2,159*
Bangladeshi	70.5	8.5	11.1	6.4	3.6	23.4	*803*
Other Asian	52.9	12.2	16.5	10.7	7.7	42.6	*989*
Caribbean	59.0	17.7	13.6	7.1	2.6	20.7	*1,647*
African	55.0	14.7	17.5	8.6	4.2	28.0	*2,309*
Other Black	64.3	12.7	11.5	7.0	4.5	26.2	*314*
Chinese	45.0	13.6	16.5	17.8	7.0	46.7	*1,079*
Other	53.3	13.5	13.1	13.4	6.6	40.6	*1,088*

Source: 2001 Census two percent individual Sample of Anonymised Records (SARs)
Note: Rows may not sum to exactly 100 because of rounding. The final column indicates sample size. In addition to the internal migrants analysed here, the dataset contains 12,182 immigrants from outside the UK. The table excludes those with 'no usual address' one year before the Census. Distance categories are 0.0-4.9, 5.0-9.9 etc.

Table 6: Proportion of moves that are district, regional and national, UK, 2000-2001

Ethnic Group	Move within District (%)	Move between Districts but within Region (%)	Move between Regions within England (%)	Move between Countries but within UK (%)
White Briton	60.0	20.8	15.8	3.3
White Irish	53.5	24.1	15.7	6.7
White Other	49.6	31.1	16.0	3.2
Mixed	57.5	22.6	17.9	2.0
Indian	51.4	23.0	23.1	2.5
Pakistani	70.3	15.3	12.6	1.7
Bangladeshi	68.7	18.5	11.2	1.6
Other Asian	50.8	28.0	18.3	2.9
Caribbean	59.1	28.7	10.8	1.3
African	52.5	31.4	14.9	1.8
Other Black	61.0	26.1	12.6	0.3
Chinese	44.9	28.4	23.5	3.1
Other	52.7	25.2	19.8	2.3

Source: 2001 Census two percent individual Sample of Anonymised Records (SARs)
Note: The table excludes those with 'no usual address' one year before the Census.

Distance of move can alternatively be thought of in terms of whether administrative boundaries are crossed during migration. Previous studies have found that non-white groups move less across city boundaries than whites. Even after age-standardisation, Champion (1996) found that between 1990 and 1991 ethnic minorities as a whole were more likely to move within district, between district within county or between county within region than the White group; and less likely to move between regions.

Table 6 confirms the importance of within-district migration for all groups in 2001, accounting for between 45% (for Chinese) and 70% (for Pakistani) of internal migration. A distinct white – non-white division is not, however, evident. Rather, it is the high proportion of within-district moves for Pakistani and Bangladeshi (69%) groups and the relatively low proportion of within-district moves for the Chinese group that are noteworthy. The Chinese group also has a high proportion of between-district moves (28%), the highest proportion of moves between regions (24%) and, along with the white groups, a relatively high proportion of moves between countries of the UK (3%).

The settlement pattern of each group affects the geography of migration. The white groups migrate between a greater number of places than other ethnic groups because they are the largest population and widely dispersed. Using the whole inter-district flow matrices from the 2001 Census (Special Migration Statistics), Stillwell and Duke-Williams (2005) show that connectivity – the proportion of all district pairs which have a migrant flow between them – is 65% for whites while it is less that 4.5% for all other ethnic groups. The further distance of Chinese moves is also not surprising as the Chinese population is more dispersed than other non-white groups (Afkhami, 2006). The shorter distances moved by some groups may simply reflect the densely urban cities in which they live, where a move of under 5 kilometres may

nonetheless mean moving past a population of hundreds of thousands of people into a very different neighbourhood.

The direction of migration in relation to population distribution is common to all ethnic groups: movement away from urban centres. Although suburbanisation has occurred more strongly for White than non-White groups (Owen, 1997; Stillwell and Duke Williams, 2005; Rees and Butt, 2004), London and major cities have seen out-migration of non-White groups (Robinson, 1992b; Owen, 1997; Stillwell and Duke-Williams, 2005). We next examine the internal movement of each ethnic group in relation to existing population distribution, from North to South, away from urban centres and away from population centres for each group.

Table 7: net GB internal migration 2000-2001 from north to south by ethnic group

To the South of GB from the North of GB									
	Total	White	All non-white	Indian	PB*	Chinese	Black	Mixed	Other
Net Migration	5,097	4,726	371	751	385	309	-747	-359	32
Net Migration Rate	0.0	0.0	0.0	0.1	0.0	0.1	-0.1	-0.0	0.0

*Note: 'North' is the NE, NW, Merseyside, Yorkshire and Humberside, W Midlands GORs and Wales and Scotland; 'South' is Eastern, London, E Midlands, SE and SW GORs. Migration data are from 2001 SMS, Level 1 Table 3. Population data are from 2001 Census KS06. Northern Ireland is not included because migration to NI is not available with an ethnic group breakdown. *Pakistani, Bangladeshi and Other South Asian*

Nationally, there is movement of white and non-white groups taken together from the north of Britain to the south (Table 7). Movement in this direction is seen for all groups apart from Black and Mixed. The rates of migration were highest for the movement of Black and Mixed groups to the north of Great Britain from the south and Indian and Chinese groups away from the north towards the south.

Flow data (at county and district level) indicate deconcentration of people of all ethnicities from London to other counties in the south east, and from inner to outer London from 1990-1991 (Champion, 1996). 'All ethnic minorities' 1990-1991 saw greatest net out-migration from London,

Strathclyde, West Yorkshire and Leicestershire; and greatest net in-migration to Hertfordshire, West Sussex and other southern counties of England, as well as Greater Manchester and Cheshire (Champion, 1996). Nationally the highest rates of in-migration of non-white groups were in districts with small minority populations in south east England, the south coast and Birmingham. Out migration rates were higher in northern cities such as Liverpool than in smaller towns in the less urbanized parts of southern and eastern England (Owen, 1997). In support of suburbanization and metropolitan deconcentration Rees and Butt (2004) calculated that in 1981-2001 the Black and minority ethnic populations (all non-White groups) contributed 10% to the growth in the south east outside London but by 1991-2001 this share had risen to 27%.

Figure 2

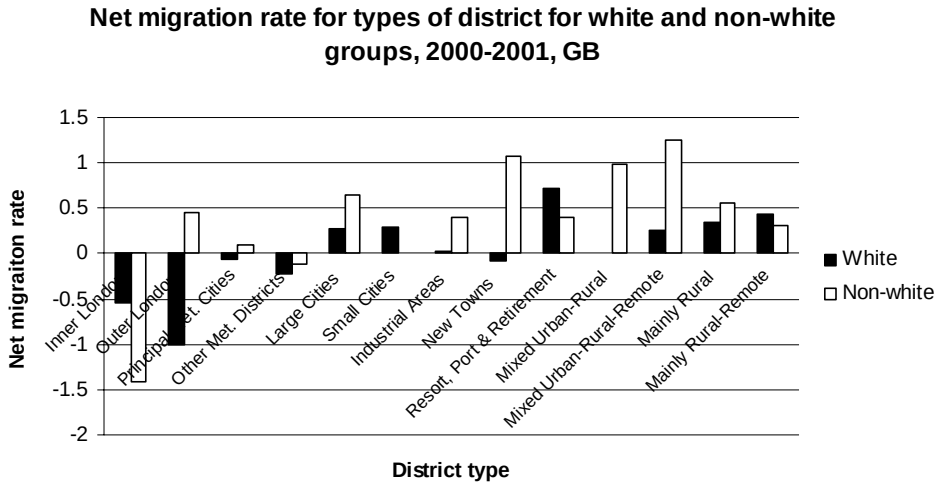


Figure 2 shows net migration within the UK in the year before the 2001 Census for the White groups taken as a whole and for all other groups taken as a whole, for thirteen types of local authority district in the UK, expressed as a percentage of the group's population in that type of district in 2001. The types of district distinguish an approximate scale of decreasing density of urban settlements, from the Inner London Boroughs to the mainly rural districts that are relatively

remote from major urban centres. The classification was first developed by the Office for Population Censuses and Surveys in the 1970s, and developed since by Champion (1989).

Both White and Other ethnic groups show a similar pattern of movement out of Inner London and metropolitan districts, and into other cities and less urban districts. However, the movement out of Inner London is faster for the non-White groups taken as a whole, which show movement into Outer London. The non-White groups show, again taken as a whole, faster proportional growth through migration to the New Towns (established in the 1960s and 1970s), and mixed urban areas outside cities, albeit from a much smaller starting population.

Table 8 shows the net migration for each of the seven ethnic groups provided in the Special Migration Statistics, for each of the same thirteen types of local authority district. The Chinese and Indian groups show patterns most divergent from other ethnic minority groups. On balance Chinese residents have moved not only into Outer London but also into Inner London, and have moved out of New Town and rural districts. Indian residents have not moved (on balance) into Outer London, where they have already been established for several decades, and have also moved on balance out of rural and remote districts. The greatest percentage increase through migration has been in New Town, Retirement-Resort-Port areas and mixed urban-rural districts. This perhaps reflects the Indian group's relative prosperity and demographic maturity in Britain.

