

# The fertility of recent migrants to England and Wales: interrelationships between migration and birth timing

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## Abstract

Births to non-UK born mothers have played an important contributory role in the recent increase in fertility in the UK (Tromans et al. 2009; ONS, 2013). Total fertility rates (TFRs) among overseas born women tend to be much higher than those of UK-born women and often higher than TFRs in the country of origin (Dorman, 2014). However, TFRs calculated for non-UK born women can be potentially misleading since the timing of childbearing is often related to migration. Studying the timing of fertility with reference to the date of migration in England and Wales has been difficult because of the hitherto lack of appropriate data sources which contain both information on date of arrival and fertility histories. The 2011 Census asked non-UK born respondents the month and year of first residence in the UK. By combining these data with linked information on childbearing available within the ONS Longitudinal Study this paper contributes to the literature by estimating the fertility of migrants before and after migration. The paper provides new insights by (1) estimating the fertility of migrant groups to England and Wales before migration, (2) examining whether there is evidence of an acceleration of childbearing around the time of the migration and (3) identifying which migrants are likely to have a birth within the first five years after migration to England and Wales. Our findings suggest important timing changes in childbearing associated with the migration event which mean that standard period measures of fertility among these groups can be a misleading indicator of overall life time fertility. These timing changes appear to differ according to the type of sending country. We discuss these findings in terms of their implications for understanding overall fertility trends in the UK.

## 1. Introduction and background

The childbearing patterns of migrant groups have become of increased salience in many European countries due to the relatively low levels of fertility combined with an upsurge in international migration to the region over the past decade (Sobotka, 2008). In England and Wales increased international migration, especially since European enlargement in 2004, has been partly responsible for the sustained increase in the Total Fertility Rate (TFR) in England and Wales between 2001 and 2011, despite the economic downturn (Tromans et al., 2009; ONS, 2013). Moreover the proportion of all births to foreign born women in England and Wales rose from 16.4% in 2001 to 25.5% in 2011 (Dormon, 2014) with concomitant implications for maternity provision, school places, housing and other services. Understanding the fertility of recent migrant groups is important for making assumptions about future

levels of fertility for making projections and estimating population growth in developed countries including the UK. However, aggregate measures of migrant fertility that are based on the summation of period age-specific fertility rates can provide distorted measure of overall fertility due to the possible postponement of family formation prior to migration and a subsequent rise in fertility immediately following arrival (Kulu, 2005; Toulemon, 2004). Given the significance of international migration for predicting future population growth in England and Wales an understanding of these potential tempo-distortions in fertility is required. This paper provides some further steps towards understanding the interrelationship between migration and childbearing among international migrants to England and Wales.

## **2. Research questions**

In this research we provide new insights into the fertility of migrants before and after migration to England and Wales by asking the following questions: How do fertility rates change over the first seven years subsequent to arrival in England and Wales? How does this pattern differ according to age at arrival and country of birth?

## **3. Method**

Estimation of fertility among immigrants before and after migration necessitates high quality longitudinal data on immigration and births (Kulu, 2005). The present study utilises newly available data from the 2011 Census data in the Office for National Statistics (ONS) Longitudinal Study (LS), which links information from the census, the National Health Service (NHS) patient registration data system from the Health and Social Care Information Centre and official birth registration data for a 1% sample of the population of England and Wales (ONS, 2015). We include in our analyses women who migrated in the inter-censal period (between April 2001 and March 2011).

