THE INTERPLAY BETWEEN EMPLOYMENT, ECONOMIC INSTABILITY AND FERTILITY QUANTUM: PORTUGAL IN A COMPARATIVE EUROPEAN PERSPECTIVE

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Abstract

In many European countries, mainly at the southern ones, the recent economic crisis had immediate negative impact on the family formation decisions and fertility quantum retracts. Spain and Portugal are identified in the literature as countries with strong traditional families, and with high levels of income inequality, poverty and class inequality, but low levels of generational inequality. Portugal is not however a conventional familiastic model country. The country traditional low employment rates aren't typical in the Portuguese context where no negative relationship between motherhood and women's high employment rates was found. Still, as well as Spain, Portugal dramatically experienced the 2008 economical crisis shock and could change the dynamic between female labour market and fertility decisions.

This study examines, since 1960, and with special interest in the years after the recent economic crises (2008 onwards), the relationship between the economical crisis, female labour force, unemployment and fertility tempo and quantum, in Portugal as main case of interest in a comparative analysis with five selected European countries (Austria, Hungary, France, Spain and Sweden). We evaluate the arguments on the relationship between labour market participation, un/employment and fertility postponement, and present a comprehensive overview of the expected main driving factors behind specific fertility trends and the current situation in the labour market participation.

Considering the Portuguese case of study, a positive relationship between age, education and employment was found, with an increase on the fertility quantum when labour market participation stabilizes at older ages. Such positive effect increases the probabilities of a more educated woman recuperate the postponed childbearing earlier in their cohort.

Key words: Economic crisis, Employment, Fertility, Portugal.

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1. Introduction

The relationship between fertility, economic conditions and women participation in the labour market is one of the most classic research discussions about family occurring into the light of demography and sociology. Since Malthus that *much of the empirical literature on the determinants of fertility dynamics has been motivated by the idea that economic hardship and labour market uncertain will cause fertility postponement* (Goldstein et al., 2013: 86).

In many European countries, specially at the south Europe the actual crisis coincide with pension system reforms which in fact increase the age of retirement, implying that fewer older workers are leaving the labour market and the younger have to compete for less jobs and accept inferior earnings (Sobotka et al. 2011).

Rydel (2002: 3) defined Portugal and Spain as countries with strong traditional families, but also as countries with *high levels of income inequality, poverty and class inequality, but low levels of generational inequality (…).* And in the southern European context, Portugal is not a conventional familiastic model country. The country traditional low employment rates aren't typical in the Portuguese context and Tavora (2012) identified no negative relationship between motherhood and women's high employment rates. Still, as well as Spain, Portugal dramatically experienced the 2008 economical crisis shock.

This study examines, since 1960, and with special interest in the years after the recent economic crises (2008 onwards), the relationship between the economical crises, the female labour force, unemployment and fertility *tempo* and *quantum*, in Portugal as main case of interest in a comparative analysis with five selected European countries (Austria, Hungary, France, Spain and Sweden).

Therefore we defined as main goals: (1) to evaluate the arguments on the relationship between labour market participation, un/employment and fertility postponement, making use of Portugal as an example; (2) to describe and discuss the fertility and GDP trends since 1960 with special attention to the expected impact from the 2008 economical crises; (3) a and to give a comprehensive overview of the expected main driving factors behind specific fertility trends and the current situation in the labour market participation.

2. Theoretical framework and empirical background

2.1 Empirical findings on the relationship between fertility decline and economic recession

Becker in 1993 interpreted the fertility reduction as a rational behaviour of individuals by explaining that the impact of an increase in individual income on fertility is subject to a quality-quantity trade-off. The low level of fertility in Europe is leading to important changes in age structure and is slowing or even repressing population growth. In fact, it is also known that fertility strongly affects population growth and the age structure of the population in general (e.g., Tomé et al., 2014). The evolution of fertility in the nearest future has extensive consequences on the economic development, productivity growth and several aspects of the welfare systems (Prskawetz et al., 2008). Fertility responses to economic development are not always the same, and several factors can shape the relation economy and family formation decisions (Lesthaeghe and Surykin, 1988).

Thus a qualitative change in the context of economic growth changes the environment of its influences on fertility rates. These changes occur due to the fact that economic

development and fertility are linked in a two-way relationship. In one hand, changes in population composition caused by the fertility variations, affect the level of investments in education, and in the long run the economic growth. On the other hand, the economic growth affects the fertility behaviour itself (Luci and Thévenon, 2010).

The immediate impact of low fertility is the reduction of the number of children in the total population and the increase in the share of population concentrated at working ages, raising the support ratio and raising, consequently, the per capita income (Tomé et al., 2014). This phenomenon is identified as the first demographic dividend. Afterwards, as the smaller cohorts of children reach the working ages, the share of working age population declines, the share of older adults increases and the total population ages. So, in a general way the support ratio falls, reducing the per capita income.

Shifts on the population age distribution have significant macroeconomic consequences that feature prominently in the debate of the economic attitude in Europe. In the conventional literature, low fertility leads to higher capital consumption, because lower labour force growth leads to capital deepening. However, a lower population growth may reduce welfare because the workers have to support a larger number of elderly (Lee and Mason, 2010). Nevertheless, the research on economic recessions shows that the economic crisis can affect the dynamics of migrations, mortality and fertility, and provides the support to the idea that fertility reacts negatively to the downturns of the economic cycle, existing a "pro-cyclical relation" between fertility and economic growth. The negative relationship between fertility and economic crises has also been observed in historical studies related to the 19th and beginning of the 20th century (e.g., Lee 1990; Bengtsson et al., 2004).

Still the actual economic crisis is in many ways different from previous ones. This economic recession raises interest on the effect of such variations in the economic context in demographic behaviour. As result of the recession, the economic growth slowed down and the unemployment levels have risen steeply. So, in a period of adverse economic conditions, it is plausible that the families put the decision to have a(nother) child in hold (Neels, 2010).

Although most studies find that fertility tend to be pro-cyclical and react on the ups and downs of economic movements, the evidences are not unanimous. The fertility trends often show correlation with the gross domestic product (GDP) growth. The relationship for low-fertility countries after 1980 reveals that periods of economic recession or stagnation were frequently followed, within one or two years, by a turn down in period fertility rates. Nevertheless, the measures of unemployment and consumer reaction appear to be suitable indicators that reflect directly the impact of the crisis on individuals and that were repeatedly found related to fertility fluctuations (Sobotka et al., 2009). New patterns of fertility are marked by the end of postponement of childbearing, by new economic and social dimension, and by modern norms and attitudes towards the family, female education, and gender roles.

GDP is often the indicator employed to analyse the economic decline, and is frequently associated with a subsequent fall in fertility rate. In a study regarding 26 countries with low-fertility levels, Sobotka et al. (2011) identified that, on average, period TFR decline is more often registered than the increasing. Such association dispersed however in a multivariate model, when other indicators, capture better the pathway trough which economic recession affects fertility. Different from the changes in the GDP, the unemployment growth constitutes a more concrete indicator of the impact from economic crisis in the behaviour from women and men on their reproductive ages.

