

The fertility of recent migrants to England and Wales

DESCRIPTIVE FINDING

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ABSTRACT

BACKGROUND

Estimates of fertility for the overseas-born based on the period Total Fertility Rate (TFR) suggest that levels of childbearing are significantly higher among foreign-born women than women born in the UK. However, migration and timing of subsequent family formation mean that aggregate measures of fertility based on period TFRs may not be a useful indicator of the likely completed family size that migrant women will have at the end of their reproductive lives.

OBJECTIVE

The paper quantifies childbearing according to duration since migration among female migrants to England and Wales arriving between 2001-2011, and examines how these patterns differ according to age at arrival and country of birth.

METHODS

Data from the Office for National Statistics Longitudinal Study, a 1% sample of the England and Wales population, are used to identify the reported date of arrival in the UK and to estimate childbearing prior to, and subsequent from arrival.

RESULTS

Fertility rates peak in the first one to four years subsequent to arrival among migrants from Pakistan and Bangladeshi. Migrants from India and Poland show a delay in childbearing after migration to England and Wales, and lower fertility rates compared to migrants from Pakistan and Bangladesh who show high fertility after migration at all durations observed in this study.

CONCLUSIONS

There are large differences in the timing of fertility among migrants according to age at arrival and migrant country of origin which are likely to be related to the reason for migration. Tempo distortions among some migrant groups mean that the period TFR is not necessarily a useful summary measure of the likely lifetime fertility of migrant groups.

KEYWORDS: Migration; immigrant fertility; longitudinal data; life course; disruption hypothesis.

1. INTRODUCTION

Decisions regarding migration and family formation are often inter-connected and jointly determined (Kulu 2005). Postponement of family formation prior to migration and a subsequent rise in fertility immediately following can cause a tempo distortion to the childbearing patterns of migrants and an overestimation of migrant fertility as measured by the period Total Fertility Rate (TFR) (Dubuc 2012; Milewski 2010; Sobotka and Lutz 2009; Kulu 2005; Toulemon 2004). Hence it is important to account for time since migration when studying the fertility of immigrant groups (Kulu 2005; Andersson 2004; Toulemon 2004). This paper describes the fertility rates of women migrating to England and Wales in the period 2001-2011, and how they differ by duration since arrival, age at migration, and country of birth. It is not our intention to provide an unbiased effect of a migration effect on fertility – since this would require a complete analysis of childbearing for those who do and do not migrate (Hoem and Nedoluzhko 2014). In our analyses, the fertility of migrants before migration is conditioned on the fact that they later migrate (Hoem 2014). Bearing these difficulties in mind, we ask the following questions: What are the estimated fertility rates of migrants before migration based on the children they bring with them? How do fertility rates change over the first five years subsequent to arrival in England and

Wales? How does this pattern differ according to age at arrival and country of birth? Thus, our analyses provide new insights into the potential biases in period measures of fertility in relation to lifetime achieved fertility and will inform future population projections for the United Kingdom (UK) (ONS 2015a).

2. MIGRATION AND MIGRANT FERTILITY CONTEXT

Between 2001 and 2011 established migration streams to the UK such as those from the Indian sub-continent were joined by increased numbers migrating from Africa, Iraq and Afghanistan (ONS 2012; ONS 2013a). From 2004 onwards substantial numbers arrived from the eight eastern-central European countries who were admitted to the European Union in May 2004 (EU8 countries), particularly Poland. Source region is strongly associated with reason for migration (Robards and Berrington 2015). Migrants from Pakistan and Bangladesh often move for family reasons (Ballard 2008; Robinson, Reeve, and Casey 2007). Indian migrants to England and Wales are very heterogeneous in terms of socio-background and reasons for migration. (Fargues and Lum 2014; Robards and Berrington 2015). Younger migrants from within Europe tend to come for study, whilst older migrants (and those from the EU8 countries) are more likely to come for work reasons (Robards and Berrington 2015).

The changing role of gender in international migration to the UK is an under-researched area. Increasingly skilled migrants to the UK are women, for example as a result of recruitment to feminized sectors such as health and social services (Berkeley, Khan, and Ambikaipaker 2006; Kofman 2000). Furthermore, family and marriage migration should no longer be seen as a predominantly female role as a result of an

increase in the number of men who enter as spouses and fiancés (Kofman 2004).

