The Immigrant Fertility Advantage Is Fading: Evidence from Italy and Spain

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INTRODUCTION

In recent decades, Southern European countries -particularly Italy and Spain- have become increasingly attractive destinations for international migration flows. These countries have experienced a remarkable growth in their foreign-born populations, significantly influencing overall demographic dynamics (Bonifazi & Strozza, 2017; Colombo & Dalla Zuanna, 2019). As a result of these trends, nowadays Italy counts more than 5 million foreign residents, accounting for about 9% of the total population, while in Spain foreigners number nearly 7 million, corresponding to 14% of the total (ISTAT, 2024; INE, 2024).

Alongside the expansion of the foreign population, both Italy and Spain have undergone profound demographic transformations, including unprecedented population aging (Esteve et al., 2021; Garcia-Pereiro, 2018). At the root of this process is the"lowest-low fertility" regime embodied by both nations, (fertility rates below 1.3 children per woman), which have been among the lowest in the world for decades now (Billari & Kohler, 2004). In this context, the arrival of immigrants has been viewed as a key demographic resource, capable of contributing to population growth and counteracting the persistent demographic decline resulting from a continuously negative natural balance (Abel, 2018; Coleman, 2002). The analysis of the foreign population, particularly in relation to reproductive behavior, has therefore become a topic of growing interest.

Immigrant women play a crucial role in the overall number of births, as their reproductive behavior tends to be more intense than that of natives (Sobotka, 2008; Bagavos, 2019). However, their fertility is not homogeneous and shows considerable variation depending on migrants' socio-demographic characteristics and geographic origin (Baffour et al., 2023). Understanding the determinants of a changes in immigrant women's TFR (Total Fertility Rate) is essential in order to implement appropriate policy responses and to gain a clearer view of future fertility dynamics.

The comparison between these two Southern European countries is not new in the literature: several studies have examined the contribution of foreign women to their national fertility by contrasting the two contexts and dividing the population into "natives" and "foreigners" (Kotzamanis, 2022; Ferrara et al., 2009; Gabrielli et al., 2007).

The present study aims to explore the evolution of immigrant fertility between 2002and 2023 through a comparative analysis of Italy and Spain. Our investigation focuses on how the characteristics of the immigrant population have influenced total fertility levels in both countries, considering variables such as citizenship or country of origin. In particular, the study seeks to highlight the differences between the two nations in light of their distinct migration patterns. Until now, Spain has hosted a large number of migrants from Latin America, while Italy has recorded a growing influx of immigrants from Eastern Europe and North Africa, resulting in significant differences in the reproductive behaviors of foreign women in the two populations. Attention will be focused on the different contributions that macro-areas of citizenship or country of origin make to national fertility.

To this end, the study seeks to answer the following research questions: How has the total fertility rate of immigrant women in Italy and Spain evolved over the first two decades of the 21st Century, and are there any differences between the two countries? To what extent can the variations observed in the fertility of immigrant

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women be attributed to changes in the demographic composition of the foreign population by citizenship rather than to changes in their reproductive behaviour?

DATA AND METHOD

This study addresses the previously formulated research questions by employing official statistical data from the National Institutes of Statistics of the respective countries, ISTAT for Italy and INE for Spain. The database includes information on the number of births by the mother's age group, disaggregated by the mother's citizenship for the period 2002–2023. For Spain, the data are also disaggregated by the mother's country of birth. This difference in data structure arises from the unavailability of information on the country of births in the Italian dataset. Moreover, considering the relatively easier process of acquiring Spanish citizenship for certain nationalities, a comparison between the two disaggregation criteria (citizenship vs. country of birth) is deemed necessary.

The methodological framework relies on a counterfactual approach through the construction of two what-if scenarios. Drawing inspiration from Tonnessen (2020), the TFR for all foreign women is decomposed to isolate the variation attributable to changes in the citizenship composition of the population from that due to changes in fertility behavior. Thus, one factor is held constant while the other is allowed to vary over time as it actually did. Specifically, in the first scenario, the demographic composition of immigrant women is allowed to change while keeping fertility rates constant. In the second scenario, fertility rates within each group are allowed to vary while maintaining a fixed population composition. These scenarios are based on the following decomposition of the TFR, where t represents the year, a denotes age, i indicates citizenship, B is the number of births, W the number of women, and w the proportion of immigrant women in age group a belonging to group i

$$TFR_t = \sum_a ASFR_{at} = \sum_a \frac{B_{at}}{W_{at}} = \sum_a \frac{\sum_i (ASFR_{ait} \cdot W_{ait})}{W_{at}} = \sum_a \sum_i (ASFR_{ait} \cdot w_{ait})$$

By analyzing the formula, it is possible to hold the age-specific fertility rates ($ASFR$) constant at their initial levels while allowing w to vary. In this case, the variation reflects only demographic composition, and the TFR is computed under the assumption that fertility levels remain fixed at those observed in 2002 across all subsequent years, while the proportion of immigrant women in each age group and citizenship macro-area follows the observed distribution. Conversely, by keeping w constant at its 2002 value and allowing the ASFR to change, the scenario isolates fertility behavior as the sole varying factor.

This decomposition of the TFR also enables the creation of additional scenarios that isolate the effect of a single macro-area. Such flexibility allows for a deeper understanding of the underlying dynamics driving fertility changes over time.