Persistent and high unemployment among young adults has become one of the most significant explanations for the low and delayed partnership and family formation in Southern

Europe (Billari and Kohler, 2002). The rising unemployment contributes to the delay in partnership and marriage, which indirectly influences the decline of fertility rates. Delayed partnership formation has most salient effect on birth trend in countries where the traditional tie between marriage and childbearing remains strong. If until recent years this pattern was typical of Southern Europe, where the marriage was commonly seen as a precondition to childbearing (Castro-Martin, 1992) in recent years outside Europe, countries of East and South-Asia has experienced a remarkable postponement and decline in marriages, which explain the decline of fertility in the last decades (Kaneko at al., 2008).

In a relatively recent study (Luci and Thévenon, 2010) about the economic development and fertility in the OECD countries, the authors followed an econometric strategy, with linear, exponential and quadratic models. The aim of the proposed models was to observe the relationship between total fertility rate (TFR) and the GDP per capita (GDPpc). In a generic way, this study makes easy to understand that the influence of economic development in fertility changed radically in the last few years. In highest developed countries, economic evolutions and setbacks go *hand in hand* with rebound in fertility. The current recession is likely to have some depressive effect on the childbearing and period fertility rate that are already deemed too low to values even lower in the near future. In many countries where the TFR increased after 2000, the 2008 recession may lead to stronger declines in terms of fertility quantum. Nevertheless, the recession effects will not be *universal*, once that the institutional factors and policies will interfere in the relationship between economic depression and fertility behaviour.

The life event of unemployment and its timing (not only the moment, but also the duration) are determinants in the fertility *quantum*. *If unemployment is high and persistent, young women (with less labour market experience on average) may fear that time spent in childbearing (including any maternity leave they might be eligible to take) may harm their likelihood of re-employment or increase their risk of future unemployment, and, as a result, hurt their lifetime wage-growth and benefits* (Adsera, 2011: 518). Thus women choose many times to postpone maternity in order to secure their current employment situation.

2.2 The relationship between fertility and female participation at the labour market: Portugal as an example

When opportunities in education become more equal, inequalities in the job market lose their legitimacy, so that the expansion of female education has a politicizing effect in the employment system and career hierarchies (Beck and Beck-Gernsheim, 2002: 59). For the better educated women are, the greater chance they have to find an intrinsically satisfying activity from which the can earn their own living; whereas uneducated women trapped at the lower end of the labour market hierarchy often see family formation as the only possible escape from monotonous and wretchedly paid work.

Not only the current economic crises but other factor as the extraordinary increase of gender equity in individual-oriented institutions increased the women's roles as wives and mothers due to continuing low levels of equity in the family sphere (Prskawetz et al., 2009). Gaspar (2013) acknowledged that women's participation in the labour market and the amount of time they dedicate to their work are closely linked to the number and ages of their children. The author identified that the employment rate is higher among women ages 29-49 without children under age 6, while for males in the same age group and with children under age 6 the employment rate is higher.

Even that the economic context, labour market participation and educational levels, play major role in the evolution of fertility, the family context is also important. The central role of family in the organization of labour market and welfare is considered one of the key traits of a hypothetical Southern European model between and within countries.

Bettio and Villa (1998) argue that the Southern family model inhibits female labour force participation since most care services are performed within the family by women, instead of being externalised thereby both relieving women of excess work in the family and creating job opportunities. Such family model is presented as the "root cause" to the low female employment rates in Spain, Greece and Italy. Yet, Portugal is the exception with high rates of female employment, revealing an *apparent* inconsistencies of such rates with the familialistic features that are said to characterize the organization of welfare and employment in the four countries (Caldwell, 1980; Kohler et al., 2005; Tavora, 2012; Oliveira, 2009). Besides those differences, Rydell (2002) also highlights the difference between Portugal and the neighbour countries in public childcare facilities along with more public aid to families with young children.

We can then argue that the erosion of the familialistic tradition in Portugal ended when in the 60's and 70's the female labour force participation increased and the female employment rates exceeded the ones registered in Span, Italy and Greece. This rapid and marked growth, results from a high male migration that is consequence of strong emigration to Europe and military recruitment of young men to the colonial war (1961-1974), which created severe labour shortages in a period of strong industrial development (Mendes and Rego, 2006). The weakness of wages in Portugal and the demand for better living conditions have long led the Portuguese women to abandon the concept of *housewives* or *homemakers* (Tomé, 2015).

The traditional low rate of female employment is not conventional for the Portuguese women, and even the erosion of familiastic model in a first moment showed *no negative impact of motherhood on women's employment, implying that mothers of young children are even more likely to be employed than non-mothers* (Tavora, 2012: 67). If Portugal had already in the 60's and 70's a extraordinary female employment rates and at that time fertility was still considerably high, it is expected that changes in fertility trends are due to other factors that not the increase participation in the labour market.

Within this framework, Portugal is an attention-grabbing case for analysis, since in one hand the country has a high percentage of working women (i.e., working mothers) and this element constitutes a distinctive and long-established feature of the Portuguese society. On the other hand, the general educational levels of population are considerably lower than in most European countries. Portugal is still subject to significant shortcomings in its education when set against other OECD countries.

Analyses on aggregate data from different countries show a negative association between fertility and women's employment until the 1980s and the change of this relationship since the mid-1980s, when the correlation becomes positive. In other words, at the present it is in those countries with greater female participation in the labour force that fertility tends to be higher (Oliveira, 2009). The high rates of employment of Portuguese women, which are rooted in the 1960 and 1970s when emigration and military recruitment of young men to the colonial wars created severe labour shortages in a period of strong industrial development led to an erosion of the familiastic tradition in this country.

Also, the increase in education could explain observed changes in women labour market participation. In the sense that educational attainment is intimately related to

opportunities and positions on the labour market, individuals with different levels of education are likely to be differentially affected by variations in economic context (Neels, 2010). Furthermore, higher educated women *have more to lose by staying at home to provide childcare* (Basten et al., 2013). Still women bear many more responsibilities than men within the family and are much less protected in the labour market. These conditions generate numerous contradictions in women's lives, among others, the high level of work-family conflict its always there (Gaspar, 2013).

3. Data and Methodological considerations

3.1 Data

The period indicators were calculated or obtained directly from several data sources. The considered age groups are the ones traditionally used in the demographic fertility analysis related to the fertility window (20-24, 25-29, 30-34, 35-39, 40-44).

Human Fertility Database and EUROSTAT provided data on fertility evolution as total fertility rate, age-specific rates and mean age at childbearing, and later on computed by us. GDP and GDP growth (%) indicators were provided by the World Bank database. Information about women labour market participation, unemployment rates by age and age groups, and education was provided by the OECD online database.