Table 8: Net migration rate and net migration impact rate for ethnic group and district type, Great Britain, 2000-2001

Net Migration Rate (per cent)

	Total	White	Non-white	Indian	Pakistani , Bangladeshi and other South Asian	Chinese	Black	Mixed	Other
Inner London	-0.8	-0.5	-1.4	-0.9	-1.1	0.5	-1.8	-1.7	-1.0
Outer London	-0.6	-1.0	0.5	-0.0	0.4	0.4	1.1	-0.2	1.2
Principal Met. Cities	-0.0	-0.1	0.1	0.4	0.0	0.8	0.0	-0.2	0.4
Other Met. Districts	-0.2	-0.2	-0.1	-0.7	0.0	-0.7	0.7	0.2	-0.3
Large Cities	0.3	0.3	0.7	0.3	0.4	1.3	1.3	0.7	2.1
Small Cities	0.3	0.3	0.0	-0.0	0.2	-0.4	0.2	0.4	-1.5
Industrial Areas	0.0	0.0	0.4	-0.2	0.2	0.2	2.8	-0.1	0.5
New Towns	-0.0	-0.1	1.1	1.3	0.8	-1.3	3.7	0.3	-0.5
Resort, Port & Retirement	0.7	0.7	0.4	1.3	2.5	-2.4	0.7	1.1	-3.2
Mixed Urban-Rural	0.0	0.0	1.0	1.4	0.0	0.1	2.3	1.1	0.2
Mixed Urban-Rural-Remote	0.3	0.2	1.3	-0.2	4.7	1.1	1.3	0.9	0.3
Mainly Rural	0.3	0.3	0.5	-2.6	3.2	-3.6	3.6	1.0	1.2
Mainly Rural-Remote	0.4	0.4	0.3	-1.1	1.0	-2.5	3.3	1.2	-2.0

Net Migration Impact Rate (net group migrants per 10,000 total population)

	Total	White	Non-white	Indian	Pakistani , Bangladeshi, and other South Asian	Chinese	Black	Mixed	Other
Inner London	-84.9	-36.1	-48.8	-2.9	-8.6	0.7	-29.5	-6.4	-2.0
Outer London	-62.9	-74.5	11.7	-0.1	2.0	0.4	8.5	-0.6	1.6
Principal Met. Cities	-3.79	-5.2	1.4	1.0	0.0	0.5	-0.0	-0.3	0.2
Other Met. Districts	-21.7	-20.9	-0.8	-1.3	0.1	-0.2	0.5	0.2	-0.0
Large Cities	31.3	25.8	5.6	0.8	0.8	0.7	1.6	0.9	0.8
Small Cities	27.1	27.1	-0.0	-0.1	0.3	-0.2	0.2	0.5	-0.7
Industrial Areas	3.5	2.0	1.5	-0.2	0.2	0.0	1.4	-0.1	0.0
New Towns	-3.7	-8.5	4.8	1.2	0.9	-0.5	3.0	0.3	-0.1
Resort, Port & Retirement	70.8	70.1	0.7	0.3	0.8	-0.6	0.2	0.7	-0.6
Mixed Urban-Rural	5.4	1.4	4.0	1.6	0.0	0.0	1.3	1.1	0.0
Mixed Urban-Rural-Remote	26.8	24.4	2.5	-0.1	1.2	0.3	0.4	0.6	0.0
Mainly Rural	35.3	34.6	0.7	-0.4	0.5	-0.6	0.6	0.4	0.1
Mainly Rural-Remote	44.0	43.6	0.3	-0.1	0.1	-0.4	0.4	0.5	-0.2

Note: Migration data from 2001 Census Special Migration Statistics, Level 1 Table 3; population data from 2001 Census table KS06.

The net migration patterns are re-inforced when represented as net migration impact rates. These express net migration as a proportion of the total population of an area, thereby giving an indication of the contribution which the net migration of each group makes to overall population change for each district type (Champion, 1996). Due to small numbers, figures are expressed as persons per 10,000. The migration of the non-white population taken together has greatest negative impact on Inner London, causing a population decrease of 48.8 per 10,000, and greatest positive impact on Outer London with an increase of 11.7 per 10,000. The out-migration impact of Blacks from Inner London is particularly notable. For White groups, the negative population impact in is Outer London (74.5 per 10,000) and positive impact in resort, port and retirement districts (70.0 per 10,000).

The importance of London to minority group movement is clear from Table 9, which lists the local authority districts of Britain that have gained or lost most through migration, using four broad ethnic groups in which Chinese is combined with Mixed and Other. All the districts losing most non-white migrants are in Inner London, or are districts of outer London which already had large minority populations (such the Indian populations of Ealing and Brent). The districts gaining most non-White migrants are usually in Outer London, although Manchester also features and migration of the 'Other non-White' category also includes gains in Warwick and Leeds. The districts with largest percentage gains and losses differ somewhat from the gross gainers and losers though it is important to remember that these rates are influenced by the size of the district population (for this reason Table 9 is limited to those with populations greater than 100 residents in 2001). The significance of the London districts, particularly for out-migration of whites, is confirmed.

Table 9: Internal net migration by ethnic group, districts, 2000-2001: greatest gainers and losers

Net migration

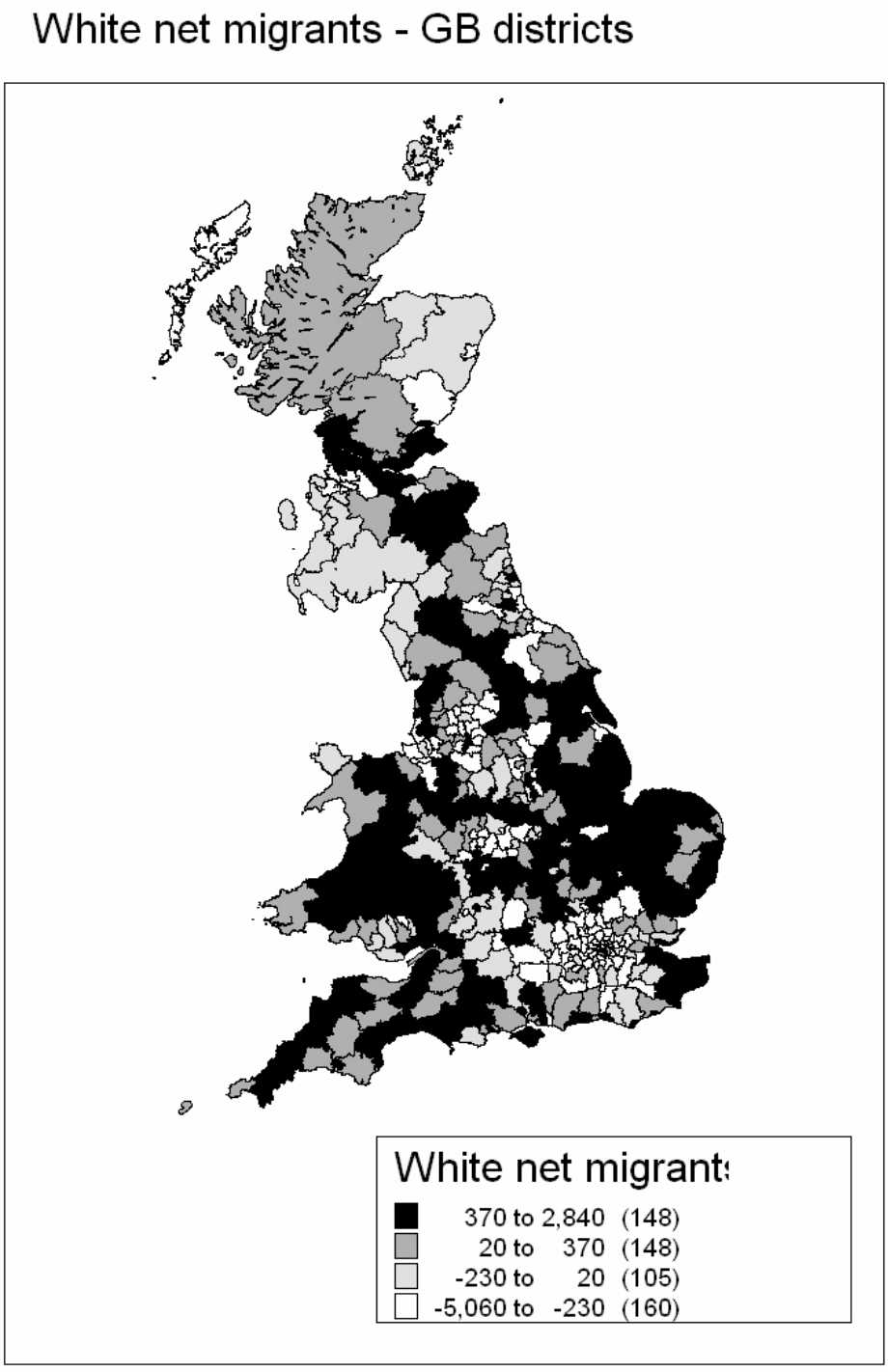
	White		Non-White		Black		South Asian		Other non-White	
Greatest Gainers										
1	East Riding	2835	Hillingdon	1595	Barking & D'ham	939	Redbridge	1072	Hillingdon	239
2	Leeds	2326	Redbridge	1509	Croydon	810	Hillingdon	809	Kingston-u-Thames	184
3	Southampton	2136	Barking & D'ham	1274	Hillingdon	547	Croydon	386	Manchester	169
4	Edinburgh	2118	Croydon	1199	Greenwich	528	Kingston-u-Thames	386	Warwick	169
5	Lambeth	1968	Kingston upon Thames	666	Redbridge	461	Manchester	340	Leeds	161
Greatest Losers										
1	Birmingham	-5053	Brent	-1923	Southwark	-1514	Ealing	-1127	Lambeth	-349
2	Croydon	-3327	Lambeth	-1861	Lambeth	-1282	Newham	-1071	Camden	-332
3	Ealing	-2583	Ealing	-1683	Hackney	-1180	Brent	-928	Islington	-331
4	Enfield	-2559	Haringey	-1679	Haringey	-1071	Tower Hamlets	-536	Haringey	-279
5	Harrow	-3014	Newham	-1645	Wandsworth	-770	Wandsworth	-513	Wandsworth	-272

