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The Trend of Period Fertility in Greece and Its Changes During the Current Economic Recession

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Abstract

Most research on the relationship between economic conditions and fertility has shown that fertility has a procyclical relationship with economic growth. We examine this relationship by investigating the implications of the current economic crisis on fertility in Greece. Given the brief time period since the start of the economic crisis in Greece (a potential methodological limitation), we examine the evolution of fertility from 1960 to 2015, using empirical data provided by the Hellenic Statistical Authority and paying special attention to changes during the crisis years. Using these data, age-specific fertility rates by order of birth, total annual fertility rate, and mean age of mothers at childbearing differentiated by birth order are calculated. Our analysis shows that in the 2000s TFR increased as a result of the recuperation of births that were postponed during the late 1980s and the 1990s, and then TFR decreased, especially for first and second order TFR. We attribute the recent fall of TFR to the simultaneous fall of fertility rates of women younger than 30 years. It appears, therefore, that the crisis interrupted the recuperation of births that began in the early 2000s and halted fertility increases among younger ages. Recent changes in fertility are indicative of an accelerated decline of the complete fertility of women born after 1980, mainly because the recession was initiated during a time when the mean age of childbearing was very high (30 years for the first child). These facts do not allow for optimism concerning the reversal of fertility rates of younger generations who are probably going to spend a significant part of their reproductive life under crisis conditions.

Keywords

Economic recession, fertility, Greece

Introduction

Contemporary history is studded with banking and financial crises. There is, however, a widespread belief that the current economic crisis, which disproportionately affected countries in southern Europe, is more broader-based than the Great Depression that hit the United States in 1929 (Alessandrini et al., 2013). The drastic fall in GDP, employment and salaries after 2009 is of concern to economically developed countries in Europe, especially countries in southern Europe, and more specifically Greece (Eurostat, 2016).

In Greece, the decrease in GDP after 2009 was greater than the average corresponding values for the other EU economies and southern European countries. The level of economic activity in 2016 was slightly below the corresponding level in 2009. In 2016, GDP fell back to its 2003 level. Almost 850,000 jobs were lost between 2010 and 2016, equal to 20% of the employed population at the beginning of the crisis, and the employment rate for both sexes fell from almost 90% to 75% (Elstat, 2016). During the same time period, the number of job seekers in Greece increased at a faster pace than in all other European countries, almost exceeding 1.2 million people, and the unemployment rate almost tripled from 9% in 2009 to 25% in 2015.

Given the above economic scenario, the following questions arise:

- Have there been any important changes in the demographic behavior of the population in Greece?
- Have people continued to marry, have children, separate and migrate as they did in the years before the crisis?
- Has life expectancy continued to increase or has the crisis had a negative impact on people's health and lifestyles?

A serious limitation for investigating such questions is that the time period since the initiation of the crisis is too short. Considering this limitation, this work investigates the implications of the current economic crisis on fertility in Greece, which among all of the countries in the EU was the most impacted by the crisis. For this reason, we have taken into consideration the evolution of fertility during the period 1960-2015, giving special attention to changes during the crisis years.

In what follows, we review the theories on the effects of economic factors on fertility, present the results of our analysis, and provide concluding remarks.

Theories on the effects of economic factors on fertility

One of the most expected implications of the recent economic crisis is the fall in fertility (Sobotka Skirbekk and Philipov, 2011; Goldstein et al., 2013; Pison, 2013; Pailhe, 2009, 2010). The current crisis arose at a time when many countries in the EU had extremely low fertility levels. In some of these countries, such as Greece, a small rise in fertility levels had been observed in the pre-crisis years leading up to the economic downturn. Increases in fertility in Greece began in the early 2000s, stabilized in 2009, and decreased thereafter from 1.55 children/ woman in 2009 to 1.3 in 2015. A similar reversal was recorded in other ex-socialist countries and other countries in southern Europe. The current crisis is

mostly affecting young adults who are experiencing an increase in unemployment, an increase in part-time work, falling wages, and an increase in job insecurity. On this point, a serious reduction of job opportunities has led to a significant increase in the percentage of young people staying at home with their parents, an increase in the number of unmarried couples residing together, and a decrease in the number of marriages.

The relationship between economic conditions and fertility is a classic research topic in demography. The literature often mentions that fertility follows economic cycles. In times of economic downturn and uncertainty in the labor market people are led to postpone childbearing and adjust their family planning accordingly (Goldstein, et al., 2013; Adsera, 2004; Sobotka, et.al, 2011; Hofmann and Hohmeyer, 2012; Schmitt, 2008 and 2012). From a theoretical point of view, the issue that fertility reacts positively in times of economic growth and negatively in economic recessions has been discussed for over two centuries. In recent history, Becker (1960) studied the relationship between fertility and income level, and Easterlin (1973, 1976) considered fertility as a function of the economic environment of younger generations, based on their childhood experiences when living in their parental households. Many authors have suggested that economic downturns do have an effect on changing fertility by postponing births, resulting in a reduction in total fertility rate (TFR) and the number of children per woman (Andorka, 1978; Rindfuss et al., 1988; Morgan, 1991, 1996; Sobotka, 2008a, 2008b).

In contrast to the above theories, Butz and Ward (1979a, 1979b) analyzed fertility data in the US for the first half of the 1970s and introduced and postulated that fertility follows the opposite trend in relationship to economic cycles. Considering the increasing participation of women in the labor market, Butz and Ward (1979a) claimed that having a child during economic good times increases the "opportunity cost" for women. In contrast, Macunovich (1996) argued that fertility is linked to economic cycles, and that the negative effects of high unemployment during economic downturns are greater than the benefits of the reduction of "the value" of women's work. After the onset of the economic crisis in 2007-2008 in the US and its subsequent dissemination in European countries, the interest in exploring the relationship between economic crises and fertility was revived.

