Title: **Ukrainian women and births in Poland: what knowledge can we gain from the register of war refugees made available in 2022?**

Research topic

While most studies on migrant fertility so far have covered immigrants from less developed and high fertility countries to Western and, more recently Northern Europe, our study fills the knowledge gap by addressing less studied mobile groups (migrants and refugees from low fertility countries) in a new country of immigration in Central Eastern Europe: Poland, with its low fertility context.

The TFR in Ukraine since the beginning of 21st century has been low, slightly higher than in Poland until 2015, and afterwards decreasing to the level of 1.2 in 2018 (Eurostat 2022). Therefore the migrants from Ukraine to Poland constitute a good case for studying migration between low fertility countries. In 2015, the first year for which data on the nationality of mothers giving birth in Poland have been published, women with Ukrainian citizenship gave birth to 704 children. In 2019 they had 4299 children – which amounted to 66.6% of births to foreign mothers and 1.14% of all births in Poland in that year (Statistics Poland 2022). Data on births by mother's citizenship are available in 5-year age groups, but the Central Statistical Office has not publish any detailed data on the number or age and sex structure of Ukrainians, or other immigrant groups living in Poland, thus making it impossible to calculate or apply age-specific fertility rates (ASFRs).

Russia's full scale invasion of Ukraine on 24th February 2022 has generated a new type of outflow from Ukraine – war refugees, whose legal status in the host EU countries has been framed by the Temporary Protection Directive and its implementing national laws. In Poland this situation has prompted the authorities to grant the war refugees a national id number (PESEL) with a legal status identifier (UKR) and to publish this new PESEL UKR register as an open, detailed dataset containing age and sex structure, opening new possibilities to study births in a subpopulation of Ukrainians in Poland.

Theoretical focus

This analysis contributes to our knowledge on fertility behaviour among war refugees. Globally, childbearing among the forcibly displaced populations is a large scale phenomenon: estimated 380,000 children born in exile per year between 2018 and 2021 (UNHCR 2022a). Despite their challenging livelihoods, refugees may maintain high fertility levels, for example due to selectivity along socio-demographic characteristics (Sieverding, Berri, and Abdulrahim 2019). Incoming refugees can contribute to a swift increase in births – e.g. Syrians increased the number of births in Sweden by 3 per cent in 2017 (Tønnessen, Aradhya, and Mussino 2021). Interestingly, due to the ban on leaving the country for conscription-age men, the population of Ukrainian war refugees is heavily feminized (at peak 70% of refugees in Poland were female), compared to the rather gender-balanced global forcibly displaced population (UNHCR 2022b). This calls for exploring what can be learnt on births among a new group of refugee women (Ukrainian) in a low-fertility host country.

Data & methods

Our main dataset is the open data on people registered in PESEL UKR, which started to be published each working day from 13th April 2022. We have downloaded the dataset closest to the beginning of each month. Until 5th October 2022 the dataset was cumulative, showing all people granted a PESEL UKR number by the given date. The other data from PESEL UKR register have been obtained as public information request from the Chancellery of the Prime Minister of Poland, responsible for population

register in the country. This was data on Ukrainian children, registered as war refugees, by month and place of birth to distinguish children born in Poland and born in Ukraine or a transit country and subsequently registered for temporary protection in Poland.

We based our estimates of childbearing behaviour among Ukrainian women on Ukrainian public statistics indicators on the ASFRs and monthly number of births.

We compared registered births of Ukrainian refugee children each month with the estimated number of children expected if the registered Ukrainian women were giving birth in Poland at the rate forecasted based on Ukrainian statistics. We estimated the number of children to be born each month in the period March to October 2022, that is from the pregnancies conceived before the full scale military invasion.

Findings

Births estimated in March were higher than the registered births – as we had to use the first, 13 April 2022 data of women (no earlier dataset was available). Refugee births registered in April exceeded our estimate. In the subsequent months, our estimate was consistently higher than the registered births and the gap widened each month. As the registration of births in Poland is reliable, we infer that it is the number of women in PESEL UKR that became nonreliable (overcoverage in the register). Our analysis shows that the number of refugee women in PESEL UKR datasets was heavily inflated already from June 2022 onwards.

Our conclusion is consistent with the Polish authorities decision to update the register published since 6th October 2022, by deleting the people who lost the temporary protection status due to migration to another country or return to Ukraine. As a result, the number of war refugees registered in Poland went down from 1.4 million in the beginning of October 2022 to below 1 million in January 2023 and remained rather stable since (957 thousand active registrations in October 2023 (UNHCR 2023)).

The structure of the subpopulation of Ukrainian women who received temporary protection in Poland is not identical to the characteristics of the general structure of the female population in Ukraine, especially on the marital status or previous place of residence and may carry the rural/urban and regional differences in fertility patterns. An important limitation of our analysis is the fact we cannot estimate the same way the refugee births from November 2022 onwards due to a) the change in the construction of the published register data, and b) the fact the full scale military invasion and forced displacement from late February 2022 must have affected the behaviour of Ukrainian couples and the probability of conception. However, once the population of registered refugees in Poland stabilised, we may in future estimate the ASFRs among the refugee Ukrainian women, to reflect their reproductive behaviour while residing in Poland, reunited with their partners or in new relationships. Our exercise on the detailed PESEL UKR dataset shows the potential of register data on foreign-born populations and calls for making available a similar detailed data on non-refugee immigrant women in Poland, which would allow demographers to improve the understanding of migrant fertility in this host country and generate knowledge important for the public health and social policy.

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