PRELIMINARY RESULTS

We present below the preliminary results (Figure 1, Figure 2) to illustrate the methodological approach and to anticipate the nature of the final findings.

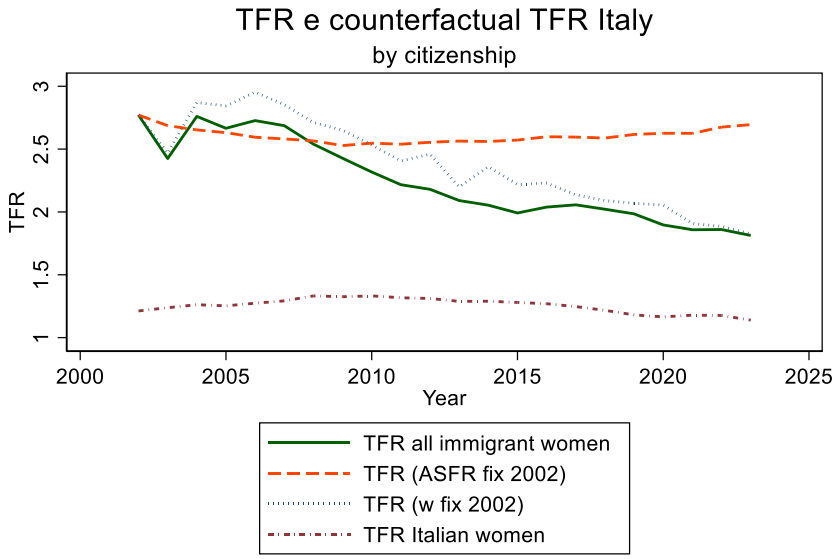
In the case of Spain, the same methodology was applied to the decomposition by country of birth. No substantial differences emerged between this and the citizenship-based disaggregation, as both displayed a similar trend over time. Therefore, for the sake of consistency and comparability, the results are presented using the citizenship disaggregation for both countries.

The observed TFR among immigrant women (green line) shows a clear downward trend in both Italy and Spain over the observed period, although the levels and dynamics differ between the two contexts. In Italy, the fertility of foreign women starts from significantly higher values and gradually decreases over time, approaching 1.8 by 2023. Conversely, in Spain, the TFR of immigrant women follows a less pronounced decline with a peak around 2015. In both countries, the fertility of native women remains considerably lower and more stable over time, staying close to or below 1.3 children per woman. The gap between immigrant and

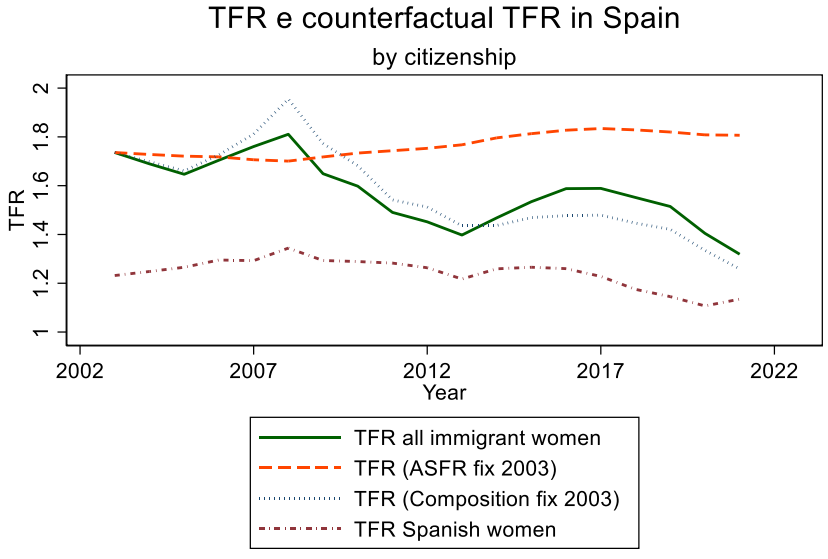
native fertility, while persistent, has narrowed progressively, reflecting a gradual decline of fertility level among immigrant women.

In the first what-if scenario, the ASFR of foreign women in both countries are held constant at their 2002 levels, while the composition of the immigrant female population is allowed to vary as observed between 2002 and 2023. In both figures, this scenario exhibits a relatively stable trend, with slight differences between the two countries. In Italy, the orange line shows a slight decline, while in Spain there is a mild upward trend. This pattern suggests subtle changes in the composition of the foreign population, probably driven by a growing share of women from macro-areas with higher fertility levels.

The opposite scenario (grey line), where the composition is fixed at its 2002 level and only fertility within each subgroup is allowed to change, closely mirrors the actual TFR recorded in both countries. This indicates that most of the variation can be attributed to changes in fertility behavior rather than demographic composition. Particularly in the case of Spain, the two lines almost overlap, suggesting that despite compositional changes—possibly an increase in women from higher-fertility countries—the dominant factor influencing the overall trend has been the fertility propensity itself.



Source: own elaboration on ISTAT data



Sources: Own elaboration on INE data

In the next steps, we will explore the underlying dynamics of the observed decline in fertility in more detail. We will examine the effects of specific macro-areas within each country and test whether different migration patterns account for the differences observed in the preliminary section.

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