Estimating the fertility of recent migrants to England and Wales (1991-2001) – is there an elevated level of fertility after migration?

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Abstract

In England and Wales the total fertility rate has been rising for almost ten years. Since the late 1990s migration to England and Wales has also accelerated. It is possible that the large number of migrants of childbearing ages moving to England and Wales, larger family size norms among foreign born women and a birth timing effect among recent migrants to England and Wales have led to the increase in the TFR. However, the relative influence of any timing effect among recent migrants on the total fertility rate is not known. Research on migrant fertility in France (Toulemon, 2004) and Sweden (Andersson, 2004) has identified elevated fertility levels among migrants in the time period immediately after the migration event. In England and Wales research has focused on period measures of fertility rather than estimating if there is an elevated level of fertility among the large number of recent migrants to England and Wales. This analysis seeks to identify if there is a higher rate of fertility among a sample of recent migrants to England and Wales. Through using longitudinal data on date of arrival in England and Wales and subsequent childbearing duration this research estimates the probability of giving birth in the period after the 2001 census.

1. Introduction and background

Since 2001 the total fertility rate (TFR) for England and Wales has risen from 1.6 in 2001 to just below replacement level at 2.0 in 2010. From the late 1990s there has been a significant increase in international migration to Britain which accelerated after 2004. It is important to understand the nature of any relationship between these two trends. Increased migration can affect fertility in at least three ways. First, migrants tend to be of childbearing age and hence contribute to the overall number of births. In England and Wales the proportion of births that were born to women born outside of the UK rose from 15% to 22% between 2001 and 2007 (Tromans et al., 2009). Tromans et al. (2008) identified a geographical match between local government areas where there has been a substantial increase in fertility and areas where there has been a high rate of immigration between 1986 and 2006. Second, some migrant groups tend to have family sizes larger than the host country and act to increase overall family size. In the British context we have seen significant assimilation of family sizes among many migrant groups such as Indian. However women born in Pakistan and Bangladesh continue to have higher completed family sizes than UK-born women

(Dunnell, 2007). Third, period fertility rates can be inflated by a timing effect. Research from other countries has suggested that there is typically a short duration between migration and subsequent fertility (Andersson, 2004; Toulemon, 2004). As a result the TFR for migrant groups and hence the overall population is biased upwards. In the UK, little research has been done to examine whether there is an elevated level of fertility after the migration event.

The present research seeks to fill this gap in the literature. First we estimate levels of fertility among different groups of recent female migrants to England and Wales. Secondly, using longitudinal information on date of arrival and childbearing history we examine the impact of duration from migration on the probability of having a birth.

2. Method and data

2.1 Data – the ONS LS

For analysis of migrant fertility to be robust a sufficiently large sample of migrants is required. In England and Wales the Office for National Statistics (ONS) Longitudinal Study (LS) is one of the most suitable datasets. Functioning in a similar way to a population register, the dataset is an approximate 1% sample of the population of England and Wales. The dataset is composed of linked census, birth registration and National Health Service Central Register (NHSCR) records. Migrants to England and Wales are included within the LS sample either following their registration with a National Health Service General Practitioner (GP) or as a result of completing a census form.

2.2 Identifying migrants in the LS

For most migrants the date of registration can be used as the date of arrival in England and Wales. Additionally, the census asks all persons whether they were resident in the UK one year before the census. This provides additional information on date of arrival for those included via a census return. Using the 2001 census as a reference point it is possible to select migrants who arrived at different time points and estimate their fertility with reference to a set of persons who were continuously resident between 1991 and 2001. Two assumptions have been made about the date of arrival in England and Wales. Using these estimates of the duration from migration to birth can be made. The two dates in use are: *Migration date 1* – the date on which the migrant registered with a GP for the first time. *Migration date 2* – the latest possible date at which the person may have migrated to England and Wales.

