

# Internal Migration and Ethnic Groups: Evidence for Britain from the 2001 Census

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## ABSTRACT

**Relatively little is known about the internal migration behaviour of different ethnic groups. This paper reviews existing evidence, and analyses 2001 Census data for Britain to provide an overview of patterns in the level of migration and the distance migrated, according to the characteristics of migrants and for diverse ethnic groups. Those who migrate in each ethnic group have similar characteristics, leading to the assertion that differences in levels of migration result mainly from differing socio-economic and age compositions of ethnic groups. This is confirmed through regression analysis. Differences in distance migrated, however, are not explained by the composition of ethnic groups, but may be explained by their primarily urban current areas of residence. Exceptions to the general patterns are highlighted as avenues for further investigation. Copyright © 2008 John Wiley & Sons, Ltd.**

*Received 10 May 2007; revised 29 October 2007; accepted 23 November 2007*

**Keywords:** internal migration; ethnic group; Census; Britain

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## 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. Research in this field diverges in its 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.*, 2008). 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).

There are two aspects to the changing geography of ethnicity which can gain from the study of migration. Do the characteristics of migration differ between groups – the rate at which migration occurs, the distance migrated, and the socio-demographic characteristics of migrants? This is the focus of the current paper. The geographical pattern of migration – the direction of movement in relation to types of area and in relation to other ethnic group concentrations – is a key question for debate on segregation and ghettos (Robinson, 1993; Peach, 1996a; Simpson, 2004; Rees and Butt, 2004; Johnston *et al.*, 2005) and is examined in a separate paper.

Despite the recognition from many disciplinary standpoints that migration is a major force in shaping patterns of residence (e.g. Champion,

1989; Castles and Miller, 2003; Rowland, 2003), 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 *et al.*, 2003), people from EU Accession countries (Stenning *et al.*, 2006) and children (Bushin, 2005). With an ethnic group dimension, Robinson (1992b) 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 Duke-Williams, 2005; Stillwell and Phillips, 2006). This paper fills a surprising gap in the research literature by reviewing and extending this evidence.

We take our cue from past reviews of migration without an ethnic group dimension by using standard indicators to measure levels of migration, distance of migration, and the characteristics of migrants. The methods used are established in migration analysis (Plane and Rogerson, 1994; Rowland, 2003; Siegel and Swanson, 2004) and draw on the recommendations of Bell *et al.* (2002) and Rees *et al.* (2000). We aim, through analysis of data from the 2001 Census, to provide a foundation for further investigations and to provide an alternative perspective on current debates about diversity and integration (for a representative sample of the debates, see Phillips T, 2005; Phillips D, 2006; DCLG, 2007).

Many characteristics of migration behaviour might be expected to be the same for all ethnic groups. In particular, one can expect greater propensity to migrate at certain ages and life stages when households merge, divide, or grow in ways that demand different accommodation. For example, moves might be expected when taking a first job or starting higher education, when making or breaking a relationship, around the birth of a first child, and on retirement. Income is likely to enable longer moves, while recent immigration is likely to be followed by a period of mobility before a stable residence is found. However, even if the same determinants of migration are recognised for each ethnic group, variation in group migration rates will be observed because of *compositional* effects. Some characteristics associated with migration are found to different degrees in each ethnic group

– for example, most minority ethnic groups are younger than average, with lower average income and with a relatively high proportion of recent immigrants.

There may additionally be some determinants of migration that do differ between ethnic groups. It has been suggested that migration patterns could be the result of negative forces of racism and discrimination (distinguished as ‘bad’ segregation by Peach, 1996b), limiting migration to safe areas or forcing moves out of other areas. There may also be cultural explanations for internal migration patterns that differ between ethnic groups. Some policy reviews identify conservatism and lack of willingness to integrate on the part of some groups, particularly Muslims (Phillips, 2005; DCLG, 2007). Such attitudes might also be expected to restrict the migration of the groups affected. A key feature of this paper is to measure the differences between groups that remain after taking into account their varying composition with respect to common determinants of migration.

This paper first reviews the availability and quality of data in the UK to investigate comparatively the internal migration of each ethnic group. It then investigates three themes of migration and ethnic groups using data from the 2001 Census. Firstly, the overall level of migration is assessed together with its strong relationship with age, which explains some but not all of the different group migration rates. Secondly, the distance of migration is investigated. Thirdly, determinants of migration are sought among individual characteristics and the extent of their common impact on each ethnic group is assessed. Finally, we synthesise 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 the varying composition of ethnic groups, in relation to common determinants of migration.

