Social Network Contagion in Refugees' Fertility in Germany

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Extended Abstract

The literature on the mechanisms driving immigrants' fertility behavior has primarily focused on how post-migration childbearing choices are driven by macro-level factors — like the socioeconomic and institutional context of destination (e.g., Avitabile et al., 2014; Kulu et al., 2017) — or individual variables such as immigrants' age, education, and language proficiency (e.g., Adserà et al., 2012; Pailhé, 2017; Puur et al., 2023), as well as cultural factors linked to the origin countries (Kulu & Hannemann, 2016; Mussino et al., 2015; Mussino & Strozza, 2012). While such macro- and micro-mechanisms produce significant heterogeneity in immigrants' reproductive behavior, the literature agrees on an eventual convergence of fertility rates to those prevalent at destination.[1] Less attention has been devoted to exploring how this over-time assimilation of fertility norms is shaped by meso-level factors, such as immigrants' socialization within their destination networks.

However, the role of social interactions in fertility decisions is undisputed; networks provide material and emotional resources that facilitate childbearing (Balbo & Mills, 2011;

[1]Note that in this paper, I will mostly refer to refugees from countries with higher fertility rates than Germany, and therefore to a convergence from above — i.e., from high to low fertility rates. However, research has also found evidence of convergence from below (e.g., see Mussino et al. (2021) and Scott and Stanfors (2011) on immigrants from low-fertility countries in Sweden).

Bühler & Fratczak, 2007), and influence the diffusion of fertility norms (e.g., Balbo & Barban, 2014; Bernardi & Klärner, 2014).

Moreover, hypotheses on immigrant fertility have mostly disregarded refugees, with the exception of a few studies (Andersen et al., 2023; Saarela & Skirbekk, 2019, among others). Refugees are specific types of migrants, moving primarily for reasons unrelated to employment or family, and they are subject to different legal frameworks (Andersen et al., 2023; Milewski & Adserà, 2023). On one hand, the highly stressful resettlement process can result in a temporary disruption of fertility (Saarela & Skirbekk, 2019; Tønnessen & Wilson, 2023). On the other hand, their migration journey is highly gendered — with men being the first-movers and women following — which can lead to an interrelation between reunification and childbearing (Kraus & Milewski, 2025).

Therefore, with this project, I aim to contribute to this literature by exploring the fertility behavior of refugees, and how it is affected by their social participation after settlement. I am going to focus on forcibly displaced people in Germany, a country characterized by below-replacement fertility rates, and hosting the fourth-largest number of refugees in the world – currently estimated at around 2.5 million (UNHCR, 2024).

Furthermore, Germany is an ideal case study to bring methodological advances to this field. Existing studies on immigrants' reproductive behavior are mostly correlational; causality can rarely be claimed as existing networks often drive migration decisions, and refugees can self-select into social circles at destination (Wiedner & Schaeffer, 2024). The paper by Andersen et al. (2023) is one of the few studies attempting to identify a causal mechanism, exploiting the refugee dispersal policy in Norway; inspired by this work, I am going to implement a comparable design in the German context. Similar to Norway, upon arrival in Germany refugees are distributed across federal states through a binding quota system — the *Königsteiner Schlüssel* — and they cannot move freely across the country until three years after obtaining asylum (BAMF, 2024; Brücker et al., 2020). In ten of the sixteen German federal states,[2] the policy is even more stringent, and refugees are tied to the county (Cardozo Silva et al., 2023; Kühn & Schlicht, 2023).

[2]Bavaria, Baden-Württemberg, North Rhine-Westphalia, Hesse, Saarland, Saxony-Anhalt, and Saxony.

