

**Title:** The Fertility of Refugees in Germany

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*Motivation:*

Germany received more than one million asylum seekers in 2015/16. The demographic consequences of this large influx of people extends beyond their arrival due to the relatively young age of the immigrants and their potentially ensuing fertility following arrival in the host country. The fertility of large groups of asylum seekers and refugees may further pose challenges to the receiving country's childcare, education and integration institutions and policies. The literature proposes different scenarios for how the fertility of immigrants may evolve after their arrival, ranging from reproducing the fertility profiles of their countries of origin to completely adapting to the fertility behavior of their host country (Kulu et al. 2019; Kulu & Milewski 2007).

Evidence on the fertility of refugees therefore remains scarce, especially regarding European host countries. Andersen et al. (2021) provide evidence using Norwegian register data on the interaction of refugees' fertility with receiving municipalities' characteristics. Buber-Ennsner et al. (2020) report a sudden increase in the total fertility rates (TFRs) of Syrian and Afghan women in Austria in 2016, i.e. soon after their populations increased significantly due to new arrivals, while the TFRs already began to decline in 2017. Using Swedish population register data on immigrants arriving between 2011 and 2016, Carlsson (2025) finds that refugees in Sweden generally exhibit higher fertility than immigrants with other types of residence permits. Refugees' fertility further is stable within five years before and after arrival in Sweden; a finding that Carlsson (2025) relates to refugee women migrating mostly together with their partners and Sweden quickly granting permanent residence to refugees. Paying particular attention to the transit period of refugee migration, Kraus & Milewski (2025) find that the fertility of Eritrean and Syrian refugees in Germany increases during prolonged transit periods and in periods following arrival in Germany.

Our research complements and extends the existing literature along several dimensions: While we are restricted to Germany as the receiving country of refugee migration, our survey data taken from the Socio-Economic Panel (SOEP) cover refugees from five different countries of origin. The detailed reproductive histories allow us to study the fertility of refugees from various angles: First, we examine how refugees' fertility evolves dynamically around the period of their arrival in Germany. This examination will look for indications whether refugees anticipate their migration in their fertility patterns and how their fertility responds to the arrival in Germany. Second, we compare these dynamics of the recent refugees to those of earlier refugee and other immigrant populations in Germany that have also been surveyed by SOEP, informing us about the universality of the former. Third, we compare the refugees' fertility before and after their arrival in Germany to the contemporary fertility in their home countries. This comparison is to inform on whether refugees are potentially a self-selected group of emigrants in terms of their fertility and to what extent they reproduce the fertility patterns of their home countries in the host country. These investigations involve the estimation of duration-dependent and age-specific fertility rates, as well as survival analyses.

### *Data & Empirical Strategy:*

We study the fertility of refugees from five countries of origin (Afghanistan, Eritrea, Iran, Iraq, Syria) prior to and since their arrival in Germany. Our data comprise multiple waves of the IAB-SOEP Migration Sample and the IAB-BAMF-SOEP Survey of Refugees that collect information on migrants and refugees in Germany since 2013, including their birth histories. Our sample is composed of approx. 2,500 women that arrived in Germany in 2015/16. Combining the information from the birth histories with the refugees' year of arrival, we cover all birth events that have occurred in a fixed window of five years prior to and since arrival, respectively. We estimate probit and Poisson regression models to estimate duration-dependent and age-specific fertility rates before and after arrival. We further perform a survival analysis of the post-arrival birth patterns conditional on the number of children on arrival.

### *Preliminary Results:*

We find that the duration-dependent fertility rate of female refugees is stable prior to arrival in Germany, peaks in the first year after their arrival, and then decreases slowly (Figure 1). This pattern is robust across countries of origin, educational backgrounds, and additional controls. We further find that the age-specific fertility patterns are similar to the patterns in the countries of origin and remain stable after arrival, except for Eritrean women, who realize substantial fertility after arrival (Figure 2). Female refugees that have given birth to one child prior to their arrival in Germany have the highest likelihood of giving birth to at least one more child within both one and five years after arrival, compared to female refugees who had no or more than one child prior to arrival (Figure 3). Nulliparous women represent the largest group among the refugee women in terms of parity on arrival. As a consequence, their first births account for the largest share of births in the first year since arrival (Figure 4). In the subsequent periods, the relative importance of first births quickly declines, with second and then third births accounting for the largest parity shares.

