

The Implications of the Recent Economic Crisis on Fertility in Greece

Byron Kotzamanis

Laboratory of Demographic and Social Analyses, University of Thessaly, Greece.

bkotz@prd.uth.gr

Anastasia Kostaki

Department of Statistics, Athens University of Economics and Business, Greece.

kostaki@aueb.gr

Abstract

A systematic review of past economic recessions occurred in developed countries confirms that social and economic crises often have serious effects on fertility while, beyond national differentiations, these effects have certain characteristics, e. g. a weak effect on generational fertility;an postponement on the timing of first birth, closely related to a late marriage or union;a close relationship between unemployment and age-specific fertility. The sensitivity of fertility behavior to economic crises is less marked in countries with longstanding family policies and strong social security systems. The recent social and economic recession in Greece took place under different social conditions than many recessions in the past. More women than ever are participating in the labor market, most couples use reliable contraception that enables them to postpone childbearing, while social security and health costs are burdened from the rapidly expanding numbers of elderly. All these factors can affect reproductive decisions and potentially aggravate the negative effects of the recession on fertility. This work, using the latest available official data of Greece, provides an investigation of the impact of the current economic crisis on fertility levels, as well as the evolution of these levels through time.

Keywords: Social and economic recession, fertility.

1. Introduction

The relationship between economic conditions and fertility is a classic research question in demography. The literature often mentions that fertility follows the cycles of the economy, while in times of economic downturn and uncertainty in the labor market, people are led to postpone childbearing, to adjust their family planning. (Goldstein, et al. , 2013; Adserà, 2004; Sobotka, Skirbekk & Philipov, 2011; Hofmann & Hohmeyer, 2012; Schmitt 2008 and 2012).

From a theoretical point of view, the issue that fertility 'react' positively in times of economic growth and "negative" in economic recessions has been discussed for over two centuries. Originally, Adam Smith in his work the "Wealth of Nations" in 1776, links the economic growth with the population growth. Becker (1960), studies the relation between fertility and income level. Easterlin (1973, 1976) considers fertility as a function of the economic environment of the younger generations, based on the experience they had during childhood years, living in the parental household.

In contrast of the above theories Butz and Ward (1979a, 1979b) analyzing data for the US fertility of the first half of the decade of 70s, introduces the theory that fertility follows the opposite trend compared to the cycles of the economy. Considering the increasing participation of women in the labor market, he claims that the acquisition of a child in economic good times increases the "opportunity cost" for a woman. However, Macunovich (1996) argues that fertility remains linked to the cycles of the economy, while the negative effects of high unemployment during economic downturns are greater than any benefits of the reduction of "value" of women's work.

Nowadays, with the onset of the economic crisis in 2007-2008 in the US and the subsequent dissemination of European countries, the interest for exploring the relationship between economic crises and fertility is revived.

2. The current economic crisis and its background

The literature suggests that economic downturns have an effect in changing fertility calendar, i. e. postponement of births, which results in reducing the total fertility rate and the number of children (Rindfuss, et al. , 1988; Andorka, 1978; Sobotka, 2008; Cutright & Shorter, 1979; Morgan, 1991 and 1996).

However the current economic crisis is characterized by significant differences compared with the previous ones. First of all, it is the most intense and longest crisis than all the previous ones, while the current conditions are significantly different in comparison to crises of previous decades (in 20s or even in 70s). Particularly in the late 2000s, the welfare state is much more developed than it was for 50 or 100 years ago, the percentage of women in the labor market and their educational level are significantly higher than in the past decades, contraception tends to be generalized, and the mean age of the first childbearing is much higher than before. In most European countries is as high as 28 to 29 years, that is four to fivetimes, higher than in the 70s, allowing limited further postponing of childbearing for a woman. In a variety of countries, the economic crises are accompanied with simultaneous significant changes of the pension systems, e. g. reduction in the purchasing power of pensioners and increase of the upper age limits, that leads to a reduction of job opportunities for younger people and clearly lower salaries.

At the same time, the current crisis occurred at a time at which many countries have extremely low fertility levels, while in a part of them a small rise of these levels have been observed in recent pre crisis years (as for example Greece). The increase in fertility in Greece had started since the early 2000s, stabilized in 2009, decreasing thereafter from 1.55 children / woman in 2009, to 1.3 in 2014, while a same reversal is recorded in other countries (Bulgaria, Croatia, Czech Republic, Estonia, Latvia, Hungary, Romania, Spain, Italy, Portugal).

The differential intensity of the possible effects of the crisis in fertility levels can be attributed to the fact that before the crisis some countries had highly developed social safety nets and very strong family support policies resulting to minimize the effects of economic recessions (Thévenon, 2011; Fagnani, 2012).

The economic recession obviously affects first of all the younger part of the population that of reproductive ages. The unemployment rates at these ages reach extremely high levels, as a consequence of the crisis, and therefore this is highly likely to affect the reproductive behavior of young population. Usually, in this case a postponement of births is observed. The connection between economic recession and fertility seems to be strong in the southern countries, as well as in Eastern and Central Europe, whereas in the countries of Western and Northern Europe, where the impact of recession on the unemployment rates is limited, the current crisis and the slight rise of unemployment do not appear to have significant impact on fertility (Goldstein, et al. 2013).

