Italy and Spain are two low fertility countries with similar welfare systems and, prior to the economic crisis of 2008, similar fertility trajectories. Since 2008 both have experienced decreases in fertility but the decline has been more dramatic in Spain. By ‘decomposing’ national fertility rates to examine both fertility change among population groups and changes in the composition of these groups, we reveal why fertility has declined more in Spain than in Italy.

**Key Points**

- Since the 2008 economic crisis, period fertility rates have declined in both Italy and Spain but the decline has been much more pronounced in Spain.
- Since 2008 in both countries, fertility has declined more for women under 30 than for women over 30.
- In Italy, women who are non-nationals have contributed more to the recent fertility decline than women who are nationals.
- The influence of different groups on regional-level fertility varies across both countries.
- In Spain, but not in Italy, structural changes in the 20-29 age group have also contributed to the recent fertility decline, suggesting the importance of young people migrating to other countries since 2008.
- Recognising the implications of migration, especially out-migration, for fertility change during economic recession could improve the planning of local and national services.

**Introduction**

In the late 1990s Italy and Spain experienced some of the lowest levels of fertility in Europe. National fertility levels appeared to be recovering in the 2000s, with period total fertility rates (the number of live births per 1000 women) rising steadily to around 1.45 children per woman in both Italy and Spain by 2008. However, since the global economic crisis, new declines in fertility have emerged in both countries and this is especially striking in Spain where national total fertility rate (TFR), fell to 1.27 children per woman in 2013 (Figure 1).
The study

The study uses national and sub-national data from vital statistics and inter-censal estimates of population in Italy and Spain to compute period total fertility rates for each year between 2003 and 2013. To allow us to identify which age and population groups appear to have adjusted their fertility most since 2008, the fertility rates were computed by 5-year age groups (within the fertile age range) and by migration status. The study adds to current literature by also considering the contribution of changes in population structure (age and migration status) to fertility change over time. It estimates the concurrent contributions of both direct changes in fertility and of compositional change to national and regional TFRs in Italy and Spain for two periods (2004-2008 and 2009-2013) before and after the economic downturn. Note that in Spain we can distinguish between foreign-born and natives, however for Italy the data only allow us to differentiate between non-nationals (i.e. those who do not have Italian citizenship) and nationals. The latter group includes some foreign-born who have now taken Italian citizenship.

Main findings

At the national level, both countries show marked differences in the contributions of different age and population groups to fertility change over time. These contributions also differ between Italy and Spain, as well as varying regionally within each country. One common finding is that, in both countries, women at older ages within the fertile age range have contributed significantly less to post-2008 declines in fertility than younger women.

Migration Status

International migration has contributed to fertility change in both Italy and Spain during the study period. As Figure 2 shows, fertility among immigrant groups is, on average, higher than among the rest of the population. In Italy, women who are non-nationals have contributed more to the recent fertility decline than Italian women (i.e. their fertility has declined more during the period). In the context of economic recession, this suggests that women who are not Italian citizens have adjusted their fertility behaviour most, possibly because they have experienced greater economic vulnerability than their Italian counterparts. In Spain, the decline of fertility among foreign-born women has been less pronounced, and their average fertility is closer to that of native women.

Overall our findings suggest that national/native populations in both countries have adjusted their fertility least in response to the economic crisis. However, a more varied picture emerges from the further decomposition of these fertility trends.

Figure 3 summarises the contributions of three components of fertility change (the fertility of nationals, the fertility of non-nationals and the population age structure) across four age groups to national TFRs in Italy and Spain before and after 2008.
The most striking difference between Italy and Spain is that while changes in population composition make an important contribution to national period fertility rates in Spain both before and after 2008, they do not play a role in Italy (shown in Figure 3). Uniquely in Spain, structural changes in the 20-29 age group contributed both to fertility increases prior to the economic crisis and subsequently to fertility decreases. This finding reflects the dramatic rise in the foreign born population in Spain, which rose to nearly 12% of the total population by 2008. It also suggests that a significant number of immigrant women, as well as Spanish-born women, in their 20s have left Spain since the economic crisis.

In Italy, the dominant contribution of women in their 30s to total fertility rates between 2004 and 2008 is reversed following the economic crisis. However, the main contribution to recent fertility change comes from women in their 20s, especially non-nationals, whose fertility declined by around 70 live births per 1,000 women.

In Spain, women in their 30s were also major contributors to national TFRs between 2004 and 2008 but, in contrast to Italy, women in their 20s and foreign-born women also made positive contributions during this period. While it is those in their 20s who have adjusted their fertility most post-2008, and again in contrast to Italy, this is especially so among native women whose fertility declined by around 44 live births per 1,000 women, exceeding the more modest decline among foreign-born women in the same age group.

**Population Composition**

The most striking difference between Italy and Spain is that while changes in population composition make an important contribution to national period fertility rates in Spain both before and after 2008, they do not play a role in Italy (shown in Figure 3). Uniquely in Spain, structural changes in the 20-29 age group contributed both to fertility increases prior to the economic crisis and subsequently to fertility decreases. This finding reflects the dramatic rise in the foreign born population in Spain, which rose to nearly 12% of the total population by 2008. It also suggests that a significant number of immigrant women, as well as Spanish-born women, in their 20s have left Spain since the economic crisis.
Sub-National Variations

Contemporary fertility change in Italy and Spain at the national level is likely to be the consequence of divergent forces sub-nationally. Investigating the composition of TFRs at the regional (NUTS2) level shows that the contributions of different groups in the population to sub-national fertility vary across regions within each country and that, in some areas, changes in population composition have played an important role in fertility declines. For instance, in the Italian regions of Lombardy and Lazio the decrease in fertility among non-national populations between 2009 and 2013 has been particularly significant, contributing 79% and 82% respectively to the decline in regional TFRs. In contrast, the decline in TFR in the Italian region of Campania over the same period is predominantly explained by the decrease of fertility among nationals. In Spain, both decreases in fertility among Spanish-born women and changes in the composition of the population, especially for the age group 20-29, contribute to post-2008 fertility decline in the regions of Madrid and Catalonia. In Andalusia, however, changes in population composition contribute little to fertility decline.

Policy implications

As migration is the main determinant of short-term changes in population composition, our findings indicate that moving to another region or country must be considered as a possible individual-level response to economic recession, along with postponing partnership and/or births, or revising fertility intentions downwards. Recognising the contribution to fertility change, not only of migrants’ fertility per se, but also of structural changes linked to in- and out-migration is crucial to understanding fertility change in the context of economic recession. Therefore, the findings of this study provide a basis for improving forecasts of future populations and informing the planning of local and national service delivery.