### *References:*

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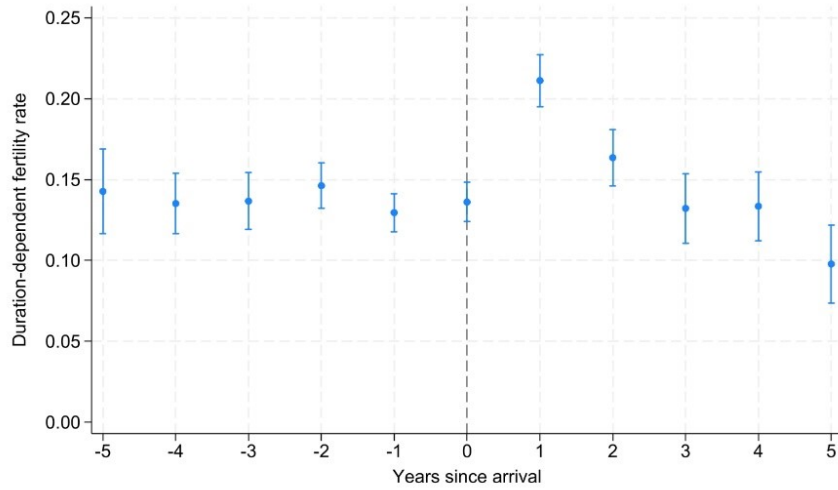


Figure 1: Duration-dependent fertility rate before and since arrival in Germany

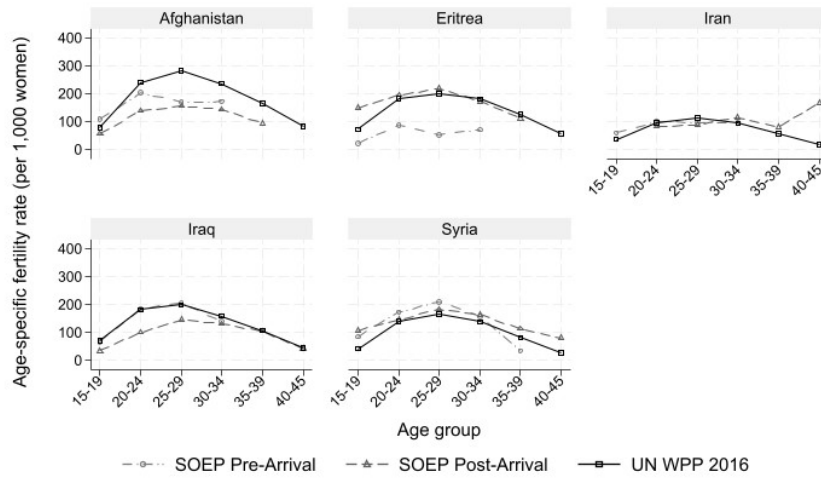


Figure 2: Age-specific fertility rate pre- and post-arrival and by country of origin

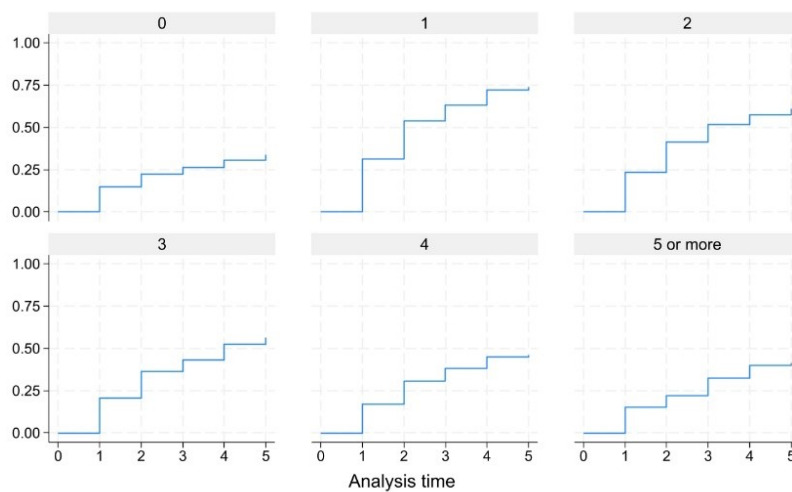


Figure 3: Hazard rate of a post-arrival birth conditional on no. of children on arrival

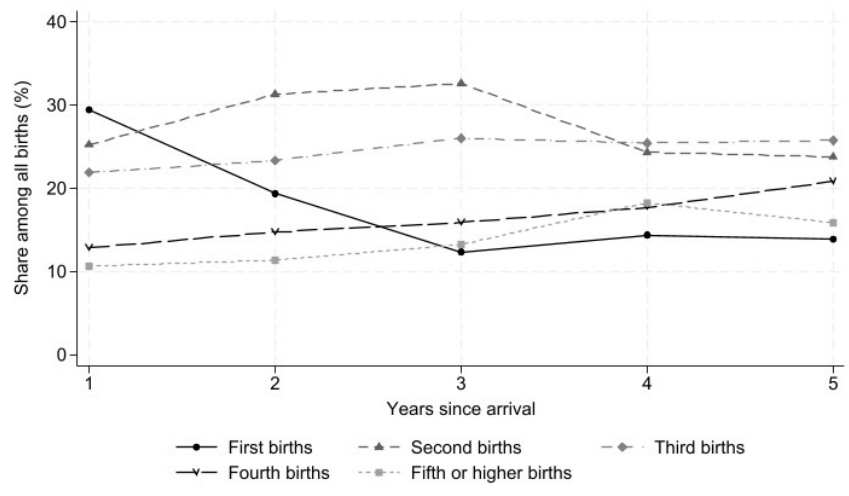


Figure 4: Parity of refugee women by time since arrival