The current economic recession in European countries – especially Cyprus, Greece, Ireland, Italy, Portugal and Spain – is significantly different from previous ones. First, it is more intense and longer than previous recessions, and the current social conditions are significantly different in comparison to those of previous decades (e.g. in the 1920s or even the 1970s). In particular, at the beginning of the current economic crisis the welfare state was more developed than it was 50 (or even 100) years ago, both the percentage of women in the labor market and their educational level were significantly higher, the income of employed women in most households was not simply "supplementary," methods of contraception were generalized, TFR was higher, and the mean age of first childbearing was higher than before the current economic downturn.¹

The differential intensity of the possible effects of the crisis on fertility levels can be attributed to the fact that before the beginning of the current crisis some countries had highly developed social security systems and very strong family support policies, which helped to minimize the effects of the economic

¹ In most European countries, the mean age of the first childbearing in 2010 is four to five years higher than in the 1970s, allowing limited further postponing of childbearing for a woman (Eurostat).

downturns (Thévenon, 2011; Fagnani, 2012).

An economic recession obviously affects the reproductive age population. High unemployment among those of reproductive age impacts their reproductive decision-making and behavior, often leading to a postponement of births. The connection between economic recession and fertility seems to be especially strong in Cyprus, Greece, Ireland and Italy.² In contrast to these four countries, fertility rates in the countries in western and northern Europe – where the impact of the recession on unemployment rates was limited – do not appear to have been impacted significantly by the current economic crisis (Goldstein et al., 2013).

Several studies on countries in central-eastern Europe support this finding (UNECE, 2000; Philipov and Dorbritz, 2003; Sobotka, 2004, 2008a, 2008b; Frejka, 2008), emphasizing the relationship between the effects of the economic recession and various public policies that impact family support. These studies emphasize that the relationship between work/ career and fertility are less confrontational in ex-socialist countries, probably due to the strong institutional support provided to working mothers. In Nordic countries, where social democratic welfare states are the norm, the combination of employment and motherhood does not pose particular problems due to high benefits, long parental leave and a wider positive attitude/ behavior towards working mothers (Matysiak and Vignoli, 2008). Finland, for example, had an exemplary policy that led to an increase in cross-sectional fertility during a deep economic crisis in the early 1990s. The introduction of a subsidy in the mid-1980s, enabling parents to stay at home and take care of their children until the age of four, was considered as an attractive alternative to unemployment or to limited job prospects for many women during the crises years (Vikat, 2004). According to Hoem (2000), government policies can be an effective means to minimize or reverse the negative effects of a financial crisis on fertility.

As Comolli (2017) pointed out, several researchers have investigated the correlation between productivity (or economic growth) and fertility rates. Morgan et al. (2011) investigated the period effect of US recessions and detected a procyclical response of fertility whereby fertility levels decline during economic downturns. Sobotka et al. (2010, 2011) showed that among 27 low-fertility countries in the period 1980–2008 a fall in TFR followed 81% of the episodes of GDP decline and 65% of the cases of GDP stagnation. Adsera and Menendez (2011) pointed out that GDP and fertility rates in 18 Latin American countries were positively correlated, while Lanzieri (2013) claimed that in European countries GDP growth was positively correlated with changes in TFR. However, according to Sobotka et al. (2010) and Adsera and Menendez (2011), in many of these studies the correlation is not significant when unemployment variables and individual socioeconomic variables are introduced into the model, suggesting that indicators other than GDP better capture the impact of economic cycles on fertility.

Several authors (Adsera, 2004; Adsera and Menendez, 2011; Comolli, 2017; Hoem, 2000; Hofmann and Hohmeyer, 2012; Goldstein et al., 2013; Lanzieri, 2013; Neels, 2010; Neels et al., 2013; Pailhé, 2010; Pailhé and Solaz, 2011; Pison, 2013; Schmitt, 2008, 2012; Sobotka et al., 2011, 2013; Vikat, 2004; Matysiak and Vignoli, 2008) have investigated the relationship between period fertility, unemployment and labor-market insecurity. They agree that confidence in the future appears to impact fertility

² See EUROSTAT Statistical Annex of European Economy (Autumn 2016) and fertility indicators (5/2017) at <http://ec.europa.eu/eurostat/data/database>.

independent of whether or not delay of birth depends on a couple's economic situation and/ or changes in unemployment rates. Moreover, even when couples are not affected directly by an economic crisis, the overall economic situation can influence their reproductive decision-making. Most of these authors also note that the general economic situation of a country – measured by indicators such as GDP or unemployment rate – can be more influential in a couple's reproductive decision-making than their own personal situation.

Data and methods

The investigation of the potential impacts of the current economic crisis on fertility levels in Greece is based on an analysis of official data provided by the Hellenic Statistical Authority (ELSTAT),³ which included:

- Total population sizes and birth counts for the years 1951-2015.
- Number of births by single age of mother and order of birth for the years 1960-2015.
- Mid-year population of women in reproductive ages by single age for the years 1960-2015.

Using these data, several demographic indicators were calculated: age-specific fertility rates by order of birth, the total annual fertility rate, and the mean age of mothers at childbearing (for each birth order).