Numerous studies referring to countries of central-eastern Europe confirm the above (UNECE, 2000; Philipov & Dorbritz, 2003; Sobotka 2004 & 2008a, b; Frejka, 2008), emphasizing the relationship between the effects of the economic recession and public policies of family support. These studies emphasize that the relationship between work (career) and fertility are less confrontational in social democratic and former socialist countries due probably to the strong institutional support to working mothers. In the "classic" social democratic welfare state of Nordic countries the combination of employment and motherhood does not pose particular problems not only due to high benefits and long parental leave but also because of the wider positive attitude / behavior towards working mothers (Matysiak & Vignoli's, 2008). Finland had an exemplary policy that led to an increase in cross-sectional fertility in deep economic crisis (early 1990s). The introduction of a subsidy in the mid 1980s for parents who stay at home (child home-care allowance) for the care of their child (until the age of four) has considered as an attractive alternative to unemployment and limited job prospects for many women in the years of crises (Vikat, 2004).

Government policies can be effective in order to minimize or even to reverse the negative effects of the financial crisis in fertility according to Hoem (2000).

3. The implications of the current economic crisis on fertility in Greece.

3.1. Data and methods

The investigation of the potential impacts of the current economic crisis on the fertility levels of the population in Greece is based on analysis of the empirical data, provided by the Hellenic Statistical Authority (ELSTAT). These are,

- Number of births by five-year age group of mother,
- Number of births by five-year age group of mother and order of birth,
- Mean population sizes of women in reproductive ages by five-year age groups.

Although we have long time series for our analysis, we should note that the period from the onset of the crisis and beyond is relatively short (five years only, 2010-2014), while not yet available by ELSTAT data on births of 2014. This does not facilitate the investigation of potential impacts of the crisis on fertility.

Using the empirical data as described above, simple and complex classical demographic indicators are calculated, those are,

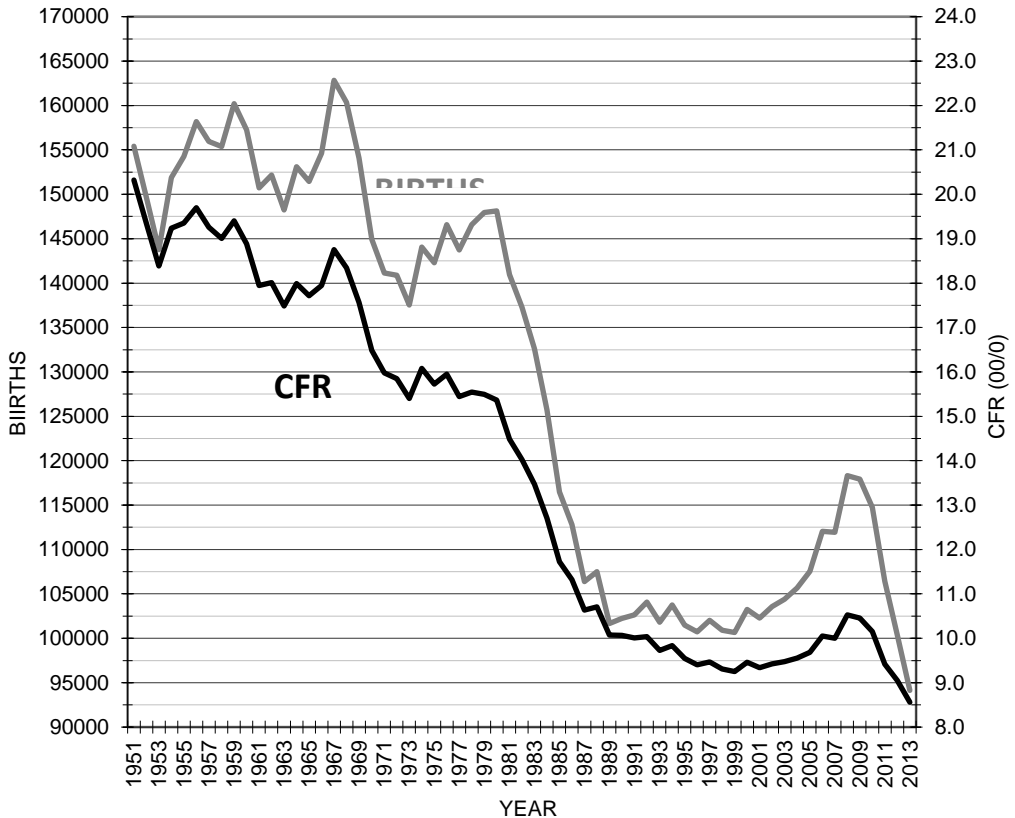
1. Fertility rates by age of mother,
2. Fertility rates by age of mother and order of birth,
3. Total annual fertility rate (synchronic analysis),
4. Mean age of mothers of childbearing (for first births and for all births).

3. 2. Results

3. 2. 1 The evolution of fertility in post war Greece (1956-2013)

From the end of the civil war (1949) until 1967, the number of births (Chart 1, Table 1 in Appendix) fluctuates at high levels. Specifically in 1949 births was 139. 108, while the very next year (the first after almost a decade of war status) will amount to 151 134 and the next 17 years will stay around 150000-155000 to record in 1967 its highest value (162. 839). The next seven years its trend is downward (at 1973 equals 137 526), while during the first postwar period this number will increase from 144 069 at 1974, to 148 134 at 1980. But the following years it will significantly decline to 101 167 in 1989 (32% reduction since 1980), followed by a decade of relative stabilization at very low levels (around 100, 000 per year), despite the strong migratory flow from the former Eastern European countries. Finally, the first decade of 21st century births will have an increasing trend (118 302 in 2008, that is 17. 5% higher compared with 1999). However this trend that will halt thereafter. While in 2009 births exceeded 110, 000 from 2010 onwards will be progressively reduced, falling by 20% over the four last years.

