Differences in total fertility rate by country of birth across the European Union

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This abstract presents an ongoing work at Eurostat aimed at developing comparable fertility indicators by country of birth for each EU country. Currently, no comparable measures of total fertility rates by country of birth in each EU country are available, creating a significant knowledge gap. Eurostat seeks to address this by producing harmonised total fertility rates for native-born, EU foreign-born and non-EU foreign-born women in each EU country[1]. The availability of estimates of age-specific fertility rates (ASFR) and total fertility rates (TFR) by country of birth for each EU country, estimated using comparable data, definitions and methodology, is crucial for understanding differences across and within EU countries. In fact, this will provide significant insights on the differences in fertility behaviours between native-born and foreign-born women in the EU, while also showing the indirect effects of migration on population change.

Data provided to Eurostat by the National Statistical Offices of EU countries are best suited for comparisons across countries. Indeed, according to EU Regulation 1260/2013[2], EU countries must submit to Eurostat data on vital events using the same population definition used for population statistics, ensuring the production of high-quality and comparable fertility indicators.

Age-specific and total fertility rates by country of birth are key measures to identify fertility differences between native-born and foreign-born women. Several EU countries have a large proportion of foreign-born population, therefore significantly impacting population change and demographic indicators. In 2023, 23% of births in the EU were from foreign-born women, up from 18% in 2014. The percentage of births to foreign-born women varies widely, ranging in 2023 from 3% in Bulgaria and Slovakia to more than 30% in Germany, Belgium, Austria, Malta and Cyprus, up to 67% in Luxembourg.

Previous studies show that foreign-born women often have higher fertility rates than native-born women, potentially raising overall fertility rates in some countries (Giannantoni & Strozza, 2015; Sobotka, 2008; Van Landschoot et al., 2014). However, differences and opposite results can be found in different countries. Several factors may explain these differences:

- Socio-economic and educational differences: Self-selection in migration can lead to varying socio-economic differences between native-born and foreign-born populations, which can explain differences in fertility behaviours between the two groups (Kahn, 2008). Controlling for the socio-economic differences, the differences between foreign-born and native-born women in fertility behaviours may be reduced or disappear. Economic and social integration of foreign-born in the destination country may also play a role (Coleman, 1994).
- Cultural norms: The 'culture hypothesis' posits that fertility patterns of foreign-born individuals reflect norms acquired while living in their countries of origin, which can explain the differences between foreign-born and native-born fertility (Mussino & Strozza, 2012).

[1] Input data by foreign-born/native-born country of birth available starting from 2013 for all EU countries. When differentiating between EU and non-EU foreign-born population, data before 2020 refer to EU28 (including the UK).
[2] Regulation - 1260/2013 - EN - EUR-Lex

- Timing of childbearing after migration: Migrants often have higher fertility shorter after their arrival in their country of destination, as migration and family formation are often linked decisions over the life course, inflating their fertility rates in the country of destination (Andersson, 2004; Milewski, 2007; Robards & Berrington, 2016; Tonnessen & Mussino, 2020). Some studies have shown that, some years after their arrival, foreign-born women's fertility rates tend to converge with native-born levels (Toulemon, 2004).

This study will focus first on the input data used to estimate age-specific and total fertility rates by country of birth. Eurostat receives annual data from EU countries on the number of live births by mother's country of birth and age, as well as on the population by country of birth, age and sex. A standard methodology is applied to calculate period total fertility rates based on age-specific fertility rates. However, several methodological and data challenges can arise:

- Using period fertility rates for foreign-born populations, which tend to be highly mobile, may bias estimate. If migration and childbearing are closely linked, fertility rates may be inflated (Burkimsher et al., 2020; Toulemon, 2004).
- Data limitations in the live births statistics may also affect the results. According to EU Regulation 1260/2013, live births should be registered in a country if the mother is usual resident in that country, independently on where the birth took place. However, some countries have difficulty recording live births occurred outside the country to resident mothers, and, in some cases, live births occurring in the reporting countries to mothers resident in other countries may be erroneously recorded in the reporting country live births statistics.
- Population statistics, used to estimate fertility indicators, may also have limitations. In particular, given the fact that foreign-born populations tend to be highly mobile, and they have more incentives to register their arrival than their departure from a country, the foreign-born population statistics may be over-estimated, counting individuals who have left the country but not reported their departure to the authorities, leading to downward biases in the estimates of total fertility rates for foreign-born women (Monti et al., 2020; Mussino et al., 2025).

After discussing data quality and methodological issues, results for the 27 EU countries and the EU aggregate will be presented and discussed. Fertility behaviours of foreign-born women and differences compared to native-born women are expected to vary by country and depend on several factors such as the ones discussed above. According to the results obtained for each EU country, analysing the differences between native-born women and EU and non-EU foreign-born women, and based on the age-specific fertility rates differences, the main potential explanations for the results will also be discussed.

Preliminary results indicate that, in general, in the EU, foreign-born women have higher fertility rates than native-born women. However, the country-level analysis show that, while foreign-born women have higher fertility rates than native-born women in most EU countries, this pattern varies substantially by country. Indeed, in some countries, native-born women have higher fertility rates while in other countries no significant differences are found. Age-specific fertility rates reveal that, in several countries, foreign-born women tend to have higher fertility rates at younger ages than native-born women, which therefore largely drives total fertility differences. Estimates of mean and median age at childbirth for native-born and foreign-born women can also help assessing the different fertility behaviours.

Further analyses to be conducted differentiating between EU and non-EU foreign-born women will shed further lights on differences across groups and countries. Given that the total fertility rates in EU countries tend to be significantly lower than the global TFR (UN DESA, 2024), if the context of the country of origin impacts the fertility behaviours of foreign-born women, it is possible to expect that non-EU foreign-born women drive the higher fertility rate among foreign-born women. The different proportion of EU and non-EU foreign-born women in each EU country may also play a role. Preliminary results for the EU as a whole show that non-EU foreign-born women have higher fertility rates than both EU foreign-born women and native-born women. In fact, in 2023, EU foreign-born women had only slightly higher total fertility rates than native-born women, so that most of the differences found between foreign-born and native-born women were driven by non-EU foreign-born women.

Another notable finding is a convergence in fertility patterns between foreign-born and native-born women in several countries over the last decade. This may be driven by an overall decline in fertility rates globally (UN DESA, 2024), increasingly occurring also in low- and middle-income countries, which may therefore be reflected among non-EU women recently arrived in EU countries. Additionally, in countries where significant immigration is a recent phenomenon, the growing average duration of stay in the destination country among the foreign-born population may play a role in shaping fertility dynamics, particularly if longer stay in the destination country is associated with convergence with native-born fertility behaviours.

Finally, the ‘net impact’ of foreign-born women’s fertility to the overall total fertility rate in each EU country will be assessed, by comparing the TFR of the total population with the one observed in the native-born population. Preliminary results show that, in some countries, foreign-born women’s fertility significantly increases the overall total fertility rate, while, in others, the impact is negligible, because of similar fertility patterns or a low share of foreign-born women in the population, or even negative, in countries in which foreign-born women have significantly lower fertility rates than native-born women.

In conclusion, this work presents the first comparative analysis of total fertility rates by country of birth across all EU countries, distinguishing between native-born, EU foreign-born and non-EU foreign-born women, with estimates covering the period 2014-2023 to observe trends and changes. This work provides new insights to better understand fertility patterns by country of birth in EU countries, and their impact on demographic dynamics across the EU.

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