## MEASURING MIGRATION AND ETHNIC GROUP

Bell *et al.* (2002) provided a useful discussion of measurement of internal migration, and identified four groups of problems. First is the issue of how migration is measured, in particular the distinction between transition data (which compare place of current residence with place of residence

at a defined time in the past, and which the census provides for the analyses of this paper) and event data (which record every migration event). Secondly, there are issues concerning the timing, frequency and time interval for which migration data are collected. Migration data collected in times of economic depression in the UK have been found to underestimate movement for times of prosperity (Stillwell *et al.*, 1992). In this paper we rely on an assumption that differences between ethnic groups are likely to change over time less than the overall level of migration, and validate this assumption by comparisons between 1991 and 2001 censuses. Third is the issue of the quality of migration data, discussed in more detail below in relation to UK Census data. The fourth issue raised by Bell *et al.* is the division of space and the measurement of distance when measuring internal migration. The scale of the areas used and the position of their boundaries have implications for findings about population movement, as we shall discuss below for movement between districts.

In this paper the methods used to measure ethnic group must also be considered. 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 *et al.*, 2002; Office for National Statistics, 2003). 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 (Coleman and Salt, 1996; Aspinall, 2000). 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. The conceptual ambiguity involved when recording ethnic group allows for a range of speculative interpretations of analytical results. We do not take ethnic group to be a determinant of

behaviour, but an approximate indicator of beliefs and cultural practices which may plausibly but tentatively be associated with patterns of migration. We use 'White Briton' to refer to the census category labelled 'White British' to imply origin rather than nationality, which was not part of the question asked.

Several large-scale social surveys in the UK include questions on dimensions of ethnicity (Afkhani, 2006). Of these, only a few also contain measures of internal migration, which were reviewed by Scott and Vickers (2002). The potential sources are the decennial population census, the Labour Force Survey, the Pupil Level Annual Schools Census (PLASC), the General Household Survey, and the British Household Panel Study (for international migration, the sources are still fewer; see Salt, 2002; Kalogirou, 2005).

As Scott and Vickers (2002) explained, the census is the only data source that can provide sufficiently precise information on internal migration and ethnic group, particularly for investigations of subregional areas and characteristics of migrants. In surveys such as the General Household Survey, the British Household Panel Study, and the Labour Force Survey, which has a larger sample size (0.3% of the population), the numbers of migrants in each ethnic group are too small to be reliable for measurement of internal migration (Scott and Vickers, 2002). The new combined Annual Population Survey still has as few as 450 economically active sample members in local authority areas, totalled across all ethnic groups (ESDS, 2007).

Ethnic group and migration have been simultaneously measured in the censuses of 1991 and 2001 in Britain, and are likely to remain in similar form in the 2011 Census. The Census provides transition data, measuring migration since one year prior to the Census day, for the population resident in the UK on that day. A guide to 2001 Census data-sets that include ethnic group and migration is given in MRPD (2007). Northern Ireland (which with Britain makes up the UK) did not ask an ethnic group question in 1991, and used categories in 2001 not easily compatible with the rest of the UK. The data and analyses in this paper refer to Britain, although the data-sets in some cases are available for the whole of the UK.

The definition and quality of the UK census migration data-sets are important to bear in

mind, particularly when making comparisons 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 addresses, and migration between Northern Ireland and 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 or a change in tenure, but this will not be evident from the census data as currently collected.

Like all other 2001 Census outputs, migration tabulations are subject to removal of all values of 1 or 2 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). Unless specified otherwise, all analyses of the 2001 Census in this paper include migrants of all ages including 0, as infants are allocated the migration status of their next of kin in 2001 Census outputs. Except where a source is given, the tables in this paper use the 2001 Census

Sample of Anonymised Records (SAR) for the whole of 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 (except where the required data are unavailable for these migrants, such as distance of migration) but exclude migrants from outside Britain. Cases with imputed ethnic group have been excluded from SAR analyses, since missing minority ethnic values tend to be wrongly imputed (Simpson and Akinwale, 2007).

## INTERNAL MIGRATION AND ETHNIC GROUPS

### Level of Migration

It has consistently been found since the mid-1980s that there is variation between ethnic groups in the proportion of residents who have migrated during any period. Minority ethnic groups as a whole have higher migration rates than White, but Indian, Pakistani and Caribbean groups have lower migration rates (Owen and Green, 1992; Robinson, 1992b; Champion, 1996; Owen, 1997; Stillwell and Duke-Williams, 2005; Bailey and Livingstone, 2005).

Table 1 presents internal migration and immigration rates by ethnic group for 1990–1991 and

Table 1. Migration rates (%) by ethnic group, Britain, 2000–2001 and 1990–1991.