Results

The evolution of birth counts

From the end of the civil war in 1949 until the end of the 1980s, the number of births fluctuated from 150 to 160 thousand. In 1989, however, the number of births diminished significantly, reaching 101,700 in 1989, followed by a decade of relative stabilization at very low levels (around 100 thousand per year). Finally, in the first decade of the 21st century, births showed an increase: +17.5% higher in 2008 compared to 1999.⁴ This trend was, however, reversed after 2009, and births that exceeded 118 thousand in 2010 were progressively reduced to 92 thousand in 2015, falling almost 20%. The reduction of births between 2009 and 2015 in Greece was clearly greater than in Spain (-15.7%), Italy (-14.0%) and Portugal (-14.0%).

³The analyses were performed in Laboratory of Demographic and Social Analyses of the University of Thessaly, using a demographic database covering the postwar period both for Greece and for all the other European countries, and algorithms developed by G. Calot in the frame of the disappeared European Observatory of Demography (ODE).

⁴ It should be mentioned that births from foreign women, which were quite limited during the 1990s, and during the first decade of the 2000s, are roughly 17% of the total number of births.

Total fertility rate and mean age at childbearing

For 30 years after the civil war until the early 1980s, TFR values in Greece were among the highest of all other European countries, namely 2.2-2.4 children per woman. In particular, at the beginning of the examined period, TFR was equal to 2.31 children/ woman. Afterwards, TFR stabilized for a decade at levels higher than that of the reproduction limit. After 1980, TFR recorded a rapid decline, reaching 1.40 children/ woman in 1989, resulting in the inclusion of Greece in the group of low fertility countries. The downward trend continued during the 1990s, and in 1999 TFR reached its lowest value (1.24 children/ woman), leading to the inclusion of Greece as a lowest-low fertility country. During the early years of the 21st century, TFR began to recover, reaching about 1.5 children/ woman in 2008.⁵ Increases in TFR did not, however, continue, and by 2015 TFR had declined 1.33 children/ woman.⁶

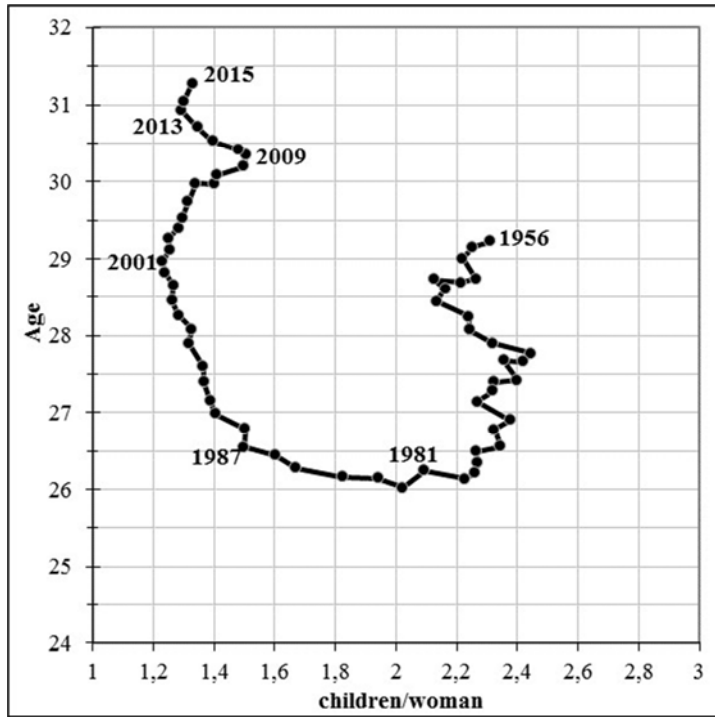
Since 1956, the mean age of childbearing has undergone considerable fluctuations. This indicator was high and relatively stable until 1960 but declined from 1960 to 1981, losing 2.6 years during this period. This drop was obviously the result of a continuous increase of the age-specific fertility rates at younger reproductive ages (younger than 25 years) and the simultaneous decline of the corresponding rates at mature reproductive ages. However, after a short time period (until 1985) of relative stability, the mean age started to increase, resulting to an elevation by four years between 1985 and 2009 (26.3/ 30.4). This increase was mainly due to the continuing decline of age-specific fertility rates at younger ages and to an increase of age-specific fertility rates at mature reproductive ages. This upward trend, which continued to accelerate until 2015 (the mean age being 31.3 years), is not expected to be halted by the end of the current decade. The upward trend is similar to that recorded in Portugal but higher to those recorded in Spain and Italy. The increase of the mean age of childbearing for all births between 2009 and 2014 in Spain and Italy was equal to 0.74 and 0.4 years respectively.

Figure 1 (next page) captures the situation as described above. It combines the intensity of the period fertility with its calendar. The vertical drop of the curve from 1956 to 1981 marks a period when the average age was constantly decreasing and the intensity of the period fertility remained more or less stable with slight fluctuations over the replacement level (2.1 children per woman). Afterwards, from 1981 to 1985, TFR fell considerably along with the mean age of childbearing. From 1985 to 2001, the mean age constantly increased while TFR constantly declined. From 2001 to 2009, there was an increase of both indicators, and since 2010, the average age has increased and TFR has gone down.

⁵ The intensive fluctuations of TFR before the beginning of the current recession are primarily attributed to changes in fertility calendar and secondarily to changes of the completed fertility of the cohorts, which were at their reproductive ages during this period. (2.1 for cohorts 1935-1939, while 1.75 for cohorts 1965-1969, therefore a reduction by only 0.35). It should also be noticed that during the same period the fluctuations of TFR in Greece were quite strong (2.45 in 1967 and 1.23 in 1999).