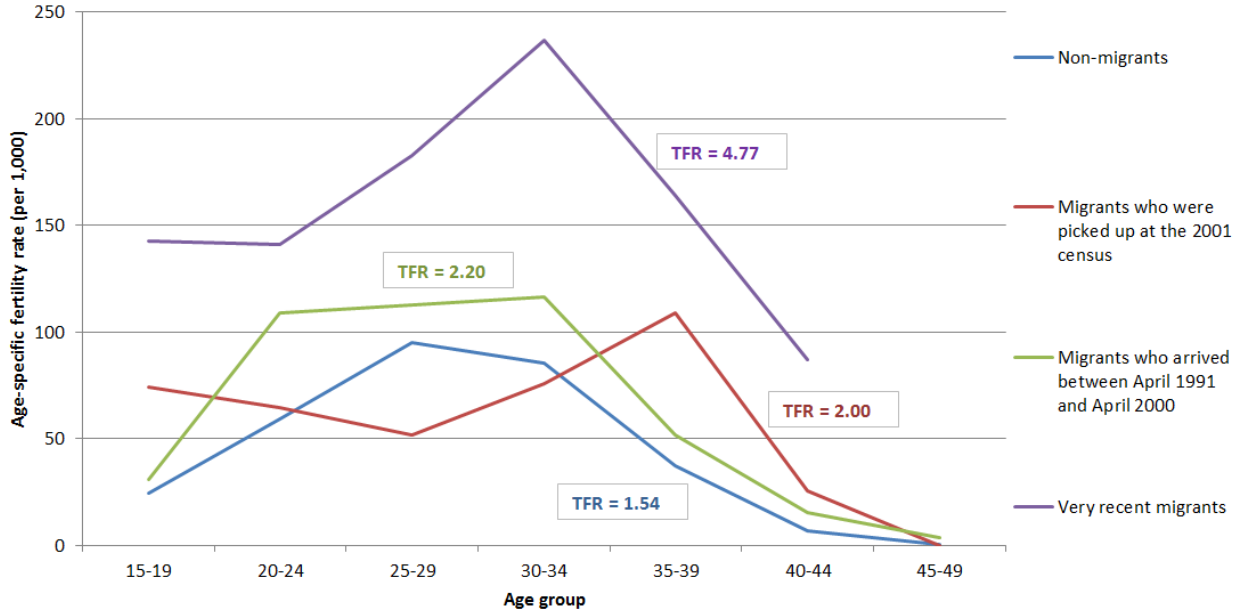
2.3 Model specification

Our analysis is based on the population present at the 2001 census since we can be fairly sure of the reliability of the data on the resident population of migrants at this point. Fertility rates are calculated for the twenty-four months subsequent to the 2001 census, since it is assumed that attrition from the LS will be minimal within this period. A discrete-time logistic hazards model is used to estimate the monthly probability of a birth. The key variables of interest are country of birth and duration since arrival in England and Wales. Control variables include age at 2001 census, marital and family status, employment status and educational level. Two models are presented each with the alternative assumed migration date.

3. Initial results

Figure 1 shows the observed age specific fertility rates for 2001 according to migrant status. It is clear that the most recent migrants to England and Wales who entered the LS between April 2000 and April 2001 have the highest level of fertility. Migrants who arrived in England and Wales sometime between 1991 and April 2000 also show a higher level of fertility with a TFR of 2.2. This is higher than those persons who were non-migrants (continually resident in the LS) between 1991 and 2001. Migrants to England and Wales between 1991 and 2001 show a higher level of fertility in younger age groups than the non-migrants but have a similar profile at older ages.

Figure 1: Age-specific fertility rates for 2001 - migrants and non-migrants in the ONS LS

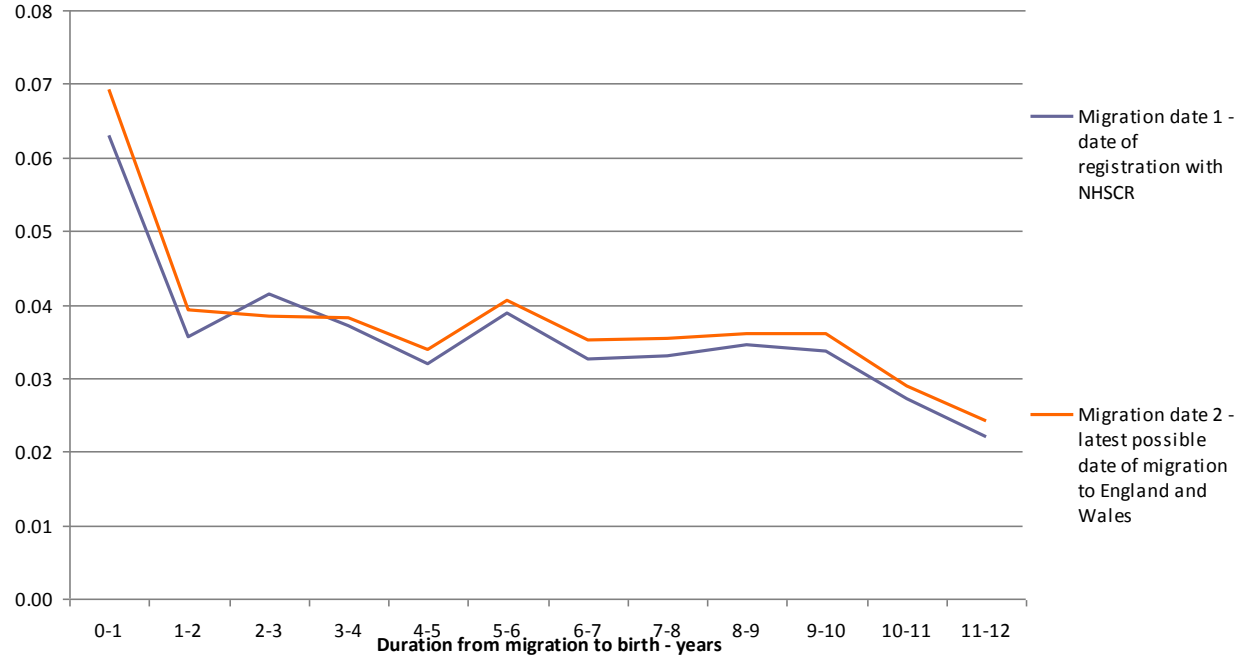


Source: James Robards / ONS LS, June 2011.

Figure 2 shows the estimated probability of a birth according to duration since migration to England and Wales. For illustration the probabilities refer to married Pakistani women. (The level

of childbearing is highest for this group and also women born in Bangladesh and lower for all other countries of birth). We find that the probability of a birth is significantly higher in the first twelve months since arrival before dropping down to a steady level. The findings are indifferent to the date of migration assumed for the analysis.

Figure 2: Monthly probability of birth for Pakistani women entering the ONS LS 1991-2001



Aged 25-29 years at 2001, born in Pakistan, 0-1 years since date of migration, Married couple, with no children, employed full time, education level 2.
Source: James Robards / ONS LS, June 2011.

4. Conclusions and next steps

This analysis supports the hypothesis that childbearing is often closely associated with a migration event. Therefore, when there are significant increases in immigration as has been the case for the UK over the last decade, period measures of fertility can be inflated upwards.

However, it would seem possible that to some extent the patterns seen in the Longitudinal study may reflect a tendency for migrants to register with a GP when they become pregnant, thus over-inflating the association between migration and childbearing. Next steps in this work will attempt to identify the potential magnitude of this bias. In 2011, the UK census included a question on date of arrival and hence this will provide an opportunity for further investigation of this issue.

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