	Population 2001 and migration 2000–2001				Migration 1990–1991	
	All residents	% residents in ethnic group	% migrated within Britain <sup>a</sup>	% immigrants <sup>b</sup>	% migrated within Britain <sup>a</sup>	% immigrants <sup>b</sup>
Total	57,103,927	100.0	11.4	0.7	8.7	0.6
White: all	52,481,200	91.9	11.2	0.5	8.6	0.5
Mixed: all	673,798	1.2	16.2	1.9	n/a	n/a
Indian	1,051,844	1.8	11.0	2.0	7.0	1.2
Pakistani	746,619	1.3	11.2	1.3	7.2	1.7
Bangladeshi	282,811	0.5	11.4	0.9	8.6	2.1
Chinese	243,258	0.4	17.8	6.0	12.1	5.3
Other Asian	247,470	0.4	16.0	3.8	11.3	9.4
Caribbean	565,621	1.0	10.8	0.8	7.1	0.6
African	484,783	0.8	18.8	3.6	14.1	7.5
Other Black	97,198	0.2	12.9	1.1	11.5	1.8
Other	229,325	0.4	18.4	11.8	11.9	4.1

Source: 2001 Census commissioned table M816g; Champion (1996: Table 4.2).

<sup>a</sup>Includes those with no usual address one year ago (2001); excludes those with previous address not stated (1991).

<sup>b</sup>Immigrants are to Britain, in 2001 from outside UK (excludes migrants from Northern Ireland) and in 1991 from outside Britain.

2000–2001. Remembering that the 2001 Census captured migrants more completely, the comparisons should be between groups in each year. Chinese, African and most of the residual groups have relatively high rates of internal migration in both years; between 12% and 19% of the population had moved during a one-year period compared with 9% to 11% overall. These are the same groups who tend to have higher proportions of immigrants too; in both 1991 and 2001, Chinese and African immigrants were a higher proportion of their group’s population than any other non-residual group. The residual groups – Other Asian and so on – by their nature, include recent streams of immigrants not included in the main categories of ethnic group.

There are clear differences between ethnic groups, which would not be apparent from the broader categories of Black or South Asian, contained in some of the standard output from the census migration tabulations, highlighting the importance of microdata and commissioned tables. For example, an overall migration rate for Black would hide the difference between the low Caribbean rate, the average Other Black rate, and the 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 groups, and high rates for Chinese and Other Asian.

The similarity in internal and international patterns suggests that immigration is followed by a

higher likelihood of relocation within Britain relatively soon after immigration. Later analyses of this section suggest that these group differences in migration rates are also associated with the groups’ varied age structure and social composition.

Table 2 shows the internal migration rate in broad age groups for each ethnic group. Figure 1

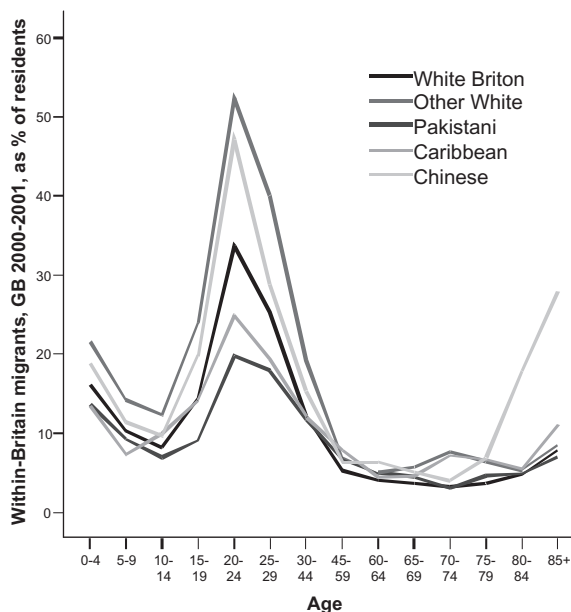


Figure 1. Proportion of migrants, Great Britain 2000–2001, in each age group by ethnic group.

Table 2. Within-Britain migrants as a percentage of residents by ethnic group and age, 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

shows the pattern for finer age groups and ethnic groups selected to show differences between the groups. It is clear that the overall age profile of migration is the same for each ethnic group, with more migration among young adults than among school-age children and the elderly. People aged 20–24 are most mobile in all cases. Some differences are worth noting: for Other White, Mixed, African and Chinese, around a third of people aged 20–29 had moved address within a single year, compared with 18% of Pakistani and Bangladeshi people and 22% of Indian people in the same age group. This may be partly explained by higher proportions of recent immigrants who then moved internally before finding a settled address. But variation in household formation may also explain lower South Asian migration, where young adults more often remain in the parental household before leaving 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.

