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Marianne Tønnesen and Eleonora Mussino

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Migrants from low-fertility countries in a high-fertility setting

Marianne Tønnesen

*Stockholm University Demography Unit, Department of Sociology and
Statistics Norway*

Eleonora Mussino

Stockholm University Demography Unit, Department of Sociology

Abstract: Immigrant women's fertility often changes with their duration of stay, but we do not know why. Several hypotheses have been put forward, such as the adaptation hypothesis and the hypothesis on interrelation of events. When immigrants are from high-fertility countries, both these hypotheses predict a falling fertility by duration of stay. However, when women from low-fertility countries move to countries with higher fertility, the two hypotheses predict opposite fertility trajectories. To distinguish between the two effects, we therefore explore the fertility patterns among women from low-fertility countries who have moved to a country with higher fertility. Register data on immigrant women from Poland, Lithuania and Germany and their reason for staying in Norway are used to calculate fertility rates by duration of stay, and to explore differences between family migrants and women who migrate for other reasons. Even among immigrants from low-fertility countries, and particularly among those who migrated for family reasons, fertility is highest right after migration – supporting the hypothesis on interrelated events. For immigrant women who are not registered as family migrants, fertility rates increase until 4-5 years after migration, before they decline. Using data on immigrant women from low-fertility countries in a high-fertility setting, we shed light on mechanisms that cannot so easily be disentangled among immigrant women from high-fertility countries.

Keywords: Migrant fertility, migration, fertility, Norway



1. Introduction

Migrant fertility is often studied in contexts where most immigrants have moved from high-fertility to low-fertility countries. In general, immigrant fertility is often found to decline with their years since migration (see for instance Andersson (2004) for Sweden, Bélanger and Gilbert (2002) for Canada, Mayer and Riphahn (2000) for Germany and Sobotka (2008) for several European countries).

Several hypothesis aim at explaining why immigrant women's fertility changes by duration of stay (see for instance Kulu (2005), Milewski (2010), Mussino and Van Raalte (2013), Wilson (2015) and Adserà and Ferrer (2015)). Two of the hypotheses are the *adaptation* hypothesis and the hypothesis of *interrelated events* (or the *family formation* hypothesis). According to the adaptation hypothesis, an immigrant woman will gradually adapt from the fertility norm and behaviour in origin to those of the destination. On the other hand, the interrelation hypothesis predicts that fertility will be extra high the first years after migration, because women often migrate to start a family, and then it declines when they have got their children.

When immigrant women are from high-fertility countries, it is hard to determine which of these mechanisms are at work, because both hypotheses predict a falling fertility by duration of stay; either as an adaptation from a higher level, or due to completed family formation. However, when the migrants move from low- to high-fertility countries, it is easier to test the two hypotheses: The adaptation hypothesis would predict an increasing fertility – an adaptation from below – whereas the interrelation hypothesis would still predict elevated fertility right after migration, and then a decline. This is illustrated by the two stylized graphs in Figure 1, where the left panel shows the situation for women from high-fertility countries, where both hypotheses predict a falling fertility, whereas the right panel shows the two opposite predictions for women from low-fertility countries.