Net migration rate (per cent)

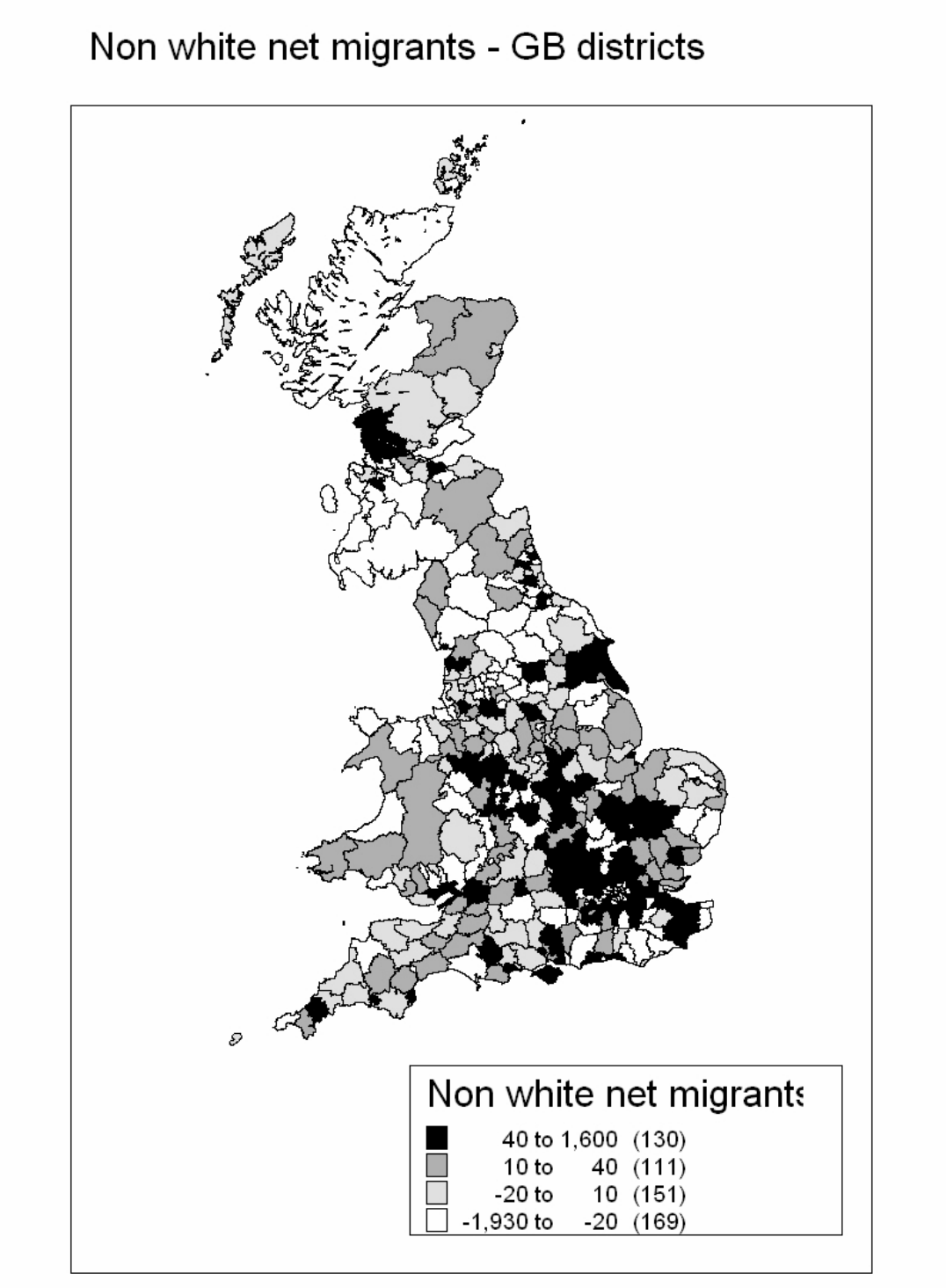
	White		Non-White		Black		South Asian		Other non-white	
Greatest Gainers										
1	City of London	2.3	Rutland	8.3	Rutland	25.2	Forest Heath	26.4	Warwick	7.0
2	North Kesteven	1.8	Shepway	7.8	Harborough	19.7	Rutland UA	19.6	Blaby	6.8
3	E Northamptonshire	1.7	E Cambridgeshire	6.8	Bridgend	18.3	Shepway	15.2	Ashford	6.5
4	Eastbourne	1.5	Harborough	6.5	Isle of Wight UA	16.4	Carrick	15.0	Rochford	6.0
5	Forest Heath	1.5	Carrick	6.1	Poole UA	16.3	Boston	11.1	Adur	5.7
Greatest Losers										
1	Harrow	-2.5	Malvern Hills	-7.6	Broadland	-20.5	Kennet	-17.5	Malvern Hills	-9.1
2	Newham	-2.4	Shrewsbury/Atcham	-7.3	Burnley	-16.5	Halton	-15.0	West Lindsey	-7.9
3	Hounslow	-1.7	Stratford-on-Avon	-5.1	Salisbury	-15.6	Denbighshire	-12.7	Boston	-7.4
4	Redbridge	-1.6	Dover	-4.6	South Bucks	-14.2	Hart	-12.1	Dumfries & Galloway	-7.1
5	Surrey Heath	-1.5	Broadland	-4.6	Fareham	-14.1	Chichester	-10.2	Shrewsbury/Atcham	-6.9

Notes: Migration data come from SMS 2001 Level 1 Table 3. Populations come from Census 2001 KS06. Net migration is for districts of UK; rates are for districts of GB. Only districts with at least a population of 100 for each ethnic group are included.

Figure 3 (a): Net migration of whites within the UK, 2000-2001 for districts of Great Britain



(b): Net migration of non-whites within the UK, 2000-2001 for districts of Great Britain



Note: data for Berwick-upon-Tweed and Argyle and Bute are missing from these maps.

Figure 3 presents district net migration for whites and non whites as thematic maps. Out-migration of whites can clearly be seen from districts in London and the south-east, along the M4 corridor and from major urban centres in the north-west and north-east of England. White in-migration is particularly notable to south-west England, Wales, southern Scotland, the Pennine region and eastern England. For non-whites, the pattern is similar but much more scattered. In-migration is to fewer districts and in contrast to whites these include ones in the south-east around London. Out-migration differs from that of whites in being from districts in northern England and in Scotland with the exception of the Glasgow-Edinburgh region.

A cascade of migration from more dense to less dense urban areas and from these to rural areas has been noted in Britain (Champion *et al,* 1998), to support a thesis of counter-urbanisation. This cascade is confirmed with 2001 data for the population as a whole and the data extended in Table 9 to explore whether the thesis holds for each of the seven ethnic groups identified in the Special Migration Statistics. Table 10 gives a net migration figure in the upper triangle of each matrix of area types.

The White group, and the overall total which is numerically dominated by the White group, clearly show a net movement from London to other urban districts, to mixed urban-rural districts and to rural districts. There is also net movement from the urban districts outside London to rural districts and from the mixed districts to rural districts. More White migrants moved from mixed to other urban areas than vice versa, but in general the cascade thesis is borne out by the 2001 districts using this broad urban-rural classification.

The Pakistani and Other South Asian group shows the same counter-urbanising cascade as the White group. Black and Mixed groups exhibit a perfect migration cascade from London to other urban, to mixed, to rural areas. The Indian group shows the cascade except for a net movement

away from rural areas towards urban and mixed areas. The two clearest exceptions to the thesis of cascading counter-urbanisation are the Chinese and Other groups. In both cases there are net gains in London from other urban districts and net migration from rural areas to all other types of area. An explanation for these two anomalous groups awaits further investigation.