3.2 Methodological considerations

With the aim to describe fertility trends and their relationship to the economic dynamic changes, we focus our attentions in two main fertility demographic indicators and four economic measures. From the demographic perspective and widely discussed in the literature, besides its constraints, we focus on TFR (total fertility rate) to analyse period fertility, and on the mean age at childbearing (MAC). MAC give us the perception on the fertility postponement and in some cases reflects better than TFR the direct effect of some individual characteristics.

To measure the economic growth, the gross domestic product is the most used method. Considering the OECD definition: *Gross domestic product is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs). The sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, less the value of imports of goods and services, or the sum of primary incomes distributed by resident producer units* (2002).

If we assume that GDP can be considered as an aggregate measure of total economic production for a given country, we thus should consider other variables. Consequently, we included in our analysis the women labour force and as well as the employment rate by age groups and also by educational level.

Labour force participation corresponds to the population aged 15 and older that are economically active, *i.e.* all people who supply the labour system for the production of services in a given period. OECD also includes the information that the total labour force equals the civilian labour force plus the members of the armed forces (2002).

Unemployment rates were included in our analysis, not only to established comparisons between the countries under observation but also to understand the evolution across ages within each of the selected countries. Making use of the OECD definition at the

online employment database (2015), we can defining employment as *all persons above a specified age, who during the reference period were: i) without work, i.e. were not in paid employment or self-employment during the reference period; ii) currently available for work, i.e. were available for paid employment or self-employment during the reference period; iii) seeking work, i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment*.

For the employment designation, OECD (2015) define it as *persons in civilian employment include all those employed above a specified age who during a specified brief period, either one week or one day, were in the following categories: i) paid employment; ii) employers and self-employed; iii) unpaid family workers; unpaid family workers at work should be considered as being self-employed irrespective of the number of hours worked during the reference period. For operational purposes, the notion of some work may be interpreted as work for at least one hour. Total employment is defined as the sum of civilian employment and members of the armed forces*. We focus our attention in the harmonised OECD unemployed and employment rates.

4. Results

We do not aim to identify the precise relationship between a particular measure of recession and a specific indicator of fertility. Rather, we sketch a general picture of how the recession, broadly defined, affects fertility. For this purpose we subdivide our analysis in two main perspectives:

(1) The analysis about the evolution of fertility and GDP growth from 1960 until 2013, giving particular attention to developments that occurred in those two indicators since 2008, the year identified as the starting point for most recent economic crisis in Europe. (2) Latter on, we focus our analysis at the individual-level responses to the economical constrains measured by the female labour market participation, the unemployment rate by age groups, and employment rates by age groups and education, as well as the long duration (one year and over) unemployment rate between ages 25-54.

4.1 The fertility reaction to the economical crises

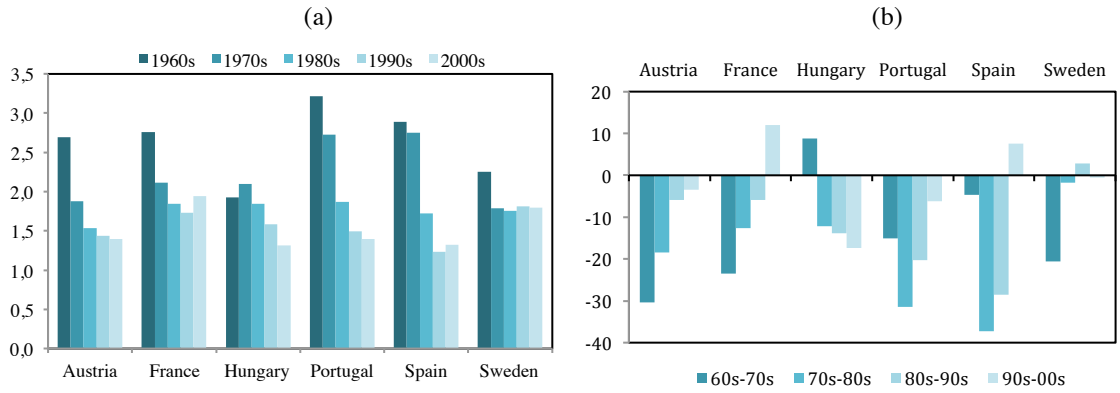
One of the main distinctive characteristics from the demographic evolution across Europe since the 1960s, is the fertility decline. Figure 1.1 plots the average total fertility rate by decade (a); and as well, the change in the total fertility rate between decades (b). The highest fertility levels measured by the TFR are observed in the 1960s and in the 1970s in Portugal - 3.2 and 2.7 children per woman, respectively - closely followed by Spain - 2.9 and 2.8 children per woman. Both countries experienced extreme high and low fertility compared to the other European countries. Yet, during the last decade, with the exception of France and Sweden, the average fertility levelled down varying nowadays from 1.4 for Austria and Portugal to 1.3 in Hungary and Spain.

Furthermore, when we compare the changes in the TFR between decades (figure 1.1b), it's possible to identify for Austria, France and Sweden main changes on the fertility *quantum* occurred from 1960s to the 1970s. This decline was around 30 percent in Austria, 24 in France and 21 percent in Sweden. Focusing again our attention in Portugal and Spain, the highest lost in terms of fertility *quantum* was from the 1970s to the 1980s. From those two, Spain was the country with the highest decline, registering a 37 percent decline.

In Hungary the difference between the TFR from the 1960s and 1970s was positive, nevertheless, the increase was less than 10 percent. Still, Hungary presented a different pattern evolution, once that is the only country that goes from increasing fertility between the first decades to become the, in the last decade, the country with the highest lost. Sweden registered also a different trend when compared with the other countries under analysis. The Swedish *particular* case allows recognizing that a small increase in the TFR between 1980s and 1990s, as a reflection from faster recuperation at the fertility levels. Furthermore from 1990s to 2000s no relevant changes in the TFR were observed.

It was only between the last decades that some recuperation trends are observed across some European countries (e.g., Goldstein et al., 2009). In our analysis with the exception already observed for Hungary and Sweden, such possible recuperation, or increase in the TFR, was observed in France and Spain, while Portugal and Austria propensity to decline. Yet, the recuperation change in the fertility trends was not even expected by some researchers, especially under an *atmosphere* of economic crisis (e.g., Billingsley, 2011; Sobotka et al., 2011).

Figure 1.1: Average total fertility rates by decades (a) and the change in the total fertility rate between decades (b), in the selected countries



Notes: The 2000s decade includes data for different periods that depends on the data availability. Hungary – until 2009; Austria – until 2010; Sweden – until 2011; and France Portugal and Spain – until 2012.
Source: Own elaboration; Human Fertility Database and Eurostat

The gross domestic product (GDP) considered as an aggregate measure of total economic production for a given country. It represents the market value of all services produced by a country economy during the period measured. Due to is direct relationship with fertility (Billingsley, 2011; Reher, 2011) it is important to summarise that since 1960 and until 2013, with only some small fluctuations GDF kept a constant growth. And it was at the beginning of the new century that a pronounced positive growth was observed.