Figure 1: Greece, 1951-2013, Births (absolute numbers) και Crude Fertility Rate (0/00)



3.2.2 Total Fertility Rate

The Total Fertility Rate (TFR) indicating the average number of children per woman, (Figure 2, and Table 2, in Appendix), the first 30 years, until the early 1980s, recorded relatively high values (among the highest in European countries, namely 2.2-2.4 children per woman). In particular, at the beginning of the examined period TFR equals 2.31 children / woman and remains stable for a decade at levels higher the reproduction limit although with slight fluctuations since in 1967, when it reaches its highest value (2.45). Then, after 1980, in a first period, TFR will record a rapid decline (at 1989 equals 1.40 children / woman), resulting in the inclusion of Greece in the group of low fertility countries. The downward trend will continue clearly and slowly during the following decade, so in 1999 TFR takes its lowest value (1.24 children / woman), leading to the accession of Greece, in accordance with the international bibliography, in countries with very low fertility (Lowest-Low Fertility). From the early years of 21th century TFR begins to recover (in 2005 will exceed 1.3 children / woman and 2008-2010 will roughly exceed 1.5 children/woman). However the increase of TFR will not further continue, while in 2013 its value will be significantly lower (1.3 children / woman).

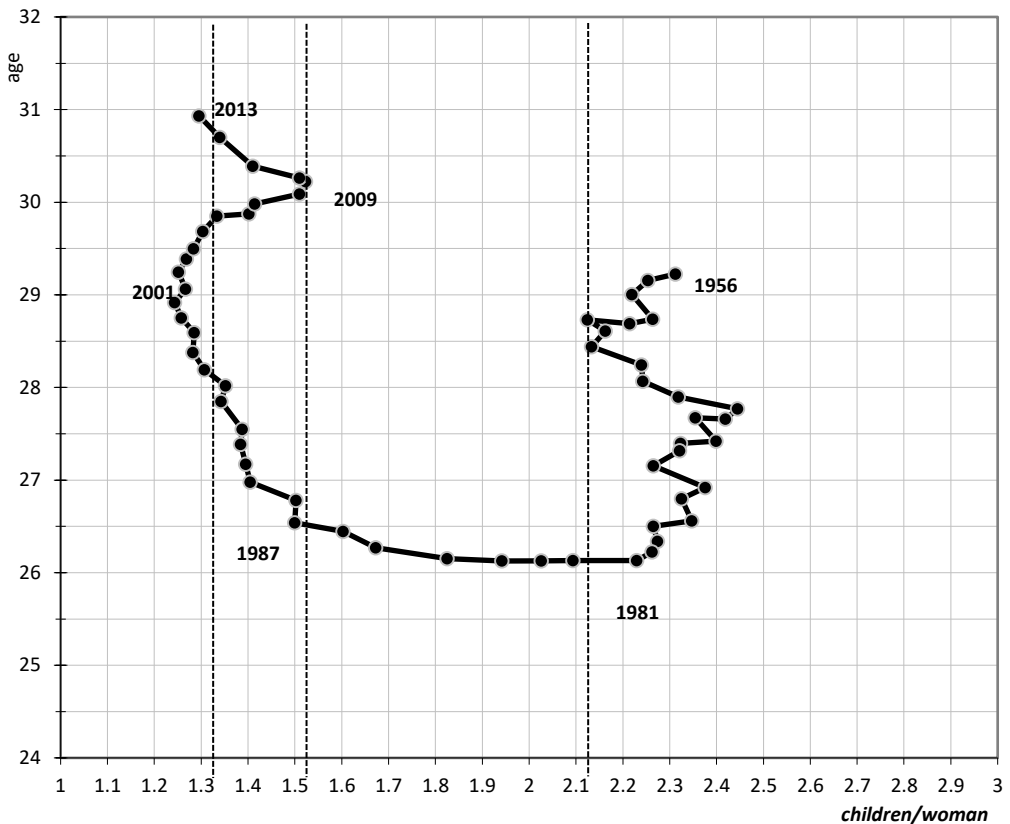
3.2.3 Mean age of childbearing

The mean age of childbearing in both all births as well as for first births, is characterized by considerable fluctuations (Table 2 in Appendix). The mean age for all births is high and relatively stable during the first postwar years while it declines from the early 1960s (decrease by 2.6 years between 1960 and 1981). This drop is obviously a result of continuous increasing

of the age-specific fertility rates for younger reproductive ages (<25 years) and the simultaneous decline of the corresponding rates in mature reproductive ages. But after a short time (until 1985) of relative stability the mean age will start to slowly increase at the beginning, but faster in following years, resulting to grow by about 5 years between 1985 and 2013 (26 in 1985 to 30.9 in 2013). This increase is mainly due (up to the mid-1990s) to reduce of the age-specific fertility rates at younger ages, and from the late 1990s onwards, the increase of mean age at childbearing can be contributed to the increase of the age-specific fertility rates in mature reproductive ages.

Figure 2 (Mean age and TFR) capture the above described situation as it combines the intensity of the cross-sectional fertility with its calendar. The vertical drop of the curve from 1956 to 1981 and marks a period where the average age is constantly decreasing and the intensity of the cross-sectional fertility remains stable with slight fluctuations over the reproduction level (2.1 children per woman). Then for the four-year period 1981 – 1985 there is a heavy fall of TFR and a stability of the mean age of birth and then for a longer period (1985 - 2001) the mean age of birth constantly increases while TFR constantly declines. From 2001-2010 there is an increase both in the mean age of birth and of TFR, while from 2010 the average age of birth increases and TFR falls.

