

Have women born outside the UK driven the rise in UK births since 2001?

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The number of births¹ in the UK has increased each year since 2001. This article examines the demographic drivers underlying this rise, assessing the contribution of UK born and foreign born women. It brings together key information from across the UK to provide a coherent picture of childbearing trends among UK born and foreign born women since 2001. Geographical variations in the proportion of births to foreign born women are also explored at the local authority level.

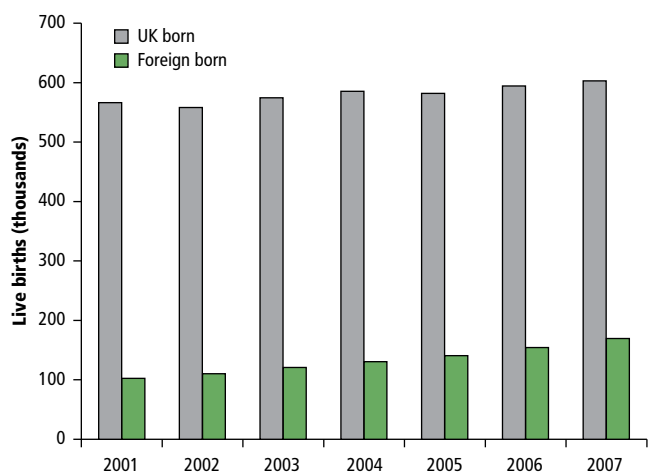
Introduction

Between 2001 and 2007 the number of births in the UK increased by 15.4 per cent from 669,123 to 772,245. Over the same period the Total Fertility Rate (TFR) (see **Box one**) in the UK increased rapidly, rising from a record low of 1.63 children per woman in 2001, to 1.90 in 2007. It is often assumed that the increasing numbers of births seen in recent years are a direct result of the growing numbers of international migrants living in the UK. This article explores whether this perception is accurate or not, providing a coherent picture of the impact of foreign born women on the number of live births and fertility patterns in the UK. It should be noted that foreign born women and international migrants are not exactly the same – see **Box two** for more detail.

Figure 1 shows the number of births to UK born and foreign born² women each year between 2001 and 2007. The number of births to foreign born women has risen each year since 2001, increasing by 66,731 over the six-year period. In contrast, there were 36,391 more births to UK born women in 2007 than 2001, despite small decreases between some years. A consequence of these changes is that two-thirds of the total increase in births between 2001 and 2007 can be attributed to women born outside the UK. This has resulted in an increase in the proportion of births to foreign born women, from 15.3 per cent in 2001 to 21.9 per cent in 2007.

The number of births depends both on the fertility rates of women living in the UK and on the size and age structure of the female population. This paper explores these factors for UK born and foreign born women in order to better understand their impact on the numbers of births in the UK in recent years. This is the first time that many of these statistics have been compiled for the UK as a whole. The years from 2001 to

Figure 1

Number of births to UK born and foreign born women, United Kingdom, 2001–2007


Source: Birth registrations

2007 have been chosen as they cover a period of rising fertility and an unprecedented rise in the proportion of births to foreign born mothers, as well as taking into account the period before and after the 2004 EU expansion.

Most areas within the UK experienced this increase in the proportion of births to foreign born women in recent years. The increase has not

Box one

Total Fertility Rate (TFR)

The TFR is the average number of children that a group of women would each have if they experienced the Age-specific Fertility Rates for a particular year throughout their childbearing lives. For example, a TFR of 1.90 in 2007 means that a group of women would have an average of 1.90 children each during their lifetimes based solely on 2007's Age-specific Fertility Rates. This measure reflects the current intensity of childbearing and the rate at which the population is replacing itself.

Age-specific Fertility Rate (ASFR)

ASFRs are a measure of fertility specific to the age of the mother and are useful for comparing the reproductive behaviour of women at different ages. They are calculated by dividing the number of live births in a year to mothers in each age group by the number of females in the mid-year population of that age. Rates are expressed per 1,000 women in the age group.

occurred evenly across all local authorities though, and the proportion of live births to foreign born women varies considerably across the UK. Changes in the proportion of births to foreign born women at the local authority level between 2001 and 2007 are therefore explored in more detail.

Box two

How does country of birth compare to nationality, ethnicity and migration status?

Nationality refers to the country shown on a person's passport, which may differ from their country of birth. Nationality can change over time, for example when a foreign national has lived in the UK long enough, they can apply to become a British national. In contrast, country of birth cannot vary – it is therefore the more robust variable when analysing change over time.

A working definition of ethnicity is 'both a way in which individuals define their personal identity and a type of social stratification that emerges when people form groups based on their real or perceived origins'⁴. Ethnicity is more subjective than nationality and is usually self-reported, making it much harder to measure – a person's ethnic affiliation can change over time.

Ethnic group is not collected at birth registration and, until recently, it has only been available from survey data. Any study of childbearing trends by ethnic group has therefore run up against sample size problems. In 2002 a new system was introduced for allocating NHS numbers at birth, providing a new opportunity to analyse births by ethnic group of the baby⁵. Resulting estimates showed that just under two-thirds (64.3 per cent) of all babies born (live births) in 2006 were defined by their mothers as White British, 5.6 per cent as White Other, 7.6 per cent as Asian/Asian British and 4.3 per cent as Black/Black British⁶. ONS is collaborating in ongoing work to investigate the relationship between a baby's ethnicity and its mother's country of birth. Fertility rates by ethnic group have also recently been estimated using the Household Sample of Anonymised records from the 2001 Census in conjunction with the Labour Force Survey⁷. Findings suggest fertility rates for some minority ethnic groups could be converging, but at different speeds, to levels observed among the white ethnic group. Part of a project to build projections of ethnic group populations for local areas is also exploring how differences between ethnic groups' fertility rates can shape current and future trends⁸.

Care is needed in interpreting figures relating to country of birth as it cannot be used as a proxy for these other variables. For example, the category 'UK born women' will include second and third generation migrants (born to earlier in-migrants) who will often not be of White British ethnicity. Similarly, the category 'foreign born women' will include some UK nationals and is likely to include some women of White British ethnicity, for example those born to UK service people stationed abroad.

Although country of birth is the most robust variable for analysing the impact of international migrants on the number of births in the UK since 2001, it does not represent a precise proxy for international migrants. Childbearing trends among foreign born mothers do not just reflect trends among recent in-migrants born outside the UK. Individuals born outside the UK, who have been resident in the UK for a number of years, will also be included in the 'foreign born' group and this may mean that the fertility level for foreign born women lies closer to the national level than the actual fertility levels of recent migrants, if some degree of convergence is assumed. Similarly, childbearing trends among UK born women will be influenced by second or later generation migrants (women whose families migrated to the UK in earlier generations).

Data sources

Birth registration data

High quality data on numbers of births by mother's age and mother's country of birth are available from compulsory birth registration. Father's age and country of birth are also collected at birth registration and published annually³; however, these are not available for births outside marriage that are registered solely by the mother (6.6 per cent of all UK births in 2007). For completeness this article therefore uses the countries of birth of mothers to explore the impact of international migration on fertility.

Other variables that may be used as migration indicators, such as ethnicity, nationality and year of entry to the UK are not collected at birth registration. A key advantage of country of birth is that it does not change over an individual's lifetime, as ethnicity and nationality may. A fuller discussion of these variables can be found in **Box two**.

Population data

In order to determine the numbers of UK born and foreign born women of childbearing age in the population, and to calculate fertility rates for these two groups, population estimates by country of birth and five-year age-sex group are required. These are not readily available, but the Annual Population Survey (APS) can provide robust annual estimates of UK born and foreign born females by five-year age group for this purpose from 2004 onwards (see **Box three**). To provide an indication of

Box three

A brief introduction to the Annual Population Survey (APS)

The APS is a combined survey of households in the UK, comprising the Labour Force Survey (LFS) plus various sample boosts – it has been running since 2004. The boosts increase the size of the sample, meaning that more robust estimates are available from the APS than from the main LFS. The APS data used here have been re-weighted to population estimates published in 2007, ensuring an up-to-date picture.

The APS may underestimate the number of people born overseas because:

- It excludes students in halls of residence who do not have a UK resident parent
- It excludes people in most other types of communal establishment (for example, hotels, boarding houses, hostels, mobile home sites)
- It excludes certain people who have been resident in the UK for less than six months
- It is weighted to population estimates that exclude migrants staying for less than 12 months

Using the APS, estimates of the numbers of UK born and foreign born females by five-year age group have been calculated. Coefficients of variation for these estimates are below 1 per cent for UK born women and range between 3 and 6 per cent for women born outside the UK (only rising above 5 per cent for 15 to 19-year-olds, where the foreign born population is smaller). Estimates with coefficients of variation below 5 per cent are considered precise and those between 5 and 10 per cent reasonably precise.