We summarise in table 1.1 the annual GDP growth (%) from 2000 until 2013 to elaborate more accurately on the possible, direct or indirect, impact from the economical crises on fertility trends. Before 2008, only Portugal registered in 2003 a negative growth, in the same year that Austria and Hungary recorded their lowest growth (lower than one percent). In the year of 2009, the annual GDP growth was negative across all countries. The observed changes in the years 2008 and 2009 values of GDP are less pronounced to the French growth. While the higher impact was observed in Hungary and Sweden, on average the countries recorded a decline of about 2.9 percent on the GDP overall growth. Yet, in 2013 the greatest positive increase was observed for both countries.

Portugal and Spain are distinguishable under this analysis, not only for the negative growth registered in 2009, but also because within the countries under analysis, only the Southern European countries kept the negative GDP growth predisposition since the beginning of the economic crisis in 2008. Mentioned several times in the literature (e.g., Billari and Kohler, 2004; Bettio and Villa, 1998) Portugal and Spain as well as the other Southern European countries – Italy and Greece – register across their evolution less economical stabilities.

Table 1.1: Annual GDP growth (%), between 2000 and 2013, to the selected countries

	Austria	France	Hungary	Portugal	Spain	Sweden
2000	3.4	3.9	4.2	3.8	5.3	4.7
2001	1.4	2.0	3.7	1.9	4.0	1.6
2002	1.7	1.1	4.5	0.8	2.9	2.1
2003	0.8	0.8	3.8	-0.9	3.2	2.4
2004	2.7	2.8	4.8	1.8	3.2	4.3
2005	2.1	1.6	4.3	0.8	3.7	2.8
2006	3,4	2.4	4.0	1.6	4.2	4.7
2007	3.6	2.4	0.5	2.5	3.8	3.4
2008	1.5	0.2	0.9	0.2	1.1	-0.6
2009	-3.8	-2.9	-6.6	-3.0	-3.6	-5.2
2010	1.9	2.0	0.8	1.9	0.0	6.0
2011	3.1	2.1	1.8	-1.8	-0.6	2.7
2012	0.9	0.3	-1.5	-3.3	-2.1	-0.3
2013	0.2	0.3	1.5	-1.4	-1.2	1.5

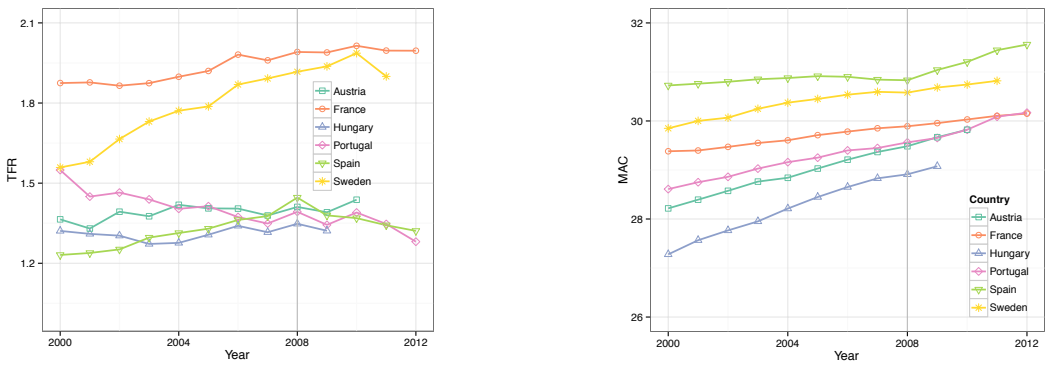
Source: World Data Bank (2015).

An economic recession may affect fertility because for many individuals it implies a bad economic situation, lower income, increased job demands, and related symptoms (Sobotka et al., 2011: 269). We thus included in our analysis the evolution the total fertility trend as well the mean age at childbearing (figure 1.2) from 2000 onwards.

Let first focus our attention into the changes in the mean age at childbearing (figure 1.2b). The overall observed tendency indicates an increase in the mean age at childbearing with no direct impact from the economical crises directly observed. Yet, focusing further on the Austrian mean age at childbearing, it can be seen that immediately after the economic shock in 2008, subsequently to some light stabilization, the mean age increased continually.

Figure 1.2: Total fertility rates (a) and mean age at childbearing since 2000 (b), in the selected countries

(a) (b)

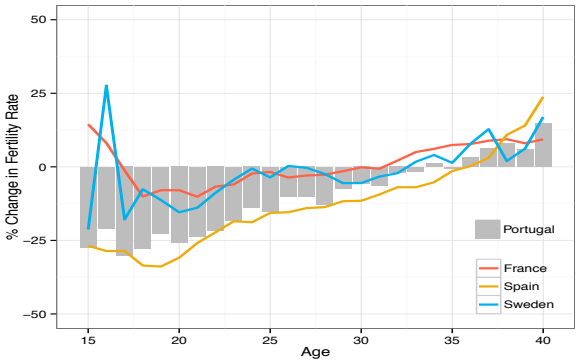


Source: Own elaboration; Human Fertility Database

Nevertheless, when we focus our analysis on the evolution of total fertility rate, it is for Portugal and Spain that the economical crises seem to have major impact. In both countries it seems to exist a negative relationship between fertility and negative growth rate. Already Tomé et al. (2014) identified that the economic collapse in Portugal had negative influence in the already low number of observed births as well as in the aging country problem. Also Sobotka et al. (2011: 288) suggested that Spain *was among the countries that have experienced a sharp reversal in fertility rates, with the period TFR falling from 1.46 to 1.40 between 2008 and 2009*.

If we *zoom out* the fertility evolution between 2008 and 2012, within that period we can observe more accurately the registered changes between years. For that, in figure 1.3[3] we use, in terms of comparison, Portugal as a benchmark country (grey bars in the plot). We definitely verify that besides Portugal, Spain registers the highest lost on the fertility *quantum*. While France and Sweden had higher lost between ages 18 and 23, for Portugal and Spain it is only after age 30 that the negative values are less significant. Also, it can be seen that for both southern European countries the recuperation on the fertility was only taking place after age 35, whereas for France and Sweden that positive evolution was observed already after age 30 and 33, respectively.

Figure 1.3: Change in the fertility rate by age between 2008 and 2012, in Portugal (as benchmark country), France, Spain and Sweden



Notes: 1) For this propose we excluded Austria and Hungary due to the short availability of data since 2008.
Source: Own elaboration; Human Fertility Database

The idea that a secure economic basis is a prerequisite for having children was severely challenged by the demographic developments in the context of the social and demographic evolution, when industrialization and economic growth was accompanied by rapid fertility decline and by changes in women's society role (Kreyenfeld et al., 2012).