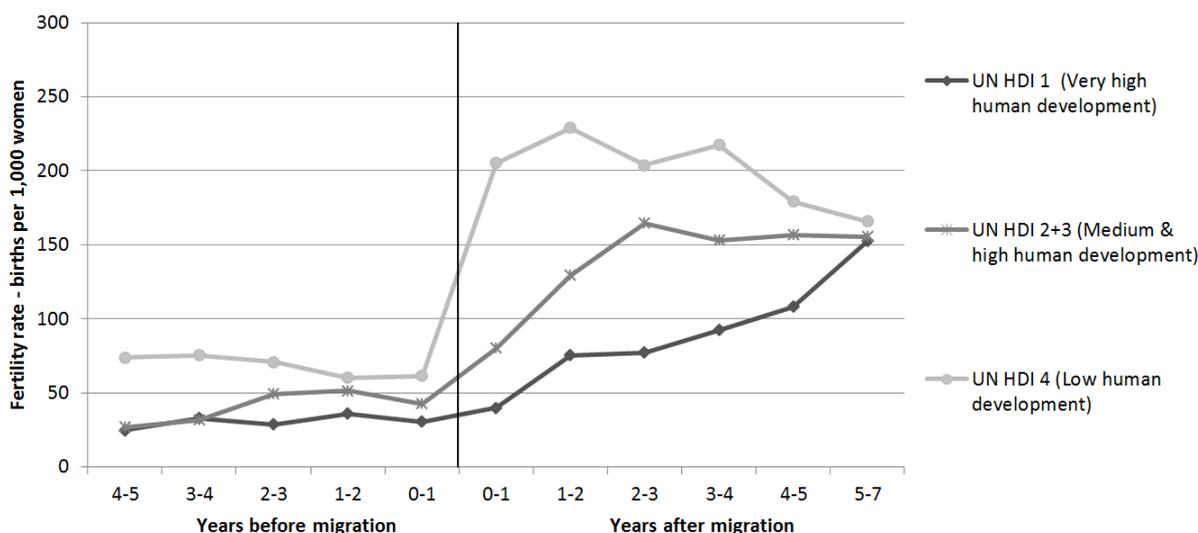
To estimate the fertility of migrants prior to arrival we use the own child method (Retherford and Cho, 1978) and the ages of co-resident biological children in the 2011 England and Wales census, to calculate birth rates per 1,000 women for each year up to five years before migration. Rates are estimated for women aged 20-24, 25-29 and 30-34 years at arrival. The assumption that women are co-resident with all of their children will result in some under-estimation of childbearing prior to arrival. Fertility rates subsequent to migration are calculated according to age at arrival and years since arrival. The numerator is based on registered births which took place in England and Wales at each yearly duration since arrival. The denominator is based on the number of women resident in England and Wales at mid-year for each year after the date of migration. First we consider all migrants to England and Wales in the 2001-2011 period. In so doing we obtain a larger sample size and can extend the period of observation to seven years following arrival. By grouping migrants according to their United Nations Human Development Index (UN HDI) in 2011 (UNDP, 2011) we can compare patterns according to the overall levels of human development (low, medium and high, and very high). Next we focus on four key migrant groups to

England and Wales (Pakistan and Bangladesh, India and Poland) which account for a significant proportion of UK births.

#### 4. Selected results

Figure 1 shows fertility rates per 1,000 women for up to five years before migration and up to seven years after migration for women aged 25-29 at migration by UN HDI country of birth. In the first year since migration there is an immediate acceleration in fertility for the low HDI group. There is a pronounced decline in fertility rates at longer durations (i.e. four or more years) post migration. Fertility rates among migrants from regions with very high levels of human development have very low rates of fertility in the first few years subsequent to migration. However, in the period five to seven years post-migration these women, who are now aged between 30 and 36, are seen to have much higher fertility rates – around 15% of women will give birth each year.

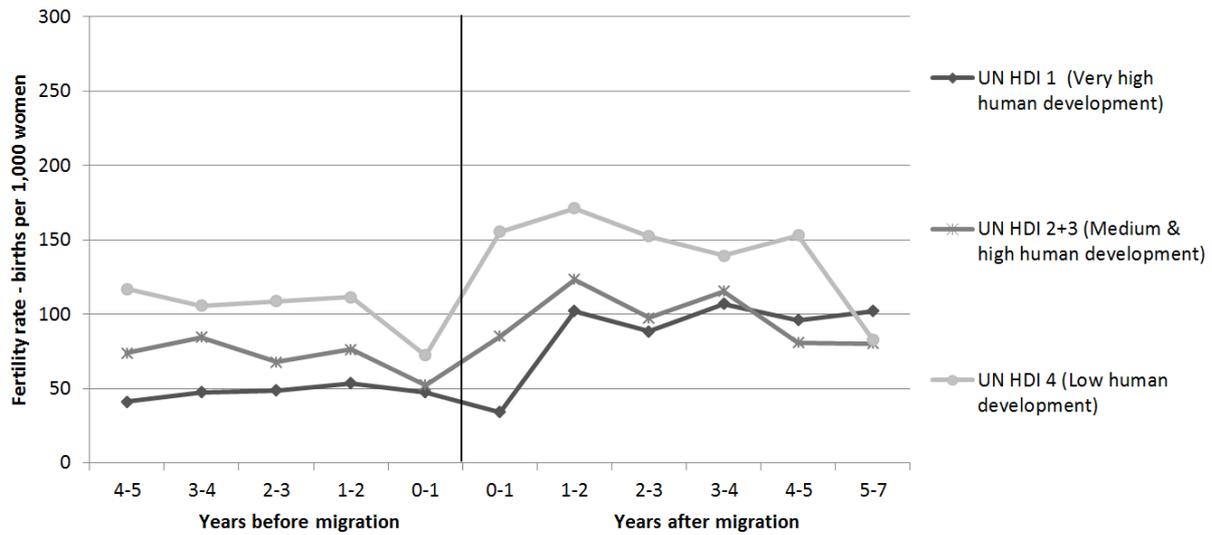
**Figure 1: Fertility rates before and after migration for female migrants to England and Wales per 1,000 women aged 25-29 years at date of migration to England and Wales by UN HDI country of birth**