Further information on the APS can be found in Volume 6 of the Labour Force Survey User Guide on the Office for National Statistics website (www.statistics.gov.uk/statbase/Product.asp?vlnk=1537)

changes in population structure since 2001, the numbers of UK born and foreign born women in 2001 have been estimated from the Labour Force Survey (LFS). Although its sample size is smaller than the APS, the LFS provides the closest match since both surveys relate to the household population.

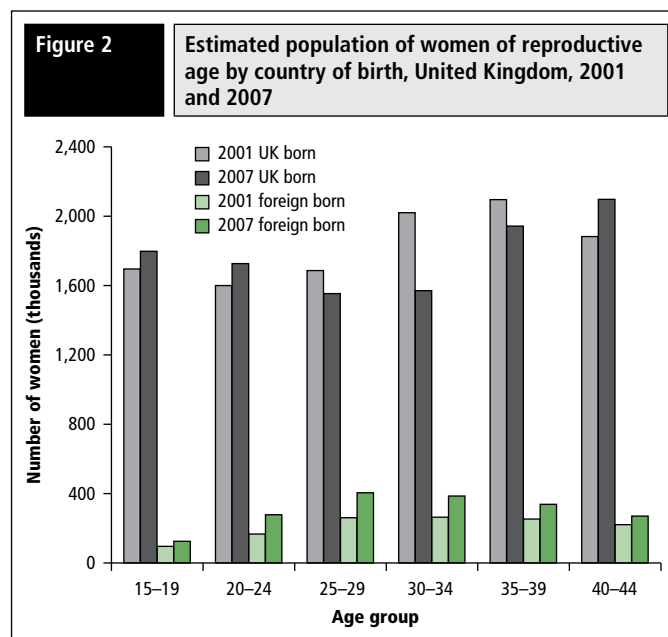
For practical purposes it has been necessary to analyse the fertility of all women born outside the UK as a single group. This is not ideal since variations in fertility levels among women from different countries of birth are masked. However, female population estimates for individual countries of birth and age group obtained from survey data are not sufficiently robust to provide a more detailed analysis.

The changing size and age structure of the female population

Between 2001 and 2007 the total number of females of reproductive age (15–44) in the UK increased by 2 per cent, reaching nearly 12.5 million in 2007. This increase hides a marked difference in trends between the UK born and foreign born populations. In 2007 the number of foreign born women of reproductive age living in the UK was nearly 43 per cent higher than in 2001. Conversely, the number of UK born women of reproductive age was nearly 3 per cent lower in 2007.

An examination of the age structure of these two populations can shed some light on the reasons for this difference. **Figure 2** shows that between 2001 and 2007 the number of UK born women in their peak childbearing years (ages 25–34) fell. This is a direct result of the low numbers of births in the 1970s. The fall is most noticeable at age 30–34 (where fertility rates are currently highest). The rising number of UK born women aged 40–44 is a consequence of the 1960s 'baby boomers' moving into this age group. The number of UK born women in their late teens and early twenties has also increased since 2001. At these ages fertility levels are much lower, hence changes in the number of women generally have much less impact on the number of births.

In contrast, the number of foreign born women increased in all childbearing age groups but at different speeds. Foreign born women aged 20–24 showed the greatest percentage increase (66 per cent), followed by women aged 25–29, with a 55 per cent increase, and those aged 30–34, whose population rose by 46 per cent.



Source: Labour Force Survey 2001, Annual Population Survey 2007

These increases in the foreign born population can be attributed mainly to international migration. In fact, both in-migration and out-migration have had a considerable impact on the size of the female population of reproductive age living in the UK. International migration estimates⁹ show that during the six-year period from 2002 to 2007, 1.3 million women aged 15–44 migrated to live in the UK for at least a year, while 0.7 million emigrated, giving a net increase of 0.6 million women of reproductive age. During the previous 10 years this net increase was only 0.4 million women aged 15–44, showing how the pace of change due to net migration has increased since the turn of the century.

Of course it is not just recent migration that has an impact on the childbearing population – the current size and age structure of the foreign born population is in part determined by levels of earlier in-migration of children and younger women between the 1960s and 1990s. In addition the descendants of past in-migrants are likely to be making up an increasing share of the UK born population.

Focussing on recent migration (taking account of both males and females across all age groups), half of all out-migrants during the period 2002 to 2007 were born in the UK, compared with only 13 per cent of in-migrants. This means there was a net emigration of UK born individuals from the UK. In contrast there was a net in-migration of foreign born people. Around a fifth of all in-migrants between 2002 and 2007 were born in the European Union, nearly one-quarter in New Commonwealth countries (such as Pakistan and India), 12 per cent in Old Commonwealth countries (such as Australia and Canada) and 30 per cent elsewhere abroad. Since EU expansion in 2004, which enabled free movement of people between an increased number of member states (see **Box four**), the proportion of long-term in-migrants born in A8 countries has doubled from 9 per cent in 2004 to 19 per cent in 2007.

The decreasing number of UK born women and growing number of foreign born women have resulted in the proportion of foreign born women of reproductive age in the UK rising from 10.3 per cent in 2001 to 11.8 per cent by 2004. This trend continued to 2007, but at a much faster rate, with foreign born women comprising 14.4 per cent of the UK population of childbearing age by 2007. The greater rate of change since 2004 is partly a consequence of EU expansion in 2004. However, it is not just EU born individuals causing the foreign born population in the UK to grow – APS data show that in 2007 only 9 per cent of the UK's total foreign born population were born in A8 countries. Between 2004 and 2007 there were also increases in the numbers of individuals born in countries such as India, Pakistan, Nigeria and the USA (see Appendix One).

In summary, change in the population of women of childbearing age in the UK since 2001 has occurred for two main reasons:

- An increase in the number of foreign born women as a result of in-migration

Box four

The European Union

The European Union (EU) is an economic and political union of 27 member states located in Europe. A standardised system of laws apply in all member states, which guarantees the freedom of movement of people. In 2004 the EU saw its biggest enlargement to date when Slovenia, Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia and Hungary (known collectively as the A8) joined the Union along with Malta and Cyprus. Romania and Bulgaria became the EU's newest members, joining in 2007.

- A decrease in the number of UK born women in the key childbearing ages, due to the relatively small cohorts of women born in the mid- to late-1970s reaching these ages.

Over the next decade the number of UK born women aged 15–44 is likely to continue falling, as the large cohorts currently aged 40–44 move out of the childbearing population and are replaced by smaller cohorts born since the mid-1990s, who will be reaching childbearing age. However, the number in the peak fertility ages 25–34 will be higher in 2017 than in 2007, which may lessen the impact of the decline on the number of future births. Changes in cohort sizes are expected to remain the key driver of change in the UK born population, unless the level of emigration rises substantially.

The current age structure of the foreign born population also means that its numbers would fall over the next decade if there was no future international migration. However, if in-migration of women aged 15–44 was to continue at a similar level to that seen during the past decade, the foreign born population of childbearing age would be expected to continue rising over the next ten years.

Do UK born and foreign born women have different levels of fertility?

This section compares the Total Fertility Rate and the Age-specific Fertility Rates (Box one) of UK born and foreign born women. A fuller discussion of how these rates should be interpreted can be found in **Box five**.

Total Fertility Rates

In August 2008 separate estimates of the TFR were published for UK born and foreign born women in England and Wales for each year between 2004 and 2007 – these have now been extended to cover the whole of the UK. **Table 1** illustrates how foreign born women in both England and Wales, and the UK, are estimated to have a higher TFR than UK born women.

Since 2004 there has been little change in the TFR for foreign born women. The estimated TFR for foreign born women in 2007 was 2.51 children, up slightly from 2.48 in 2004. In contrast, the TFR for UK born women increased from 1.68 children in 2004 to 1.79 in 2007. Table 1 provides evidence that in both the UK and England and Wales, the recent rapid increases in the TFR are mainly due to increasing fertility among UK born women. It should be remembered, however, that foreign born women, who have higher fertility than their UK born counterparts, are making up an increasing share of the childbearing population. This population change will impact on the overall TFR, causing it to increase, even though fertility among foreign born women is fairly stable. Similar results have also been found in France, where rising fertility rates are mainly due to increasing fertility among women born in France¹².