If we consider the positive growth of GDP and the high fertility levels in France and Sweden there seems to be a positive relationship between economic growth and higher family sizes. Still, for both countries between 2008 and 2012 there are positive trends for higher ages, where in figure 1.3 were possible to observe a recuperation growth of lost fertility at younger ages. Portugal and Spain had a deep negative relationship with the GDP growth, particularly after 2008. From that year onwards the GDP growth reflected a negative trend accompanied by a decreasing on the total fertility rate.

[3] This figure was obtained by calculating the changes, in terms of percentage, registered in the age-specific fertility rates between 2008 and 2012.

GDP as a macro level variable could have impact at the individual perspective, yet individual level variables such as unemployment, labour market participation or employment by educational level could better explained the fertility changes and the couple decisions. By *decomposing* the GDP into other social economical measures of familiar stability we can find higher relation to the fertility evolution across the recent decades.

4.2 Employment uncertain and the impact on fertility trends

In a broad perspective, the GDP growth is the most common measurement related to the need of define technically the economy evolution but also the economical recession. However, the GDP growth point out that in terms of household responses to economic conditions such fluctuations in GDP are not necessarily the best variables to employ (Testa and Basten, 2014; Sobotka et al., 2011). This led to several studies in relationship between unemployment, consumer confidence or even women labour market participation in the perspective to postpone or anticipate fertility (e.g. Fokkema et al., 2008).

Rindfuss et al. (2010) identified a reversal association between women's labour market participation and fertility levels from a negative to a positive correlation. And such change that initially produced disbelief. Women labour force participation side by side with the educational evolution lies on the heart of most explanations of fertility and family formation. Still, the effect of women employment or unemployment on fertility depends on the country circumstances. Still, in some countries the employment stability may be a prerequisite in the transition to parenthood (e.g., Ellingsæter and Pedersen, 2012; Kreyenfeld, 2010; Brewster and Rindfuss, 2000).

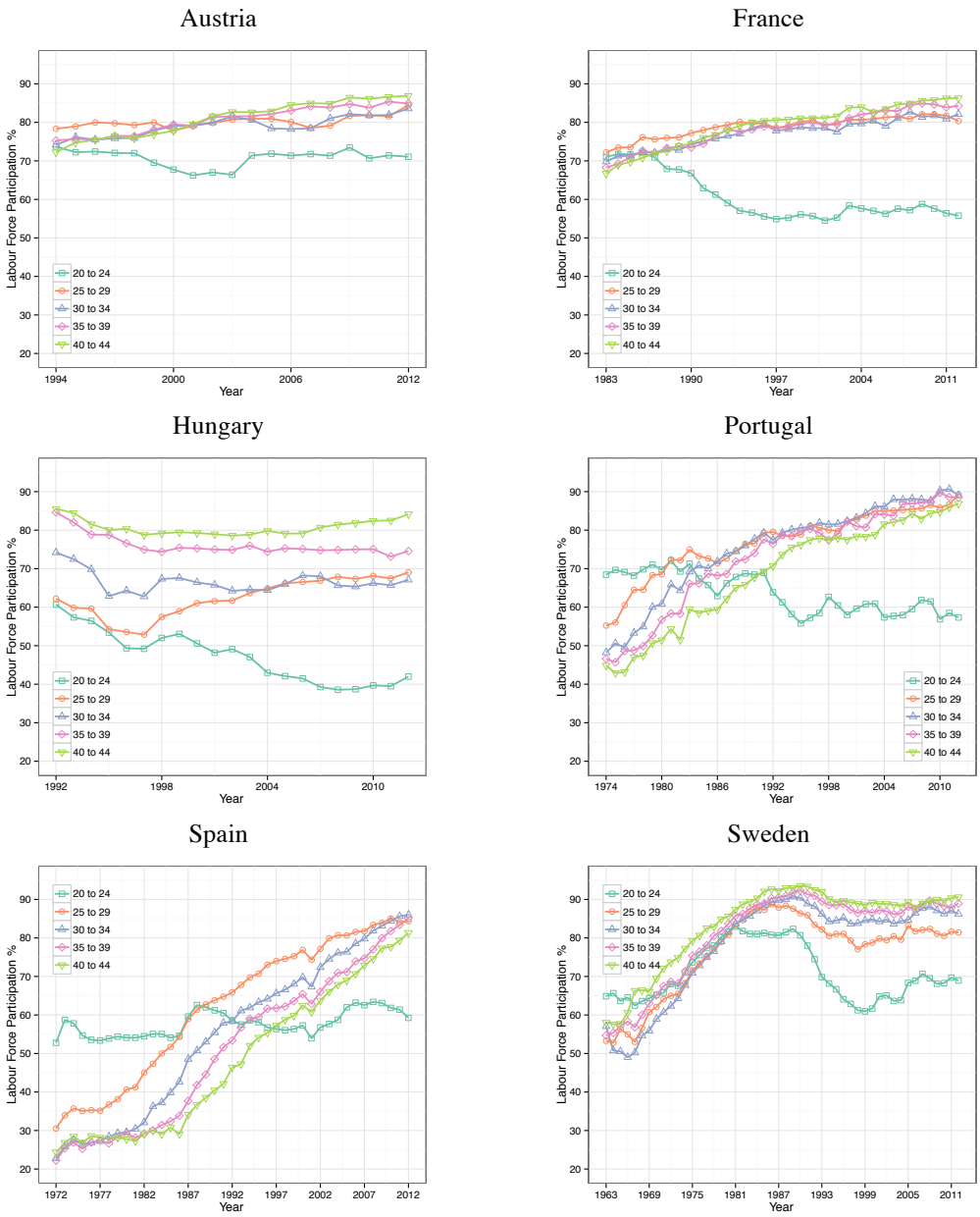
Figure 1.4 plots women labour force participation rate by age groups and countries. The first information that we highlight from the graphical representation is that for all countries except Portugal (in the last years) and Sweden (since the 1980s), in all countries the women participation in the labour market does not present in any of the other countries values in the order of 90 percent.

Across all countries as reflect from the increasing scholar age (Luci and Thévenon, 2010; Neels, 2010), the youngest age group (20-24) presented the lowest fertility rates. Yet, Spain had a particular evolution with constant values between 50 and 65 percent. It is also noteworthy that for Portugal, between 1974 and 1980 it was for this age group that the Portuguese women registered higher participation rates in the labour market.

A common trend observed to Austria, France, Hungary and Sweden was the high participation rates for the older age group (40-44). In Austria and France it was from the 2000s onwards that this group increased relatively to the younger ones. Still, in Hungary the values were already high by the 1990s, but for Sweden since 1969 this age group reflects the highest women participation rates. For Portugal and Spain the situation is some how different and for that reason we will focus now in both countries.