The crude migration rates of Table 1 may be misleading because they are associated with the age structure of each population. For example, the crude migration rate will be raised for a group with relatively many of the most mobile age category 20–29. It is important to age-standardise migration rates, as Champion (1996: 145) suggested for internal migration between 1990 and 1991: ‘if [the minority ethnic] 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-standardised internal migration rates for 2000–2001 are displayed in Table 3. These are higher than the non-standardised rates for White Briton and Irish and lower for all other groups. Thus 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-standardised rates remain high. It is the purpose of the section below to explain

Table 3. 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

Note: Age-standardisation is direct using the all-group population as the reference.

further the different rates of migration using indicators of socio-economic as well as demographic composition.

### Distance of Migration

If ethnic groups exhibit different levels of migration within Britain, is the distance involved also different? In 1991 minority ethnic groups were found to migrate significantly shorter distances than Whites. Indeed, 55% of minority ethnic group migrants moved less than 5km compared with 47% of Whites; and only 7% moved 200km and over, compared with 13% of Whites. Chinese were most similar to Whites, and Black residents moved the shortest distance (Champion, 1996).

Analysis of the 2001 SAR confirms this pattern. Although White moves were more often short-distance than in 1991 (now 53% under 5km), moves of most other groups were still short moves (now 58% under 5km) (Table 4). For Pakistani and Bangladeshi residents, around 70% of moves were under 5km. Only the Chinese group had noticeably fewer short moves than the White population (45% under 5km). Conversely, only the Chinese had a relatively large proportion of long-distance moves of 200km or more (7%), with most other minority ethnic groups having a smaller proportion than the White group (6.4%).

Table 4. Percentage of each ethnic group moving each distance (km).

Ethnic group	Distance of move for internal migrants (%)					Mean distance migrated	Total migrants
	0–4 km	5–9 km	10–49 km	50–199 km	200+ km		
<i>All</i>	53.4	12.2	15.9	12.1	6.5	34.5	183,219
All minority ethnic	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

*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.

By imputing a representative distance for each category of distance moved, the estimated mean distance migrated has been added to Table 4. The representative distance is based on the whole distribution and reflects the skewed distribution of distances, so that, for example, the category 5–9 km (more specifically 5.0–9.9 km) is represented by 7 km. The mean distances reveal a contrast between the short moves (averaging less than 30 km) of Pakistani, Bangladeshi, African, Other Black and particularly Caribbean groups, and the longer moves (on average) of the White Briton, Indian, Other Asian, Other and particularly Chinese groups (each averaging more than 40 km). The Chinese group's average distance of migration at 46.7 km is twice that of Bangladeshi at 23.4 km and Caribbean migrants at 20.7 km.

Distance of move can alternatively be thought of in terms of whether administrative boundaries are crossed during migration. Since immigrants of the twentieth century generally first settled in the central urban areas of British cities where relatively cheap rented accommodation is often found, much of the short-distance migration of immigrants and their families is within towns, at least for a generation or two. Previous studies have found that minority ethnic groups move

across local authority boundaries less often 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 make the longer-distance moves between regions.

Table 5 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/minority ethnic division is not, however, evident in 2001. 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: a pattern of extremes which is similar to the mean distance migrated noted above. 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 the countries of the UK (3%).

The White groups migrate between a greater number of places than other ethnic groups

Table 5. Proportion of moves that are district, regional and national, 2000–2001.

Ethnic group	Move within district (%)	Move between districts within region (%)	Move between regions within England (%)	Move between countries within Britain (%)
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

Note: The table excludes those with 'no usual address' one year before the Census.

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 than 4.5% for all other ethnic groups. The greater distance of Chinese moves is also not surprising as the Chinese population is more dispersed than other minority ethnic 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 km may nonetheless mean moving past a population of hundreds of thousands of people into a very different neighbourhood. Table 6 shows the mean population density of the areas in which each group lives, which is least for White Britons. Minority ethnic groups live predominantly in urban Britain, with the African and Bangladeshi concentrations in central London showing very dense living.

### Characteristics of Migrants

In the account so far there has been evidence that the demographic and social composition of each group may give rise to variation in rates and distance of migration. We turn directly now to examine further characteristics of migrants that may be common for each ethnic group. This

Table 6. Mean density of area of residence.

Ethnic group	Mean density (persons per square km)
All people	52.2
White Briton	47.2
White Irish	70.3
Mixed	77.1
Chinese	77.2
Indian	78.4
White Other	80.8
Other Asian	87.8
Other	93.0
Pakistani	93.6
Caribbean	101.5
Other Black	107.9
African	130.5
Bangladeshi	147.9

Source: 2001 Census Key Statistics.

enables the selection of variables associated with migration which are, in the following section, assessed jointly.