In 2007 the higher fertility levels among foreign born women resulted in the TFR for all women in the UK (1.91) being 0.12 children higher than the TFR for UK born women alone (1.79). Thus it could be inferred that average UK fertility is currently around one-tenth of a child per woman higher due to the presence of women born outside the UK.

The diverse fertility levels of migrants from different countries of birth is paramount when analysing the impact of migration on fertility in recent years. Fertility rates for individual countries of birth are only available for census years. Rates based on the 2001 Census¹³ in England and Wales show that women born in certain foreign countries tend to have higher fertility than others – for example, in England and Wales in 2001, the TFR for UK born women was 1.6 children, compared with 4.7 children for women born in Pakistan and 3.9 children for those born

Box five

Estimating fertility rates by country of birth

Both the Total Fertility Rate (TFR) and Age-specific Fertility Rates (ASFRs) have been estimated for UK born and foreign born women. These estimates illustrate the impact of in-migration on UK fertility levels. It is not possible to quantify the impact of out-migration on fertility levels.

Birth registrations provide the numerators for the rates, and the denominators are estimated female populations by five-year age group from the Annual Population Survey (APS). Like any survey estimates, these populations by country of birth are subject to sampling error, hence the fertility rates for UK born and foreign born women are described as 'estimated'. To ensure consistency over time among published statistics, fertility rates have only been derived using population denominators from the APS, so are available from 2004 onwards.

Fertility rates estimated using population denominators from household surveys will slightly over-estimate the level of fertility, since they exclude people resident in many types of communal establishment from the denominator. For this reason overall TFRs estimated using this method may differ slightly from actual published TFRs (which use the mid-year population estimate as the denominator).

The TFR provides a snapshot of the level of fertility in a particular year and does not necessarily represent the average number of children that a group of women will have over their lifetime. Estimated TFRs for UK born and foreign born women will be sensitive to changes in the timing of fertility within women's lives. Research has noted that immigrant women typically have low fertility prior to immigration, followed by high fertility immediately after immigration^{10,11}. If this were also the case in the UK, the estimated TFR for foreign born women could be inflated by this timing effect. The age of women when they migrate to the UK will also impact on their fertility in the UK. Some women migrate to the UK during the start of their reproductive years while others migrate during or towards the end of their reproductive years.

The TFR does not take account of any previous children women may have had. In order to obtain a full picture of differences in completed family size between UK born and foreign born women, it will be necessary to wait until they reach age 45 so that any timing differences can be discounted.

Table 1

Estimated Total Fertility Rates for UK born and foreign born women, United Kingdom and England and Wales, 2004–2007

		2004	2005	2006	2007
United Kingdom	UK born	1.68	1.68	1.75	1.79
	Foreign born	2.48	2.45	2.42	2.51
	All	1.78	1.79	1.85	1.91
England and Wales	UK born	1.68	1.69	1.76	1.79
	Foreign born	2.50	2.48	2.43	2.54
	All	1.79	1.80	1.87	1.92

Source: Birth registrations and Annual Population Survey

in Bangladesh. In contrast, women born in some countries have fertility rates closer to those of women born in the UK – these include women born in other EU countries, East Africa, Old Commonwealth countries, China and Hong Kong¹⁴. Research has also revealed that migrant women living in Western, Northern and Southern Europe typically retain substantially higher levels of fertility than the native populations, but this difference generally reduces with duration of stay¹⁵. If this were the case in the UK, the estimated TFR for foreign born women might be expected to decrease in the absence of future in-migration; however, if new in-migrants continue to arrive the effect of any convergence in the existing population may not be apparent.

Age patterns of fertility

Figure 3 shows that in 2004 and 2007 foreign born women living in the UK had higher fertility than UK born women at all ages. Both groups have similar age-patterns of fertility, with the peak age for having children at 30–34 years in both groups, closely followed by ages 25–29.

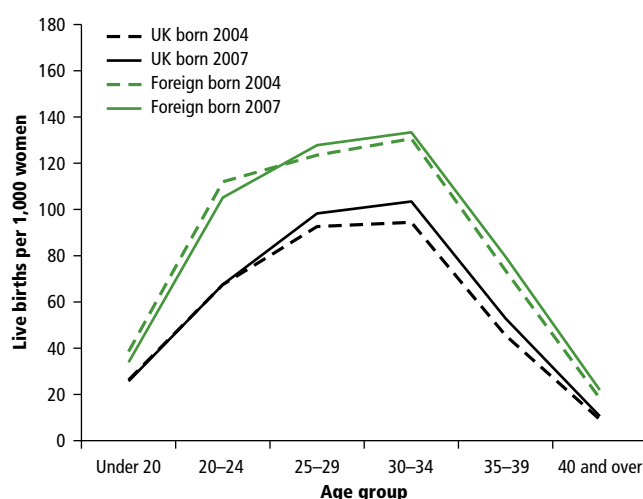
Considering the overall UK TFR, UK born women aged 30–34 and 35–39 have contributed the most to the absolute increase in the TFR between 2004 and 2007, with fertility levels increasing by 9 and 7 births per 1,000 women respectively.

The recent small rise in overall fertility at ages 20–24 appears to have been driven by UK born women – fertility rates among UK born women aged 20–24 have increased very slightly since 2004 whereas fertility rates among foreign born women aged 20–24 have generally fallen since 2004.

In 2007 fertility rates among foreign born women were slightly higher than in 2004 for all women aged 25 and above. The greatest relative increases in fertility among foreign born women occurred at age 40 and over, where there was a clear rise in the fertility rate (a rise of 20 per cent). Women aged 35–39 show the second largest relative increase, with their fertility rates rising by 8 per cent. Conversely, the largest actual increase in fertility among foreign born women occurred at ages 35–39, where there were an extra 6 births per 1,000 women in 2007 compared with

Figure 3

Estimated age-specific fertility rates for UK born and foreign born women, United Kingdom, 2004 and 2007



Source: Birth registrations and Annual Population Survey

2004. Fertility rates for foreign born women aged 25–29 and 30–34 have fluctuated somewhat since 2004 but were highest in 2007.

For UK born women fertility rates increased in all age groups (except for teenagers) – with a continuous increase in fertility being observed between 2004 and 2007 in all age groups over 30. As with foreign born women, the largest relative increases in fertility among UK born women occurred at ages 35–39 and 40–44, with increases of 16 and 15 per cent respectively.

How and why have the numbers of births to UK born and foreign born women changed?

The number of births in the UK depends on both the fertility rates of women living in the UK and the size and age structure of the UK childbearing population. Findings from the previous sections are now used to explain changes in the number of live births to UK born and foreign born women.

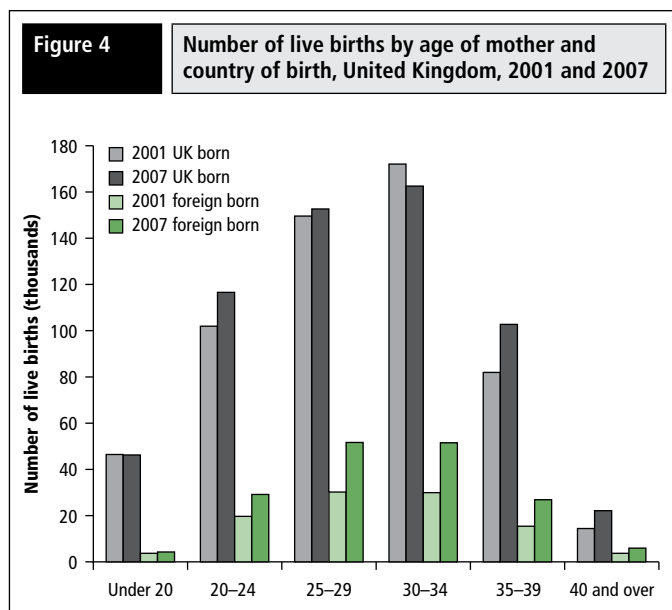
Between 2001 and 2007 the number of births to foreign born women living in the UK increased by 65.0 per cent. Over the same period births to UK born women increased by only 6.4 per cent. However, these increases have occurred for different reasons.

The rise in births to women born in the UK can be attributed to rising fertility rates among UK born women, but the rise is not as high as it might otherwise have been, due to falling numbers of UK born women aged 25–39. In contrast, the rise in the number of births to foreign born women can be attributed to the increase in the population of women born outside the UK, particularly at ages where fertility is highest, and the higher fertility levels displayed by foreign born women in the UK compared with their UK born counterparts.

Age patterns of childbearing among UK born and foreign born women

Overall there were a greater number of births in the UK in each five-year age group in 2007 than in 2001. The largest relative increases in the number of births in the UK have occurred at ages 40 and over (55 per cent increase) and 35–39 (33 per cent increase).

