

## DEMOGRAPHIC CHARACTERISTICS AND PROJECTIONS OF ETHNIC MINORITIES AND RELIGIOUS GROUPS

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Measuring the demographic characteristics of minority groups, their trends and differences is essential for informing projections of the whole population and its future composition, and is of interest to society and policy. This includes societal concerns about social cohesion, and is of practical value for planning and policy (e.g. family planning, schools, immigration, ageing population and workforce forecasts).

This project studied the ethnic and religious demographic diversity in the UK quantitatively by combining various available data sources and developed a refined methodology to enhance accuracy. The definition of ethnic and religious sub-populations was necessarily constrained by the available data and classifications. This project estimated the level and age pattern at childbearing of the various ethnic and religious (including non-religious) groups in the UK, their change over time and generations, contributing to the ongoing debate on the role of cultural and religious factors influencing fertility (e.g. McQuillan, 2004).

The aims of the project were (i) to update and improve time series of the demographic characteristics (notably fertility) of the ethnic minority populations of Britain prepared under an earlier study up to 2001, especially contrasting those born abroad with those born in the UK; (ii) to analyse the convergence (or otherwise) of minority fertility and its significance; (iii) to produce population projections to mid-century and beyond of the main ethnic minority groups; and (iv) to take advantage of the new data available on religious affiliation to produce for the first time fertility estimates of the various religious groups and those with no religion in the UK.

The main findings of this project include:

- Convergence of fertility between ethnic groups in the UK is ongoing.
- Children of immigrants are leading the inter-ethnic convergence, largely due to the lower fertility of the children of immigrants from high fertility countries (e.g. Pakistan, Bangladesh) whose proportion within their respective ethnic group is increasing.
- Fertility results underpin recent findings on educational attainment of the second generation in the UK.
- New population projections by ethnic groups under several scenarios reflect the striking increase of the ethnically mixed group in the UK, projected to become the largest ethnic minority group before the end of the century, ahead of the non-British White.
- In contrast to reports in the US and hitherto scarce evidence in Europe, women with no religion have just surpassed the Christian group in fertility over the recent years.

### Data and methods

Building on previous expertise, methodology has been refined and adapted for the purpose of this project. These include novel age-specific fertility rate (ASFR) and total fertility rate (TFR) calculations by ethnic groups using the detailed 2001 Census ethnic definition and, for the first time, fertility estimates by religious groups and estimates distinguishing between immigrant and UK-born generations of women.

The Labour Force Survey (LFS) data together with the Own Children Method (LFS-OCM) were used to produce fertility estimates from 1987 to 2006. The method uses survey information (including relationship variables) to link children to their mother and reverse survive children and women up to 14 years prior to the survey. The LFS-OCM was refined to minimise mismatching and to account for mortality to correct for otherwise slight underestimations. A detailed description and assessment of the applied LFS-OCM can be found in Dubuc (2009a). Although work intensive, the method permits from a single survey the



production of birth counts for 15 years and pooling data from several surveys drastically increases sample size allowing estimates by ethnic sub-groups to be obtained with good confidence, as shown in Dubuc and Haskey (2010). Combined with earlier estimates, the results provided long-term trends from the late 1960s to 2006 for the main ethnic categories (Coleman and Dubuc, 2010).

No data on mortality by ethnic and religious sub-populations are currently available. Producing mortality data was explored: data on immigrants in England and Wales were used to derive life tables for ethnic groups and showed modest mortality differentials. No ethnic-specific mortality corrections were used in the projection models.

Migration data were produced to project populations by ethnic groups. The census and LFS data on recent migrants, International Passenger Survey (IPS) and Office for National Statistics (ONS) migration data according to birthplace and other sources were used to produce estimates of net migration by ethnic groups up to 2006. A cohort-component projection method was used. Projections for each of the 12 ethnic groups were combined to give the aggregate UK totals. A 'standard' projection was based on similar assumptions on long-term overall total fertility, and net migration to those of the ONS Principal Projection. Variant projections adopted different assumptions (Coleman, forthcoming).