Whilst not all women migrate to the UK for the purposes of family formation, over 85% of migrants to England and Wales are in the childbearing ages (ONS 2014) and make a significant contribution to overall fertility (Tromans, Natamba, and Jefferies 2009).

The proportion of births in England and Wales to foreign-born women increased substantially over the last decade from 16.4% to 25.5% (Dormon 2014). Polish born mothers contribute the highest proportion of births, followed by Pakistani, Indian and Bangladeshi born women (Table 1). There has been significant reduction in family size among migrants from south Asia, although migrants born in Pakistan and Bangladesh continue to have higher completed family sizes than UK-born women (Dubuc 2012; ONS 2013b). Recent migrants from eastern Europe come from regions of current very low fertility and the TFR for Polish born women resident in England and Wales is higher than that for women in Poland. However, these aggregate measures of period fertility can be affected by relationships between migration and family formation, especially for groups who have migrated within recent years and do not reflect ultimate completed family sizes. In comparisons where TFR differentials are relatively small, timing effects may be responsible for a larger part of cross-national differences (Ní Bhrolcháin 2011). Table 1 reflects the diversity of countries from which migrants to England and Wales originated; with the top five countries contributing one in ten of all births in England and Wales in 2011.

Table 1: Proportion of all births in England and Wales (2011) which are to women born in selected countries, Total Fertility Rates (TFRs) in England and Wales and in country of birth for selected countries of birth contributing the highest proportions of births to foreign-born women in England and Wales

Country of mother's birth	Proportion of all births in England and Wales, 2011 (%) ¹	TFR in England & Wales, 2011 ¹	TFR in origin, around 2011 ²
Poland	2.8	2.1	1.4
Pakistan	2.6	3.8	3.2
India	2.1	2.4	2.5
Bangladesh	1.2	3.3	2.2
Nigeria	1.0	3.3	6.0
Somalia	0.8	4.2	6.6
All foreign born (2011)	25.5	2.2	-

Source: ¹Dormon (2014); ²United Nations Population Division (2014)

3. DATA AND METHOD

Data for this study come from the Office for National Statistics (ONS) Longitudinal Study (LS), which links information from the census and official birth registration data for a 1% sample of the population of England and Wales (ONS 2015b). We include in our analyses women who arrived between April 2001 and March 2011. Date of arrival is based on the date reported at the 2011 Census. Where this was missing (2% of cases), or an earlier date was found in the National Health Service Registration (with a doctor) (8% of cases), we used the latter. We are mindful of the potential link between pregnancy and the likelihood of registration (Robards, Berrington, and Hinde 2013). We follow past research (e.g. Mussino et al. 2015) by selecting migrants to the UK and calculating pre- and post-migration fertility rates. This approach risks anticipatory analysis where pre-migration fertility may be low due to occurrence / timing of an event within another decision-making framework and timescale (the decision to migrate) (Hoem 2014). However, it is not our purpose to examine how the migration event affects fertility among all *potential* immigrants to the UK (this would require information about fertility rates and migration risks among

all women who could in principle migrate). Our aim is to show that, among the select group of women who do migrate, rates of childbearing vary according to duration since arrival, and that these patterns differ considerably across countries of birth and age at arrival.

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. We do not go above age 35 at arrival so as to ensure that women remain in the main reproductive age range during the five year follow up period, and also to minimise the possibility that children have left home. The assumption that women are co-resident with all of their children will result in some under-estimation of childbearing prior to arrival. However, there is little evidence of significant numbers of children left behind among migrants from Poland (White 2011; White 2009; Ryan and Sales 2013). Fertility rates subsequent to migration are calculated according to age at arrival and years since arrival. The numerator is registered births which took place in England and Wales at each yearly duration since arrival. The denominator is the number of women resident in England and Wales at mid-year for each year after the date of migration.

We focus on four key migrant groups to England and Wales (Pakistan and Bangladesh, India and Poland) who account for significant proportions of UK births (Table 1). Pakistani- and Bangladeshi-born women in the UK have similar childbearing patterns (Coleman and Dubuc 2010), and given the small sample sizes in

some durations since migration (Table 2) we group women from these two countries together. Given the diversity in migration to England and Wales, we include a residual group “other countries of origin”. Since Polish migration to the UK only increased after 2004 we can only observe migrant fertility up until five years post migration. We compare these groups with the 2001-2011 averaged Age Specific Fertility Rates (ASFRs) for the England and Wales population. The rates are calculated by averaging ONS fertility rates (ONS 2015c) for each single year of age for the 2001-2011 period (e.g. 2001 and 2011 average for those aged 20) and calculating an average for the five year age group (e.g. 20-24). Since the migrant fertility rates are centred on the year of migration, England and Wales rates for 5 years before and after are calculated by taking the average for the corresponding age group plus or minus 5 years. For example, the England and Wales rate, plotted for the period 1-2 years since migration for those aged 20-24 at arrival, are based on the average for England and Wales in the 21-25 years age group.