Figure 4 shows how the number of births to UK born and foreign born women has changed between 2001 and 2007 by age of mother.



Source: Birth registrations

Since 2001 births to UK born women have increased each year for women aged 20–24, 35–39 and 40 and above. At ages 25–29 there were a greater number of births to UK born women in 2007 than 2001, although decreases were observed between some years. In comparison, the number of births to foreign born women in each five-year age group have continually increased each year between 2001 and 2007, with the exception of teenagers – for this group there were more births in 2007 than 2001, but annual data reveal a slight fall in births between 2004 and 2005.

Contribution of UK born and foreign born women to the increase in births since 2001 in each age group

Table 2 illustrates marked differences in the contribution of UK born and foreign born women to the increase in births at each age. At ages 20–24, 35–39, and 40 and over, more than 60 per cent of the increase in births can be assigned to UK born women. Fertility among UK born females has increased at all these ages while the numbers of UK born women has also increased except at ages 35–39. For UK born women aged 35–39, the large increases in fertility have counteracted the falling population.

In contrast, the rise in the total number of births to women aged 30–34 can be attributed solely to foreign born females (due to rising fertility and population). This has occurred because there were fewer births to UK born women at this age in 2007 than in 2001 despite rising fertility levels – a result of population decline. Among the under 20 age group, the number of births in the UK has also increased solely as a result of an increased number of births to foreign born women – births to UK born women have fallen at this age due to fertility falling, despite the number of women increasing.

At ages 25–29 fertility levels among UK born women have increased to 2007, while the number of UK born women at these ages has fallen – as a result, 88 per cent of the increase in births in this age group can be attributed to foreign born women.

Quantifying the drivers of the overall increase in births since 2004

This section aims to quantify the impact of factors outlined above in driving the increase in the number of UK births between 2004 and 2007. Six factors can be identified if we consider changes due to population size, age structure and fertility rates, for UK born and foreign born women separately. By isolating each factor and holding it constant at its

Age group	Changes in the number of births between 2001 and 2007		Contribution to overall increase in births	
	UK born women	Foreign born women	UK born women	Foreign born women
Under 20	-192	551	0% (births to UK born women decreased)	100%
20–24	14,598	9,468	61%	39%
25–29	3,042	21,469	12%	88%
30–34	-9,551	21,561	0% (births to UK born women decreased)	100%
35–39	20,773	11,451	64%	36%
40 and over	7,721	2,231	78%	22%
All ages	36,391	66,731	35%	65%

Source: Birth Registrations

2004 level, while keeping other factors at their 2007 level, it is possible to determine how many births would be expected to take place in 2007, had that factor not changed. It can then be inferred that the difference between actual and expected births in 2007 quantifies the impact of that factor on the number of births between 2004 and 2007. (A factor has had a positive impact on births if holding it at the 2004 level results in fewer expected births than were actually recorded in 2007. However if the number of expected births is greater when holding a particular factor constant, then that factor has had a negative impact).

Results show that the increase in fertility rates among UK born women had the greatest positive impact of any single factor on the number of births between 2004 and 2007. The increased number of foreign born women of reproductive age living in the UK had the second greatest positive impact on the number of births. Changes in the fertility levels and age structure of foreign born females had a positive but much smaller effect. In contrast, changes in the size and age structure of UK born females of reproductive age had a negative impact.

The impact of each factor in driving the change in the number of births between 2004 and 2007 is summarised below:

Positive impacts

- Increased fertility rates among UK born women led to around 39,300 more births in 2007
- Increased numbers of foreign born females of reproductive age led to around 32,200 more births in 2007
- Changes in the age structure of foreign born women resulted in 4,700 more births while changes in their fertility levels led to 3,300 more births while in 2007

Negative impacts

- The decreasing number of UK born females of reproductive age resulted in 10,700 fewer births in 2007, while the changing age structure meant 14,000 fewer births

Among UK born women, the positive impact from increasing fertility rates was large enough to outweigh the negative impacts, resulting in slightly more births to UK born women in 2007 than 2004 (3.0 per cent increase). The actual increase in births to UK born women would have been much higher, had there not been the negative impact from the changing size and age structure of the UK born population.

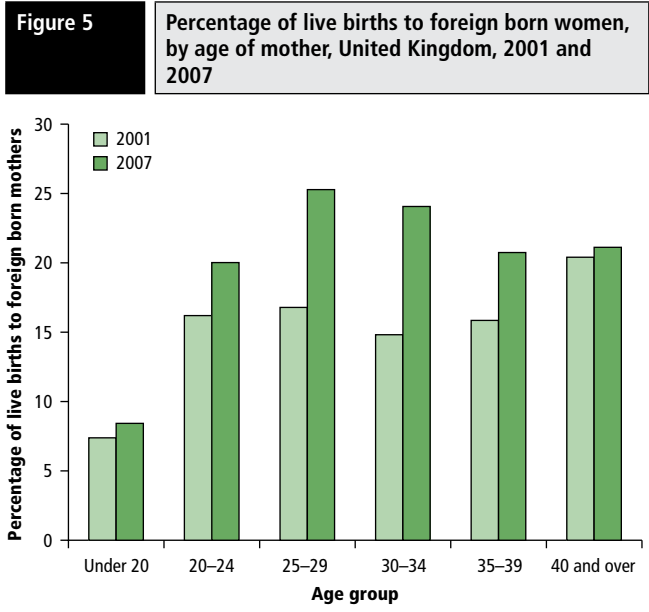
For foreign born women, increasing population size was the key factor driving the 29.6 per cent increase in births to such mothers between 2004 and 2007. Although on its own this factor was only the second largest driver of change in total UK births over this period, the combined impact of changes in population size, age structure and fertility rates among non-UK born women have been greater than the combined impact of these factors for UK born women.

The increasing proportion of births to foreign born women

A consequence of the greater rate of increase in births to foreign born women compared with UK born women is a rise in the proportion of births to foreign born women. Between 2001 and 2007 the proportion of births to foreign born women in the UK increased from 15.3 per cent to 21.9 per cent. However, it is estimated that only 14.4 per cent of the female population of reproductive age in 2007 was born outside the UK.

The proportion of births to foreign born mothers is higher than the proportion of the female population of childbearing age born outside the UK for two reasons:

- Higher fertility among foreign born women



Source: Birth registrations

- The different age structures of the foreign born and UK born female populations of reproductive age

Changes in the proportion of births to foreign born women by age group

Figure 5 shows that between 2001 and 2007 ages 25-29 and 30-34 have experienced the greatest increase in the proportion of births to foreign born women in the UK. Women aged 30-34 experienced a 9.2 percentage point increase in the proportion of births to foreign born mothers, with 24.1 per cent of live births occurring to foreign born women in 2007. In the 25-29 age group the proportion of births to foreign born women increased by 8.5 percentage points between 2001 and 2007, reaching 25.3 per cent in 2007.

Changes in the proportion of births to foreign born women by UK country

Table 3 shows the proportion of births to foreign born women in each constituent country of the UK in 2001 and 2007. England saw the greatest increase during this period (increase of 6.9 percentage points). In Scotland, Northern Ireland, and Wales the percentage of births to foreign born women increased by smaller amounts between 2001 and 2007 – an effect of the lower proportion of births to foreign born women in these countries. The relative increases in the proportion of births to foreign born women were however much larger in Scotland, Wales and

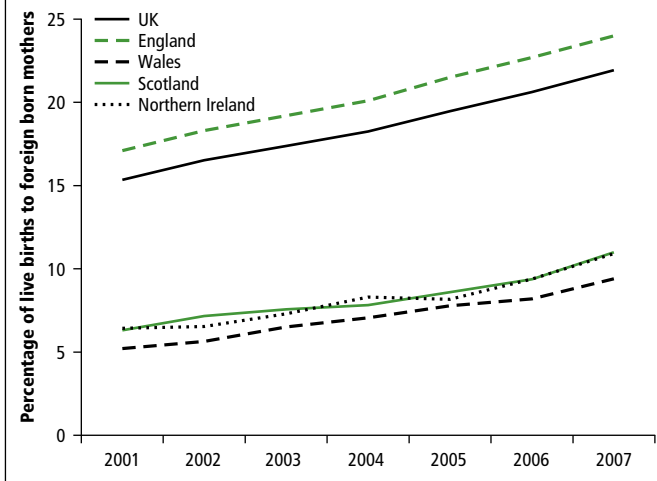
Table 3 Percentage of births to foreign born women, United Kingdom and constituent countries, 2001 and 2007

	Percentage of births to foreign born women		Increase in births to foreign born women 2001-2007 (percentage points)
	2001	2007	
England	17.1	24.0	6.9
UK	15.3	21.9	6.6
Scotland	6.3	11.0	4.7
Northern Ireland	6.4	10.9	4.5
Wales	5.2	9.4	4.2

Source: Birth registrations

Figure 6

Percentage of live births to foreign born mothers, United Kingdom and constituent countries, 2001–2007



Source: Birth registrations

Northern Ireland than in England and the UK. It should be noted that the proportion of births to foreign born mothers in Northern Ireland is greatly affected by the large numbers of births to women born in the Republic of Ireland. In 2007 such births made up 27.1 per cent of all births to foreign born women in Northern Ireland – this compares to 2.0 per cent in England.