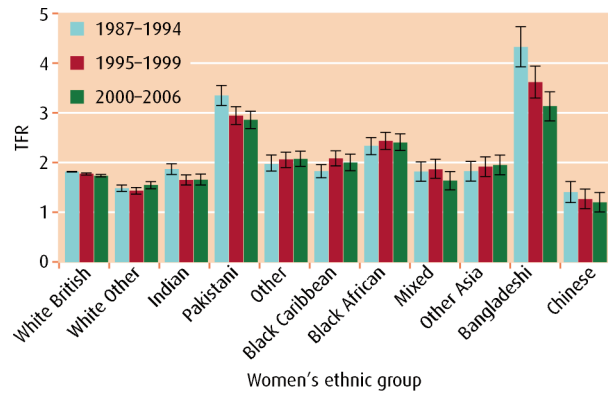
The refined LFS-OCM methodology (above) proved especially efficient in estimating fertility of mixed ethnic unions (Dubuc, 2009a). Additionally the method has been recognised to minimise the increasingly documented problem (e.g. Toulemon, 2004; Sobotka and Lutz, 2009) of over-estimation of immigrant fertility by more commonly used calculations of period TFRs (Dubuc, 2010a; 2010b).

### Fertility by ethnic groups

Long time-series fertility estimates from the late 1960s to 2006 have evidenced the general decreasing fertility of the main ethnic groups in the UK, including immigrants from high fertility sending countries (Coleman and Dubuc, 2010). An overall convergence in the TFR trends of the various ethnic groups (Figure 1, based on the detailed 2001 Census ethnic categorisation) over the period 1987-2006 was measured (Table 1). However, departures from the general trend were also identified and contrasting age patterns at childbearing remain (Dubuc and Haskey, 2010).

With a peak of childbearing in their late 20s, the childbearing age profile of Indian women is the closest to the White British women, albeit with less teenage births for the former (Figure 2). White Other women tend to have their children later than the other groups. In the case of the Caribbean women, young-age childbearing appears to combine with a relatively high ASFR for women in their 30s (close to the White Other) and may evidence the co-existence of two markedly different social sub-groups. Pakistani and Bangladeshi women show the youngest age profile at childbearing.

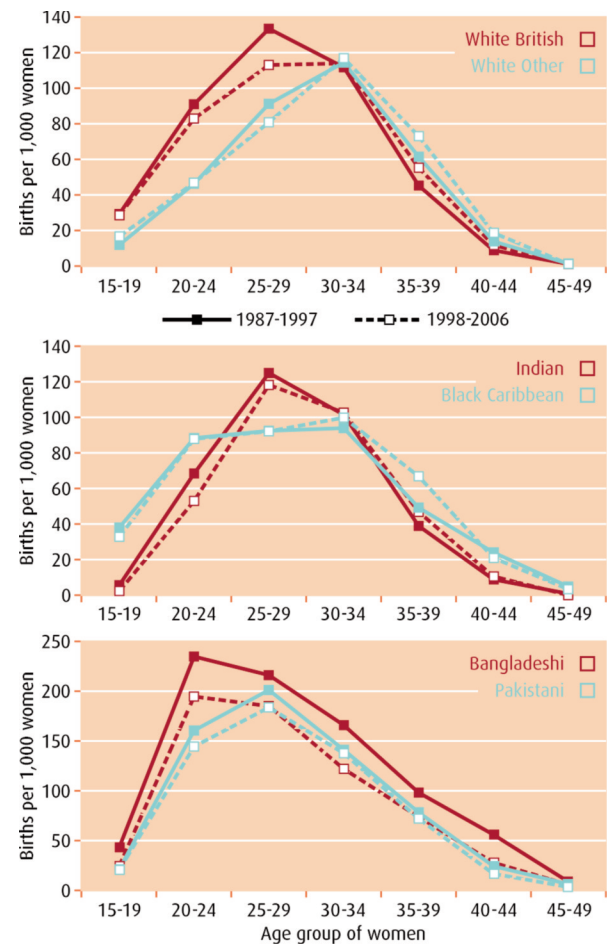
Signs of delayed childbearing are apparent for the White British, White Other and Indian women. The decrease in



**FIGURE 1. TREND IN TFR BY MAIN ETHNIC GROUP, 1987-2006**  
Source: Dubuc and Haskey (2010). Authors' estimates based on LFS data (2001-2006). \*95% confidence interval is shown.