While the *Königsteiner Schlüssel* does not entail a strict randomization of refugees' contacts, it causes a quasi-random variation of their social opportunity structure, thereby avoiding the issue of self-selection into different areas of Germany. The dispersal policy randomizes the supply of not only formal contacts but also informal exchanges, such as those in shops and associations – what Wiedner et al. (2022) call 'ethno-religious infrastructure'. Hence, in this paper, I consider this randomized social structure as a proxy for refugees' social networks (see also Andersen et al., 2023; Gërxhani & Kosyakova, 2022; Kanas & Kosyakova, 2023; Kanas et al., 2024; Puur et al., 2023). I will only focus on refugees allocated to the above-mentioned ten federal states, where I can exploit the smallest level of disaggregation of the policy — the county level. Germany has 401 *Kreise* (counties), corresponding to the NUTS-3 level of European geographical classification (Henneke, 2014; Statistisches Bundesamt, 2025). I further restrict the sample to men and women who arrived in Germany of reproductive age from the top ten origin countries in terms of population size, excluding Ukrainians and Russians (see figure 1). Refugees from Ukraine were only sampled starting from 2022 and are not subject to the dispersal policy; moreover, I want to focus on displaced people from higher-fertility contexts of origin.

This paper aims to primarily address two research questions. The initial objective is to expand the descriptive evidence on refugees' post-migration reproductive behavior, investigating whether what was found in previous research — an initial disruption of fertility, followed by a subsequent catch-up — is also confirmed in the German context. As my second and main contribution, I test the hypothesis that refugees living in counties with a larger co-ethnic population have higher probabilities of becoming parents than those living in counties where they are more likely to interact in German networks. I expect to find that networks of co-ethnics from high-fertility cultures transmit more traditional norms on the value of motherhood and childbearing, and incentivize fertility.

My primary dataset is the IAB-BAMF-SOEP Survey of Refugees (Brücker et al., 2025), part of the German Socio-Economic Panel; it is a high-quality longitudinal panel representative of the refugee population that arrived in Germany between 2013 and 2022.

The IAB-BAMF-SOEP enables focusing the analysis on refugees who, at the time of the interview, are subject to the *Königsteiner Schlüssel* – hence, they cannot move from the county where they reside (following the approaches by Cardozo Silva et al., 2023; Kanas & Kosyakova, 2023, among others). Leveraging the policy as a source of quasi-random variation in the social opportunity structure, I explore how the latter affects refugees' probability of becoming a mother or a father after settlement, using logistic regressions. Specifically, my main explanatory variable is the number of co-ethnics in the county, proxied by country of origin and language similarity (as in Martén et al., 2019); I construct this variable matching the IAB-BAMF-SOEP with data from INKAR (Bundesamt für Bauwesen und Raumordnung, 2025) and DESTATIS (2025). I control for other individual- and county-level factors that can confound the relationship.

To ensure that the expected direction of the effect — a higher probability of parenthood for refugees living in counties with a larger co-ethnic population — really operates through the network, and not because of norms prevalent in the place of residence more broadly, I further control for county-level gender norms by constructing an aggregate measure of attitudes from survey responses of the whole GSOEP sample living in each county. As a further robustness check, to assess whether the effect on fertility reflects network influence and not only the experience of forced displacement, I plan to extend the analysis to Ukrainian refugees — expecting, for them, a negative relationship between the size of the co-ethnic network and fertility.[3]

A preliminary descriptive in figure 2 shows a promising pattern; the probability of experiencing a new birth rises in the first two years after settlement, and starts declining afterwards. This evidence contrasts the hypothesis of fertility disruption and suggests that the initial post-migration years may be sufficient to observe the effect of the co-ethnic network on the probability of parenthood.

[3] As the TFR in Ukraine is lower than in Germany.