Although Figure 6 shows that the proportion of births to foreign born women has increased notably in all constituent countries of the UK since 2001, this is not the case throughout the developed world. In Denmark¹⁶ for example, the proportion of births to foreign born women actually decreased from around 12.5 per cent in 2001 to 12.1 per cent in 2007. In the Netherlands the proportion of births to foreign born women remained relatively stable between 2001 and 2007 with 17.0 per cent and 17.6 per cent of births to foreign born mothers respectively.

The proportion of births to foreign born women in England is not far off the level seen in traditionally high immigration countries such as Canada and Australia. In 2007 the proportion of births to foreign born women in Australia was 25.1 per cent¹⁷. The latest figures available for Canada¹⁸ show that 25.4 per cent of births were to foreign born women in 2006.

What are the most common countries of birth for mothers in the UK?

Table 4 displays the ten most common countries of birth for foreign born mothers in the UK in 2001 and 2007.

Pakistan has been the most common country of birth for foreign born mothers in the UK each year between 2001 and 2007. However, Appendix One shows that the most common country of birth among the UK population as a whole between 2004 and 2007 was India. Such a disparity can occur for two reasons: differences in the composition of the total population versus the female population of reproductive age, or different levels of fertility in the two groups. In the case of India and Pakistan, a large part of this disparity is likely to result from differences in fertility levels between the two groups. In England and Wales, the 2001 census showed that women born in Pakistan were estimated to have a much higher TFR (4.7 children) than women born in India (2.3 children)¹⁹.

In 2007 Somalia and Ghana were in the ten most common countries of birth among foreign born mothers, but not in the UK's ten most common foreign countries of birth when considering all ages and sexes (Appendix One).

In general, the ten most common countries of birth among foreign born women in 2001 and 2007 are fairly similar, with Pakistan, India, Bangladesh, Nigeria, Somalia, the Republic of Ireland, Germany and South Africa featuring in both years. Between 2001 and 2007 the United States and France dropped out of the top most common countries of birth while Poland and Ghana entered. The fastest recent increase has been in births to mothers born in Poland, which climbed from 24th place (924 births) in 2001 to 2nd place (13,333 births) by 2007.

Poland was one of the ten countries that joined the EU in May 2004, giving Polish citizens the right to live and work in the UK. With the number of Polish born people living in the UK increasing, it follows that the number of births to Polish born women is likely to increase. The increasing number of births to Polish born women does not necessarily imply that they have higher fertility than UK born women; rather that there are more of these women living in the UK than previously. The number of births in the UK to women born in all A8 countries has also increased considerably since EU expansion, reaching 19,570 in 2007. Women born in India, Bangladesh and Pakistan, however, made a far greater contribution to the total number of UK

Table 4

The ten most common countries of birth of mother, foreign born mothers only, United Kingdom, 2001 and 2007 (live births and percentages)

	2001			2007		
	Country of birth of mother	Live births	Percentage of all live births	Country of birth of mother	Live births	Percentage of all live births
1	Pakistan	15,111	2.3	Pakistan	18,311	2.4
2	Bangladesh	8,218	1.2	Poland	13,333	1.7
3	India	6,735	1.0	India	12,478	1.6
4	Germany	4,673	0.7	Bangladesh	8,850	1.1
5	Republic of Ireland	4,589	0.7	Nigeria	6,702	0.9
6	Somalia	3,202	0.5	Somalia	5,952	0.8
7	United States	3,070	0.5	Germany	5,564	0.7
8	Nigeria	2,643	0.4	South Africa	4,708	0.6
9	South Africa	2,322	0.3	Republic of Ireland	4,258	0.6
10	France	2,065	0.3	Ghana	3,784	0.5

Note: Figures by country of birth include a small number of births to mothers whose usual residence is outside the UK.

Source: Birth registrations

births in 2007 (39,639 births), more than double the number of births to A8 born women.

The ten most common countries of birth for foreign born mothers do vary between the constituent countries of the UK. For example, in Northern Ireland in 2001 and 2007, the most common country of birth for foreign born mothers was the Republic of Ireland while Pakistan and Bangladesh were not among the ten most common countries.

Subnational variations in the proportion of births to foreign born women

Geographical variations in the proportion of births to mothers born outside the UK are to be expected, due to local differences in the proportion of people born outside the UK. Other things being equal, areas where a high proportion of women of reproductive age were born outside the UK are likely to have a higher proportion of births to foreign born women.

In addition, the composition of the foreign born population, in terms of individual countries of birth, will vary considerably between local authorities. This will affect the proportion of births to foreign born women if there are differences in fertility between women born in different countries. As noted earlier, there is some evidence that women born in certain countries have higher fertility than others – in particular, women born in Pakistan and Bangladesh tend to have higher fertility than UK born women and women born in other countries who are living in England and Wales. Therefore areas that are home to large numbers of women born in countries associated with above-average fertility are likely to have an above-average proportion of births to foreign born mothers.

Changing proportions of births to foreign born mothers in UK local authorities

During recent years most UK local authorities²⁰ have experienced increasing proportions of live births to foreign born women. **Table 5** shows the distribution of live births to foreign born women in local authorities in 2001, 2004 and 2007. In 2001 the majority of local authorities (68 per cent) had less than 10 per cent of births recorded to foreign born mothers. Between 2001 and 2007 the number of local authorities with more than 10 per cent of births to foreign born women increased steadily from 140 to 242 areas by 2007, the majority (56 per cent) of local authorities had 10 per cent or more births to foreign born mothers. The number of areas experiencing 50 per cent or more births to foreign born women showed the greatest proportionate increase, with the number of local authorities increasing by two-and-a-half times from 10 to 25. Between 2001 and 2007 most local authorities with 50 per cent or more births to foreign born women were located in London. In 2007 the only UK local authorities outside London that had over 50 per cent of births to foreign born mothers were Slough (56.2 per cent) and Luton (51.0 per cent).

Table 5

Distribution of UK local authorities by proportion of live births to foreign born women, 2001, 2004 and 2007

Percentage of live births to foreign born mothers	2001	2004	2007
Less 10%	294	253	192
10 to 29%	108	143	195
30 to 49%	22	23	22
50% or above	10	15	25
All Local Authorities	434	434	434

Source: Birth registrations

Table 6

Change in proportion of births to foreign born women between 2001 and 2007, local authorities, United Kingdom

Change between 2001 and 2007	Number of Local Authorities	Percentage of all areas
Decrease (1 percentage point or more)	6	1.4
No change (change of less than 1 percentage point)	35	8.1
Small increase (1–5.9 percentage points)	269	62.0
Moderate increase (6–9.9 percentage points)	75	17.3
Large increase (10 percentage points or more)	49	11.3
All Local Authorities	434	100