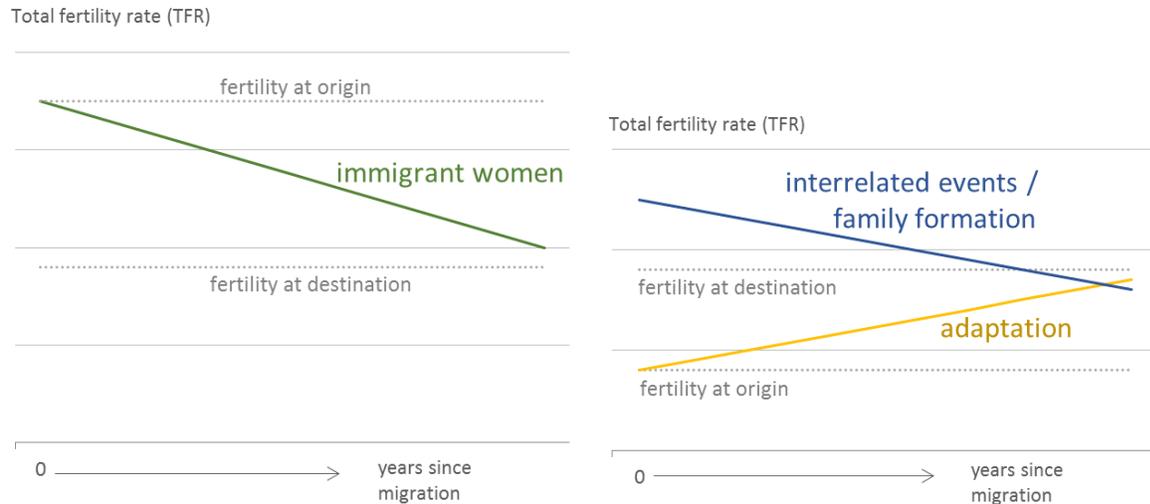


Figure 1: Stylized illustrations of predicted immigrant fertility by time since migration if the immigrants are from high-fertility countries (left panel) or low-fertility country (right panel). In the latter case, two different hypotheses have opposite predictions of fertility change.

We investigate this using Norwegian administrative register data. Norway provides a good case study because it has attracted immigrants from high- as well as low-fertility settings, it has relatively high fertility, and it has high quality data that allows us to disentangle variation by country of origin as well as duration since and reason for migration. Among immigrant women from low-fertility countries, the three largest groups are from Poland, Lithuania and Germany.

1.1 Previous research

Only a few studies have examined how fertility changes by duration of stay among immigrant women from low-fertility origins in countries with higher fertility, and mainly with a micro perspective. The results are inconclusive. On one hand, Hwang and Saenz (1997) found increased fertility by duration of stay among women from China in the US; Nahmias (2004) shows that immigrants from the former Soviet Union in Israel had an increasing fertility by duration of stay, and also Okun and Kagya (2012) found a moderate increase in first- and second birth rates by duration of stay among post-1989-immigrants from the former Soviet Union to Israel, although from a very low level. On the other hand, Andersson (2004) found elevated levels of first birth-fertility immediately after migration to Sweden also for women from low-fertility areas, and Lübke (2015) found an accelerated fertility among Polish immigrant women in Britain in the years immediately after arrival.

Very few other studies (Castro Martín and Rosero-Bixby 2011, Mussino and Strozza 2012, and Ortensi 2015) have used information on reason for migration to explore fertility changes among immigrants. However, these have focused on low-fertility destination countries such as Spain and Italy.

2. Data and methods

We use data from the Norwegian population register, which has information on all immigrants and their births in Norway, as well as their reason for migration. In this study, we use the total fertility rate (TFR) to measure fertility, or *birth intensity*, by duration of stay. The TFR is the sum of age-specific fertility rates, which are the number of births among women in a certain age group divided by all women in this age group, calculated for a certain period. Importantly, it does not indicate future family size for the groups studied, which may be different if the age-specific fertility rates change by for instance duration of stay – which is often the case for migrant women. However, TFR is useful for measuring *fertility behaviour* in a certain group at a certain period (Sobotka 2008).

In the first part of this study, duration specific TFRs are calculated separately for each arrival cohort. This enables comparison to the TFR levels of origin and destination countries, since these TFRs also may change from year to year. Eurostat provides the TFR for Poland, Lithuania and Germany (Eurostat 2018). To avoid too large random variation, the first part of this study is restricted to arrival cohorts with at least 800 immigrant women (15-49 years). In the second part, we analyse subgroups by reason for migration, pooling all immigrant women (15-49 years) from the three countries who arrived in Norway from 2005 to 2017. This sums up to 30,529 women from Poland, 15,106 from Lithuania and 9,748 from Germany.

3. Results

Figure 2 shows TFRs among large cohorts (>800) of immigrant women from Poland, Lithuania and Germany. Different colours show different arrival cohorts.