Table 2: Sample of migrants (2001-2011) from the ONS LS, according to country of birth and age at arrival.

Country of mother's birth	N				Column %		
	20-24	25-29	30-34	Total	20-24	25-29	30-34
Poland	711	457	214	1,382	17.3	13.7	11.6
Pakistan	291	166	66	523	7.1	5.0	3.6
India	462	531	218	1,211	11.3	15.9	11.8
Bangladesh	184	56	24	264	4.5	1.7	1.3
Other	2,455	2,137	1,323	5,915	59.8	63.8	71.7
Total	4,103	3,347	1,845	9,295	100	100	100

Source: Authors' own analysis of ONS LS.

4. RESULTS

Figure 1(a-c) shows fertility rates per 1,000 women (aged 20-24, 25-29 and 30-34 at arrival), for up to five years before migration and up to five years after migration by country of birth and for all women in England and Wales of an equivalent age.

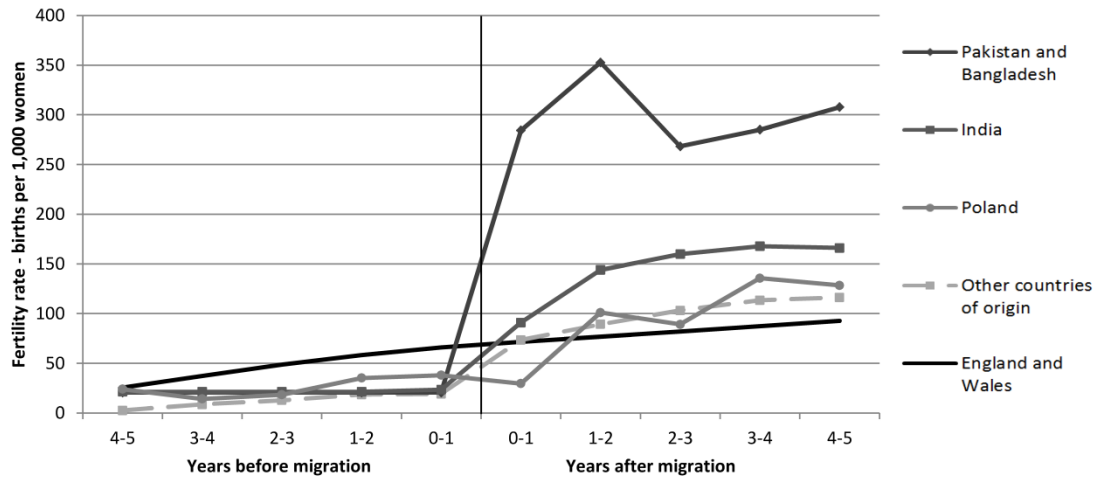
Fertility prior to migration (at least as measured by the number of children women brought with them) for those arriving at age 20-24 is very low irrespective of migrant origin (Figure 1a). Once arrived however, there are significant differences in the fertility behaviour of young Indian women (who exhibit low to moderate levels of fertility) and Pakistani and Bangladeshi women (who experience very high fertility rates in the first few years subsequent to migration and high fertility thereafter for the years observed). One third of Pakistani and Bangladeshi women had a birth in the first year following arrival. This group continues to have high fertility for at least the first five years (the end of our observation period). In contrast to Pakistani and Bangladeshi migrants, fertility rates after arrival are much lower in the first years since migration for Indian-born migrants. This said, fertility rates for the Indian born migrants who arrived in their early twenties are significantly higher than the England and Wales average. Young Polish migrants show low fertility in the first year following migration and then experience fertility rates just above the average for England and Wales.

For migrants aged 25-29 years at arrival, there is a large increase in rates of childbearing in the first two years following arrival for women migrating from Pakistan and Bangladesh, but this sudden increase in fertility immediately subsequent to migration is not seen among women born in India or Poland. However, Indian women who arrive in their late twenties do display raised fertility (especially two to five years following arrival) as compared with England and Wales. In contrast, Polish migrants who arrive in their mid- to late- twenties experience fertility similar to the host population.