Source: Birth registrations

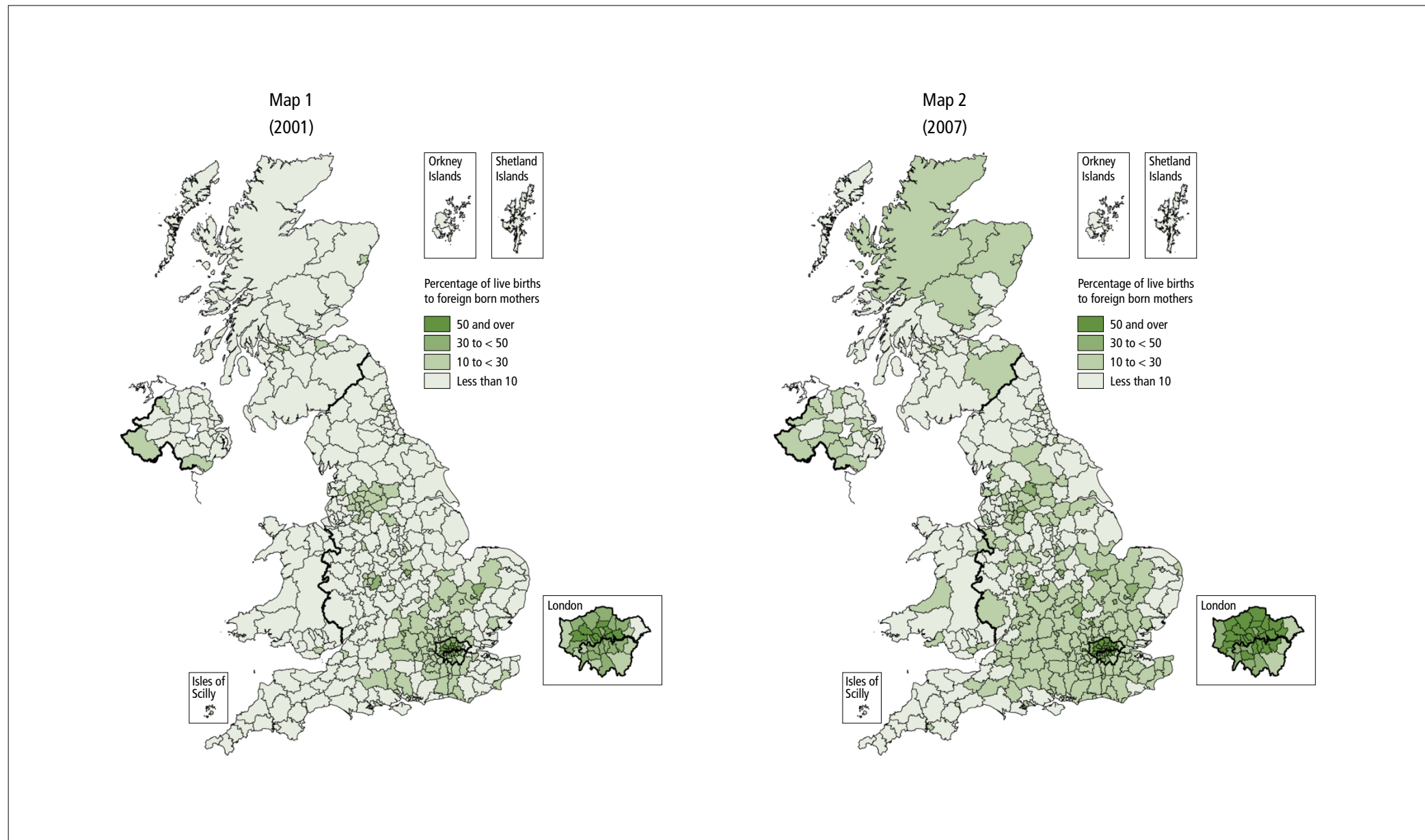
Table 6 shows the change in the proportion of births to foreign born women in all local authorities between 2001 and 2007. The majority of local authorities (62 per cent) experienced a small increase in the proportion of births to foreign born women (between 1.0 and 5.9 percentage points). Moderate increases (between 6.0 and 9.9 percentage points) were experienced in 75 local authorities while 49 areas experienced much larger increases (10.0 percentage points or above). Barking and Dagenham experienced the greatest percentage point increase in the proportion of births to foreign born women, rising from 27.5 per cent in 2001 to 53.3 per cent in 2007. Only six areas experienced a decrease of at least one percentage point. The Isles of Scilly and City of London recorded the biggest decreases (–7.6 and –4.3 percentage points respectively), but these areas have very small populations and so are often affected by yearly fluctuations in births.

In England and Wales, the local authorities with the highest proportions of live births to foreign born mothers in 2001 generally continued to have higher proportions in 2007 (**Map 1** and **Map 2**). In both 2001 and 2007, the highest proportions of live births to foreign born mothers occurred in southern and eastern England (and especially around London). In 2001 clusters of areas with over 10 per cent of births to foreign born women were centred around various English cities including London, Manchester, Leicester, Birmingham, Southampton, Brighton and Cambridge. Between 2001 and 2007 these clusters enlarged considerably.

In Wales, Cardiff Unitary Authority (UA) was the only area experiencing more than 10 per cent of births to foreign born mothers in 2001 (14.6 per cent). By 2007, however, births to foreign born mothers exceeded 10 per cent of all births in five Welsh UAs – Cardiff, Wrexham, Ceredigion, Swansea and Newport. Cardiff saw the largest percentage point increase in the proportion of births to foreign born mothers between 2001 and 2007 (8.0 percentage points) and as a consequence continued to have the highest proportion of births to foreign born mothers in Wales in 2007 (22.6 per cent).

In Scotland, the proportion of births to foreign born mothers was below 10 per cent in all council areas in 2001, with the exception of three cities – Edinburgh (12.3 per cent), Glasgow (12.2 per cent) and Aberdeen (12.5 per cent). By 2007, however, six other council areas in Scotland (Aberdeenshire, Dundee, Highland, Moray, Perth and Kinross, and Scottish Borders) had over 10 per cent of births to foreign born women. The Scottish areas with the highest proportion of births to foreign born mothers remained unchanged between 2001 and 2007, with over one-fifth of births occurring to foreign born women in Edinburgh City, Glasgow City and Aberdeen City in 2007. These areas also showed the largest increases in the proportion of births to foreign born women between 2001 and 2007.

Map 1 Percentage of live births to foreign born mothers, local authorities, 2001 / Map 2 Percentage of live births to foreign born mothers, local authorities, 2007



Northern Ireland as a whole has experienced a similar level of increase to Scotland in the proportion of births to foreign born women. In 2001 only three local government districts in Northern Ireland had over 10 per cent of live births recorded to foreign born women – Derry (10.3 per cent), Fermanagh (13.3 per cent) and Newry and Mourne (12.3 per cent). By 2007 nearly half of all local authorities in Northern Ireland were experiencing over 10 per cent of births to foreign born women.

The areas with the highest proportions of births to foreign born women in 2007 were Dungannon (21.6 per cent), Fermanagh (15.7 per cent) and Newry and Mourne (15.7 per cent) – all three of these areas border the Republic of Ireland. In Fermanagh the high proportion of births to foreign born women is a result of the large numbers of births to women born in the Republic of Ireland, which are included in the birth count for foreign born women. In Newry and Mourne the births to women born in the Republic of Ireland have been an influencing factor; however, one-third of the births to foreign born women in the area are births to women born in A8 countries. In Dungannon the high proportion of births to foreign born women is driven by the large number of births to women born in A8 countries, which account for over half the total births to foreign born mothers in the area. Dungannon experienced the largest increase (16.7 percentage points) in the proportion of births to foreign born women between 2001 and 2007, while Derry, which had the third highest proportion of births to foreign born mothers in 2001, recorded one of the smallest percentage point increases. Both Ballymoney and Moyle actually experienced falls in the proportion of births to foreign born women between 2001 and 2007 with decreases of –0.4 and –1.5 percentage points respectively.

UK local authorities with the highest proportions of births to foreign born women

Table 7 shows the ten local authorities with the highest proportion of births to foreign born mothers in the UK in 2001 and 2007. All local authorities are London boroughs, located in the northern half of London. Although London has experienced large increases in numbers of births to foreign born mothers in recent years, research by the London Health Observatory has shown that, contrary to popular belief, this is not mainly a result of the EU expansion in 2004²¹.

The greatest proportion of births to foreign born mothers in 2001 was recorded in Tower Hamlets (67.6 per cent) followed by Kensington and Chelsea (66.4 per cent). In 2007 Newham recorded the highest proportion of births to foreign born mothers (74.8 per cent) followed by Brent (72.0 per cent). The local authorities with the ten highest proportions of

Table 7

Ten UK local authorities with the highest percentage of births to foreign born women, 2001 and 2007

2001		2007	
Local authority	Percentage of births to foreign born mothers	Local authority	Percentage of births to foreign born mothers
Tower Hamlets	67.6	Newham	74.8
Kensington and Chelsea	66.4	Brent	72.0
Westminster	64.1	Westminster	71.7
Newham	63.7	Kensington and Chelsea	68.6
Brent	62.6	Tower Hamlets	67.6
Camden	58.9	Ealing	65.2
City of London	58.5	Haringey	63.6
Haringey	55.7	Camden	62.0
Ealing	53.1	Harrow	61.0
Hackney	50.5	Hounslow	60.4

Source: Birth registrations

Table 8

Ten UK local authorities with the lowest percentage of births to foreign born women, 2001 and 2007

2001		2007	
Local authority	Percentage of births to foreign born mothers	Local authority	Percentage of births to foreign born mothers
Orkney Islands	0.6	Alnwick	2.2
Blaenau Gwent	0.8	Ballymoney	2.3
Merthyr Tydfil	1.2	Staffordshire Moorlands	2.5
Knowsley	1.8	Easington	2.7
Caerphilly	1.8	Cannock Chase	3.0
Allerdale	1.9	Moyle	3.1
Rhondda, Cynon and Taff	2.0	Orkney Islands	3.2
Eden	2.1	Torfaen	3.2
Derwentside	2.1	Sefton	3.2
Cannock Chase	2.1	Torridge	3.3

Source: Birth registrations

births to foreign born women are fairly stable, with the majority of areas featuring every single year between 2001 and 2007.