Source: Authors' own analysis of ONS LS.

Figure 2 shows results for women aged 30-34 years at arrival in the UK. Older migrants are more likely to bring young children with them, as indicated by the higher levels of fertility in the pre-migration period, especially among those born in regions with the lowest level of human development. On arrival, rates of childbearing increase as compared to the levels in the pre-migration period, but the overall level of childbearing is much lower than for young women, particularly for women born in low HDI countries. Among women born in countries with a very high level of human development, rates of childbearing are low in the years prior to migration, drop further in the first year following migration, before increasing to a level wherey one in ten women has a birth each year. Five to seven years subsequent to migration (when the women are aged 35-41) it is those who originated in countries with the highest levels of human development which have the highest fertility rates.

**Figure 2: Fertility rates before and after migration for female migrants to England and Wales per 1,000 women aged 30-34 years at date of migration to England and Wales by UN HDI country of birth**



Source: Authors' own analysis of ONS LS.

## 5. Conclusions and next steps

The paper provides important evidence as to how age at migration and country of birth are crucial in affecting pre- and post-migration fertility. Our findings suggest that the relationship between migration and family building differs according to country of birth, and age at arrival in England and Wales. High rates of childbearing seen in the first few years following migration among women from lower income countries are not sustained at longer durations, suggesting a strong temporary effect that has the potential to distort period measures of fertility. Patterns observed are likely to reflect reasons for migration which differ systematically by age and country of birth. Similar to previous findings from France (Toulemon, 2004), Sweden, (Persson and Hoem, 2014), Norway (Østby, 2002) and Italy (Mussino and Strozza, 2012), a sharp increase in fertility was identified in years immediately after migration for migrants from low income countries of birth. In contrast, women moving from countries of birth where work-related migration reasons are key (e.g. very high HDI countries) appear to delay childbearing until some years after migration. This delay in childbearing could be interpreted as an inter-relationship of events since the migration event is associated with a transition in education or work role. Increases in fertility at longer durations since migration may occur to meet fertility preferences over the longer term when the original migration was work or study motivated.

Because of the tempo distortion in childbearing associated with the migration event the appropriateness of the period TFR as a summary measure of the likely completed family size of migrants should be questioned. Biases can arise from the age-specific nature of migration and the age and duration-specific fertility of migrants since migration. When migration is associated with high fertility on arrival, an increase in migration rates, can inflate the TFR by increasing the number of women with short durations of stay when their fertility rates are highest, therefore exaggerating the fertility quantum (Sobotka and Lutz, 2009). Therefore, relatively high period TFRs (Dormon, 2014) may reflect tempo distortions, an

effect likely to be particularly strong for migrant groups who migrate for family-related reasons. Further research is required to identify whether the true quantum of fertility for foreign-born women living in the UK is higher than for their contemporaries remaining in the home countries. Unfortunately, such data require us to be able to observe migrants through to the end of their reproductive life times. In the meantime, the analyses presented here provide strong evidence of an inter-relationship between migration and the timing of fertility that must be considered when interpreting period measures of fertility among migrants.

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