While for the other countries under analysis it was the oldest age group with the highest female participation at the labour market, for the southern countries the situation is the inverse. In both countries women at the age group 40-44 have, since the 1970s, the lowest labour participation (with the exception of the age group 20-24). The Iberian countries had other similarities as e.g., the trend patterns across ages, already in the 1970s Spain had lower values than Portugal (identified also by Bettio and Villa, 1998), by that period of time the Spanish participation rates were between 20 and 40 percent, while already in Portugal were registered values between 40 and 70 percent (at the same level of Sweden).

Figure 1.4:Women labour force participation rate by the age groups, 20-24, 25-29, 30-34, 35-39 and 40-44 to the selected countries



Notes: Due to data availability, the staring point analysis is different to all countries: 1994 to Austria; 1983 to France; 1992 to Hungary; 1974 to Portugal; 1972 to Spain; 1963 to Sweden.

Source: OECD (2015).

Rydel (2002: 8) identified that *the increasing risks of unemployment and flexibilisation are concentrated on young people and women, not only because they are the new entrants in the labour market, but mainly because of their weaker position in the household organisation/social policy link. As we have seen, this has the consequence of delaying the transition to adulthood*. Figure 1.5 allows understanding better this economic dynamic. As in the previous analysis on the women labour market participation, also for the employment rates, Austria, France, Hungary and Sweden had similar trends in the rate evolution.

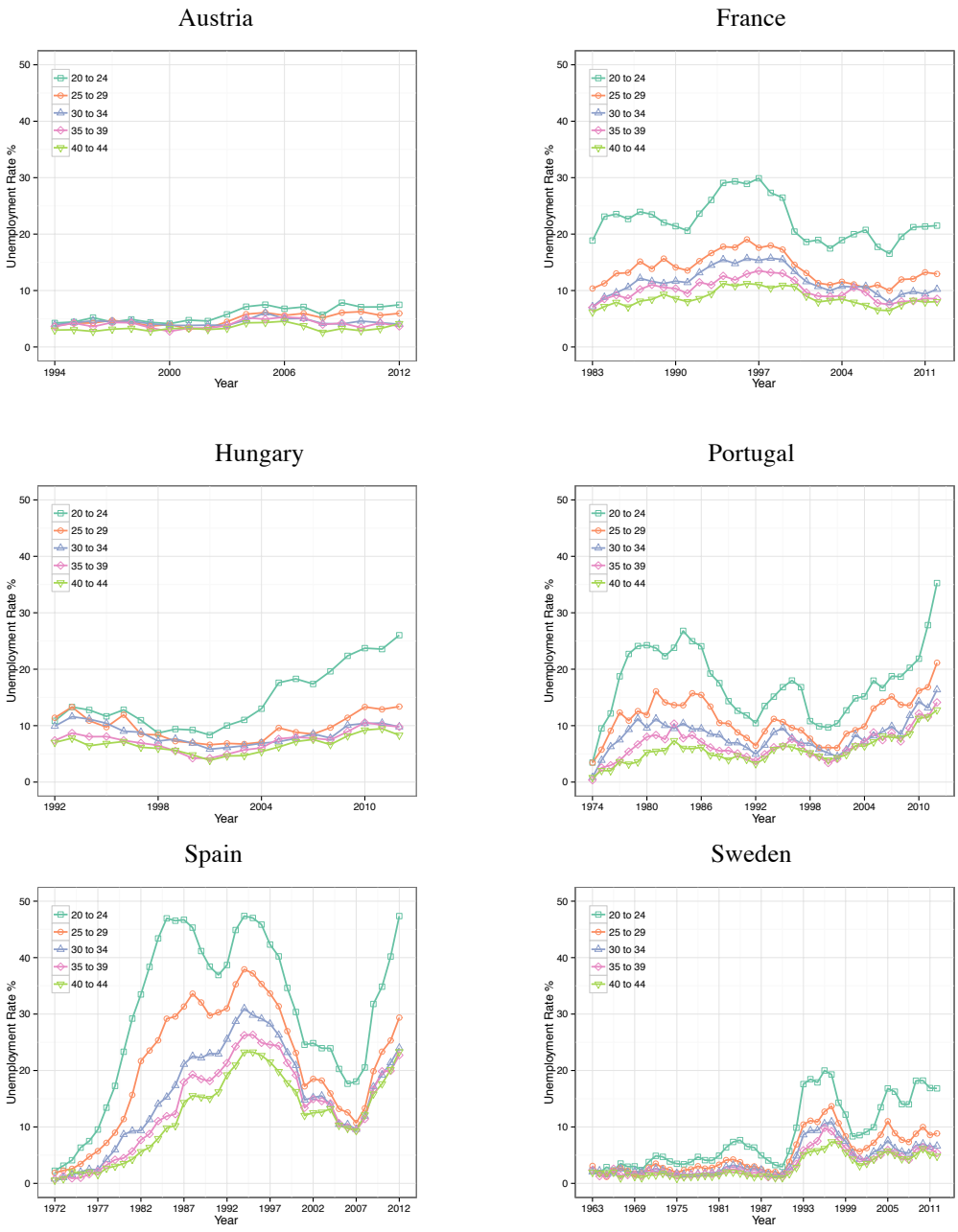
Within the six countries, Austria stands out for their low unemployment (lower than 10 percent), whereas for France, Hungary and Sweden the unemployment rates are higher. Still across all countries the highest rates are observed in the age group 20-24 (the one with less labour market participation). In fact about France Rydel (2002: 3) states that *unemployment is lower and more women are economically independent, the family has transferred many of its obligations to society, and the family is now more de-institutionalised than in the south*.

So once more we focus our attention to the Iberian countries. Beside the differences observed in the previous analysis also in terms of unemployment rates the countries are some how different. If fact in terms of unemployment evolution, Portugal trends are similar to the ones experienced in France. Portugal fewer times used as an example from the Southern Europe patterns, was already point out as an outlier from the southern cluster with higher female employment as well as lower unemployment risk (Domínguez-Folgueras and Castro Martin, 2008; Rydel, 2002; Bettio and Villa, 1998).

In Spain the unemployment erratic growth is the result from increase participation at the labour market. Until 1997 the unemployment increased specially to the youngest age groups, 20-24 and 25-29. For 10 years that rate decreased and with such trend it was expected a continuum decline. Yet, by the year of 2008, more than for other countries rates, the Spanish unemployment regardless of age group, increased. Such increase is visible in the 2012 values. By that year the unemployment rate at the youngest age group was almost 50 percent.

The long-term unemployment was identified in the literature as having a strong and negative effect for men and women, but affecting negatively women in the absence of strong welfare regimes and also depending of the labour market context (Adsera, 2011; Sobotka et al., 2011). In that context we considered vital in our analysis to discuss its impact on the family formation. Thus, we consider here women unemployment rates with the duration of one year and over.