⁶ The reduction of TFR in Greece between 2009 and 2015 (-11, 3%) was higher than in Ireland, Cyprus and Italy (- 6, 8%, -10, 2% and -6.9% respectively).

Figure 1. TFR versus mean age at childbearing -all births- (Greece, 1956-2015)



Age-specific fertility rates

Figure 2 (next page) illustrate the progress of the age-specific fertility rates. The figure shows that the fertility rates for the younger reproductive ages (< 30 years) exhibited an upward trend until the end of the 1970s and thereafter reversed. This decline halted temporarily for a short period and then restarted after 2010. The slight increase of fertility rates in younger reproductive ages during the five-year crisis period could indicate an inversion of the falling trend of fertility, as this increase cannot be attributed to a change in the fertility calendar. Furthermore, the inversion of the increasing trend of fertility rates after 2010 could be considered as an immediate effect of the emerging economic crisis. Unlike the development of the age-specific rates of younger reproductive ages, the fertility rates of later reproductive ages (30 years and more) moved initially downward until the end of the 1980s and then started to increase until the end of 2000, mainly due to the postponement of births by these cohorts, which is a phenomenon widely referred to in literature as the "tempo effect."

During the last years, however, fertility rates for ages 20-29 declined significantly (see Figure 3, next page), while those for ages 30-39 years exhibited mixed trends. If these changes continue, they can be seen as indicative of a shift of births to women of later reproductive ages – women who were in their prime reproductive ages during the crisis. They are also indicative of an accelerated decline of complete cohort fertility of women born after 1980 (Kotzamanis and Baltas, 2015; Kotzamanis et al., 2016).

Figure 2. Age-specific fertility rates (Greece, 1960-2015)

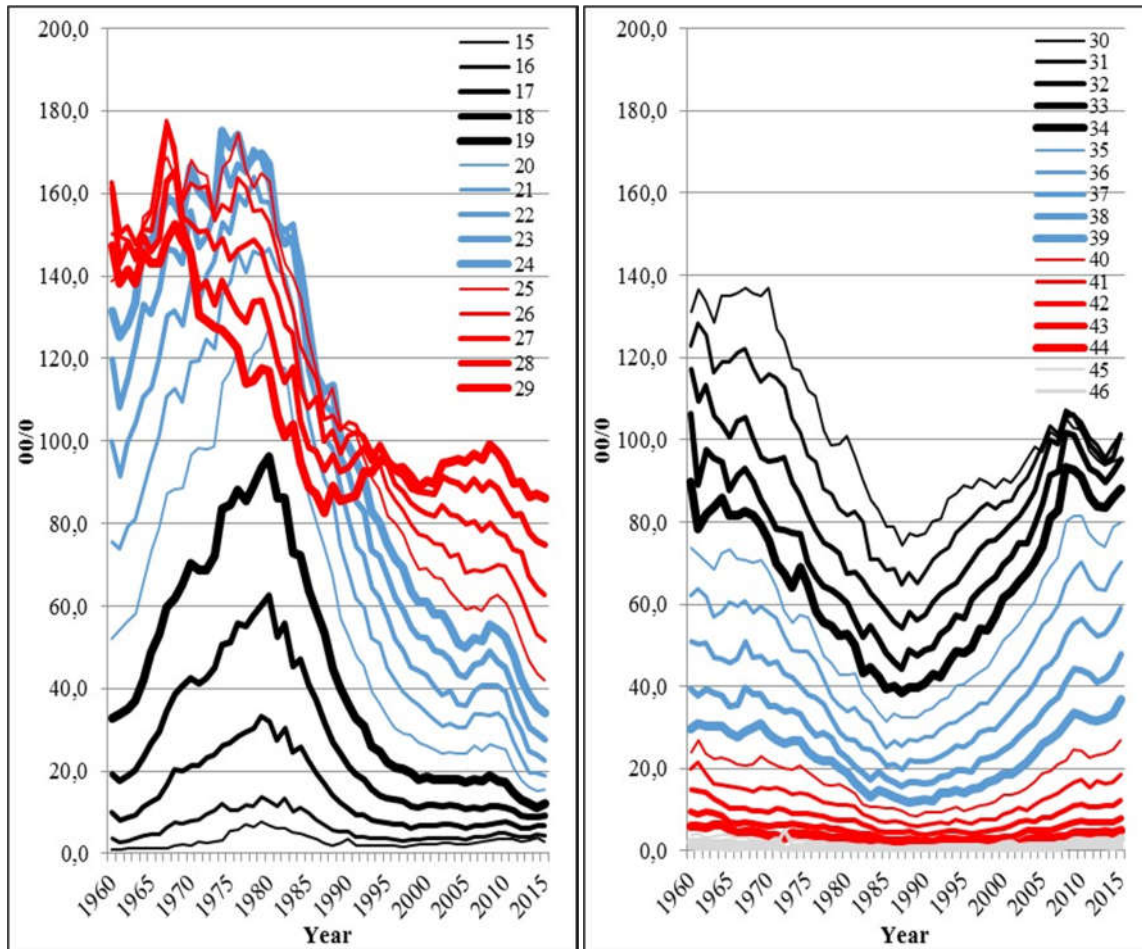
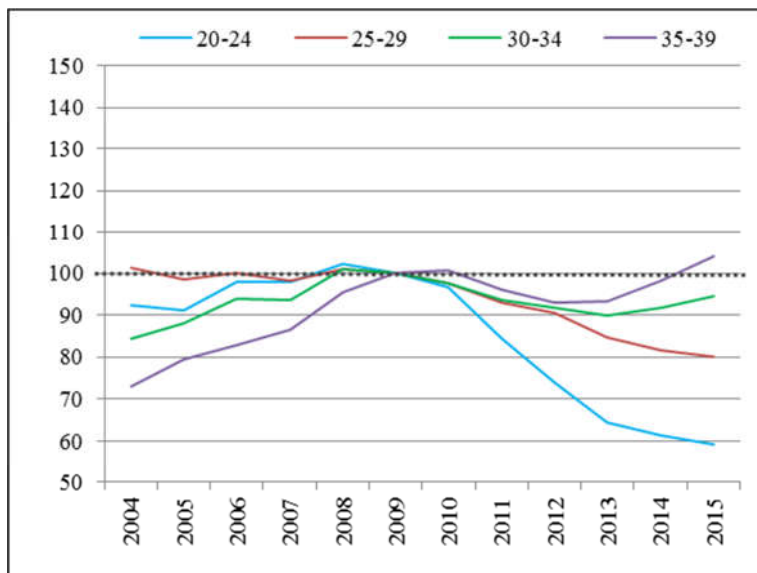