Figure 2: Greece, Total Fertility rate versus mean age of childbearing (all births) 1960-2013

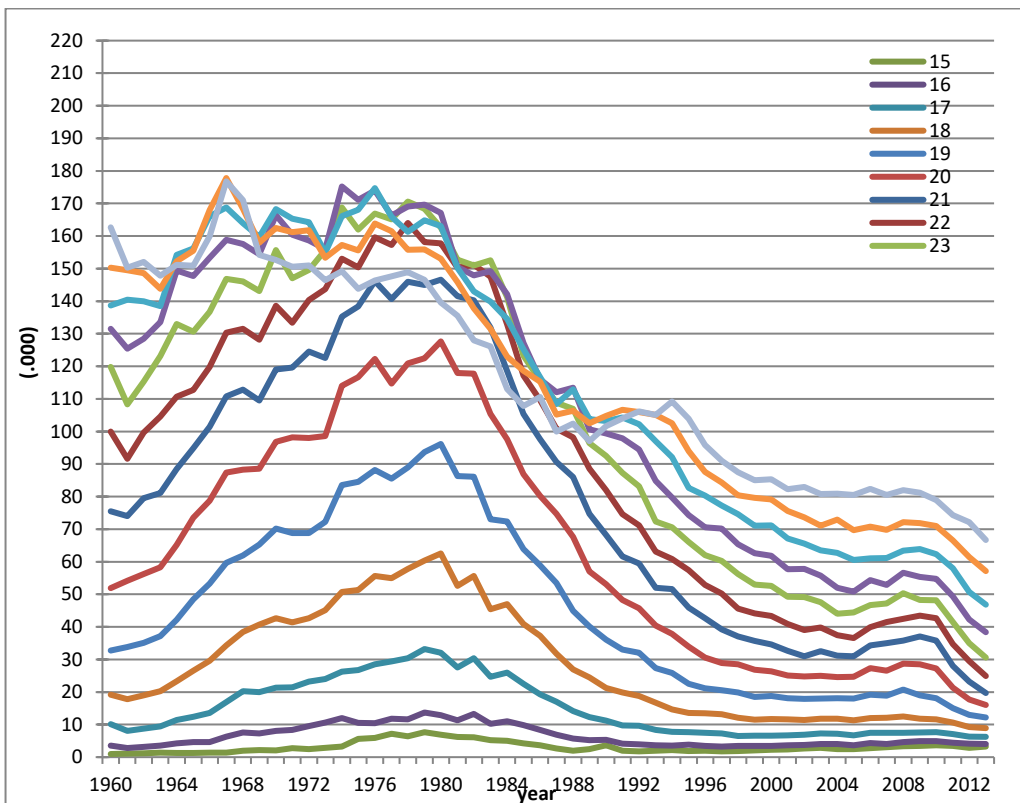


3.2.4 Age Specific Fertility Rates

Figure 3 illustrates the progress of the age-specific fertility rates. A first view of the figure shows that the rates in the younger reproductive ages (years 15-24) exhibit an upward trend until the beginning of the 1980s, a trend that will be reversed in the next twenty years, leading them to collapse. The decline will halt temporarily for a short period (the 2000s) and will start again after 2010. Unlike the development of the age-specific rates of younger reproductive ages, the corresponding one for the later reproductive ages (> 30 years) will move initially downward, at the beginning of first decade of 21st century and then upward. In recent years, however, coinciding with the onset of the economic crisis in Greece, it is becoming a common trend: the rates in almost all ages significantly decline. A special behavior and diversified development follow the rates at ages 26-29. These rates follow an upward trend (as those of ages below 25 years) but they strongly fail during the decade of 80s, while they exhibit some temporary signs of recovery in later years.

Figure 4, which illustrate the completed fertility in successive ages, show that the completed fertility in the age 25 until the late 70s is increasing. Thereafter it is decreasing in all age groups. Figure 5 also confirms our previous conclusions, namely that the rise of TFR since 2000 - and in particular the differentiation in 2009 compared with 1999 is solely due to the increase of fertility levels of ages greater than 30. The figure also clearly reflects all changes of fertility levels throughout the period considered, especially those of the last fifteen years, and also confirm that the increase of TFR since 2000 is solely due to declining fertility of younger ages and that the fall of TFR thereafter is due to declining fertility of all ages. Moreover it becomes obvious that though the high values of TFR until 1980 is due to young ages, their subsequent reduction is almost entirely due to the same ages, while this reduction does not offset until the late '90s by increasing fertility of ages greater than 30.

Figure 3: Greece. Age-Specific Fertility Rates (1960-2013)