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. 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 (Hamnett, 1991; Champion and Fielding, 1992; Halfacree *et al.*, 1992; Owen and Green, 1992; Leon and Strachan, 1993; 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. Stability while in school leads to 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).

Above we have shown that age is closely related to propensity to migrate for each ethnic group, but that young South Asian and Caribbean adults nonetheless have lower migration rates. Tables 7 to 14 give migration rates for each ethnic group according to sex, tenure, qualifications, household composition, health, whether an immigrant, economic activity and socio-economic class. For ease of interpretation Tables 7 to 14 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 7 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.

Table 7. Migration rates by ethnic group and sex, 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

Table 8. Migration rates by ethnic group and tenure, 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: Rates in italics are based on populations of less than 100.

Table 9. Migration rates by ethnic group and qualifications for (a) all people and (b) with students excluded, 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: All residents aged 16–74. The qualification labels apply to those in England and Wales and the equivalents in Scotland.

Housing tenure is more closely related to rates of migration (Table 8). Overall, accommodation that is privately rented is occupied by residents who are twice as likely to have migrated in the past year as the average resident. Those in homes that are owned outright are least likely to have migrated, with those in homes owned with a mortgage also less likely to have migrated, results that are likely to be related to later life stages as well as to commitment to a secure investment. There is little deviation from this pattern among the ethnic groups.

Greater qualifications are associated with higher likelihood of migrating (Table 9). 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 9b confirms this by showing a reduction in migration rates for those with A-level qualifications when students are excluded. Students moving *after* their study will also raise migration rates, this time mostly of graduates, but the data do not allow exploration of the impact. 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

Table 10. Migration rates by ethnic group and dependent children, Britain, 2000–2001.

	Other households	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

Table 11. Migration rates by ethnic group and limiting long-term illness (LLTI), 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

Table 12. Migration rates by ethnic group and country of birth, 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

Africans and Other Asians migrate as much as those with more qualifications.

Migration rates are also related to household composition, as shown in Table 10. 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. Migration rates for those with children are particularly low for Indian, Caribbean and Pakistani households. Other

households are those without children but which are not composed only of young adults. For the White Briton and White Irish groups the migration rate for these other households is also particularly low, which may be a result of a larger number of households with elderly residents.

Those with a limiting long-term illness (LLTI) are considerably less likely to have migrated in the year before the Census than those without: a difference of four percentage points overall. A reduction is consistent for each ethnic group, and is partly associated with the lower migration

Table 13. Migration rates by ethnic group and economic activity, Britain, 2000–2001.

	Retired	Self-employed	Employed part-time	Other inactive	Looking after home/family	Employed full-time	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: All residents aged 16–74. Rates in italics are based on populations of less than 100.

Table 14. Migration rates by ethnic group and NS-SEC, 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

rates among the elderly who are most associated with limiting long-term illness. The reduction in migration rates for those with an LLTI compared with others is particularly noticeable for the Other White group (9.2% lower migration rate than those not ill) and least for the Caribbean group (1.4% lower than those not ill), for reasons that are not immediately clear (Table 11).

It is usually the case that those born in the UK have a lower rate of migration than those born overseas (Table 12). 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. In contrast, the Indian, Irish and Caribbean groups 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 the majority of immigrants entered the country in the 1950s and 1960s and are now in retirement, therefore less likely to migrate within Britain.

In relation to economic activity, migration rates are particularly high for students, as would be expected for those who 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 13). 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 students studying while remaining at home, for a variety of reasons: to conserve family resources, to maintain women's role within the home, or because large universities are more often located close to their parental residence. The same two groups have higher migration for the employed rather than the unemployed – the opposite relationship 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 14). 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.

#### 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 partly a result of migration's strong association with age which was shown earlier for each ethnic group.

Could the different migration rates and distances migrated noted in previous sections be partially or wholly explained by the composition of each ethnic group? In this section, regression analyses are used to answer this question. Regression analyses take into account the composition of each group by showing the migration rates expected from the common determinants of migration entered into the analysis, such as age structure, and the remaining differences between ethnic groups. Where the remaining differences between groups are small, the differences in migration behaviour found earlier in this paper are more apparent than real, for they do not indicate differences in behaviour, only differences in group characteristics. To the extent that there are significant remaining migration differences between ethnic groups after the regression analysis, these are not explained by the groups' composition in relation to the determinants of migration included in the analysis. These remaining differences may be related to other common determinants of migration not included in the analysis, or due to one or more of the measured determinants acting to affect migration in a

different way for each ethnic group. Thus regression analysis helps to narrow the field of possible causes for the migration differences found earlier in the paper.