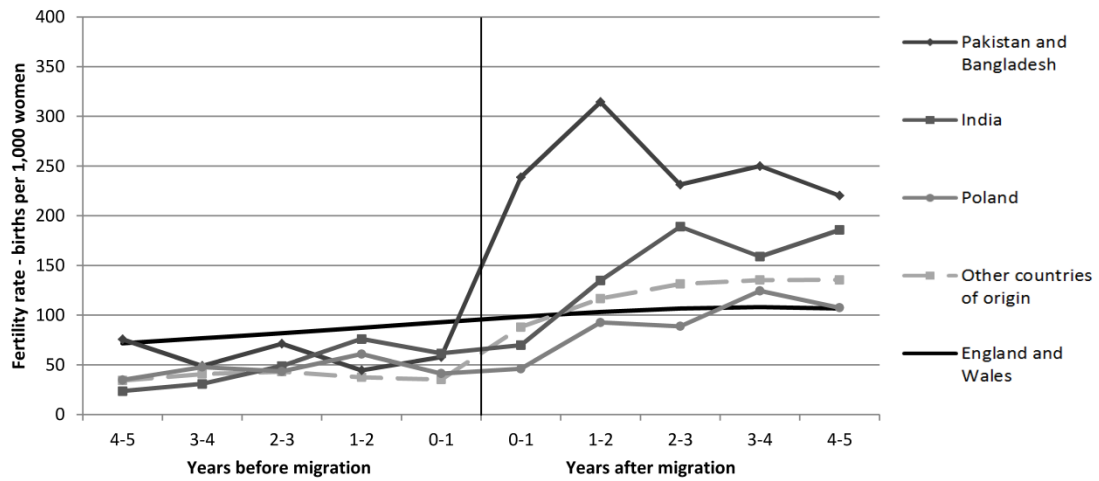
Migrants aged in their early thirties tend to have a flatter ASFR profile with more evidence of childbearing prior to arrival (especially among India born in Pakistan, Bangladeshi and India). Although fertility rates do rise in the year immediately following migration for Pakistani and Bangladeshi-born women the rate is only just over 200 per thousand (compared to around 350 per 1,000 for female migrants in their early 20s). Fertility rates for migrants from other countries show a similar shape to the fertility of migrants from Pakistan and Bangladesh, yet a lower level and with an increase in fertility to 1-2 years after migration. Among this slightly older group of migrants we see some evidence, particularly for women born in Poland and those born in India, that migration to England and Wales is associated with a temporary reduction in fertility.

Figure 1: Fertility rates before and after migration for female migrants to England and Wales per 1,000 women by age at arrival and country of birth. 2011 ASFR for England and Wales.

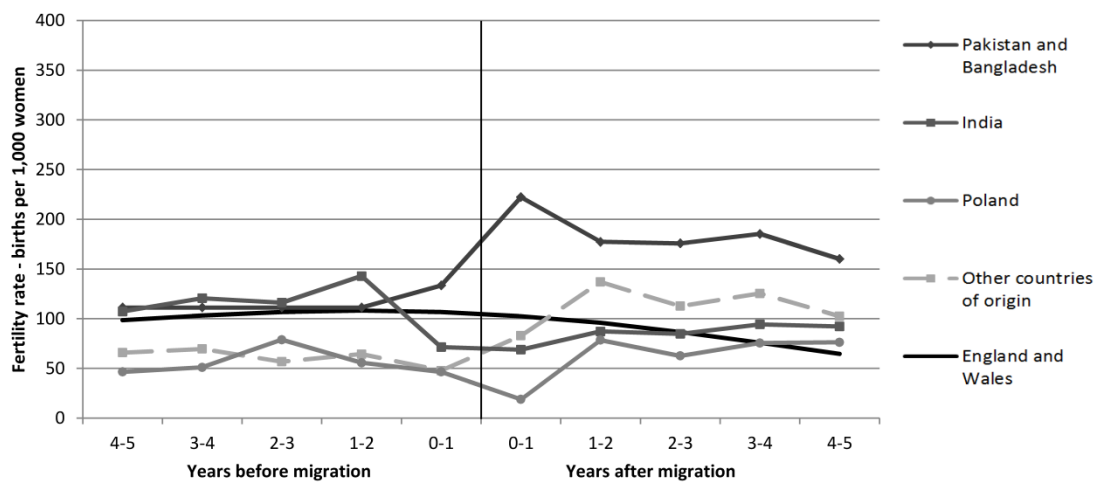
a) Aged 20-24 years at date of migration



b) Aged 25-29 years at date of migration



c) Aged 30-34 years at date of migration



Source: Authors' own analysis of ONS LS.