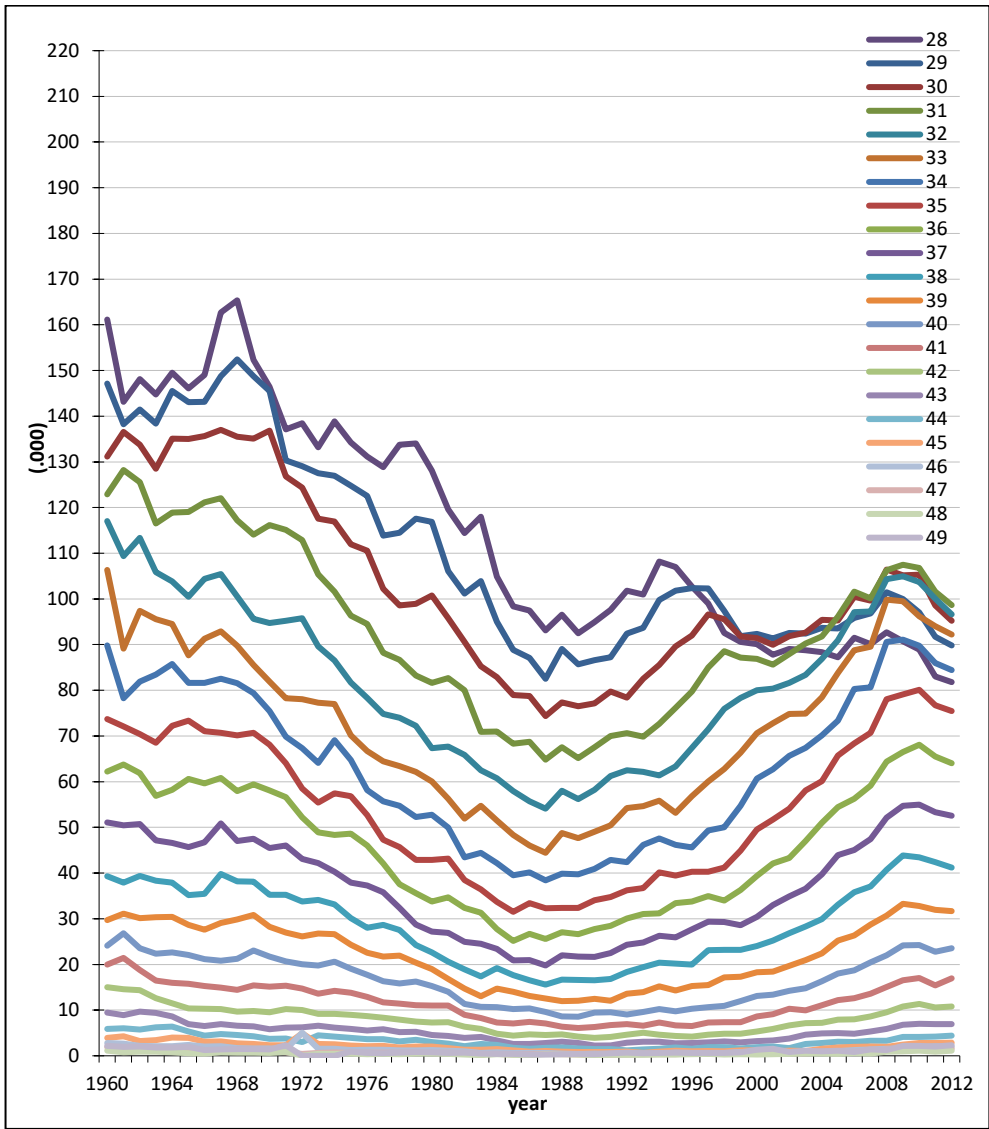
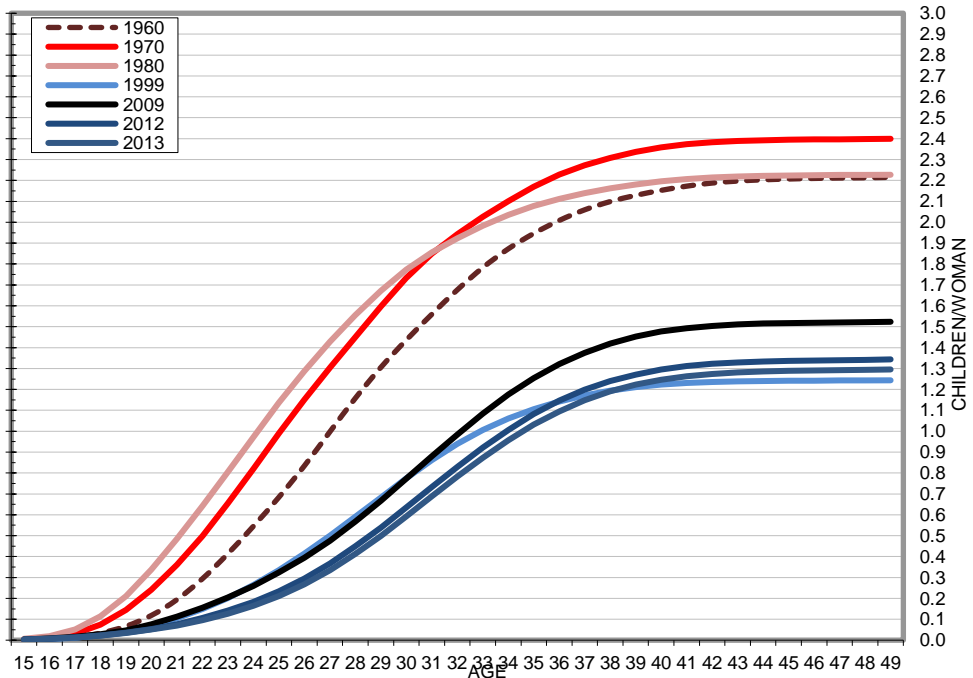


Figure4: Greece, completed fertility in successive ages for chosen years.