Period	Mean	Standard deviation	Coefficient of variation	Sample size
1987-1994	2.12	0.753	0.355	1,023,267
1995-1999	2.09	0.575	0.276	889,623
2000-2006	2.00	0.487	0.243	763,295

**TABLE 1: DECREASING STANDARD DEVIATION OF TFR BY ETHNIC GROUP**  
Source: Dubuc and Haskey (2010)



**FIGURE 2. FIVE YEAR ASFRs OF WOMEN BY (SELECTED) ETHNIC GROUP, 1987-2006**  
Source: Dubuc (2009). Authors' estimates based on LFS data (2001-2006)



the TFR of Pakistani women mostly results from a decrease in ASFR for women in their 20s. It is due to a decrease in the fertility of women in all age groups for Bangladeshi women.

### Fertility of immigrant and UK-born women

The trend in the TFRs for all women, distinguishing those born in the UK and those born abroad (Figure 3) shows the contribution of immigrant women (i.e. foreign-born) to the TFR of the UK population. Immigrant women mainly belong to one or other of the different ethnic minorities (about 82% of foreign-born women aged 15-49 in 2002-2006 were not White British).

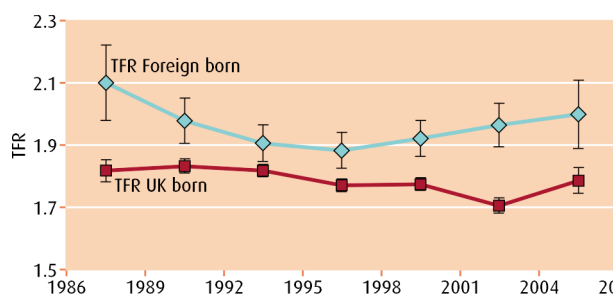


FIGURE 3. TREND IN TFR OF UK AND FOREIGN-BORN WOMEN IN THE UK, 1987-2006 Source: Dubuc and Haskey (2010). LFS data, third quarter 2000-2006.

The proportion of immigrants — defined as foreign-born — vary across ethnic groups (Figure 4) and has generally been increasing over time. In recent years, apart from the White British, Black Caribbean and women of Mixed origin — largely representing the first generation of the mixed ethnic origin group — were mostly born in the UK. For the latter group, it was especially true for the Mixed: White and Black Caribbean, and Mixed: White and Asian groups.

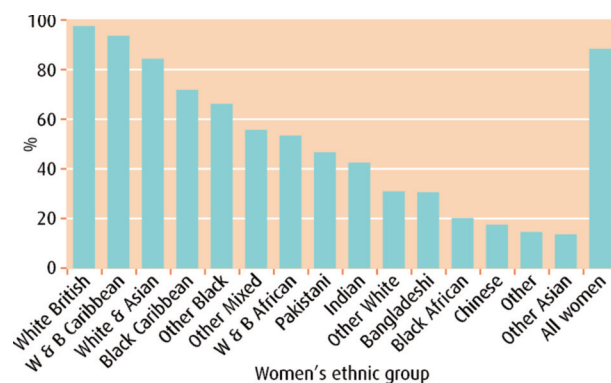


FIGURE 4. WOMEN AGED 15-49: PROPORTION OF UK-BORN BY ETHNICITY, 2002-2006 Source: LFS data, 3rd quarter 2002-2006.

Fertility estimates distinguishing UK-born and foreign-born women within ethnic groups were produced. Overall when comparing the TFR of immigrants and UK-born women, the differences in fertility between the various ethnic groups were less pronounced in the latter group. We measured a

much lower coefficient of variation of the TFR between ethnic groups for UK-born women than for foreign-born women. The results highlight the respective contribution of immigrants and native-born women in shaping the fertility of minorities and provided evidence that the overall convergence of ethnic groups in the UK is largely driven by the fertility behaviour of the children of immigrants. The fertility level and timing at childbearing of the latter tends to resemble that of the majority group (White British), compared with their contemporary immigrant peers. Additionally, results provided evidence for inter-generational adaptation of the minorities' fertility behaviour to the UK norm (UK average profile) (Dubuc, 2010b).