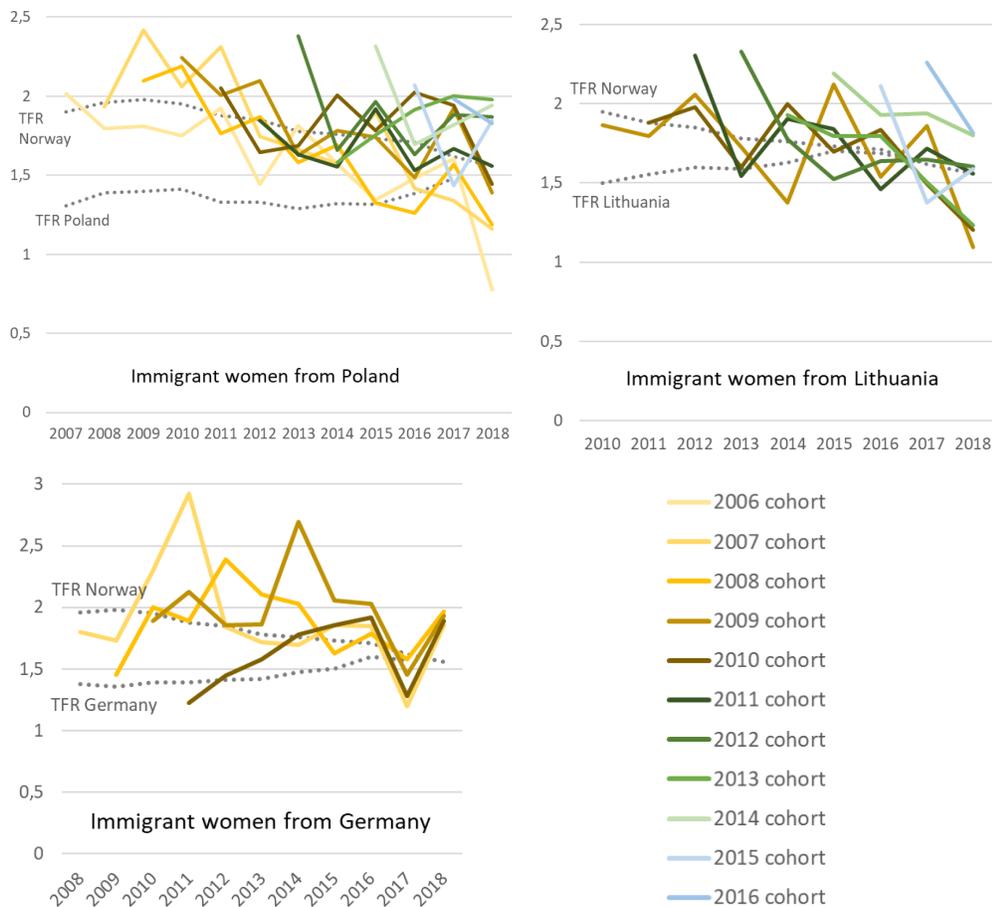


Figure 2: TFR in large arrival cohorts of immigrant women (15-49 years) from Poland, Lithuania and Germany, compared with TFR in Norway and in their origin countries.

For immigrant women from Poland and Lithuania, TFR for most of the arrival cohorts seem to decline by duration of stay, although the lines show considerable fluctuations from year to year. For these two groups, initial fertility in Norway is often higher than the general TFR in Norway, and definitely higher than the TFR in their origin country. This suggests support for the family formation hypotheses. Women from Germany, despite the fluctuation, generally have higher fertility in Norway than in Germany.

The advantage of presenting the TFR paths for different arrival cohort (Figure 2), is that it allows for comparisons with the TFR in the origin and destination countries. However, for small groups random disturbances can make it difficult to detect underlying trends. Hence, in the rest of this paper, different arrival cohorts are pooled. This allows for including also arrival cohorts with relatively few immigrant women, and it allows for analysing new sub-categories.

One relevant sub-category is the immigrant women's registered reason for immigration. Among the women in this study, work and family are the main reasons. However, the share in each category

differs. For instance, 44 per cent of the immigrant women from Poland were registered as family migrants, whereas the same was true for 29 per cent of the women from Lithuania and 27 per cent among those from Germany. The non-family migrants are predominantly registered as labour migrants. This difference in the share of family migrants may contribute to explaining why the TFR for women from Poland seemed so much more elevated the first years after migration than for women from Germany. To explore this further, TFRs are calculated by reason for migration and years since migration for all immigrant women (15-49 years) from these countries who arrived in Norway between 2005 and 2017. The results are shown in Figure 3, where the x axis shows years since migration and not calendar year, and the two lower panels show family and non-family migrants, respectively. The coloured bands show the TFR levels in origin and Norway in this period. Since the arrival cohorts are pooled, and the TFRs changed somewhat in this period, the bands display the TFR span through the period.