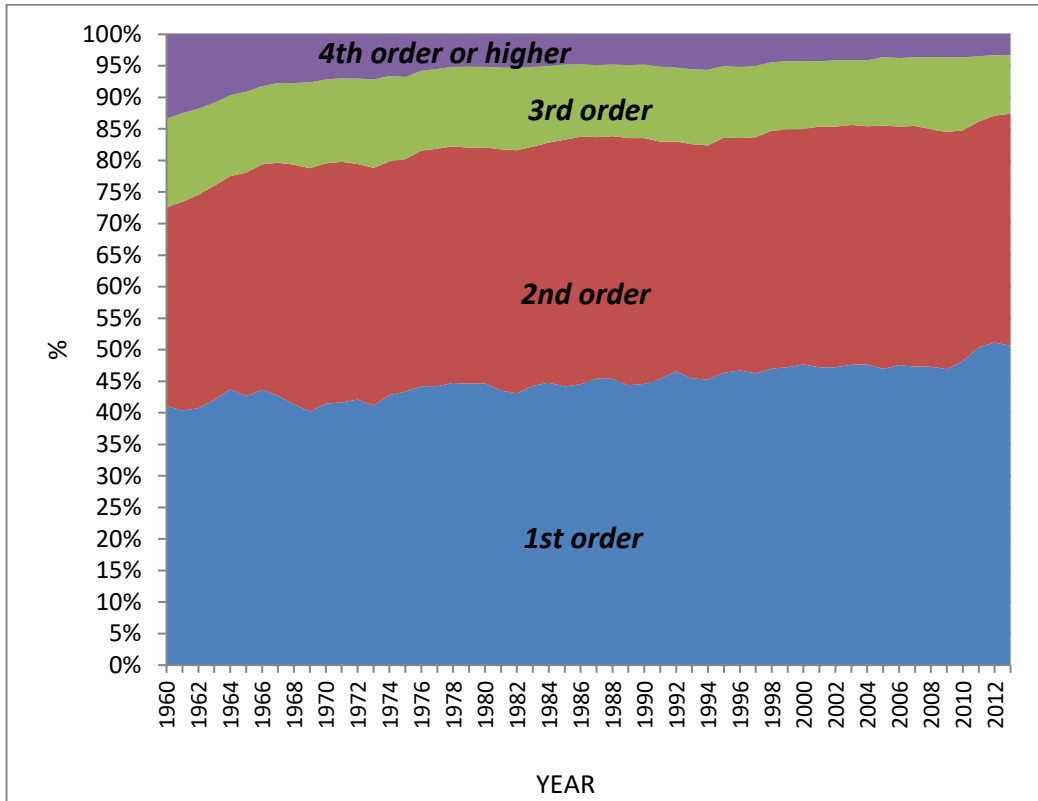
3. 2. 5. Fertility by birth order

Analysis of fertility by birth order allows to consider a) whether -and to what extent, the reduction in cross-sectional fertility after 1980 resulted from the reduce of total births and whether there are signs of changing family patterns , particularly regarding childlessness and b) to formulate some hypotheses for the most recent period after 2009 (years of crisis).

Examining the evolution of births in the postwar period (Figure 5 and Table 3 in Appendix) we first find that the first order births steadily increase. In particular, the first births being 40% of total births in the 50s, now (in 2013) represent 51% of the total, while the latter have risen slightly by the end of the 70s (from 32-33% to 38%) to then they stabilize. The steadily increasing participation of births of 1st and 2nd order clearly reflected in the figure, while in 1960 they are 73% of the total, from the mid-1970s they are 80% of total births, while in the late 90s they exceed 85% (89% in 2013) of total births.

Births of 3rd, 4th or higher orders exhibit a relatively smooth progression and fewer fluctuations in relation to the first two classes by following, though with differentiated rates, a rough downtrend (faster decline of births of 4th or higher orders in relation to those of 3rd order). Specifically, unlike the first two births orders, 3rd order births reduce slowly (from 15% in the 50 to 9% recently), and those of 4th or higher orders are collapsing (from 13% to 3%). It is worth noticed that in the 50s births of 4th or higher orders was around 20, 000, whereas those of 2013 just exceeded 3, 000. These trends are consistent with the apparently shrinking and gradual disappearance of large families.

Figure 5 : Greece. Distribution of births by order (1960-2013)