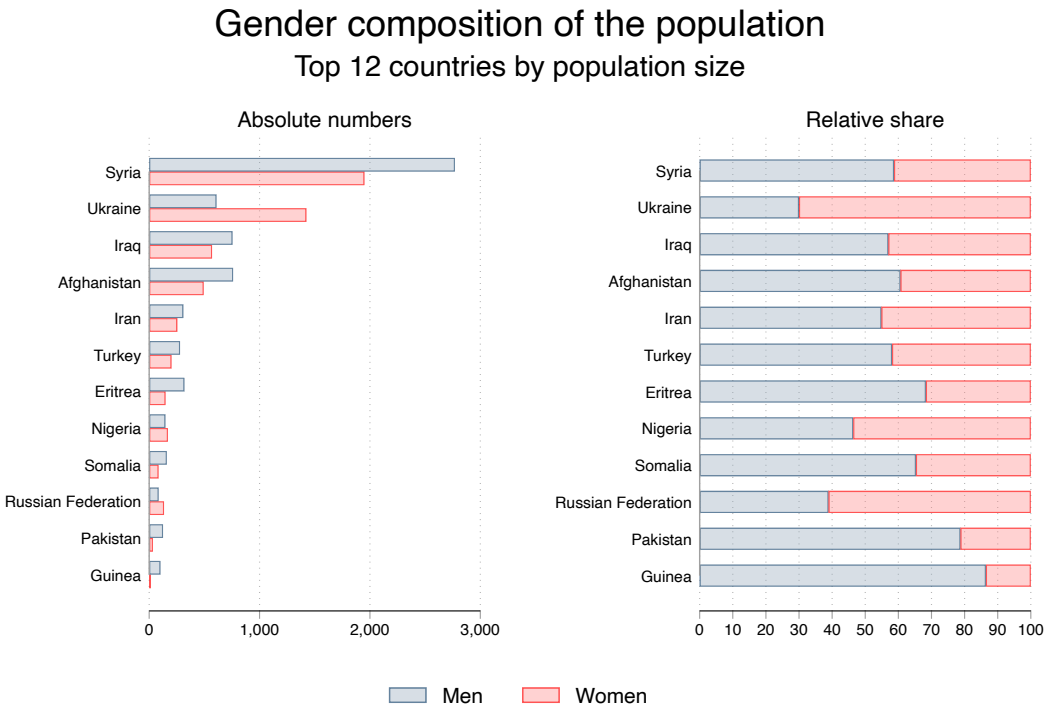

Figure 1: Absolute and relative population of the top twelve origin countries in my sample by population size. Ukraine and Russia are going to be excluded from the analysis, leaving me with ten origin countries.

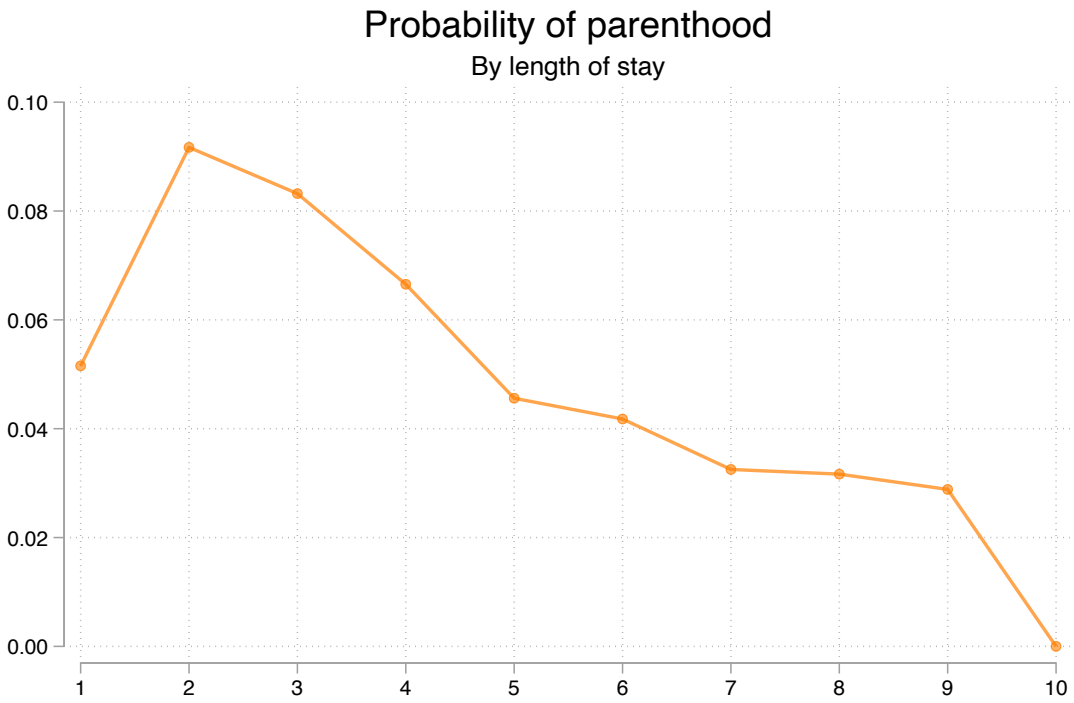

Figure 2: Probability of experiencing a new birth by years since the arrival in Germany.

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