The two migration outcomes discussed earlier, probability of migrating and distance migrated, are examined. 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 Britain and limited to those aged 16–74 for whom information about employment status and qualifications is available. An important technical point of the analysis is that we do not include interactions between the possible determinants of migration and ethnic group, because we wish to see whether determinants of migration that are *common* to all ethnic groups can explain the overall differences in rate and mean distance migrated.

### Probability of Internal Migration

The likelihood of a resident migrating within Britain in the year before the 2001 Census is modelled using the 'odds' of migrating in a logistic regression (Table 15). Three models are presented: model 1 predicts the odds of migrating using only ethnic group categories; model 2 includes ethnic group and age; and model 3 includes five further variables – economic activity, qualifications, tenure, limiting long-term illness and household composition. These are variables for which ethnic groups have different compositions and which were seen above to affect migration in a similar way for each ethnic group.

Although restricted to adults aged 16–74, Model 1 repeats the different rates of migration found earlier for all ages: least migration 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, Other White and Other groups.

Model 2 confirms that those most likely to have migrated in the year prior to the Census are aged 20–24 at the Census. 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 significantly different

probability of migrating than White Britons (Other Black having the only coefficient that is not significant). When age is taken into account, Other White, Mixed, Other Asian, African, Chinese and Other still have a higher probability of migrating than White Britons, although 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 the White Briton group when age is considered, compared with a significantly lower likelihood without age.

These results re-assert that each group's age structure affects its migration rate, as indicated earlier with age-standardised migration rates. 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 with White Briton because of their ageing population. The log-likelihood value for Model 2 (given at the bottom of Table 15) has decreased substantially from Model 1, telling us that the inclusion of age achieves a model which better fits the data.

Model 3 further confirms that the high crude migration rates for Indian, Pakistani, Bangladeshi, Caribbean and also Other Black groups are entirely a result of the 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-levels, 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 Other White 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. For example: while the crude odds (Model 1) of migrating are two times higher for an average person in the African

Table 15. Logistic regression of the likelihood of migrating within Britain 2000–2001, predicted by residents' characteristics.

		Model 1		Model 2		Model 3	
		Odds ratio	<i>P</i>	Odds ratio	<i>P</i>	Odds ratio	<i>P</i>
Constant		<b>0.134</b>	<b>0.000</b>	<b>0.344</b>	<b>0.000</b>	<b>0.113</b>	<b>0.000</b>
Ethnic group	White Briton	<b>1.000</b>	(ref)	<b>1.000</b>	(ref)	<b>1.000</b>	(ref)
	Irish	<b>0.929</b>	<b>0.004</b>	<b>1.179</b>	<b>0.000</b>	<b>0.937</b>	<b>0.024</b>
	White Other	<b>2.054</b>	<b>0.000</b>	<b>1.753</b>	<b>0.000</b>	<b>1.061</b>	<b>0.001</b>
	Mixed	<b>1.849</b>	<b>0.000</b>	<b>1.251</b>	<b>0.000</b>	1.026	0.393
	Indian	1.007	0.727	<b>0.805</b>	<b>0.000</b>	<b>0.814</b>	<b>0.000</b>
	Pakistani	1.047	0.082	<b>0.695</b>	<b>0.000</b>	<b>0.871</b>	<b>0.000</b>
	Bangladeshi	1.059	0.177	<b>0.661</b>	<b>0.000</b>	<b>0.771</b>	<b>0.000</b>
	Other Asian	<b>1.564</b>	<b>0.000</b>	<b>1.293</b>	<b>0.000</b>	1.024	0.571
	Caribbean	1.008	0.770	<b>0.941</b>	<b>0.031</b>	<b>0.852</b>	<b>0.000</b>
	African	<b>1.974</b>	<b>0.000</b>	<b>1.474</b>	<b>0.000</b>	0.966	0.235
	Other Black	<b>1.293</b>	<b>0.000</b>	0.895	0.115	<b>0.816</b>	<b>0.006</b>
	Chinese	<b>1.935</b>	<b>0.000</b>	<b>1.441</b>	<b>0.000</b>	0.980	0.631
Other	<b>2.076</b>	<b>0.000</b>	<b>1.687</b>	<b>0.000</b>	1.016	0.711	
Age	16–19			<b>0.558</b>	<b>0.000</b>	<b>0.768</b>	<b>0.000</b>
	20–24			<b>1.490</b>	<b>0.000</b>	<b>1.452</b>	<b>0.000</b>
	25–29			<b>1.000</b>	(ref)	<b>1.000</b>	(ref)
	30–44			<b>0.407</b>	<b>0.000</b>	<b>0.761</b>	<b>0.000</b>
	45+			<b>0.142</b>	<b>0.000</b>	<b>0.278</b>	<b>0.000</b>
Economic activity	Employed full-time					<b>1.000</b>	(ref)
	Employed part-time					<b>0.862</b>	<b>0.000</b>
	Self-employed					<b>0.948</b>	<b>0.000</b>
	Unemployed					<b>1.197</b>	<b>0.000</b>
	Student					<b>1.128</b>	<b>0.000</b>
	Other inactive					<b>1.075</b>	<b>0.000</b>
Qualifications	No qualifications					<b>0.843</b>	<b>0.000</b>
	Qualification below A-level					<b>1.000</b>	(ref)
	Qualification to A-level					<b>1.314</b>	<b>0.000</b>
	Qualification above A-level					<b>1.380</b>	<b>0.000</b>
	Other or unknown qualification					0.994	0.699
Tenure	Own outright					<b>0.800</b>	<b>0.000</b>
	Own with mortgage or loan					<b>1.000</b>	(ref)
	Part rent-part mortgage					<b>1.408</b>	<b>0.000</b>
	Social renting					<b>1.515</b>	<b>0.000</b>
	Private renting or rent free					<b>4.473</b>	<b>0.000</b>
Limiting long-term illness	With limiting long-term illness					<b>0.914</b>	<b>0.000</b>
	Without LLTI					<b>1.000</b>	(ref)
Household composition	One or two adults under 30					<b>2.601</b>	<b>0.000</b>
	HH with dependent children					<b>1.000</b>	(ref)
	Other household composition					<b>1.402</b>	<b>0.000</b>
Log likelihood		840476		762933		677552	
R <sup>2</sup>		0.007		0.132		0.213	