UK local authorities with the lowest proportions of births to foreign born women

The ten local authorities with the lowest proportions of births to foreign born mothers experienced some changes over the six-year period 2001 to 2007 (**Table 8**). In 2001, four of the areas in the lowest ten were Welsh, one was Scottish and the other five were English. By 2007 only one area was Welsh, one was Scottish, two were in Northern Ireland, and the other six were in England.

The local authority with the lowest proportion of births to foreign born mothers in 2001 was Orkney Islands with 0.6 per cent of births to foreign born mothers. By 2007 Alnwick recorded the lowest proportion of births to foreign born women in all local authorities with 2.2 per cent. The ten areas with the lowest proportions of births to foreign born women in 2007 all had greater proportions of births to foreign born women compared with the ten lowest areas in 2001. However, half of the ten lowest areas in 2007 actually experienced a decrease in the proportion of births to foreign born women since 2001 – Alnwick experienced the largest decrease (2.6 percentage points). There was much more variation in the ten areas with the lowest proportion of births to foreign born women between 2001 and 2007 than the ten areas with the highest proportion of births to foreign born women. Cannock Chase remained in the lowest ten for the greatest number of years – six years in total.

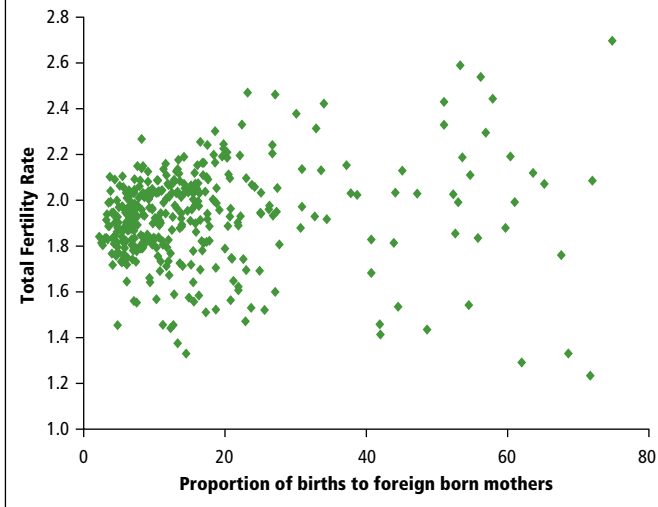
Relationship between the proportion of births to foreign born women and the level of fertility in local authorities

A common misconception is that areas with high proportions of births to foreign born mothers tend to have the highest fertility rates. **Figure 7** shows for local authorities in England and Wales the proportion of births to foreign born mothers and the Total Fertility Rate (TFR) in 2007. There is no clear cut relationship between the proportion of births to foreign born mothers and the level of fertility in an area.

This is a consequence of the diversity in country of birth composition of the foreign born population of different areas, alongside varying fertility levels among women from different countries of birth. The relationship may also be affected by local differences in the fertility of UK born women. It is not currently possible to ascertain whether there are differences in the fertility levels of UK born and foreign born women at

Figure 7

Proportion of live births to foreign born women and the Total Fertility Rate, local authorities, England and Wales, 2007



Source: Birth registration and mid-year population estimates

local authority level since the population denominators required are only available from survey data and would not be sufficiently robust.

Migrants are not the only population subgroup which can impact on the TFR. Taking Cambridge as an example²², in 2007 foreign born mothers contributed 42 per cent of all births but the overall TFR was relatively low (1.43 children per woman). Foreign born mothers originated from a diverse range of countries with no particular group dominating – in 2007, women born in EU countries contributed 14 per cent of births in Cambridge, while 13 per cent of babies had mothers born in Asia. The presence of higher education institutions in Cambridge, attended by large numbers of both UK and international students, is likely to have a large impact on its fertility. Students are likely to have lower fertility while studying than women of the same age who are not in higher education, and graduates tend to enter motherhood later than women without higher qualifications. The low fertility in Cambridge is therefore more likely to be associated with the characteristics of its student and graduate population than the fact that a high proportion of mothers were born abroad.

Similarly, the impact on the TFR of working women delaying childbearing can be illustrated in London boroughs – these areas generally have a high proportion of births to foreign born women, but the TFR can vary widely. In 2007 Westminster, Camden and Kensington and Chelsea experienced a high proportion of births to foreign born women (over 60 per cent); however, the TFRs for these areas were very low (1.33 children per woman or lower). The low TFR in these areas is believed to be partly a consequence of women delaying motherhood for career reasons.

Summary and Discussion – looking to the future

This article has explored the relative contributions of UK born and foreign born women to recent increases in births in the UK. The picture presented is complex, because increases in the two groups vary by age and have different underlying causes.

Two-thirds of the rise in births since 2001 can be attributed to foreign born women. This is mainly a consequence of the increased size of the foreign born population in the UK. Yet since 2004 rising fertility rates among UK born women has been the largest single factor increasing the overall number of births. However, due to decreasing numbers of UK

born women at the peak childbearing ages, births to UK born women have only risen by a small amount.

Drivers behind the increase in births vary by age group. Most of the overall increase in births to women in the peak childbearing ages, 25–29 and 30–34, is due to the rising foreign born population at these ages. At ages 20–24, 35–39 and 40 and over, UK born women have contributed more than foreign born women to the increases in births, as a result of rising UK born fertility. Fertility rates also rose among UK born women aged 25–29 and 30–34 but their impact was outweighed by the changes in size and age structure of the UK born childbearing population which had a negative impact on the number of births.

Looking to the future, the contribution of UK born and foreign born women to numbers of births is not straightforward to assess, since assumptions need to be made about future levels of in-migration, out-migration and fertility in each group.

This article has also shown that the impact of international migration on past and current fertility rates is difficult to quantify precisely due to data and methodological restrictions (such as the use of country of birth to identify migrants, and timing issues in measuring migrant fertility). Any numerical assumptions about the impact of past and future net migration on future fertility would depend on several large unknowns. These include future changes in the composition of in-migrants by origin country, changes in future fertility rates in origin countries and the level of convergence in fertility rates between future in-migrants, existing first and second generation in-migrants and the indigenous UK population. Consideration would also need to be given to future emigration patterns and the impact of such patterns.

Migration aside, making assumptions about the future course of fertility of UK born women is also challenging. Recent rises in fertility are still to be fully explained (although changes in age at childbearing and improvements in financial support have been highlighted as possible factors²³). The recent economic downturn represents a further ‘unknown’.

Theories on the direct impacts of economic recession on fertility point potentially to both upward and downward impacts. For example, some people may choose to delay childbearing or limit family size due to financial uncertainty. Conversely, others may choose to start or expand a family if they are unable to gain satisfactory employment. These impacts may vary by age or other characteristics, so may affect UK born and non-UK born women to different extents.

The current economic recession may also affect levels of in- and out-migration, which in turn could affect the number of births via a number of mechanisms. For example, if in-migration were to fall, slower growth in the non-UK born population could lead to smaller annual increases in the number of births to foreign born women. Some reduction in the upward pressure on fertility rates from foreign born women might also be expected, but this would depend on which countries of origin see reductions in migrant streams. Similarly, any reduction in levels of emigration among UK born women or increased return migration of the foreign born could affect the number of births through changes in fertility rates or population structure.

Assessing the likely future impact of migration on UK births and the likely impact of the current economic downturn on fertility and migration are therefore two of the key challenges facing demographers making population projections or working to improve understanding of UK childbearing trends. There is plenty of scope for further work on this topic, such as using survey data to explore differences in fertility behaviour between migrants and non-migrants in greater depth and investigating the timing of fertility in relation to migration in the UK context.