The upper panel confirms the main impressions from Figure 2, where immigrant women from Poland and Lithuania tend to have high fertility right after migration – higher than TFR in both origin and Norway – before it declines somewhat. For women from Germany, fertility initially increases, reaching a peak four years after arrival in Norway before it decreases again, but it is still higher than the TFR at origin. The TFRs by reason of migration, in the lower panels, show a more similar pattern for women from all the three origin groups. Family migrants have a high fertility right after migration, and it declines by duration of stay – just as anticipated by the interrelation hypothesis. This is not surprising, given that these are recorded as family migrants who most likely migrate to start a family. Among non-family migrants, however, the trends show a different pattern (lower right panel): Fertility increases during the first 4-5 years of stay, to a level above the origin countries' and almost above the Norwegian TFR, before it declines again.



Figure 3: TFR among immigrant women from Poland, Lithuania and Germany who arrived in Norway 2005-2017, by year since migration. All immigrant women (upper left), family migrants (lower left) and non-family migrants (lower right).

4. Discussion

Periods of high levels of immigration tend to have pronounced effects on the number of births and the general TFR in receiving countries (Toulemon 2004, Mussino et al. 2012), which may be due to the fact that most migrant women arrive in their new society around the prime ages of reproductive life and often the two events (migration and fertility) are interrelated. However, the pronounced effect on number of births often declines with the immigrant women's duration of stay. Our analyses from Norway shows that also many migrants from low-fertility settings have their highest fertility right after migration, but that non-family migrants have a different pattern.

The initially high but declining fertility among immigrant women from low-fertility countries that comes for family reasons, provides support for the family formation hypothesis.

For the non-family migrants, the initial fertility is not particularly low compared to TFR in origin and Norway, indicating no strong post-migration disruption effect. However, it keeps increasing to a level high above origin countries' TFR and more similar to the general Norwegian TFR, before it declines again. Thus, for this group, we do not see any of the two stylized trends illustrated in the left panel of Figure 1.

However, the hypotheses on migrant fertility are not mutually excluding, and many different mechanisms may be at work. The hypothesis on interrelated events and the adaptation hypothesis may operate simultaneously, and other hypotheses can also explain part of these results. The fact that the fertility of non-family migrants from Poland, Lithuania and Germany increases up to the Norwegian level, suggests an adaptation from below. Since most of the women in this group are labour migrants, we may assume that labour market integration accelerates fertility adaptation (Andersson and Scott 2005 and 2008), also for immigrants from low-fertility countries. The Norwegian welfare regime and the generous parental leave system might play an important role confirming how the process of adaptation depends on the strength of the country's welfare institutions (see Andersson (2004) for actual fertility and Milewski and Mussino (2018) for fertility intentions).

For many non-family migrant women, immigration marks the start of their career in the Norwegian labour market and of earning Norwegian income, as well as the start of obtaining a new network. The fact that it often takes some years to get settled in the Norwegian labour market and society, may explain why fertility of the non-family migrants peaks after 4-5 years. This peak may, in turn, be one reason for the following decline; when birth intensity for a group is particularly high, women in this group may get many of the children they want to have, and feel less inclined to high birth intensities in the following years. Thus, the fertility pattern among non-family migrants also seems to be interrelated with the migration event, but with a time lag.

5. Conclusion

Migrant women from low-fertility countries in Norway often show high fertility rates right after immigration. In particular, women who arrived as family migrants have clearly elevated fertility rates right after arrival, before their birth intensities declines by duration of stay. This gives support to the hypothesis of interrelation of events (also known as the family formation hypothesis). We do not see a gradual increase from the low fertility level in their origin country, as would be expected by the adaptation hypothesis.

For women who do not migrate mainly for family reasons, the fertility trends display an inverted U, with highest fertility rates 4-5 years after migration. This may indicate that migrant women who do not primarily move in order to start a family, need time to get established in the Norwegian labour and housing market and with a social network, so that also the fertility of these women is interrelated to the migration event, but with a time lag. However, it can also be a sign of adaptation from below – where fertility norms and behaviours among women from low fertility settings change as they are exposed to a higher fertility context.

Most studies on migrant fertility have studied immigrant women from high-fertility countries in a Western context. This is one of few studies that examines how the fertility rates of women from low-fertility countries change by years spent in a relatively high-fertility country. In addition, it uses data on reason for migration to explain different fertility trajectories. In a context with falling fertility in many former high-fertility parts of Europe, such as the Nordic countries, the results of this study indicate that the contribution to the number of births from immigrant women from low-fertility countries will be highest right after their migration, or after a couple of years if they do not arrive as family migrants.

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