Figure 3. Evolution (2009=100) of age-specific fertility rates (Greece, 2004-2015)



Fertility by birth order

Examining the evolution of births in the post-war period, we observe that first-order births increase steadily (from 40% of total births in the 1960s to 48% in 2015), while second-order births increase slightly in the first years of the 1960s, and then stabilize at around 37-38% thereafter. Births of higher orders exhibit a relatively smooth progression and fewer fluctuations in relation to the first births, though with differentiated rates and with a downtrend. A faster decline of births of the fourth or higher orders in relation to those of the third is also apparent. Specifically, unlike the first two birth orders, third-order births reduce slowly (from 14% in 1960 to 9% in 2014), and those of the fourth or higher orders collapse (from 13% to 3%). These trends are consistent with the apparently shrinking and gradual disappearance of large families.

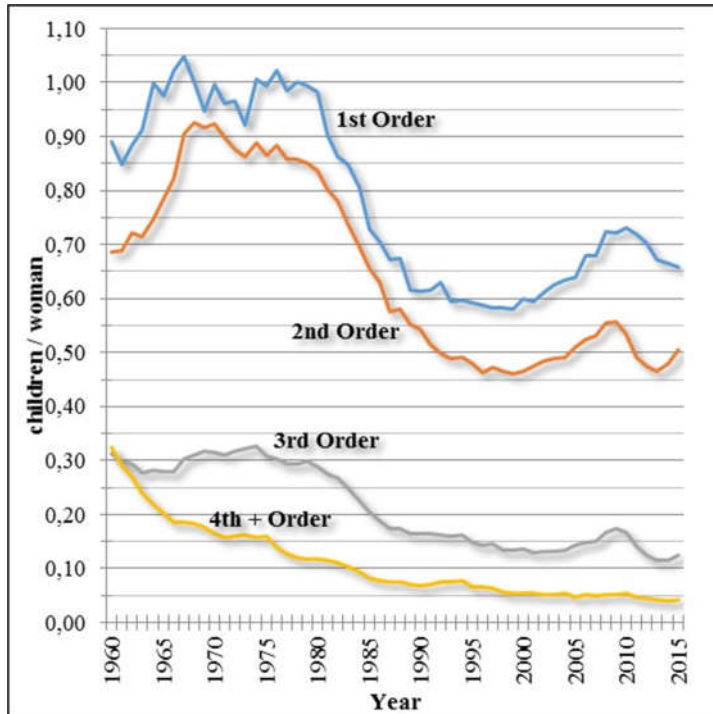
Analysis of TFR by birth order (see Figure 4, p. 39) makes it possible to consider whether and to what extent the reduction in fertility after 1980 was due to the reduction of total births and whether signs of changing family patterns were present, particularly regarding childlessness. This type of analysis allows us to formulate some hypotheses for the most recent crisis period.

First-order TFR values exhibit rapid growth between 1960 and 1964 and stabilize around the unit in the late 1970s. They significantly diminish by almost 40% during the 1980s (0.98 in 1980 and 0.62 in 1989). During the 1990s, these values stabilize around 0.6 child/ woman, and then increase during 2000s (0.73 in 2009). During the first years of the crisis this indicator exhibits a slight decline being 0.66 in 2015. The reduction of first-order fertility in the post-war period is indicative of a new phenomenon, namely the increase of final childlessness (Baltas, 2013). Consequently, it is possible that 25% of women born after 1980 will probably never give birth to a child during their reproductive years.

The TFR values of the second order show a roughly similar progression. After a continuous rise, from 0.69 children / woman in 1960 to 0.91 in 1967, they stabilize at around 0.87 child / woman, and collapse in 2001 to 0.47 child / woman. Then, from 2001 to 2009, TFR slowly increases and then begins to decline thereafter, from 0.56 in 2009 to 0.51 in 2015.

Unlike TFRs of the first and second orders (see Figure 4, next page), TFR of the third order remain constant at around 0.3 children from 1960 to 1980, and then decrease rapidly by almost 50% during the decade of the 1990s to 0.16 children. TFR of the third order then stabilize around the value of 0.15, with a slight increase after 2005, reaching 0.17 in 2009, and slowly decrease thereafter, reaching 0.12 in 2015. Finally, TFRs of the fourth order and above follow an uninterrupted downward trend throughout the period under consideration, from 0.32 in 1960 to 0.04 in 2015.