### Fertility and religion

Fertility estimates by religious affiliation were produced for the first time in the UK (Figure 5). Level of fertility and age pattern at childbearing measured over 1988 to 2006 were found to vary across groups. TFRs in descending order were: Muslim women, Jewish women, Christian and women with no religion, Sikh, Hindu, Other and Buddhist women.

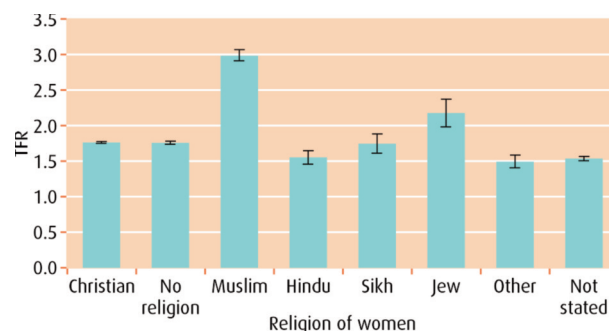


FIGURE 5. TFR BY MAIN RELIGIOUS GROUPS AND NON-RELIGIOUS GROUPS IN THE UK, 1988-2006\*

Source: Dubuc (2010a). Authors' estimates based on LFS data (2002-2006). \*95% confidence interval is shown.

The TFR was further estimated for two to three sub-periods (depending on sample sizes) to investigate trends. The increasing numerical and relative importance of Strictly Orthodox Jews is likely to contribute to the increase in TFRs of the Jewish group in recent years. In contrast to reports in the US and hitherto scarce evidence in Europe (e.g. Frejka and Westoff, 2006), overall fertility of women with no religion was close to those belonging to the Christian group, and the TFR of women with no religion has become slightly higher than that of the Christian group since the turn of the 21st century (Dubuc, 2009b).

The fertility of UK-born Muslim women remains higher than that of other groups but significantly lower than fertility of immigrant Muslim women (Dubuc, 2010a). This is consistent with findings for the mainly Muslim Pakistani and Bangladeshi ethnic groups (both ethnic groups representing 57% of the Muslim women over the period of the study). When numbers allowed, it was possible to cross-classify ethnicity and religion for some groups, for instance for the Indian group. In accordance with other findings in India (e.g. Dharmalingam and Morgan, 2004),

the Hindu group has the lower fertility while the highest was recorded for the Muslim Indian women. This suggests an impact of religion on fertility, unless differences across religious affiliation would mainly reflect other determinants of fertility that vary across religious groups. In India, the average larger family size of Muslims compared to Hindus has been attributed, at least in part, to a lower socio-economic status of the former and including reduced access to family planning (Jeffery and Jeffery, 2006). A recent decrease in the TFR of the Muslim minority is apparent, reducing inter-religious group differences within the Indian ethnic group.

### Population projections

Updated international migration data and results of the population projections by main ethnic groups under various migration assumptions are summarised in Coleman (Forthcoming). For instance, as a consequence of the increasing number of mixed unions, the mixed ethnic populations are progressing most rapidly, and largely by natural increase. In the projections models they are expected to become the main ethnic minority group before the end of the century — shortly by 2071 in some projection scenarios — overtaking the current larger minority ethnic group, the ‘White Other’.

This research has demonstrated the importance of taking into account the generation order in the UK (first generation versus second and over) when projecting fertility of the various minority ethnic groups. The novel fertility estimates (TFRs and ASFRs) distinguishing between UK-born and foreign-born women of the various ethnic groups have provided new data to develop informed fertility assumptions for future projection models integrating ethnicity and immigration status.

The findings highlight overall converging trends and remaining heterogeneity in fertility across ethnic and religious groups. This calls for further investigations of the causes of childbearing behaviour as well as the processes of incorporation of immigrants and their children in the UK.

### Acknowledgements

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