Figure 1.5:Women unemployment rate by the age groups, 20-24, 25-29, 30-34, 35-39 and 40-44 to the selected countries



Notes: Due to data availability, the staring point analysis is different to all countries. 1994 to Austria; 1983 to France; 1992 to Hungary; 1974 to Portugal; 1972 to Spain; 1963 to Sweden.
Source: OECD

Table 1.2 features the evolution since 1986 for France, Portugal, Spain and Sweden and later on for Austria (1994) and Hungary (1992). Our attention should be first focused in Austria and especially in Sweden, once that both countries register low levels of long-term unemployment rates. The highest values in both countries were observed by the mid 1990s, yet in 2013 their long-term unemployment was less than 25 percent in Austria and even less in Sweden (18.9 percent).

Already by 1986 France, Portugal and Spain had the highest unemployment rates, especially if compared to Sweden. More than 66 percent of Spanish unemployed women were

in that condition for one year or more. Lower was the Portuguese level with a value of 62 percent, while in France the long-term female unemployment was less than 53 percent.

Even with different values, Portugal and France (Portugal had always higher long-term unemployment) presented the same evolution trend while for Spain the values and the evolution trend observed was different. From 1986 to 2006 the long-term unemployment decreased in Spain for about 40 percent, while in the same period France and Portugal decreased between 7 and 9 percent. In the beginning of the 21th century the lowest long-term unemployment rates within the Iberian Peninsula were registered in Spain, while for Portugal the values increase to more than 55 percent. Most crucial decision about family formation and childbearing are made between ages 20 and 30, overlapping the rapid educational demand and the persistent young unemployment. Thus, we can expect to observe a rapid change in the family and reproductive evolution (Rydel, 2002; Adsera, 2011).

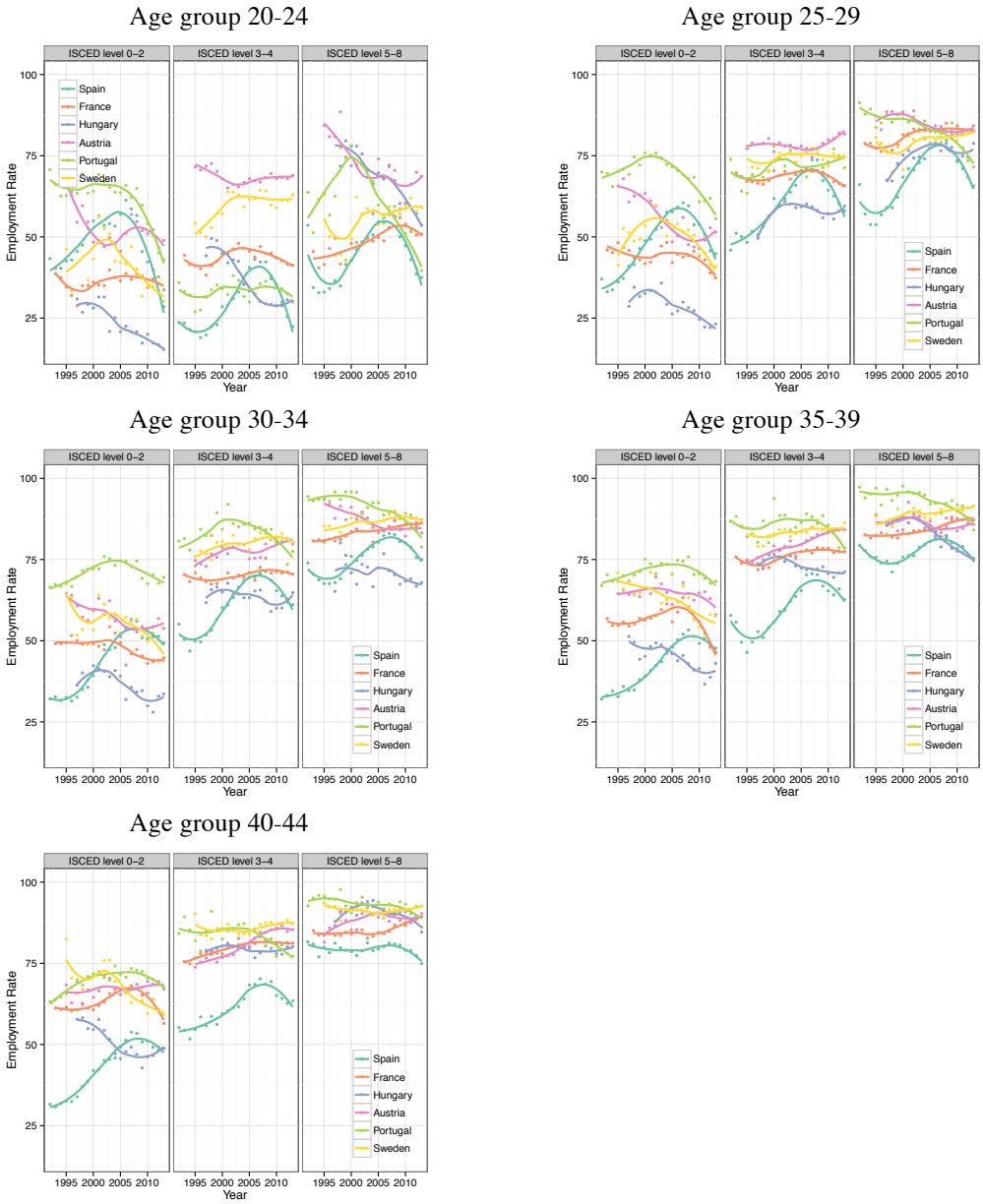
Table 1.2: Women Unemployment rate with duration of 1 year and over (age 25 to 54), between 1986 and 2013, to the selected countries

	Austria	France	Hungary	Portugal	Spain	Sweden
1986	-	52.7	-	61.1	66.2	4.4
1987	-	52.9	-	60.6	68.7	17.2
1988	-	53.5	-	56.9	67.4	11.8
1989	-	51.2	-	55.0	65.4	10.7
1990	-	48.4	-	55.5	61.2	8.8
1991	-	45.9	-	45.9	60.9	10.2
1992	-	39.9	22.3	43.4	58.0	12.4
1993	-	38.9	40.1	52.1	60.9	13.8
1994	21.6	41.9	42.9	48.0	63.8	22.6
1995	35.7	45.3	51.8	58.6	64.6	24.1
1996	30.8	43.9	54.5	60.5	64.3	26.6
1997	31.7	44.5	51.8	65.4	62.2	32.8
1998	33.2	45.6	54.3	51.9	59.2	33.5
1999	33.8	43.4	52.9	47.7	56.1	27.0
2000	23.5	43.6	50.1	48.0	51.3	22.1
2001	22.4	39.8	47.0	49.5	46.0	19.6
2002	23.8	37.4	45.0	38.4	40.9	17.3
2003	27.9	41.9	44.5	41.0	40.1	15.7
2004	28.9	44.2	44.8	48.1	37.1	17.6
2005	27.0	46.0	46.5	51.7	30.5	-
2006	27.6	45.2	46.5	52.8	25.4	-
2007	30.8	44.0	50.1	49.1	24.0	14.0
2008	25.0	38.6	49.1	50.1	23.2	14.0
2009	23.5	37.5	45.1	49.5	27.4	15.3
2010	23.4	40.4	52.4	55.8	38.2	19.6
2011	25.9	42.7	50.6	52.1	43.7	19.8
2012	25.5	41.0	47.5	51.3	46.4	20.0
2013	24.6	41.3	51.4	57.6	51.4	18.9

Source: OECD.