Figure 4. TFR by birth order (Greece, 1960-2015)



The evolution of TFRs by birth order in other southern European countries do not differ significantly from the pattern in Greece. In particular, the first and second order TFRs exhibit a first period of growing up, a second one of stabilization, and then a third period of decrease until the end of the 1990s. In Spain and Italy, this third period of decrease is followed by a short period of rise until the end of the first decade of the 2000s, but in recent years, TFRs decline again. The evolution of these two indicators in Portugal differ slightly, as the first order TFR is not characterized by a significant increase after 2000, while the second order one appears more or less stable at around 0.50 children / woman from 1990 to 2010. After 2010, TFRs start to decrease. Unlike in Greece, TFRs of the third and fourth orders and above in Spain, Italy and Portugal decrease continuously and rapidly after 1960, and then stabilize at around 0.12 (third order) and 0.04 children (fourth order).

From the previous analysis, it becomes obvious that during the last 60 years the contribution of TFRs of the fourth and higher birth orders to the total TFR has continuously diminished. However, since their values are very low, their continuous decline has contributed marginally to the evolution of the total TFR after 1980. The decline of this indicator until 2000 was mainly attributed to a shrinking of the first and second order TFRs, while the slight, temporary recovery during the years 2001 to 2009 was mainly due to a tempo effect, whereby belated births of the 1980s and 1990s led to a temporal increase, primarily of the first and second order TFRs.

The reversal of these trends in recent years, which coincides with the emergence of the economic crisis, is mainly attributed to the diminishing of the first and second order TFRs. Hence, at the start of the 2000s, the crisis probably interrupted the replenishment of births and halted the rise of fertility rates of younger cohorts during the five-year period before its beginning. Therefore, a decline of fertility for the cohorts

born after 1975 is expected, probably with an accelerating pace for the younger generations who, after 2010, are in their highest reproductive ages (25-35).

Of special interest is the examination of the evolution of fertility rates of the first two orders (86-87% of all births) throughout the period 2004 to 2015. Figures 5a and 5b below illustrate the changes of first and second order rates, using 2009 as the base year, which was the last year before the initiation of the crisis in Greece. Though the evolution for the fertility rates of the ages 20-29 were roughly the same for both birth orders (significant reduction between 2009 and 2015), differences were observed in the more mature ages (30-39), as the first order rates do not seem to be affected by the crisis, in contrast to those of the second order rates.

Figure 5a. Evolution (2009=100) of first order age-specific fertility rates (Greece, 2004-2015)

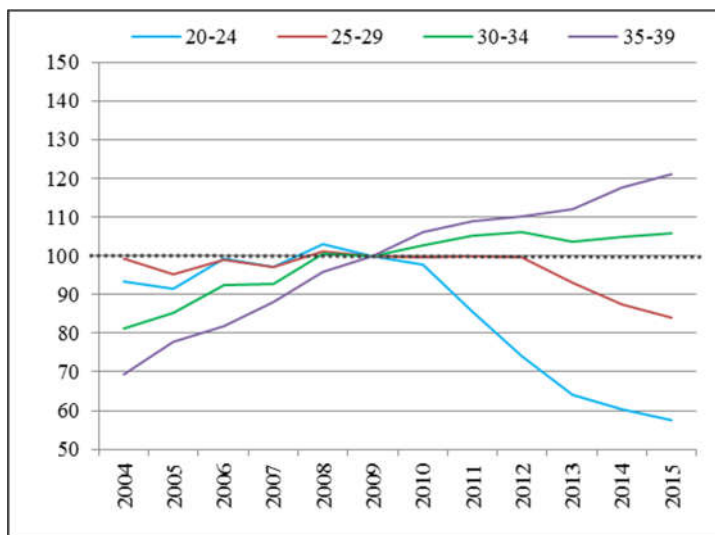
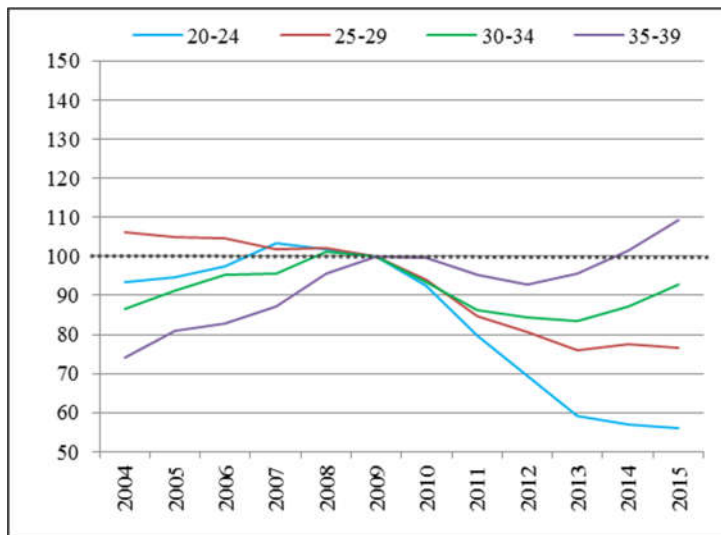


Figure 5b. Evolution (2009=100) of second order age-specific fertility rates (Greece, 2004-2015)