Table 10: Net migration between district types and ethnic group, Great Britain, 2000-2001

Ethnic Group	Origin District Type	Destination District Type		
		Other Urban	*Mixed*	*Rural*
All People	*London*	+15476	+27852	+9056
	Other urban		-4071	+1703
	Mixed			+15471
White	*London*	+10534	+24765	+8619
	Other urban		-4987	+1986
	Mixed urban-rural			+15377
Indian	*London*	+282	+578	+25
	Other urban		+727	-152
	Mixed urban-rural			-9
Pakistani and Other South Asian	*London*	+930	+557	+38
	Other urban		-246	+68
	Mixed urban-rural			+49
Chinese	*London*	-342	+48	-59
	Other urban		+33	-235
	Mixed urban-rural			-13
Black	*London*	+3123	+1068	+265
	Other urban		+112	+13
	Mixed urban-rural			+29
Mixed	*London*	+1076	+831	+164
	Other urban		+278	+82
	Mixed urban-rural			+72
Other	*London*	-127	+5	+4
	Other urban		+12	-59
	Mixed urban-rural			-34

Notes: Migration data comes from SMS 2001 Level 1 Table 3. District classifications are an aggregation of OPCS district types: London = Inner London, Outer London; Other Urban = Met Cities, Large Cities, Small Cities, Industrial Areas, New Towns, Resort Port and Retirement; Mixed = Urban-Rural, Urban-Rural-Remote; Rural = Mainly Rural, Mainly Rural-Remote.

Table 11: Net in-migration within the UK for quintiles of ethnic group population by ethnic group, 2000-2001

Quintiles for Non White Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population	
				Non White	White
1 Lowest	323	926715	2.4	+0.69	+0.18
2 Low	50	913996	10.2	+0.57	-0.10
3 Medium	17	929295	22.2	-0.10	-0.68
4 High	9	895908	32.1	-0.11	-0.88
5 Highest	9	956797	44.2	-0.96	-0.82
Total	*408*	*4622711*			

Quintiles for Indian Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population		
				Non White	White	Indian
1 Lowest	340	209811	0.5	+0.18	+00.15	+0.96
2 Low	44	213372	2.8	-0.18	-0.27	+0.18
3 Medium	11	197270	6.3	+0.24	-0.59	-0.29
4 High	9	228612	12.3	-0.04	-1.13	-0.38
5 Highest	4	202779	21.1	-0.42	-1.23	-0.40
Total	*408*	*1051844*				

Quintiles for Pakistani, Bangladeshi and Other South Asian Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population		
				Non White	White	P, B and Other S Asian
1 Lowest	345	255595	0.6	+0.43	+0.16	+0.68
2 Low	32	253427	3.5	+0.03	-0.20	+0.07
3 Medium	18	250846	6.4	-0.32	-0.67	-0.45
4 High	7	267595	11.9	-0.19	-0.80	+0.06
5 Highest	6	249429	19.2	-0.47	-0.79	-0.34
Total	*408*	*1276892*				

Quintiles for Chinese Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population		
				Non White	White	Chinese
1 Lowest	228	48712	0.2	+0.18	+0.15	-0.33
2 Low	84	48351	0.4	-0.18	-0.27	+0.64
3 Medium	36	48848	0.7	+0.24	-0.59	+0.81
4 High	31	47990	0.7	-0.04	-1.13	+0.48
5 Highest	29	49357	0.7	-0.42	-1.23	-0.21
Total	408	243258				

Quintiles for Black Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population		
				Non White	White	Black
1 Lowest	370	231392	0.5	+0.48	+0.13	+1.77
2 Low	18	232697	4.8	+0.25	-0.62	+0.79
3 Medium	11	217153	9.2	-0.26	-1.03	-0.09
4 High	5	226116	17.8	-0.84	-1.30	-0.76

5 Highest	4	240239	25.0	-1.45	+0.13	-1.65
Total	*408*	*1147597*				

Quintiles for Mixed Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population		
				Non White	White	Mixed
1 Lowest	249	135011	0.5	+0.14	+0.23	+0.66
2 Low	89	133585	1.1	+0.80	-0.02	+0.93
3 Medium	37	138553	1.8	+0.74	-0.16	+0.47
4 High	18	131978	2.9	+0.10	-0.63	-0.63
5 Highest	15	134669	3.9	-1.13	-0.87	-1.39
Total	*408*	*673796*				

Quintiles for Other Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population		
				Non White	White	Other
1 Lowest	288	45778	0.1	+0.14	+0.15	-0.58
2 Low	71	46304	0.4	+0.83	+0.01	+0.47
3 Medium	27	45127	0.8	+0.43	-0.30	+0.73
4 High	15	45834	1.6	-1.16	-0.82	-0.30
5 Highest	7	46281	3.0	-0.76	-1.06	-0.22
Total	*408*	*229324*				

Quintiles for White Ethnic Group	Number of Districts	Ethnic Group Population	Percent of the Whole Population	Net in-migration 2000-01, per cent of 2001 population	
				Non White	White
1 Lowest	62	10468830	75.7	-0.24	-0.53
2 Low	67	10573187	93.7	+0.89	-0.07
3 Medium	81	10404576	97.3	+0.91	+0.20
4 High	90	10683236	98.5	+0.17	+0.30
5 Highest	108	10351371	99.1	-0.61	+0.22
Total	*408*	*52481200*			

Note: Net migration columns do not sum to zero because the figures are rates.

A further view of the geography of internal migration can be gained from examining the direction of moves in relation to the areas of greatest and least concentration of each ethnic group, directly addressing the question of dispersal of each ethnic group within Britain. Table 11 presents net in-migration for the White and non-White groups as a whole and for each of the seven ethnic groups for quintiles of concentration of population of those ethnic groups. This is a development of the Migration Dispersal Index defined by Simpson (2007) as the rate of out-migration of a group from those districts in which it was most concentrated.

In the first part of Table 11, the 408 local authority districts of Britain are divided into quintiles after sorting them by increasing percentage of non-White residents. Each quintile has as close as possible to one fifth of the total non-White population of Great Britain. The quintile with lowest per cent non-White population includes 323 districts while the quintile with highest percent non-White population includes the same non-White population in just nine districts, all in London (Brent, Ealing, Hackney, Harrow, Lambeth, Newham, Redbridge, Southwark, Tower Hamlets).

Almost 1% (0.96%) of the non-White population out migrated from the districts with highest concentration of non-White population as net movement to other parts of the UK. Those districts with least non-White population gained through a net balance of in-migration. This is clear evidence of dispersal of the non-White population, rather than 'self-segregation'. The net movement out of the highest concentration districts was a little greater in per cent terms than that of the White population, suggesting that 'White flight' is not a suitable term to describe the migration from these districts unless one also adds 'non-White flight' in the same description. The movement is more likely to be a non-racial movement from poor housing as part of the counter-urbanisation noted above. The White movement however is greater from the more mixed areas with lower proportion of non-White residents. At the opposite end of the scale, the movement into the least non-White (or most White) areas is greatest by non-White residents as a percentage of their population – 0.69% compared to 0.18% for Whites in the year before the census – though it is small numerically compared to the White movement to those 323 districts.

The remainder of Table 11 shows the same analysis for each ethnic group separately. In each case the 408 districts of Britain are divided into quintiles according to the local per cent of the group, and the net movement shown in each quintile for each of the group, for non-White residents as a whole and for White residents.

Dispersal is evident for each of the minority ethnic groups. For the Indian group the net out-migration is monotonely decreasing from highest Indian concentration to lowest, to which there is net in-migration of Indian residents. The same pattern of movement away from Indian concentrations is evident for White and non-White groups as a whole as well as for the Indian group itself. The Black group (including Caribbean, African and Other groups) shows the same dispersal, but there is, interestingly, net movement of White residents into the districts of highest Black concentration.

The White population shows movement away from the minority ethnic concentrations centres similar in proportion to the minority ethnic populations themselves. However, the final panel of Table 11 shows that White movement is towards the 'White concentrations', if such a term can be used, when even in their lowest concentration quintile they make up 76% of the local population. Because it is the rural and less urban areas that are most White in composition, this apparent difference with minority ethnic populations can alternatively be seen as also consistent with counter-urbanisation.

The data from the census give detail of ethnic group only for the local authority districts used in Table 11, of population varying between 20 thousand and one million. For smaller areas of electoral wards and the smallest Census Output Areas of around 200 households each, only the dichotomy White-Other is available in tables about migration. These however, also show dispersal of both White and Other population at similar rates away from the highest concentrations of non-White population (Simpson, 2007, Table 4). Champion (1996) showed the same dispersal from 1991 census data using a different analytical approach, which is confirmed in tables equivalent to Table 11 (not shown here).

The question posed at the beginning of this section was whether ethnic groups exhibited different geographical patterns of migration. The results have illustrated that, in general, this is not the case: all groups have experienced counter-urbanisation and movement from London to other cities, mixed areas and rural areas; and dispersal away from areas of their greatest settlement. The main distinction between ethnic groups that has been observed is in distance of migration, with non-white groups tending to move less far than white groups. The next section explores whether those people who migrate in each ethnic group have the same demographic and socio-economic characteristics.