Note: All residents aged 16–74. Individual SAR for Britain 2001,  $n = 1,141,353$ . Coefficients in bold are different from the reference category, with statistical significance at least at the 0.05 level. R<sup>2</sup> are Nagelkerke values.

and Chinese groups compared with White Britons, they are no different when people of the same age, sex, tenure and other characteristics are compared (Model 3).

The  $R^2$  and log-likelihood values for the three models (Table 15) show that Model 3 achieves the best fit, as would be expected since it contains more explanatory information. However, approximately half of the increase in  $R^2$  values is achieved by Model 2: thus age composition explains roughly the same amount of the differences in crude migration rates between ethnic groups as do the five socio-economic variables together. However, when economic activity, qualifications, tenure, limiting long-term illness and household composition are taken into account, remaining differences between ethnic groups are smaller, 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, which have a smaller proportion than average of their population with household compositions most likely to migrate. While 4.7% of the whole 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 an 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, Other White 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 with an average of 11%) and in young adult households (7% or more of the population compared with the average of under 5%).

### Distance of Migration

This section further analyses the distance moved by migrants, which was found above to be greater for White Britons than for others. Here distance

has been converted to a continuous variable and the natural logarithm of the distance migrated has been modelled, to take some account of the skewed distribution of this variable. As described previously, the published categories of distance have been allocated a representative distance. The open-ended longest distance, '200km+', has been allocated a distance of 350 km (if a shorter but also plausible distance of 250 km is used, the findings are unchanged). Table 16 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. The variables are not the same as in the regression analysis of likelihood of migrating, as they have been chosen specifically because they showed the greatest association with distance of migration in tabulations not shown here.

Model 1 shows that the mean distance moved by White Britons was 5.7 km, and was not significantly different for four groups. However, for Irish, White Other, Pakistani, Bangladeshi, Caribbean, African, Other Black and Chinese groups the distance moved was significantly different from the distance moved by White Britons. With the exception of the Chinese group, the significantly different ethnic groups all migrated shorter distances than the White Briton group, ranging from 49% of the distance of White Britons for Bangladeshis, to 89% of the distance of White Britons for those in the White Other group.

Model 2 includes six variables that are most highly correlated with the distance moved: 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. 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.

The Model 2 coefficients for ethnic group are significant for eight ethnic groups, as in Model 1. However, it is now the Irish, Mixed, Other Black and Chinese groups that do not move a significantly different distance from White Britons. When other individual and household characteristics are taken into account, no group has a higher average distance moved than the White Briton group; the Chinese group's higher crude

Table 16. Regression of distance of move of migrants, Britain 2000–2001, predicted by their characteristics.