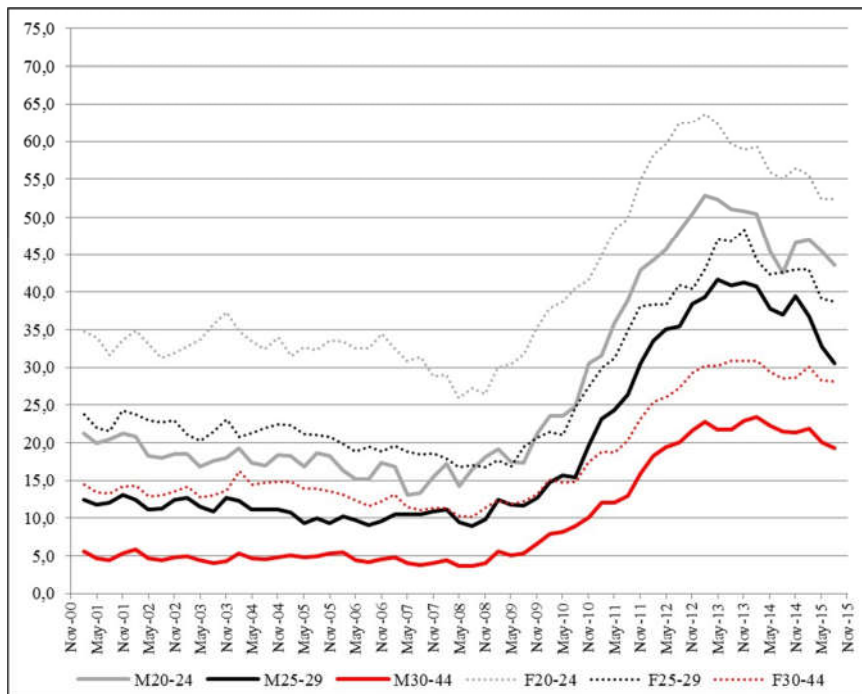
More specifically, we observe the following:

- All women aged 20-29 years during the years of crisis (2010-2015), regardless of whether they had a previous child or not, directly reacted to the crisis by postponing childbearing in later ages.
- Among women who had a previous child, those in most mature ages (35-39 years) that had a limited remaining reproductive period, were less affected by the crisis than those who during the same period were five years younger.
- Among women who had not had a previous child, those in the later reproductive ages (35-39 years) were not affected, probably due to the fact that their remaining reproductive time did not permit any postponement, in contrast to those of the younger ages (30-34 years) during the same period.

The impact of economic crisis on fertility in Greece: empirical evidence

The economic crisis in Greece emerged at the end of 2009. The first austerity measures, which led to a reduction of salaries and pensions, were taken in May 2010, leading to a rapid decline of GDP in the following years, which was much stronger than the recorded decline of GDP in all other southern European countries (Eurostat, 2016). In addition, the austerity measures led to a significant reduction of household income and continuously increased poverty through increased unemployment, which affected more women than men, especially women of reproductive ages (see Figure 6)

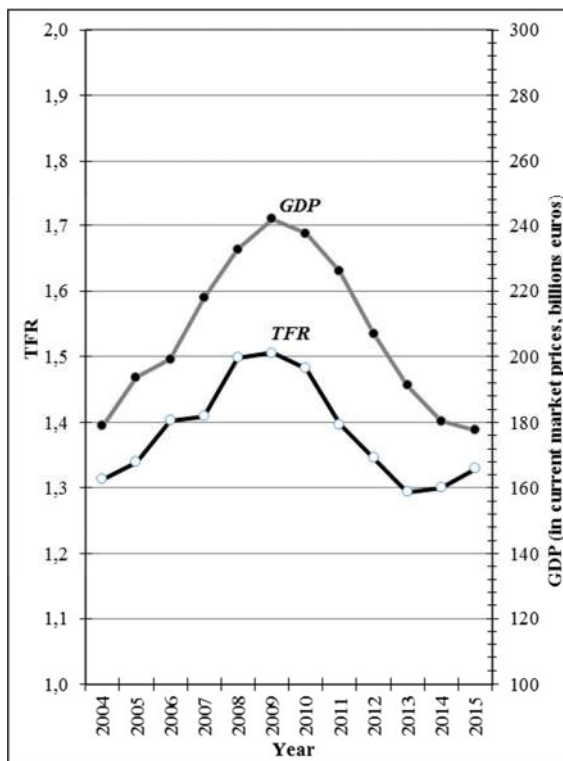
Figure 6. Unemployment rates (%) per trimester by sex and five-year age groups (Greece, 2001-2015)



Considering the evolution of selected economic and demographic indicators, such as GDP, unemployment rates and TFR, we observe an extremely strong positive correlation between TFR and GDP during the period 2004-2015 (see Figure 7) and a strong negative correlation between TFR and unemployment rates of women at reproductive ages (Figure 8, next page).⁷

Furthermore, looking at the evolution of monthly first/ second order TFRs and unemployment rates from December 1990 to December 2015 (see Figure 9, next page), we observe a strong relationship between these two indicators. More specifically, the monthly TFR of the first order starts to shrink at the beginning of 2011, and the TFR of the second order begins to decline in the middle of 2010, roughly 22 months and 16 months respectively after the initiation of the rapid increase in unemployment rates.⁸ The observed functional relationship between the two indicators is not necessarily causal although the timing of the fall of both monthly TFR and the quarterly unemployment rates is impressive.

Figure 7. TFR 2004-2015 and GDP one year before



⁷ See also Bagavos and Tragaki (2017).

⁸ The rapid increase of those rates starts in the second half of 2009.