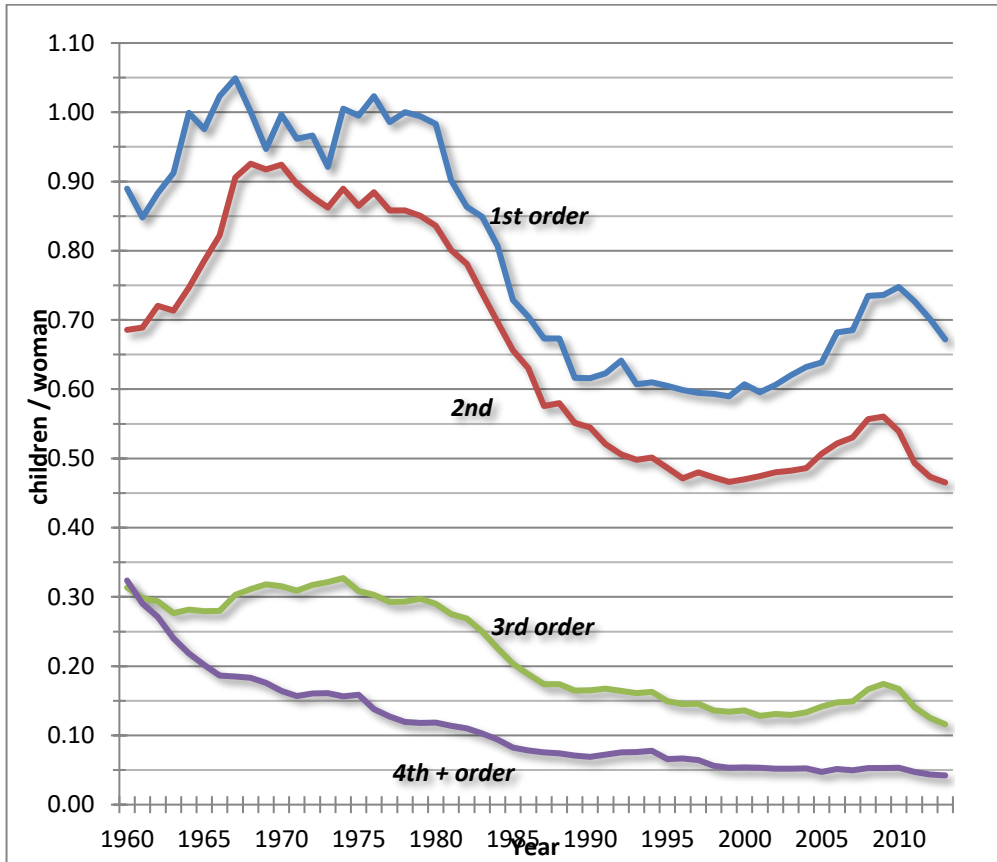


3.3.6 Total Fertility Rates and Mean Age at Childbearing by order of birth

First order TFR will experience a rapid growth in the beginning of the period (between 1960 and 1964) from 0.89 to 1.00. In the next period (1964 -1980) it will stabilize more or less around the unit, while during '80s it will significantly diminished by 40%, (0.98 in 1980 and 0.62 at 1989). During the 90s it will stabilize around 0.6 children/woman, followed by the mid-2000s rise (2010 = 0.75 children/woman) while it will exhibit a small decline in the first years of the crisis (2011-2013).

Close if not identical progression- will follow TFR of 2nd order. This indicator after a rising period (0.69 children / woman in 1960, 0.92 in 1970), it will stabilize in 1970 to collapse then during the 1980s (0.55 children/woman in 1989). The fall will continue at a milder pace than during the 90s (0.47 children / woman in 1999) will be stopped thereafter while it will begin an upward trend after 2010.

Figure 6: Greece, Total fertility rates differentiated by birth order (1960-2013)



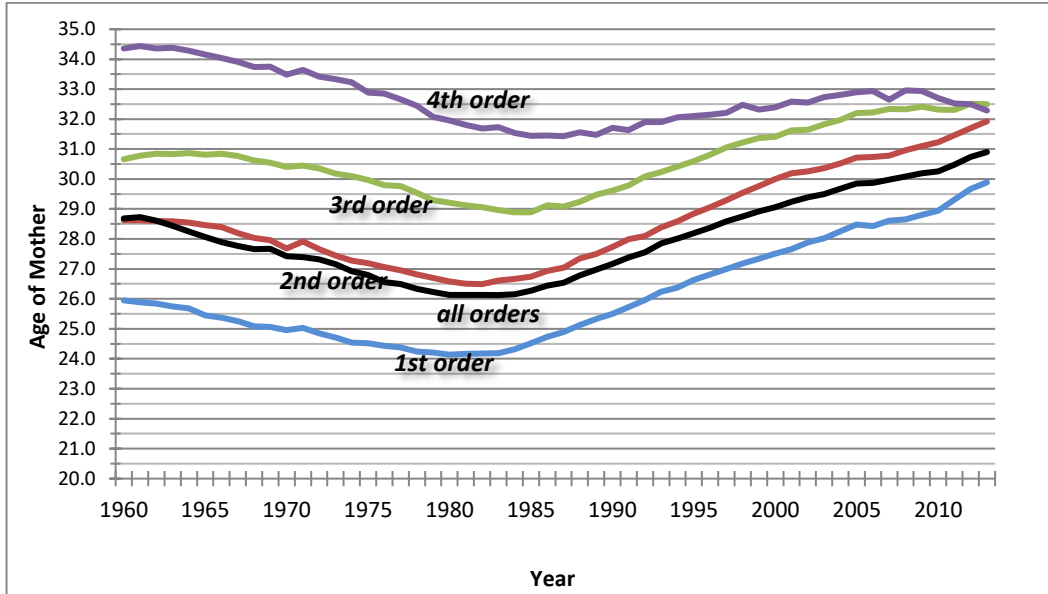
Unlike TFR of 1st and 2nd order of births, that of 3rd order will remain constant for about twenty years (around 0.3 children), thereafter it will be 50% lower between 1980 and 1989 (0.16 children), while it will stabilize thereafter around the value of 0.14 and it will slightly raise after 2005 (0.17 in 2010). Finally as regards TFR of 4th class and above these will follow an uninterrupted downward trend throughout the period considered (0.32 in 1960 and 0.04 in 2013).

Our analysis shows that while the collapse of the total TFR during the 1980s is due to all orders of birth, the most significant "responsibility" have the indicators of 1st and 2nd orders. In particular, the reduction of TFR between 1980 and 1989 is due almost half (45%) to the collapse of 1st order TFR and secondarily the diminishing of 2nd order TFR (participation 35%). By extension, the declining values of indicators of 1st and 2nd order can be attributed almost by 80% to the reduction of the total cross-sectional fertility during the first period of its rapid collapse. Similarly, the increase in total TFR between 1999 and 2009 is by 52% due to the increase in 1st order TFR, 34% to the increase 2nd order TFR and only 14% to the increase of the 3rd order TFR. Finally, the reduction of the total TFR between the years of crisis (from 2010 and 2013) is solely due to the reduction of the corresponding TFRs of the first two orders.

Changes to mean age at birth by birth order are depicted in Figure 7 and Table 4 in Appendix. The average age drops to all orders of birth until the early-mid 1980s to reverse then for the births of 1st, 2nd and 3rd order. Thus, the average age at 1st order birth increases by 5.7 years between 1983 and 2013, while the average age of 2nd birth increases by 5.3 years

during the same period. These rises suggest an important change in the calendar of fertility of generations, i. e. a postponement of childbearing which is strongly associated with less total births.