Considering the relationship between fertility postponement and the increase at the educational level and the employment or unemployment effect can be different when controlled by the educational level, figure 1.6 plots the (smoothed) women employment rates by age groups and educational level since 1992. Generally speaking, Austria, France and Sweden do not present any particular trend, therefore we focus our analysis in Portugal and Spain, but also in Hungary.

Figure 1.6: Women employment rate by educational level and age groups, for the selected countries, between 1992 and 2013



Notes: The ISCED educational levels 0-2 refer to "*Less than primary, primary and lower secondary education*"; ISCED levels 3-4 refer to "*Upper secondary and post-secondary non-tertiary education*"; and ISCED levels 5-6 refer to "*Tertiary education*".
Source: Eurostat

Between women with less education, portuguese are the ones with higher employment rates between the ages 20 to 34, while Hungary had the lowest employment rates. Hungary side by side with Spain had across all age groups and educational levels employment quite similar trends. Further analysis allows observing that the Spanish trends are the direct reflex from the economic recession. Lets take, as an example the ISCED level 3-4, across all ages it is possible to identify an increasing trend on the employment rates until 2008.

From that year and until the most recent data (2013) the Spanish tendency is to decline as a consequence of the unemployment rate discussed above. In the upper part from the each one of the plots across all ages we can find Portugal with the highest employment rates in contraposition to Spain at the bottom part. And even at the oldest age group (40-44) presented in figure 1.6 as the countries with the lowest labour market participation, Portugal present similar employment rates to all other countries with the exception to Spain.

5. Conclusion

In this study we described and discussed the interplay of employment and economic instability and its impact on fertility decline. Our analysis across the six selected European countries allowed first to contextualize the fertility trends evolutions and second to focus our attention on the recent period of economic crises (since 2008). Since 1960 that fertility trends point out in the direction to postponement and decline, as result from the social transformations across the European countries. Even that most researcher use gross domestic product as a valid reference to measure the living standards of a country, this variable has experienced a cyclical evolution in the Iberian countries. Such variation had significant increases during periods of economic expansion and sharp decreases during economic recessions (Royo, 2010).

In our analysis Portugal and Spain stand out from the group of countries under analysis as the ones that at the context of TFR react negatively to the decline in GDP growth. However in the light of recent reversal in fertility *quantum*, here exemplified by France, the relationship between GDP growth and fertility seems to be positive from a certain threshold level of economic development on.

Under the assumption that childrearing and employment were incompatible activities, not long time ago, female employment was considered in the literature as an obstacle to family formation. The increase of female education, increasing income and employment had as consequently lower fertility.

Across all European countries under analysis the increase on female labour market participation was also observed by the 1960s and 1970s, when fertility started to decline. The relation between fertility decline and the increase female labour market participation and high female employment rates, raised the hypothesis of the negative effect between such life course events become stronger (Anderson et al., 2014; Brewster and Rindfuss, 2000; Becker, 1993).

Yet, several studies showed that, since the late 1980s, countries with lower rates of female employment also experienced lower rates of fertility (Ozcan et al., 2010; Brewster and Rindfuss, 2000; Esping-Andersen, 1999). In fact, in our analysis Spain seem to be the perfect example for that case, where the increasing female participation at the labour market since the mid 1970s led to the decline in total fertility rates, followed by the increased in the unemployment rates at the mid 1990s.

On the other hand when women continue to enter the labour force and participation rates across Europe slowly converge to high levels, work and family can be compatible. Still, it is expected to be observed only in those countries where labour market systems are able to reduce the uncertainties connected with childbearing and allow couples to better decide on their family formation (Adsera, 2010).

More than the changes at the GDP growth are the labour market conditions, which are crucial for the economic risks, associated with parenthood (Ellingsæter and Pedersen, 2012). Also, *the positive cross-country correlation between fertility and female labour force*

participation was often attributed to extended durations of high unemployment (Ozcan et al., 2010: 808).

Long-term unemployment is one of the main factors in the household formation postponement, in countries such as Spain were the values have been extremely high (Adsera, 2011). Upton our analysis the long-term unemployment has been particularly high not only in Spain but also in Portugal. Thus, if unemployment is high and persistent, young women may fear that time spend in childbearing may increase their likelihood of become unemployed. The persistent unemployment may adjust the childbearing timing and as consequence change the final fertility *quantum*.

Besides the economic influence on the fertility growth, directly measured by the own GDP growth observed particularly in Portugal and Spain, we observed across this study, mainly for these two countries the important relationship between fertility changes and economic stability. In Portugal, as for Spain and Sweden e.g., the educational system expanded rapidly and the number of young people enrolled at the universities increased by the time of economic instability in the 1980s and 1990s (Tesching, 2012; Sobotka et al., 2011; Hoem et al., 2006; Martín-García and Baizán, 2006).

In the relationship between education and employment González and Jurado-Guerrero (2006) identified a negative effect at all educational levels. The negative relationship between education and employment rates observed in Spain can explained the late transition to motherhood as a consequence from lower women autonomy and later transition to *a new family* (Dominguez-Folgueras and Castro-Martin, 2008). For Portugal, the relationship between education, employment rates and fertility levels seems to be also negative, yet that relationship could be explained taking advantage from the older cohorts information. In the literature several are the references to the particular high Portuguese participation of women at the labour market already by 1960s (e.g., Billari and Kohler, 2004; Rydel, 2002). Yet, the increase at the educational levels changes the Portuguese employment structure. Figure 1.6 allowed verify that among all countries under analysis, Portugal had the highest female employment rates by educational level, especially between ages 30 to 39.

The labour market participation seems to increase the postponement effect, which indicates the *quantum* decline as result from the non-recuperation of older cohorts postponement. Still focusing our attention to the Portuguese relationship between labour market and fertility levels since the 1990s, we observe that at the same time that employment stabilities increases, the effect is positive in the fertility *quantum*. Even in the economic crises the Portuguese case has a positive relationship, as reflex from the previous consistent labour market participation.

In fact, it seems to exist a positive relationship between age, education and employment, increasing the fertility *quantum* when labour market participation stabilizes at older ages. Such positive effect increases the probabilities of a more educated woman recuperate the postponed childbearing earlier in their cohort. The 2008 economical shock seem to have a higher effect to women in the younger age group 20 to 29, the ones with the highest postponement effect. More educated women and with a labour market stable participation have more capability to effectively materialize their *quantum* desired (Fahlén, 2013).

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