Key findings

- The number of births in the UK has increased each year since 2001. The relative contributions of UK born and foreign born women to this increase are complex because the increases have different underlying causes.
- The number of births to foreign born mothers in the UK has risen by 65.0 per cent since 2001, while the number of births to UK born mothers has only risen 6.4 per cent.
- Between 2001 and 2007 the proportion of foreign born women in the UK childbearing population increased from 10.3 per cent to 14.4 per cent.
- Women born outside the UK have a higher Total Fertility Rate (TFR) than UK born women. In 2007 the estimated TFR for foreign born women was 2.51 children per woman, compared with 1.79 for UK born women.
- The rise in the overall TFR is mainly due to increasing fertility among UK born women, since fertility among foreign born women has remained relatively stable since 2004. However, foreign born women, who generally have higher fertility, are making up an increasing share of the population, which is also acting to push the overall TFR upwards.
- Increases in the number of births since 2001 have been driven by UK born women at ages 20–24 and 35 and over, but by foreign born women at ages under 20 and 25–34.
- Since 2004 increasing fertility rates among UK born women have made the largest contribution to the overall increase in births – the rise in births is not as high as it might have been, due to falling numbers of UK born women aged 25–39.
- The increasing size of the foreign born population (particularly at ages where fertility is highest), resulted in the second largest contribution to the overall increase in births since 2004.
- In both 2001 and 2007 the ten local authorities exhibiting the highest proportion of births to foreign born mothers were all London boroughs which had over 60 per cent of births to foreign born women by 2007. In Scotland and Northern Ireland, the local authorities with the highest proportion of births to foreign born mothers were Aberdeen City and Dungannon. In 2007 these areas experienced over one-fifth of births to foreign born mothers.

Migration, fertility and the links between them are set to be explored further by the new Economic and Social Research Council (ESRC) Centre for Population Change. The Centre aims to bring together expertise from the University of Southampton and a consortium of Scottish universities in tackling key questions relating to population change. It is being run in partnership with the Office for National Statistics and the General Register Office for Scotland.

Acknowledgements

We are grateful for the assistance of colleagues at the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency for birth registration data to facilitate the compilation of UK-wide statistics.

Appendix One

Estimating the population by individual countries of birth

Female population estimates for the UK by both individual country of birth and five-year age group are not statistically robust since annual estimates are only available from surveys and are subject to sampling error (in non-census years). A detailed picture of the most common

Table A1

Estimated total population resident in the United Kingdom, by foreign country of birth: Ten most common countries of birth, 2004 and 2007

2004		2007	
Country	Estimate (thousands)	Country	Estimate (thousands)
1 India	502	India	613
2 Republic of Ireland	452	Republic of Ireland	420
3 Pakistan	281	Poland	405
4 Germany	275	Pakistan	377
5 Bangladesh	225	Germany	266
6 South Africa	178	Bangladesh	205
7 United States of America	145	South Africa	201
8 Kenya	143	United States of America	188
9 Jamaica	136	Jamaica	166
10 Italy	114	Nigeria	140

Source: Annual Population Survey

countries of birth among the foreign born population can only be obtained by studying the UK population as a whole (all age–sex groups combined). Estimates of total UK population by individual countries of birth for 2004 to 2007 were published by the Office for National Statistics^{24,25} for the first time in August 2008 using the Annual Population Survey. It is not known how closely the detailed country of birth distribution among all individuals matches that for females of reproductive age. For this reason care should be exercised when drawing any conclusions about the childbearing population from these estimates.

Table A1 shows the ten most common countries of birth for the foreign born UK population in 2004 and 2007. Between 2004 and 2007 increases in the number of individuals born in countries such as India, Pakistan, Nigeria, South Africa and the USA have been observed. In contrast decreases have been observed in the number of individuals born in Bangladesh and Germany.

India was the most common foreign country of birth each year between 2004 and 2007 with Indian born residents making up just under 10 per cent of the foreign born population in the UK each year.

The Republic of Ireland has remained the second most common foreign country of birth since 2004, with Pakistan the third most common between 2004 and 2006. In 2007 however, Pakistan moved into fourth place being replaced by Poland which had risen from 12th place in 2004. In four years the Polish born population resident in the UK has more than trebled. A similar increase has been observed among the A8 born population as a whole, as a consequence of EU expansion.

Notes and References

- 1 The term 'births' used throughout refers to live births.
- 2 In this article, births to foreign born women include a very small number of births where the country of birth of the mother was not stated. In 2007, only 25 births in the UK did not have a mother's country of birth stated.
- 3 Live births by country of birth of the father and country of birth of the mother are published annually in Birth Statistics, Series FM1, Table 9.3 available at: www.statistics.gov.uk/downloads/theme_population/FM1_36/FM1-No36.pdf
- 4 Hiebert D (2000) Ethnicity, in Johnston R J et al (eds), *The dictionary of human geography*, 4th ed, Blackwell: Oxford, 235–8.
- 5 Moser K, Stanfield K M, and Leon D A (2008) 'Birthweight and gestational age by ethnic group, England and Wales 2005; introducing new data on births'. *Health Statistics Quarterly* 39, pp 22–32.

- 6 Moser K (2009) 'Gestation-specific infant mortality by social and biological factors among babies born in England and Wales in 2006'. *Health Statistics Quarterly* 42
- 7 Dubuc S, Coleman D and Smith M D, (2008) Ethnic change in the populations of the developed world. Presentation to the European Population Conference, Barcelona, 10 July 2008, available at: www.spsw.ox.ac.uk/research/groups/oxpop/ppt.html
- 8 Ethnic group population trends and projections for UK local areas (ESRC research Award RES-165-25-0032 1 October 2007 to 30 September 2009) at: www.geog.leeds.ac.uk/projects/migrants/
- 9 Estimates of total international migration refer to long-term migrants. Estimates provided for 2002 to 2007 refer to the six-year calendar period. Estimates used are from tables 2.03 and 2.07 in the MN series (www.statistics.gov.uk/statbase/Product.asp?vlnk=15053). Estimates by country of birth refer to all ages and sexes, not just females of reproductive age.
- 10 Toulemon L (2004) 'Fertility among immigrant women: new data, a new approach', *Population and Societies*, 400, INED, Paris.
- 11 Andersson G (2004) 'Childbearing after migration: Fertility patterns of foreign born women in Sweden'. *International Migration Review* 38(2), pp 747–775.
- 12 Héran F and Pison G (2007) 'Two children per woman in France in 2006: are immigrants to blame?' *Population and Societies*, 432, INED, Paris.
- 13 Birth Statistics, Series FM1, Table 9.5 available at: www.statistics.gov.uk/downloads/theme_population/FM1_36/FM1-No36.pdf These fertility rates derived from the 2001 Census are not directly comparable to fertility rates calculated using estimated populations from the APS. The APS excludes people resident in many types of communal establishment hence the rates will be slightly over-estimated.
- 14 Dunnell K (2007) 'The changing demographic picture of the UK: National Statisticians article on the population', *Population Trends* 130, pp 9–21.
- 15 Sobotka T (2008) 'The rising importance of migrants for childbearing in Europe'. *Demographic Research*, Volume 19, Chapter 7, pp 225–248.
- 16 Personal correspondence with Statistics Denmark.
- 17 See Table 7: Births, Summary, Country of birth of parents, Australia – 2007 www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage3301.02007?OpenDocument
- 18 Personal correspondence with Statistics Canada.
- 19 See reference 11.
- 20 The term 'local authorities' is used here to cover local authorities and unitary authorities in England and Wales, council areas in Scotland, and local government districts in Northern Ireland. The boundaries used are those in existence at the time the birth occurred. Between 2001 and 2007, local authority boundaries in England, Scotland and Northern Ireland have remained unchanged. However, in Wales, some local authorities have experienced boundary changes since 2001. As a result, in some Welsh areas, changes in the proportion of births to foreign born women may be influenced by local authority boundary changes. On 1 April 2009, there was a reorganisation of local government in England which resulted in some boundary changes – these boundaries have not been used since our analysis only covers the period 2001 to 2007.
- 21 Klodawski E and Fitzpatrick J (2008) Estimating future births in the capital: a discussion document December 2008, London Health Observatory, available at: www.lho.org.uk/DATAANDMETHODS/Local_Data/estimatingfuturebirths.aspx
- 22 Tromans N, Natamba E, Jefferies J, and Norman P (2008) 'Have the national trends in fertility between 1986 and 2006 occurred evenly across England and Wales?' *Population Trends*, 133, pp 7–19.
- 23 Jefferies J (2008) 'Fertility assumptions for the 2006-based national population projections', *Population Trends*, 131, pp 19–27.
- 24 Population estimates by country of birth from the Annual Population Survey: www.statistics.gov.uk/StatBase/Product.asp?vlnk=15147
- 25 Ellis A (2009) 'Population estimates by country of birth from the Annual Population Survey', *Population Trends*, 135, pp 20–28.