Portugal: South or East European Country?

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INTRODUCTION

After the severe decline of fertility patterns experienced by the majority of the European countries, several authors start to identify the recuperation of period and cohort fertility. That period of pronounced decline of fertility, known as the lowest-low fertility momentum during the 1990s, ended in the large majority of European countries between 2000 and 2008. Portugal is among the group of European countries that is still not recovering in the cohort fertility, and at the same time was also the only south European country, which remained in the minimum value of 1.3 to the period fertility in the year of 2009. If we establish a comparison between fertility levels in 2000-2005 and 2006-2010, in the European context Portugal is the only country presenting a negative evolution of period fertility.

The main objective of this work is to contextualize the Portuguese fertility and to understand if period and cohort fertility behaviour/context are the same to South and Eastern European Countries. On the other hand understand if the economy, social and cultural context have bigger impact in South and East Europe.

BACKGORUND

The emergence of low fertility is due to a combination of four distinct behavioural and demographic factors. The first factor identified was the *economic and social changes* that made the postponement of fertility an individual and rational response. The second factor, the *social interaction processes* that effect the timing of fertility have submit the population response to these new socioeconomic circumstances substantially larger than the direct individual responses. The third factor, the *demographic distortion of period fertility measures,* caused by the fertility postponement and changes in parity-composition of populations have "shrink" the level of period indicators below the related level of cohort fertility. Finally the fourth factor is the institutional settings which in Central, Eastern and Southern European countries that have favoured an overall low fertility quantum. Moreover the institutional settings caused, due to the delay of childbearing, large reductions in the completed fertility in lowest-low fertility countries.

From the perspective of the cohort fertility behaviour and recuperation, Goldstein et al. (2011) mentioned that from a group of 34 countries only 5 were still with a decline in fertility levels, from these 5 countries three are from east Europe (Slovakia, Poland and Hungary) one from the south of Europe (Portugal) and the last country is from Asia (Korea). The reference of similarities between Portugal and some East European countries was also denoted in the past

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by Sobotka (2004), were the author makes reference to Portugal as being "the only country of the west Europe where women were having children at a relatively young age", and also that "Portugal is almost equal to East Germany, which had the latest childbearing patterns among the communist countries".

Regarding to the economic factors, the income levels per capita in the South European countries (Spain, Italy and Portugal) are at the medium to high levels with stable growth, and until 2005 these countries experienced stable and low inflation. Portugal was until 1999 the only Southern European country with relatively high fertility and considerable lower unemployment (Kohler et al. 2005). The chronic and high unemployment in the South European countries appears to have discouraged the young adults from entering in the labour market and as consequence the formation families start to decrease and the childbearing postponed. Is widespread in the literature that countries with lowest-low fertility share institutional settings characterized by positive discrimination relatively to low quantum of fertility, i.e., the Southern European countries provide highly insufficient child-care support.

These traditional socioeconomic factors associated to economic recessions usually lead the societies to a postponement of childbearing often compensated during the times of economic prosperity. After a period of low fertility, the majority of countries seem to be recovering and most of them increased slightly the fertility levels, yet we must not forget that this increase is not completely conditioned by the economic crisis all around the world. In the case of Europe, most countries experienced an economic setback in the beginning of 2009. The recession brought a significant increase in unemployment and in some cases there was a decrease in income, the consumer confidence dropped and we observed the growing uncertainty about the future.

DATA AND METHODS

To the selected counties (Portugal, Spain, Italy, Poland, Hungary and Slovakia) and for the period between 1990 and 2010 the data used is from the Human Fertility Database (HFD), Eurostat and PORDATA. The demographic indicators, used were the Age Specific Fertility Rates (ASFR), Total Fertility Rate (TFR) and Mean Age ate Birth (MAC). On the economic perspective and for the same period was used the female employment rates from ages 15-24 and 25-54, the Gross Domestic Product (GDP ppp), and the share of young adults between ages 18-34 living with parents.

The analysis it will be done in two different steps, the first with regard only with the TFR and its adjustments, and second using the economic resume indicators it will be construct linear regression models. The tempo and Quantum adjustment method was used with the purpose of identify the significant differences between the different countries with regard to the fertility postponement. The first method is proposed by Bongaarts and Feeney (1998) and is known as the adjusted total fertility rate (adjTFR), computed as a sum of order-specific total fertility rates (adjTFR$_i$) which take order-specific changes in the mean age of fertility schedule, $r_i(t)$ as an adjustment factor:

$$\mathrm{TFT}^{*}(\mathrm{t}) = \mathrm{adjTFR_i(t)} = \frac{\mathrm{TFR_i(t)}}{[1-\mathrm{r_i(t)}]} \qquad (1)$$

the $\mathrm{r_i(t)} = \frac{[MAB_i(t+1)-MAB_i(t-1)]}{2}$ and the $MAB_i(t)$ is the mean age at birth order i.