3.3 Characteristics of migrants

Since the 1930s, the individual and household characteristics of migrants in Britain have been distinguished from non-migrants (Leon and Strachan, 1993). Numerous studies have found that age, stage in the life cycle, whether an individual has children, their tenure, sex, health, type and level of economic activity and level of education are all linked to whether or not a person migrates and, if so, how far (Champion and Fielding, 1992).

Generally, it has been found that young people, males, private renters, students, those who are unemployed, those in good health, those living in small households, those of higher socio-economic status and those without children are most likely to migrate (Halfacree, Flowerdew and Johnson, 1992; Owen and Green, 1992; Leon and Strachan, 1993; Hamnett, 1991; Brimblecombe *et al*, 1999, 2000; Bailey and Livingstone, 2005, 2006).

There are close relationships between a number of migrant characteristics such as age, stage in family life cycle and participation in the labour market, which can be readily associated with stability while in school and movement for work and education until family-building instils a new stability, that may again be disturbed by retirement. However, explanations behind local

migration patterns and individuals' decisions to migrate are not straightforward, with changing labour and housing markets constantly exerting constraints on, and presenting opportunities for, migration (Owen and Green, 1992; Chaney and Sherwood, 2000).

This section asks whether the characteristics of migrants that are found for the population as a whole are also found for each ethnic group. Migration rates are calculated from the 2001 Census sample of individual anonymised records for the whole of Great Britain, for which 13 categories of ethnic group are available, with Mixed as a single category. Migrants include those with no usual address one year prior to the Census but exclude migrants from outside the UK. Migrants of all ages (including 0) are included; cases with imputed ethnic groups are excluded. For ease of interpretation tables 12 to 19 have been sorted so that the ethnic groups are ranked from lowest to highest total migration rate from top to bottom, and the category values (e.g. male, female) are ranked by total migration rate from left to right.

Table 12: Migration rates by ethnic group and sex, Great Britain, 2000-2001

	Female	Male	*Total*
Irish	10.2	11.1	*10.6*
Indian	11.0	10.8	*10.9*
White Briton	10.8	11.3	*11.0*
Pakistani	11.0	11.6	*11.3*
Caribbean	10.8	11.8	*11.3*
Bangladeshi	11.6	11.4	*11.5*
Other Black	12.4	13.6	*13.0*
Other Asian	14.5	16.7	*15.7*
Mixed	16.0	16.2	*16.1*
Chinese	17.2	18.0	*17.6*
Other White	17.2	18.8	*17.9*
Other	18.1	18.8	*18.4*
African	17.3	19.7	*18.5*
Total	*11.1*	*11.7*	*11.4*

Note: Data from Great Britain individual census SAR 2001, all residents.

Section 3.1 already showed that age is closely related to propensity to migrate for each ethnic group, but that young Asian and Caribbean adults nonetheless have lower migration rates.

Table 12 shows that males are more likely to migrate than females although the difference is small overall – 11.7% versus 11.1% – and for each group. All groups except Bangladeshi and Indian show a higher rate of migration among males than among females. The greatest male-female difference is within the African and Other Asian groups, where males are 2% more likely to migrate than females.

The type of housing tenure is highly related to rates of migration (Table 13). Overall, accommodation that is privately rented is occupied by residents who are twice as likely to have migrated in the past year than the average resident. Those in homes that are owned outright are least likely to have migrated, with those in homes owned with a mortgage are also less likely to have migrated, results that are likely to be related to older life stages as well as to commitment to a secure investment. There is little deviation from this pattern among the ethnic groups.

Table 13: Migration rates by ethnic group and tenure, Great Britain, 2000-2001

	Own outright	Own with mortgage	Rent from Local Authority	Part own, Part rent	Other social renting	Private rent or rent-free	Total
Irish	4.4	8.6	6.0	16.6	9.0	29.1	9.8
Indian	4.6	7.7	11.8	12.6	14.0	31.6	10.2
White Briton	4.7	8.8	10.1	12.0	13.2	33.9	10.5
Caribbean	6.2	8.4	9.5	12.4	11.9	28.2	10.6
Pakistani	5.6	8.6	15.0	10.7	16.2	24.0	10.9
Bangladeshi	8.7	8.7	10.1	*20.0*	10.5	21.0	11.1
Other Black	10.0	9.4	9.4	*19.4*	14.7	25.6	12.4
Other Asian	7.6	10.3	14.0	*14.0*	16.0	29.0	14.9
Mixed	10.4	10.7	12.8	12.9	14.7	33.7	15.3
Chinese	8.1	11.4	9.2	*7.9*	15.4	35.5	16.2
Other White	6.2	12.5	13.2	17.3	16.7	30.4	17.4
African	14.4	13.4	12.1	14.9	16.1	31.9	17.6
Other	9.5	13.2	11.9	*17.9*	18.2	25.7	17.7
Total	4.9	8.9	10.2	12.4	13.4	33.0	10.9

Note: Data from Great Britain individual census SAR 2001, all residents. Rates in italics are based on populations less than 100.

Table 14: Migration rates by ethnic group and qualifications for all people (a) and with students excluded (b), Great Britain, 2000-2001

(a) All aged 16-74	No qualifications	Other or unknown	1 GCSE	5 GCSEs grade A-C	Degree or equivalent	2 A levels	*Total*
Irish	5.4	9.1	9.7	11.4	16.0	21.0	*10.9*
Indian	6.6	8.1	7.0	7.9	16.2	23.6	*11.6*
White Briton	6.8	6.9	11.4	12.3	16.0	24.2	*11.8*
Caribbean	8.9	10.6	11.8	12.5	13.1	17.9	*11.8*
Pakistani	9.2	10.5	11.9	11.0	17.5	16.8	*12.1*
Bangladeshi	10.0	14.8	13.3	12.7	15.4	16.0	*12.3*
Other Black	12.8	17.6	13.1	14.4	14.6	18.4	*14.5*
Other Asian	16.0	17.3	18.8	13.2	15.7	22.5	*16.7*
Chinese	9.3	18.7	11.5	16.0	23.1	34.8	*19.2*
Other	14.8	15.9	16.2	17.3	21.1	25.0	*19.2*
Other White	12.5	17.6	14.6	17.1	21.8	25.0	*19.3*
Mixed	15.3	15.9	14.6	16.0	22.7	31.1	*19.3*
African	19.8	15.1	20.2	19.2	19.3	26.3	*20.0*
Total	*7.1*	*7.6*	*11.5*	*12.4*	*16.6*	*24.2*	*12.2*

(b) Excluding students	No qualifications	Other or unknown	1 GCSE	5 GCSEs grade A-C	2 A levels	Degree or equivalent	Total
Irish	5.4	8.1	9.7	11.4	15.1	15.0	9.9
Indian	6.5	7.8	7.2	8.0	11.5	15.7	10.2
White Briton	6.8	6.9	11.4	12.6	15.1	15.4	10.9
Caribbean	8.8	9.7	11.9	12.6	13.8	12.6	11.3
Pakistani	9.3	10.7	12.8	12.8	14.8	16.9	12.0
Bangladeshi	10.0	15.3	14.5	14.2	16.1	16.1	12.4
Chinese	9.1	13.9	11.1	11.2	13.6	18.2	13.5
Other Black	14.2	17.5	14.1	15.0	16.1	13.4	14.6
Other Asian	16.3	17.1	19.7	12.8	13.9	14.6	15.4
Other	12.9	13.0	15.9	16.2	17.6	19.2	16.7
Other White	11.7	16.2	13.9	16.8	19.5	20.3	17.4
Mixed	16.0	16.0	15.4	17.7	20.7	21.7	18.4
African	20.7	12.8	20.2	17.6	19.5	18.3	18.5
Total	7.1	7.4	11.5	12.7	15.3	15.8	11.2

Note: Data from Great Britain individual census SAR, all residents aged 16-74. The qualification labels apply to those in England and Wales and the equivalents in Scotland.

Greater qualifications are associated with higher likelihood of migrating (Table 14). The exception is the high rate of migration for those with good school qualifications but not a degree. This is due to the inclusion in this category of many university students migrating to their term-time address during the previous year. Table 14b confirms this by showing a reduction in

migration rates for those with A level qualifications when students are excluded. The pattern of higher migration for those with higher qualifications is common to each ethnic group. One of the few deviations is that low-qualified Africans and Other Asians migrate as much as those with more qualifications.

Migration rates are affected by household composition, as shown in Table 15. Adults aged under 30 who live alone or with one other adult are most likely to have migrated, with high migration rates of 40%. In contrast, on average only 10% of individuals living in households with dependent children and other types of household migrated. This pattern is evident for all ethnic groups. Apart from for the White Briton and White Irish groups, individuals in households with dependent children are least likely to migrate. Rates are particularly low for Indian, Caribbean and Pakistani people with dependent children. The low rates for other household compositions for the White Briton and White Irish groups may be a result of these ethnic groups having a larger number of households with adult, particularly elderly, dependents.