Figure 8. TFR 2004-2015 and unemployment rate of women one year before

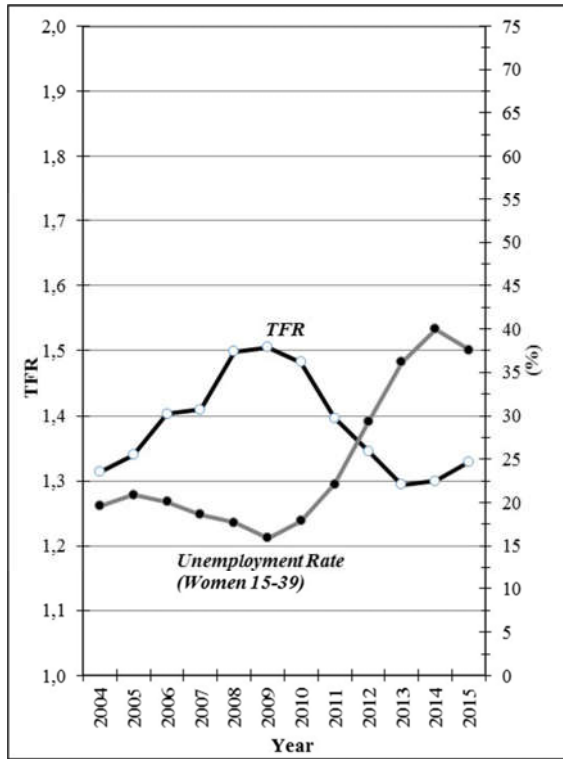
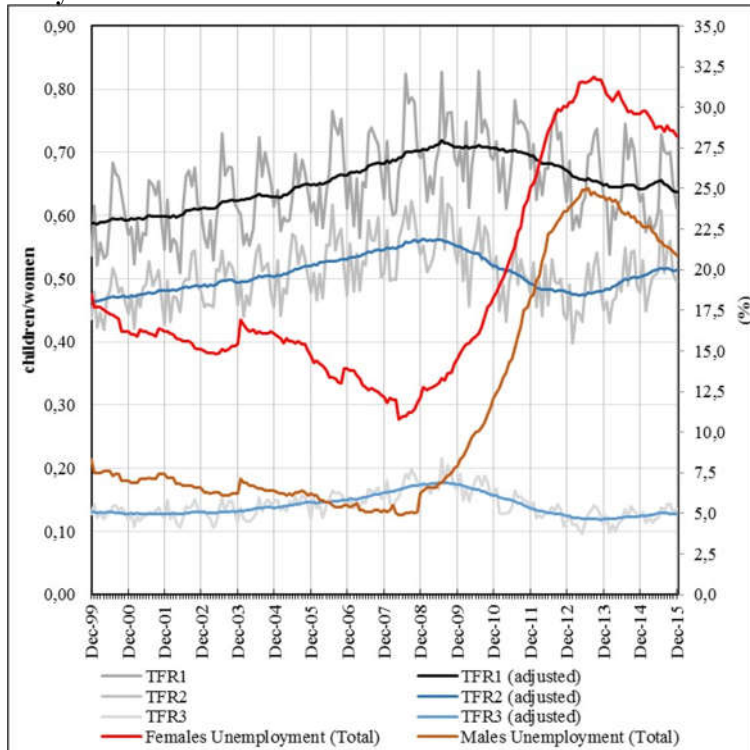


Figure 9. Monthly TFRs by order (2004-2015) and total unemployment rate by sex one year before



Conclusion

If, as this study suggests, the increases of TFRs in the 2000s were the result of the recuperation of births that were postponed during the late 1980s and the 1990s, then the recent reversal of the upward trend – especially for first and second order TFRs – coincides with the emergence of the Great Recession. The recent fall of those indicators is totally attributed to the simultaneous fall of fertility rates of women younger than 30 years. Hence, the crisis probably interrupted a bit earlier the recuperation of births that started in the beginning of 2000s and halted the increase of fertility of younger ages, which is observed during the five-year period before its initiation and can be considered an indication of a reversal of the falling fertility trend. The recent changes are also indicative of an accelerated decline of the complete fertility of women born after 1980, mainly because the recession was initiated during a time when the mean age of childbearing was very high (30 years for the first child). Any continued postponement of childbearing to higher ages during the next years will possibly lead to an unavoidable fall of the fertility of these cohorts.

In Greece, where childbearing occurs almost entirely within marriage with at least one partner being employed and with strong parental family support, it is important for most couples of young generations to have secured stable work before having a child. The recent and extreme high unemployment rates in the age groups 20-35 (for both sexes), the reduction of salaries and pensions, the rise of economic insecurity and the lack of confidence in the future are largely responsible for the diffused negative consequences for falling fertility rates.

In the case of Greece, it is very difficult to design complex indicators of economic insecurity in order to identify their impact on fertility. Nevertheless, it is possible to use classical economic indicators, such as GDP and unemployment rates, and examine how those economic indicators affect demographic indicators, such as total and monthly TFRs. Our empirical investigation all but proved that GDP and monthly TFRs are highly correlated to period fertility decline in Greece. Even if these relationships cannot be considered as causal, they are, undoubtedly, in any case, strong indications for the impact of an economic recession on the reproductive decision-making and associated behaviors of the people of Greece.

In conclusion, according to the literature mentioned earlier in the theoretical section, in countries with strong social policies that provide family and childbearing assistance, the negative effects of economic crises on fertility rates are diminished. Before the emergence of the recession in Greece, the welfare state was neither particularly developed nor efficient. Family and childbearing assistance measures were limited and inefficient, and they focused almost exclusively on large families with four or more children. The measures adopted over the last seven years have usually been applied to all and not stratified by certain characteristics (for example, income), and available resources for policies have been significantly reduced. Consequently, fertility recovery is not expected in the near future. Collectively, these facts do not allow for any optimism concerning the reversal of fertility rates of younger generations who are most likely going to spend a significant part of their reproductive life under crisis conditions.

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