5. DISCUSSION AND CONCLUSION

The relationship between migration and childbearing differs according to country of birth, and age at arrival in England and Wales. Relatively few younger migrants move to the UK with young children. At short durations (up to five years) after migration there is evidence of very high age-specific fertility rates among Pakistani-born and Bangladeshi-born women arriving in their twenties. Fertility rates also increase following migration among young migrants from India, but the levels are significantly lower than women from Pakistan and Bangladesh. Migrants from Pakistan and Bangladesh show higher fertility rates than migrants from other countries of birth for the post-migration period observed in this study. For women arriving in their late twenties, the high rates of childbearing seen in the first few years following migration among women from Pakistan and Bangladesh are not sustained at longer durations, suggesting a temporary effect that has the potential to distort period measures of fertility (e.g. Table 1). There is evidence of low rates of childbearing in the first year after migration among Polish-born and Indian-born migrants arriving in their early thirties. For older Indian-born migrants, rates of childbearing in England and Wales are lower than in the years prior to migration, suggesting that many become mothers prior to arrival in the UK. In contrast, older Polish migrants appear to have very low fertility prior to migration.

This research has some limitations. We do not have full information about the fertility of potential migrants – i.e. the women who did not migrate to England and Wales. Thus we cannot state the true *impact* of migration on fertility. We are not able to include individuals who migrated to the UK but then emigrated before the 2011 Census. We assume that migrants born in India, or in Poland, for example have

migrated directly from India to the UK. We consider that this is a reasonable assumption since these are some of the key age groups who migrate (Rogers and Castro 1981) and the regions which have strong and on-going migration links with England and Wales. Timescales over which we follow-up migrants are relatively short but necessitated by our sample of women migrants in the 2001-2011 period by country of origin. In further analyses where we group countries by United Nations Human Development Index and observing for longer durations, results are consistent and show some declines in fertility at longer durations after an initial rise (Robards and Berrington 2015). Finally, we do not know about children left in the country of origin meaning estimates of fertility prior to arrival, for example for older Polish women, may be underestimated.

Notwithstanding these caveats, this paper provides important evidence as to how age at migration and country of birth are crucial in affecting pre- and post-migration fertility. These patterns are likely to reflect reasons for migration which differ systematically by age and country of birth (Robards and Berrington 2015; Berkeley, Khan, and Ambikaipaker 2006). Similar to previous findings from France (Toulemon 2004), Sweden, (Persson and Hoem 2014), Norway (Østby 2002) and Italy (Mussino and Strozza 2012), high fertility was identified in years immediately after migration for migrants from low income countries of birth – in this case Pakistan and Bangladesh. In contrast, women moving from countries of birth where education and work-related migration reasons are key (e.g. India, Poland) appear to delay childbearing until some years after migration. Future research needs to jointly consider reasons for migration alongside fertility outcomes among migrants.

Tempo distortions in childbearing associated with the migration event for some migrant groups should make for more cautious use of period TFRs as a summary measure of the likely completed family size of migrants. 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; Toulemon 2004). Therefore, relatively high period TFRs for some foreign-born women, which are widely reported in the UK media and policy reports may reflect tempo distortions. Specifically, in this study, migrants from Pakistan and Bangladesh aged 20-24 and 25-29 at arrival show high fertility at short durations compared to migrants from other countries of birth, and also the host population. It would appear that there is a close connection between migration and family formation which is connected with the higher numbers of women accepted as spouses for “settlement” from Pakistan and Bangladesh compared with India and other countries (Home Office 2015). For migrants from India there is no evidence of a sharp increase in fertility immediately after migration and there is little evidence of a tempo distortion in fertility among Polish migrants. Other countries of origin also show more limited evidence of tempo distortions although with higher rates than those born in England and Wales. Tempo distortions to the period TFR are likely to be particularly strong for migrant groups who tend to migrate for family-related regions such as those from Pakistan and Bangladesh.

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