Table 15: Migration rates by ethnic group and dependent children, Great Britain, 2000-2001

	Other	Household with dependent children	Two adults under 30	One adult under 30 living alone	*Total*
Irish	9.1	9.9	44.4	40.4	10.8
White Briton	9.3	10.2	38.3	40.1	11.0
Indian	12.6	8.4	39.8	44.2	11.2
Caribbean	11.6	9.5	25.0	32.2	11.3
Pakistani	13.8	9.7	36.8	39.9	11.4
Bangladeshi	14.0	10.2	36.6	38.3	11.6
Other Black	16.1	11.3	18.8	19.0	13.1
Other Asian	20.6	12.0	40.0	38.2	16.3
Mixed	21.6	12.5	40.8	40.5	16.4
Chinese	23.5	10.4	38.7	44.5	18.7
African	23.3	15.0	37.8	39.6	19.2
Other White	20.0	14.3	45.3	47.8	20.0
Other	24.3	15.6	39.7	45.0	20.8
Total	9.9	10.3	38.6	40.3	11.5

Note: Data from Great Britain individual census SAR 2001, all residents.

Those with a limiting long-term illness are considerably less likely to have migrated in the year before the census. This is consistent for each ethnic group, and is likely to be explained by the lower migration among elderly who are most associated with limiting long-term illness. The reduction in migration rates for those with limiting long-term illness compared to others is particularly noticeable for the Other White group (9.2%) and least for the Caribbean group (1.4%), for reasons that are not immediately clear (Table 16).

Table 16: Migration rates by ethnic group and Limiting Long Term Illness (LLTI), Great Britain, 2000-2001

	LLTI	No LLTI	*Total*
Irish	7.2	11.8	*10.6*
Indian	6.3	11.7	*10.9*
White Briton	7.8	11.8	*11.0*
Pakistani	8.5	11.8	*11.3*
Caribbean	10.1	11.5	*11.3*
Bangladeshi	7.8	12.0	*11.5*
Other Black	10.7	13.3	*13.0*
Other Asian	10.9	16.5	*15.7*
Mixed	13.1	16.4	*16.1*
Chinese	10.5	18.2	*17.6*
Other White	9.9	19.1	*17.9*
Other	15.5	18.7	*18.4*
African	14.4	18.9	*18.5*
Total	*8.0*	*12.2*	*11.4*

Note: Data from Great Britain individual census SAR 2001, all residents.

It is usually the case that those born in the UK have a lower rate of migration than those born overseas (Table 17). This is presumably related to the number of relatively recent immigrants among those born overseas, who as suggested earlier are likely to be less settled at a permanent address than others. The Indian, Irish and Caribbean groups, however, have higher rates of migration for those born in the UK than for those born overseas. This may again be related to age because for these three groups, those who were not born in Britain are likely to be

early immigrants now in older age, who are therefore less rather than more likely to migrate within the UK.

Table 17: Migration rates by ethnic group and country of birth, Great Britain, 2000-2001

	UK	Rest of the World	*Total*
Irish	12.8	9.5	*10.6*
Indian	12.3	9.7	*10.9*
White Briton	11.0	14.1	*11.0*
Pakistani	11.4	11.2	*11.3*
Caribbean	12.2	9.9	*11.3*
Bangladeshi	10.9	11.9	*11.5*
Other Black	12.3	15.3	*13.0*
Other Asian	12.5	17.1	*15.7*
Mixed	15.7	17.5	*16.1*
Chinese	14.5	18.7	*17.6*
Other White	14.1	18.9	*17.9*
Other	14.9	19.1	*18.4*
African	15.4	20.0	*18.5*
Total	*11.1*	14.8	*11.4*

Note: Data from Great Britain individual census SAR 2001, all residents.

In relation to economic activity, migration rates are particularly high for students as would be expected for those that study away from home, and steadily lower in turn for the unemployed, the full time employed, those looking after home or family, the 'Other inactive group', the part-time employed, the self-employed, and finally migration is least for the retired (Table 18). This relationship holds fairly closely for each ethnic group with the exception of the Pakistani and Bangladeshi groups. For these two mainly Muslim groups student migration is not especially high, which may be explained by more of these groups' students studying while remaining at home to conserve family resources, to maintain women's main role within the home, and because of large universities being located close to their places of residence. The same two groups have higher migration for the employed rather than the unemployed, the opposite relation to that for other groups. Since employment status is only recorded after the move and not before, it is difficult to construct a plausible explanation for this difference, although it may be related to the more pervasive unemployment among men of these two groups.

Finally, the measure of social class now used in UK Censuses, the National Statistics Socio-Economic Class (NS-SEC), suggests a gradient of higher migration for those with less manual and more professional occupations (Table 19). The exception to this gradient is the lower migration of employers and own-account workers, already observed in the analysis of economic activity. These relationships are generally the same for each ethnic group, although sometimes the population size of a group in a particular class may be too small to provide reliable estimates of migration.

Table 18: Migration rates by ethnic group and economic activity, Great Britain, 2000-2001

	Retired	Self-employed	Employed PT	Other	Looking after home/family	Employed FT	Unemployed	Student	*Total*
Irish	3.7	10.2	8.9	*9.2*	10.4	14.3	17.8	34.8	11.3
White Briton	3.8	8.8	9.4	*11.2*	12.0	13.7	19.1	27.0	11.7
Indian	3.6	7.2	10.5	*8.8*	11.7	12.7	14.1	20.7	11.7
Caribbean	4.8	9.3	12.3	*15.3*	11.4	*11.8*	14.7	15.6	11.8
Pakistani	6.5	9.3	11.5	*12.6*	10.3	15.7	13.2	12.1	12.2
Bangladeshi	3.8	14.0	12.7	*11.2*	12.5	15.4	11.3	12.6	12.4
Other Black	5.4	14.5	*13.1*	*16.2*	18.5	14.2	13.7	16.9	14.5
Other Asian	7.1	9.4	16.7	*19.6*	12.3	17.6	21.0	22.4	16.8
Chinese	3.8	9.0	16.3	*15.1*	11.7	18.0	22.9	33.4	19.0
Other White	3.8	14.1	16.3	*17.4*	15.3	22.0	21.1	31.3	19.3
Other	5.6	11.9	16.4	*19.4*	14.3	18.2	25.1	29.1	19.3
Mixed	4.7	15.6	16.9	*19.8*	20.0	20.2	21.4	23.8	19.5
African	8.7	13.3	21.1	*20.7*	19.9	18.3	24.3	24.0	20.0
Total	*3.8*	*9.1*	*9.9*	*11.7*	*12.2*	*14.1*	*18.9*	*26.3*	12.1

Note: Data from Great Britain individual census SAR 2001, all residents. Rates in italics are based on populations less than 100.

Table 19: Migration rates by ethnic group and NS-SEC, Great Britain, 2000-2001

	Not Known	Own Account Workers	Employers	Lower Technical	Routine	Semi Routine	Lower Supervisory	Higher supervisory	Intermediate Occupations	Lower Professional and Managerial	Never Worked and Long Term Unemployed	Higher Professional and Managerial	Students	*Total*
Irish	4.9	9.6	7.9	11.3	8.2	8.1	9.1	10.8	11.3	13.8	12.4	16.4	35.1	*10.7*
White Briton	5.2	8.5	9.4	9.4	10.6	10.9	11.1	11.3	12.6	13	14.1	14.2	24.7	*11*
Indian	4.6	5	7.9	5.4	7.3	9.1	8.6	9.7	10.7	13.1	10.4	18.3	20.3	*11.5*
Caribbean	7.8	10.4	13.1	13.7	11.4	11.2	12.1	10.7	11.8	11	13	15.2	17.3	*11.7*
Pakistani	8.1	10.5	9.5	9.5	13	15.3	12.7	12.8	16.1	14.5	9.6	18.8	12.7	*12.1*
Bangladeshi	6.9	17.6	11	13	15.7	13.4	15.7	13.7	14.6	13.9	10.8	18.4	12	*12.4*
Other Black	12	16.2	22.5	17.4	15.9	15	13.2	11.5	14.4	13.2	18.8	11.6	13.9	*14.5*
Other Asian	8.5	14.2	10.5	16.1	16.3	18	19.2	19.9	13.6	13.1	20.2	15.6	24	*16.6*
Other White	5.9	13.8	12	15.4	16.4	19.7	19.3	17.8	20.4	18.6	18.6	20.6	31.9	*18.5*
Chinese	8.3	12	8.6	13.3	12.4	12.9	10.6	13.9	14.6	16.2	14.3	20	32.6	*18.9*
Mixed	8	15.3	14	10	18.7	17.7	15.7	17.9	21.9	20.3	20.8	21.9	23.7	*19.1*
Other	11.9	12.2	15.7	20	14	16	14.2	21.2	16.4	18.3	19.1	18.9	28.8	*19.3*
African	9.7	13.6	18.3	25.7	17.1	18.4	14.4	21.7	18	17.7	24.8	18.1	25.1	*19.9*
Total	*5.2*	*8.7*	*9.5*	*9.6*	*10.8*	*11.2*	*11.3*	*11.6*	*12.9*	*13.3*	*14.3*	*14.9*	*24.6*	*11.5*

Note: Data from Great Britain individual census SAR 2001, all residents.