However related to the adjTFR some authors, such as Sobotka (2004) suggested the use of a three-year moving average of the adjTFR and compute the adjustment only for birth orders up to 3 to increase the stability in the time series of the adjTFR which displays large annual fluctuations. The overall adjTFR is estimated as a combination of the adjTFR for birth orders 1 to 3 and the ordinary TFR for births orders 4+:

$$\mathrm{adjTFR(t)} = \mathrm{adjTFR(t)}_1 + \mathrm{adjTFR(t)}_2 + \mathrm{adjTFR(t)}_3 + \mathrm{adjTFR(t)}_4 \qquad (2)$$

Goldstein et al. (2009) propose still another "correction" to the Bongaarts and Feeney adjustment, once that we lose the last year of time series and also by using a three-year moving average, we lose another year, the authors propose that to obtain more recent data for analysis of the latest fertility trends we can calculate first the crude adjTFR using $\mathrm{r_i(t)} = MAB_i(t+1) - MAB_i(t-1)$. And to improve the last year estimate slightly, we should use a smooth, computing the average of the last two full observations combined with this very last point:

$$\mathrm{adjTFR(est)(t)} = \frac{\mathrm{adjTFR(t-1)+adjTFR(t)+crude\_adjTFR(t+1)}}{3} \qquad (3)$$

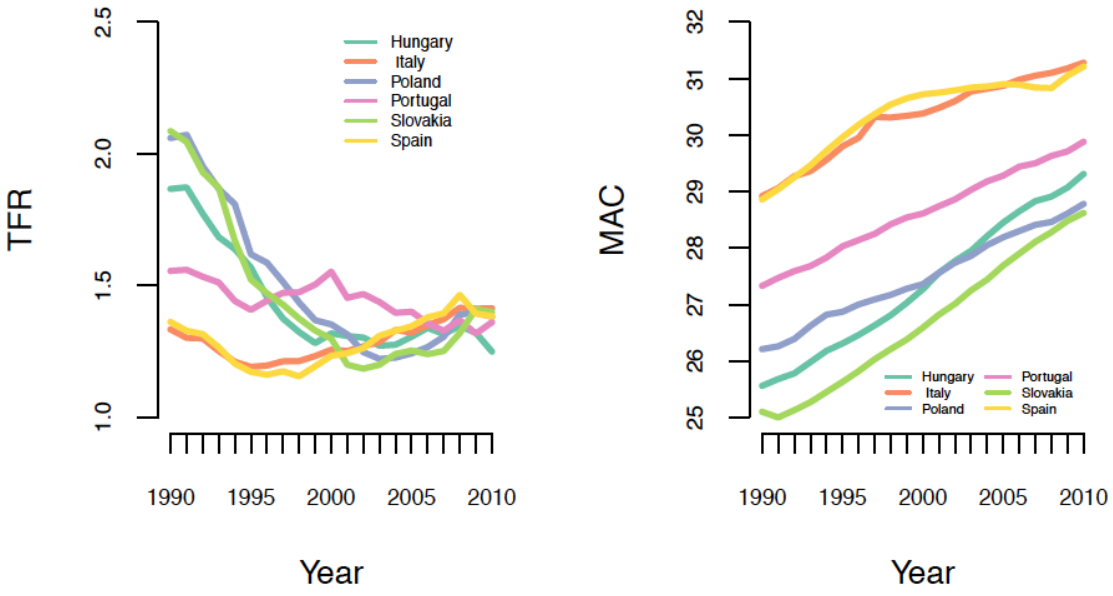
PRELIMINARY RESULTS

Assuming the proximity of behaviour in the cohort fertility between Portugal, Hungary, Poland and Slovakia, our purpose was to observe the period fertility to the mentioned countries and also to Spain and Italy with the fundamental aim to understand if Portugal is closer to the South or East European countries.

In figure 1 we can observe the evolution of TFR and MAC for the different selected countries in the period 1990 to 2010. Spain and Italy present in booth cases similar behaviours, low TFR's increasing after 2000 and a mean age at birth higher than 30 years. The East European countries presented in the other hand a higher fertility in the beginning of the period and after 2000 decline to values lower that Italy and Spain. Regarding to the mean age at birth Hungary, Poland and Slovakia - the country with lower values - presented lower values that the South European countries. In the selected group Portugal have a position in between the South and the East of Europe in particular respect to the mean age at birth; in the case of the TFR Portugal presents in the beginning of the 90's values in between the South and the East however between 1998 and 2006 the higher values of TFR belong to Portugal. From the selected group Portugal is the only country during the beginning of the 00's that presents values of TFR higher that 1.3.

The preliminary results to the countries age specific fertility rates, provide us the possible to observe that the similarities presents at the TFR were distinguished using the ASFR, once that the South Countries presents higher period fertility at later ages and the East Countries present higher values at younger ages.

Figure 1: TFR and MAC to the selected countries between 1990 and 2010



The preliminary results regarding to the linear regressions allow us to identify differences between the fertility growth and the economic component. Spain is the country from this group that presents a major impact of female labour participation in the postponement of fertility, in opposition to Slovakia were nether the PIB or the female employment rates present significant results.

The linear regressions give also the possibility to observer that what influences the postponement of fertility is not exactly the same factor affecting the decline in the number of births.

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