		Model 1		Model 2	
		Exp. coefficient	P	Exp. coefficient	P
Constant		<b>5.670</b>	<b>0.000</b>	<b>4.464</b>	<b>0.000</b>
Ethnic group	White Briton	<b>1.000</b>	(ref)	<b>1.000</b>	(ref)
	Irish	<b>0.882</b>	<b>0.015</b>	0.889	0.063
	White Other	<b>0.894</b>	<b>0.000</b>	<b>0.727</b>	<b>0.000</b>
	Mixed	0.979	0.680	0.899	0.089
	Indian	1.073	0.088	<b>0.810</b>	<b>0.000</b>
	Pakistani	<b>0.527</b>	<b>0.000</b>	<b>0.502</b>	<b>0.000</b>
	Bangladeshi	<b>0.490</b>	<b>0.000</b>	<b>0.589</b>	<b>0.000</b>
	Other Asian	0.906	0.179	<b>0.743</b>	<b>0.001</b>
	Caribbean	<b>0.656</b>	<b>0.000</b>	<b>0.760</b>	<b>0.000</b>
	African	<b>0.807</b>	<b>0.000</b>	<b>0.811</b>	<b>0.002</b>
	Other Black	<b>0.658</b>	<b>0.000</b>	0.874	0.405
	Chinese	<b>1.254</b>	<b>0.001</b>	1.067	0.532
	Other	0.959	0.549	<b>0.729</b>	<b>0.000</b>
Sex	Male			<b>1.000</b>	(ref)
	Female			<b>0.923</b>	<b>0.000</b>
Age	Age 16–24			0.978	0.188
	Age 25–59			<b>1.000</b>	(ref)
	Age 60–69			<b>0.896</b>	<b>0.018</b>
	Age 70+			<b>0.676</b>	<b>0.000</b>
Economic activity	Self-employed with employees			<b>0.877</b>	<b>0.001</b>
	Other employed			<b>1.000</b>	(ref)
	Unemployed			<b>1.556</b>	<b>0.000</b>
	Retired			<b>2.048</b>	<b>0.000</b>
	Student			<b>1.139</b>	<b>0.001</b>
	Looking after home/family			<b>1.351</b>	<b>0.000</b>
	Permanently sick or disabled			<b>1.092</b>	<b>0.025</b>
	Other			<b>1.261</b>	<b>0.000</b>
Qualifications	No qualifications			<b>0.789</b>	<b>0.000</b>
	Qualification below A-level			<b>1.000</b>	(ref)
	Qualification to A-level or equivalent or higher			<b>1.82</b>	<b>0.000</b>
	Other or unknown qualification			0.971	0.379
Tenure	Own outright			<b>1.597</b>	<b>0.000</b>
	Own with mortgage			<b>1.000</b>	(ref)
	Part rent, part mortgage			<b>0.763</b>	<b>0.001</b>
	Social renting			<b>0.639</b>	<b>0.000</b>
Dependent children	Private renting or rent free			<b>1.390</b>	<b>0.000</b>
	Without dependent children			<b>1.000</b>	(ref)
	With dependent children			<b>0.702</b>	<b>0.000</b>
R <sup>2</sup>		0.002		0.078	

Note: All migrants aged 16–74. Individual SAR for Britain 2001,  $n = 1,141,353$ . Coefficients in bold are different from the reference category, with statistical significance at least at the 0.05 level.

distance must therefore be due to its composition. Model 2 predicts that, on average, Pakistanis move the shortest distance, and 50% as far as White Britons. If a White Briton in the reference category (a middle-aged employed male with qualifications below A-level, with a mortgage but without dependent children) migrates 4.5 km therefore, the equivalent Pakistani migrates 2.25 km.

The persistence of 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, in particular the urban location which, as we saw earlier, 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. No indicator of location is available on the SAR to test the extent of this plausible explanation of the shorter mean distances migrated by minority ethnic groups within Britain.

## CONCLUSION

This paper has given an overview of internal migration in Britain for ethnic groups. The aim has been to see whether 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, including that of infants, and include student migration.

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

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 in both 1991 and 2001. Analysis using 13 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 Bangladeshi, 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 1.1. 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 groups 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 Briton, but when composition of the ethnic group is taken

into account there are no significant differences between the three groups.

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.

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. Minority ethnic 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 5 km 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 30 km) on average and other groups to move further (means around 40 km). Differences between ethnic groups remain when sex, age, economic activity, qualifications, tenure and dependent children are taken into account in 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 2 km in a dense urban area may have the same social meaning as a distance of 20 km in a less urban area, each 'passing' the same number of people on the way.

In summary, there are a number of general determinants of an individual's likelihood to migrate; parallel research has shown common geographies of migration: counter-urbanisation and dispersal from areas of greatest co-ethnic concentration. This paper has shown higher rates of migration for young adults, the unemployed, those not in families, those with 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 characteristics of areas of current residence as well as social and cultural explanations. 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 will allow.

#### ACKNOWLEDGEMENTS

This work was undertaken within the Race, Migration and Population Dynamics research programme funded by the Leverhulme Trust, ID 20050099. We are grateful to its Advisory Group, particularly Tony Champion, for comments on an early draft of this paper. All UK Census data are Crown Copyright.

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