4. Assessment of ethnic group migration differences using multiple regression techniques

The previous section has shown associations with migration that tend to hold for all ethnic groups: higher migration is to be expected among men, those in rented accommodation, those with higher qualifications, young adults living alone or with one other, those without a limiting long-term illness, students, the unemployed and those with more professional occupations. Associations with limiting long-term illness and country of birth are thought to be largely a result of migration's strong association with age which was shown earlier for each ethnic group.

In this section, regression analyses are used to assess whether ethnic groups differ in their migration rate even for people who have the same individual characteristics. As a result the different migration rates of ethnic groups noted in Section 3.1 may be partially or wholly explained by the composition of each ethnic group. Remaining differences may be related to other determinants of migration not included in the analysis, or due to one or other determinant acting to affect migration in a different way for one or other ethnic groups.

The section examines two of the migration outcomes discussed earlier, probability of migrating and distance migrated. Variation in probability of migrating is examined using logistic regression, and distance migrated using linear regression. Both analyses are based on the 2001 Census Sample of Anonymised Records for Great Britain and limited to those aged 16-74 for whom information about employment status and qualifications is available.

4.1 Probability of internal migration

The likelihood of a resident migrating within the UK in the year before the 2001 Census is modelled using the 'odds' of migrating in a logistic regression (Table 20). Three models are

presented: model 1 predicts the odds of migrating using only ethnic group categories; model 2 includes ethnic group and age; model 3 includes ethnic group and six other variables: age, economic activity, qualifications, tenure, limiting long term illness and household composition. These are variables for which ethnic groups may have different compositions and which were seen in section 3.3 to affect migration in the same way for each ethnic group.

Although restricted to adults aged 16-74, Model 1 reflects the different rates of migration found earlier for ethnic groups: least for Irish and then White Briton, a little more than White Briton but not statistically significantly so for the Indian, Caribbean, Pakistani and Bangladeshi groups, and clearly higher and statistically significantly so for the Other Asian, Mixed, Chinese, African, White Other and Other groups.

Model 2 confirms that those most likely to have migrated in the year prior to the Census are aged 20-24. The coefficients for ethnic group categories are changed and in general reduced from those for Model 1 (the exception being the White Irish category) and more of the ethnic groups have a significant statistically different probability of migrating than White Britons (Other Black having the only coefficient that is not significant). When age is taken into account, White Other, Mixed, Other Asian, African, Chinese and Other still have a higher probability of migrating than White Britons, though to a lesser extent than in Model 1. Indian, Pakistani, Bangladeshi and Caribbean groups now have significantly lower odds of moving than the White Briton population, all of which had no statistically significant differences from White Britons in Model 1. The White Irish group has a significantly higher likelihood of migrating than White Briton group when age is considered, compared to a significantly lower likelihood without age.

These results re-assert the findings of age standardised migration rates in section 3.1: ethnic groups other than Irish, and particularly the Asian groups, have high crude migration rates

because of their young populations; Irish have low crude migration rates in comparison to White Briton because of their ageing population. The log-likelihood value for model 2 (given at the bottom of Table 20) has decreased substantially from Model 1 telling us that the inclusion of age achieves a better fit of the model to the data.

Model 3 includes further socio-economic variables. The high crude migration rates for Indian, Pakistani, Bangladeshi, Caribbean and also Other Black groups are confirmed as being a result of the varying composition of each group with respect to determinants of migration which act similarly for each ethnic group. Those most likely to migrate were aged 20-24, unemployed, students, those with qualifications above A level, those in private rented accommodation, those without a limiting long term illness and adults under 30 living alone or with one other adult. When these factors are taken into account, the White Irish group reverts to a migration propensity that is also significantly lower than that of the White Briton group. Only the White Other group now has a greater likelihood of migrating than the White Briton group. Mixed, Other Asian, African, Chinese and Other groups do not have a significantly different migration rate from the White Briton group when group composition is accounted for: while the odds of migrating are two times higher for an average person in the African and Chinese groups compared to White Britons, they are no different when people of the same age, sex, tenure and other characteristics are compared.

The R-squared and log-likelihood values for the three models (Table 20) show that Model 3 achieves the best fit. However, approximately half of the increase in R-squared values is achieved by Model 2: age composition explains roughly half of the differences in crude migration rates between ethnic groups. When other dimensions of socio-economic composition are taken into account, differences between ethnic groups are less, and less significant.

It is possible to identify the characteristics of ethnic group socio-economic composition that account for the differences between odds of migrating in models 2 and 3. For example, household composition explains the increase in odds between the two models for the Pakistani and Bangladeshi groups. When household composition is not included (Model 2) odds of migrating for these two groups are low; when household composition is considered equal (Model 3) odds of migrating are higher indicating that Pakistani and Bangladeshi groups have a smaller proportion than average of their population with household compositions most likely to migrate. This is confirmed through a crosstabulation using the SAR. On average 4.7% of the population lives in the most mobile household type, those with one or two adults under 30. For Pakistani and Bangladeshi groups the figures are lowest, at 2.9% and 2.6% respectively. Correspondingly, these groups have above average proportion of their population (45%) living in households with dependent children (74% for Pakistani, 79% for Bangladeshi).

The decrease in odds ratios of Chinese, African, White Other and Other groups by around 0.5 between models 2 and 3 is explained by their tenure and household compositions. These ethnic groups have a higher proportion of their populations than average in tenure with high mobility (22% or more in private renting compared to an average of 11%) and in young adult households (7% or more of the population compared to the average of under 5%).

Table 20: Logistic regression of the likelihood of migrating within Great Britain 2000-2001, predicted by residents' characteristics

		Model 1		Model 2		Model 3	
		Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.
Constant		*0.134*	*0.000*	*0.344*	*0.000*	*0.113*	*0.000*
Ethnic Group	White Briton	1.000	(ref)	1.000	(ref)	1.000	(ref)
	Irish	0.929	0.004	1.179	0.000	0.937	0.024
	White Other	2.054	0.000	1.753	0.000	1.061	0.001
	Mixed	1.849	0.000	1.251	0.000	1.026	0.393
	Indian	1.007	0.727	0.805	0.000	0.814	0.000
	Pakistani	1.047	0.082	0.695	0.000	0.871	0.000
	Bangladeshi	1.059	0.177	0.661	0.000	0.771	0.000
	Other Asian	1.564	0.000	1.293	0.000	1.024	0.571
	Caribbean	1.008	0.770	0.941	0.031	0.852	0.000
	African	1.974	0.000	1.474	0.000	0.966	0.235
	Other Black	1.293	0.000	0.895	0.115	0.816	0.006
	Chinese	1.935	0.000	1.441	0.000	0.980	0.631
	Other	2.076	0.000	1.687	0.000	1.016	0.711
Age	16-19			0.558	0.000	0.768	0.000
	20-24			1.490	0.000	1.452	0.000
	25-29			1.000	(ref)	1.000	(ref)
	30-44			0.407	0.000	0.761	0.000
	45+			0.142	0.000	0.278	0.000
Economic Activity	Employed full time					1.000	(ref)
	Employed part time					0.862	0.000
	Self employed					0.948	0.000
	Unemployed					1.197	0.000
	Student					1.128	0.000
	Other inactive					1.075	0.000
Qualifications	No qualifications					0.843	0.000
	Qualification below A level					1.000	(ref)
	Qualification to A level					1.314	0.000
	Qualification above A level					1.380	0.000
	Other or unknown qualification					0.994	0.699
Tenure	Own outright					0.800	0.000
	Own with mortgage or loan					1.000	(ref)
	Part rent-part mortgage					1.408	0.000
	Social renting					1.515	0.000
	Private renting or rent free					4.473	0.000
Limiting Long Term Illness	With Limiting Long Term Illness					0.914	0.000
	Without LLTI					1.000	(ref)
Household Composition	One or two adults under 30					2.601	0.000
	HH with dependent children					1.000	(ref)
	Other household composition					1.402	0.000
Log Likelihood		840476.03		762932.97		677551.62	
R square		0.007		0.132		0.213	

Note: All residents aged 16-74. Individual SAR for Great Britain 2001, N = 1,141,353. Coefficients in bold are different from the reference category, with statistical significance at 0.05 level or greater. R squares are Nagelkerke values.

4.2 Distance of migration

This section further analyses the distance moved by migrants, which was found in Section 3.2 above to be greater for White Britons than for others. Here distance has been taken as a continuous variable and linear regression used. As described in 3.2, the published categories of distance have been allocated a representative distance. The open-ended longest distance, "200km+", has been allocated a distance of 350km (if a shorter but also plausible distance of 250km is used, the findings are not changed). Table 21 presents two models, the first with only ethnic group as predictor variables, and the second including other variables that are associated with distance of migration.

Model 1 shows that the mean distance moved by White Britons was 43.3km, and was not significantly different from this for six groups. However, for White Other, Pakistani, Bangladeshi, Caribbean, African and Other Black groups the distance moved was significantly different from and in every case less than the distance moved by White Britons, by up to 21km.

