

Subregional paths of fertility in Spain

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Abstract

This article describes the evolution of fertility in fifty Spanish provinces, *provincias*, over the last seventy years, from 1940 up to the present day. Regional characteristics of Spain offer an ideal ground to analyse regional paths of fertility behaviour, as it possesses distinctive regional and provincial characteristics both on the cultural and political level, which reflect on fertility behaviour throughout the decades. Fertility transition toward lowest-low fertility levels has been highly heterogeneous across the country reflecting cultural differences (e.g. Catalonia started the decline in fertility much earlier than other regions), migration paths (e.g. out-migration from Galicia, urbanization of Madrid and Barcelona) and economic development (e.g. lagging South with high unemployment rates). In addition, Spain entered the Second Demographic Transition late and with considerable regional variability reaching in little time lowest low levels of fertility. The aim of this article is to explain paths of fertility across fifty Spanish provinces over the last forty years with respect to provincial variation of total fertility rate, while the explanatory variables are associated to fertility related behaviour, migration and economic indicators. In this paper, we assume that fertility behaviour is converging toward a common path of fertility related behaviour and we use means of formal demography to describe provincial differentials and spatial analysis to investigate the spatial dependence and heterogeneity of such paths. The Instituto Nacional de Estadística, INE, supplies an extensive database with detailed information at NUTS3 level, in the 2003 coding, provinces (47), islands (3) on births, parity, nuptiality and other fertility related measures, which constitutes the base for further personal elaboration of data considered for the analysis.

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1. Introduction

This study falls in a bigger project aimed at studying sub-regional fertility patterns in four European countries, Spain, Italy, Flemish speaking Belgium and France, to provide a full description of the underlying dynamics in light of the Second Demographic Transition, which frames the whole project as main theoretical framework. The main goal of the project is to provide a comprehensive description of fertility dynamics and its evolution during the last decades in each country at the regional level (or provincial when possible), that is to say NUTS2 and NUTS3 for Spain, Belgium and France and NUTS2 for Italy.

Ever since the mid 1980s, Spain has reached under-replacement levels of fertility,³ which soon after spiralled towards a lowest-low path. How did Spain get to this situation? Previous research has shown that some regions show unique characteristics of demographic evolution within the country.⁴ For instance, Catalonia and to some extent also other Catalan speaking areas experiences a much earlier decline in mortality and fertility with respect to other regions in Spain, even though, such declines were not comparable in intensity to those of other European regions. Regional characteristics of Spain offer an ideal ground to analyse regional paths of fertility behaviour. Moreover, Spain is a country that has undergone various transformations ever since the beginning of the 20th century. The Guerra Civil of 1936-1939 and the instauration of the Francoist regime, the ascent of democracy in 1975 and the considerable immigration of the last decades have affected fertility behaviour not only at national but also at sub-national level.⁵ Indeed, the Iberian country is an interesting case study under several aspects, as it possesses distinctive regional and provincial characteristics both on the cultural and political level, which reflect on fertility behaviour throughout the decades. In addition, Spain entered the SDT late⁶ and with considerable regional variability, with respect to other European countries reaching in little time lowest low levels of fertility. I want to study how the spatial component of fertility in Spain evolved across the 52 provinces. Indeed, preliminary results show distinct fertility paths, across four main areas: North, East, Centre (without the Community of Madrid) and South. Furthermore, the decline in fertility and subsequent change in fertility behaviour occurred at different timing among the four regions, where, for example, the Catalan speaking provinces were precursors of first demographic transition and decrease in fertility.

The Instituto Nacional de Estadística, INE, supplies an extensive database with detailed information on age specific fertility rates, parity, nuptiality and other fertility related measures. Furthermore, INE supplies with detailed data at NUTS3 level, in the 2003 coding, provinces (47) and islands (3).

2. Data and Method

The data used in this study come from two sources, the decennial censuses and the *Movimiento Natural de la Población* database. In addition, women's intercensal population is computed in order to provide year-by-year measures of fertility.

For reasons depending on the quality of data and dataset level of detail, the analysis is divided in two parts: a preliminary analysis that employs 1940 to 1974 data and a more detailed investigation using data from 1975 to 2010. The analysis employs age specific fertility rates, with

³ Billari F. C. (2008).

⁴ Livi-Bacci M. (1968a).

⁵ Ahn N. and Mira P. (2001), Iglesias-Dussel J. and Flanquer L. (1993), Sarribe G. (1989), Pérez-Muñoz F. (1995), Fernández-Leiceaga X. (1999) and Cachinero-Sánchez (1982).

⁶ Van de Kaa D. (1987).

detail on parity, to describe the evolution of fertility dynamics in each geographical unit. Moreover, marital fertility and illegitimacy are also being considered as they play an important role as rise in out of wedlock births and the decrease in marital fertility, as well as nuptiality are key indicators in studying the Second Demographic Transition countries. This study involves instruments of formal demography to construct rates and indexes to describe year by year, the changes in total fertility rates, first birth timing, mean age at first birth, mean age at childbirth, mean age at marriage with reference to both period and cohort dimensions, in each Spanish province during the last 70 years.

The censuses used for the analysis are those from 1940 to year 2001. The choice to start with 1940 census is two-folded: on one hand, the data collected from 1900 through censuses cannot be fully integrated with that of the MNP until 1941, rendering intercensal estimates and fertility analysis more difficult. On the other hand, the historic turmoil that troubled Spain during the end of the XIX century and beginning of the XX, translates in less than accurate data, especially for what concerns the Guerra Civil (1936-1939).

The data collected during the Francoist era pose some challenges especially in terms of sources for fertility measures as most often only marital fertility is considered, out of wedlock births are discontinuously collected and live birth statistics did not adhere to the standard UN classification. Moreover, some preliminary measures must be taken into account in order to have reliable data, such as correction of age distribution, of “unknown”, correction of live births categorization, etc.⁷

The preliminary analysis has been carried out on data from the period 1940-1974 and employs methods of formal demography. The analysis for subsequent years up to 2010 offers a much throughout description of fertility trends providing insights on out of wedlock births, parity and for the 1996-2010 period also on union status and citizenship. The last stage of the analysis is by means of spatial econometric analysis, which studies the spatial interrelations between fertility, migration and economic indicators, such as female participation into the labour market, unemployment rates, and GDP per capita at provincial level.

3. Preliminary findings

Preliminary findings carried out on Francoist era dataset (1940-1975) show that regional differences are present and continue throughout the considered period even though their evolution presents unique trends, that is to say, each region presents remarkable differences. Indeed, for example the North-West (Galicia, Asturias, Cantabria and Basque Community), which has always been characterized by postponed marriage and high female’s celibacy with mean age at marriage (MAM) well above the national level in 1970 census reverse this trait showing much lower MAM, well below the national mean. CBR, though not comparable across different provinces and regions, show slight fluctuations throughout 1950s and 1960s, beginning a slight but constant decrease from the second half of the 1960s, more decisive in the second half of the 1970s, though with marked differences across provinces.⁸ Celibacy, which has been one of the highest in Europe,⁹ reduces considerably together with childlessness, the latter reducing to levels closed to natural sterility.¹⁰ Even though Spain Preliminary results place Spain on the path towards a slow but determined Second Demographic Transition.

⁷ Blanes-Llorens A. (2007), pp. 46-56.

⁸ Agüero I. and Olano-Rey A. (1980).

⁹ Livi-Bacci M. (1968b).

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