Model 2 includes six variables that are most highly correlated with the distance moved, which are somewhat different from those correlated to the likelihood of moving examined above: those who move further tend to be males, those aged 16-24, those retired, those with A levels or a degree qualification, those who own their own house outright, and those who do not have a dependent child. Thus for example, earlier results showed that those who are retired are less likely to migrate, but retired people's moves tend to be further than moves made earlier in life.

Table 21: Regression analysis of distance of move of migrants, Great Britain 2000-2001, predicted by their characteristics

		Model 1		Model 2	
		Coefficient	Sig.	Coefficient	Sig.
Constant		43.346	.000	26.544	.000
Ethnic Group	White Briton	1.000	(ref)	1.000	(ref)
	Irish	-4.441	.054	-6.886	.013
	White Other	-8.139	.000	-17.004	.000
	Mixed	-3.252	.146	-7.920	.004
	Indian	2.907	.118	-7.388	.001
	Pakistani	-14.516	.000	-15.964	.000
	Bangladeshi	-17.735	.000	-16.234	.000
	Other Asian	-1.654	.612	-9.850	.014
	Caribbean	-20.991	.000	-14.686	.000
	African	-12.653	.000	-15.777	.000
	Other Black	-12.524	.045	-3.263	.646
	Chinese	2.229	.466	-10.260	.023
	Other	-1.461	.637	-14.665	.000
Sex	Male			1.000	(ref)
	Female			-3.144	.000
Age	Age 16-24			1.108	.131
	Age 25-59			1.000	(ref)
	Age 60-69			-5.757	.005
	Age 70+			-16.530	.000
Economic Activity	Self-employed with employees			-7.250	.000
	Other Employed			1.000	(ref)
	Unemployed			21.226	.000
	Retired			31.240	.000
	Student			5.340	.001
	Looking after home/family			12.935	.000
	Permanently sick or disabled			7.532	.000
	Other			11.228	.000
Qualifications	No qualifications			-6.776	.000
	Qualification below A level			1.000	(ref)
	Qualification to A level or equivalent or higher			22.014	.000
	Other or Unknown qualification			-1.529	.282
Tenure	Own outright			20.396	.000
	Own with mortgage			1.000	(ref)
	Part rent, part mortgage			-8.448	.018
	Social renting			-8.906	.000
	Private renting or rent free			16.869	.000
Dependent Children	Without dependent children			1.000	(ref)
	With dependent children			-6.191	.000
R square		0.002		0.55	

Note: All migrants aged 16-74. Individual SAR for Great Britain 2001, N = 1,141,353. Coefficients in bold are different from the reference category, with statistical significance at 0.05 level or greater.

The Model 2 coefficients for ethnic group are more significant than those in Model 1; only the Other Black group does not have a significant coefficient. When other individual and household characteristics are taken into account all ethnic groups move shorter distances on average, and the White Briton group has the highest average distance of move. The increase in ethnic group differences seen here suggests that distance of move is not explained well by the characteristics included in the analysis. Distance of move may be better explained by spatial measures such as connectivity and current location which are not available in the SAR, in particular the urban location which currently dominates among minority ethnic groups. A short move in an urban area may be as socially significant as a much longer one in a less densely populated area.

5. Conclusion

This paper has given an overview of internal migration in Britain for ethnic groups. The aim has been to see if the characteristics of migrants and the patterns of migration that are observed for the population as a whole also apply to each ethnic group. A review of data sources highlighted the richness of UK census data including the non-standard tabulations and samples of anonymised census records. Improved procedures in the 2001 Census impute missing migration and infant data and include student migration.

Our conclusion is that differences between ethnic groups' migration patterns can be largely explained by their current socio-demographic composition and urban location. The circumstances associated with a change of address, as well as the geographic patterns of counter-urbanisation and movement away from concentrations of minority ethnic residents, are common for each ethnic group identified by the Census. This story of similarity and integration contrasts with the sense of racial segregation and isolation evident in current political concerns.

This section summarises both the commonalities and the remaining differences between groups, discusses the reasons for them, and outlines avenues for further research.

When comparing crude internal migration rates – the overall proportion of each ethnic group who are migrants in the past year – the Chinese and Other groups have the highest migration rates, followed by Black, White and South Asian groups for both 1991 and 2001. Analysis using thirteen ethnic groups reveals further differences, particularly that the Black Caribbean group has a lower migration rate than other black groups and the Other Asian group has a higher migration rate than Indian, Pakistani and Bangladeshi groups. The Other White group also has a much higher migration rate than the White Briton and White Irish groups. Similar patterns can be seen in immigration rates, suggesting that a period of high mobility within Britain follows immigration.

However, the demographic and socio-economic characteristics of those who migrate internally are similar for each ethnic group. Higher migration is to be expected for all ethnic groups among those aged 20-29, those in rented accommodation, those with higher qualifications, those without a limiting long-term illness, students, the unemployed and those with more professional occupations.

Given the similarity in migrant characteristics across ethnic groups, the different crude migration rates could be explained by the demographic and socio-economic composition of each ethnic group. Age-standardisation and a logistic regression model including age revealed that White group migration rates are low because of a relatively old population, and rates for other groups, notably Pakistani and Bangladeshis, are high because of the young age structures of these groups.

A further logistic regression analysis comparing people of the same age, economic activity, qualifications, tenure, health and household composition showed the differences between groups to be much reduced. Odds ratios ranging between 0.9 and 2.1 relative to White Britons are reduced to a range of 0.8 to 1.0. Only the Other White group has significantly higher odds of migrating than White Britons when group composition is accounted for. Pakistani, Indian, Bangladeshi and Caribbean have smaller odds of migrating. Without consideration of population composition an average African or Chinese person is twice as likely to migrate as a White person, but when composition of the ethnic group is taken into account there are no significant differences.

The differences remaining when comparing people of similar socio-demographic characteristics include a noticeably lower rate of internal migration among the largest minority groups: Caribbean, Indian, Pakistani and Bangladeshi groups have 13-23% lower odds of migration than the White group. For each ethnic group, this may variously result from their mainly urban location, or from barriers within the housing market which may be discriminatory, or from household structures which retain children within their parental home for longer periods or in a more stable way.

While the socio-demographic composition of each ethnic group accounts for most of their different probabilities of internal movement, the same cannot be said for distance of move. Non-White groups moved less far than White groups even when people of similar characteristics are compared. Half or more of all moves within Britain from 2000 to 2001 were of less than 5km for each ethnic group and 70% of moves were of this distance for Pakistani and Bangladeshi groups. The mean distance moved shows Pakistani, Bangladeshi, African, Other Black and Caribbean groups to move short distances (less than 30km) on average and other groups to move further (means around 40km). Differences between ethnic groups remain when sex, age,

economic activity, qualifications, tenure and dependent children are taken into account in linear regression analysis. On average, the White Briton group moves furthest. Further work is needed to explain these differences, perhaps focusing on the population density of each group's current residence. A short move of say 2km in a dense urban area may have the same social meaning as a distance of 20km in a less urban area, each 'passing' perhaps the same number of people on the way.

Geographies of migration are common to all ethnic groups. Each group is experiencing counter-urbanisation, with a general migration cascade from London to other urban areas, from these to mixed areas, and from these to rural areas. The cascade is most disrupted for Chinese, Other and Indian groups who show migration away from rural districts for reasons that are not clear. We can hypothesise that this is a movement of children of entrepreneurs who located in rural areas, restaurateurs for example, or of overseas medical professionals who were recruited to hospitals in rural areas, migrating from the rural family home to urban areas elsewhere in Britain.

Net migration to the north of the UK from the south of England is evident for all groups with the exception again of Indian and Chinese. Migration of non-white groups taken as a whole has greatest negative impact on inner London and greatest positive impact on outer London. Migration of White groups has greatest negative impact on outer London and greatest positive impact on resort, port and retirement districts.

All ethnic groups have been found to be migrating away from areas of minority ethnic concentration. In percentage terms, most movement to areas of highest White concentration is of non-White groups. This finding is a challenge to theories of 'self-segregation' and 'White flight'. The movement seems to be better understood in terms of common aspirations to improve housing and environmental living conditions away from densely urban areas. This counter-

urbanisation takes the form of relatively short migrations of minority ethnic populations to suburbs and beyond, and more frequent longer migrations by individuals in the White population. These differences may be related to economic opportunity and to the extent of existing social and kinship networks.

In summary, there are a number of general determinants of an individual's likelihood to migrate, as there are common geographies of migration: counter-urbanisation, dispersal from areas of greatest co-ethnic concentration, higher rates of migration for young adults, unemployed, those not in families, rented tenure, and professional occupations. As ethnic group compositions change to become more equal in age structure, and in geographical location, a convergence of migration patterns can be expected. However, there remain some differences that warrant further investigation. Cultural influences on the life cycle with implications for household formation and migration patterns may explain the unusual migration age-profile for South Asian groups. Relationship to the housing market may vary between ethnic groups including barriers due to discrimination. Differences in distance of migration remain unexplained, and require a focus on social and cultural explanations, and characteristics of areas of in and out migration. Understanding of ethnic group population change would also benefit from further enquiries into the relationships between immigration and internal migration, and at scales smaller than the data used here allow.

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