Figure 7: Greece, Age of Mother by birth order (1960-2013)



4. The impact of economic crisis to fertility, first conclusions

Our analysis shows that the collapse of the Total Fertility Rate (TFR) in Greece during the 80s was mainly due to the change of the women's fertility calendar as all generation until 1975 will record a TFR > 1.7 children / woman (at least 4 decimal points higher than the lowest value of TFR noted in 1999). The growth of this indicator in the 2000s is solely due to a compensation of the postponement of births in the previous two decades and absolutely not to an increase of the average number of children in the younger generations. The recent reversal of the upward trend of TFR coincides indeed with the emergence of the financial crisis, however it cannot be attributed solely to it.

At the same time, in Greece, the available data indicate that the recent economic crisis is affecting in priority women under 30 years old (extreme high unemployment). However, this crisis coincided with a previous trend of increasing the mean age at the childbearing, started in the mid '80s). This trend has resulted at 2013 to an extremely high average age at childbearing (30 years for the first child). Therefore, any continued postponement of childbearing to higher ages during the years of crisis (probable on the basis of international experience) will possibly lead to unavoidable fall of fertility of younger generations (i. e. those who were born after 1985) as, even if women of those generations aim to acquire one, two, three or more children, a part of them will not succeed it (any replacement is problematic as child conception is a function of age and decrease rapidly after 30 years old).

It should also be pointed out that childbearing occurs in Greece within marriage (the percentage of non-marital births is the lowest in Europe). Simultaneously, the mean age at first marriage follows the last thirty years an ascending course (from 23.2 years in the mid-1980s to 29.2 years in 2013). Based on the above, the mean age at first marriage and the mean age at first child birth are, directly correlated. Therefore, in a country like Greece, where childbearing occurs almost entirely within marriage with both partners employed, it was important for most women of these generations to have a relatively stable work before their first marriage and their first child acquisition. Given the extreme high unemployment rate in the age

groups 20-35, this fact is not valid for a part of this population group, resulting to the collapse of the first marriage rates in recent years. As a direct result, we observe a further increase both of the percentage of unmarried women in younger generations and also of the average age at the first marriage. Both of them (the second in combination with the postponement of marital births) will inevitably lead to a further decline of the total fertility rate of younger generations of women (those born after 1985).

In conclusion, according to the international bibliography, in countries with strong social policies and especially policies supporting family and childbearing the negative effects of the crisis are diminished. In Greece, at the beginning of the crisis, the welfare state was not particularly developed and, at the same time, it was extremely inefficient. In this context, family and childbearing aid measures were very limited, focused almost exclusively on the large families (>3 children) and in some cases these measures were inefficient (see for example retirement criteria for mothers with a minor child). The recent measures (those adapted in the first half of the current decade) were usually horizontal, while available policies resources shrank significantly while their rehabilitation is not expected in the near future. All these facts does not allow some optimism concerning the reversal of fertility decline of younger generations which, as expected, that they are going to spend a significant part of their reproductive life in crisis conditions.

APPENDIX

Table 1: Greece, 1951-2010, Number of births and Crude Birth Rate (CBR)

Year	Births	CBR (‰)	Year	Births	CBR (‰)
1951	155422	20, 32	1983	132608	13, 47
1952	149637	19, 35	1984	125724	12, 70
1953	143765	18, 39	1985	116481	11, 73
1954	151892	19, 23	1986	112810	11, 32
1955	154263	19, 35	1987	106392	10, 64
1956	158203	19, 70	1988	107505	10, 71
1957	155940	19, 26	1989	101657	10, 08
1958	155359	19, 01	1990	102229	10, 07
1959	160199	19, 40	1991	102620	10, 01
1960	157239	18, 88	1992	104081	10, 04
1961	150716	17, 95	1993	101799	9, 73
1962	152158	18, 01	1994	103763	9, 83
1963	148249	17, 48	1995	101495	9, 54
1964	153109	17, 99	1996	100718	9, 40
1965	151448	17, 71	1997	102038	9, 47
1966	154613	17, 95	1998	100894	9, 31
1967	162839	18, 75	1999	100643	9, 25
1968	160338	18, 34	2000	103267	9, 46
1969	154077	17, 56	2001	102282	9, 34
1970	144928	16, 48	2002	103569	9, 43
1971	141126	15, 98	2003	104420	9, 47
1972	140891	15, 85	2004	105655	9, 55
1973	137526	15, 40	2005	107545	9, 69
1974	144069	16, 08	2006	112042	10, 05

1975	142273	15, 73	2007	111926	10, 00
1976	146566	15, 95	2008	118302	10, 53
1977	143739	15, 44	2009	117933	10, 45
1978	146588	15, 54	2010	114766	10, 15
1979	147965	15, 50	2011	106428	9, 42
1980	148134	15, 36	2012	100371	9, 05
1981	140953	14, 49	2013	94134	8, 56

Table 2: Greece, Total Fertility Rate (TFR) and mean age at childbearing (i) all births (ii) 1st order births (1960-2013)

Year	TFR	Mean Age	Mean age of mother of 1st order births	Year	TFR	Mean Age	Mean age of mother of 1st order birth
1956	2, 31	29, 2		1985	1, 67	26, 3	24, 5
1957	2, 25	29, 2		1986	1, 60	26, 4	24, 7
1958	2, 22	29, 0		1987	1, 50	26, 5	24, 9
1959	2, 26	28, 7		1988	1, 50	26, 8	25, 1
1960	2, 21	28, 7	25, 9	1989	1, 40	27, 0	25, 3
1961	2, 12	28, 7	25, 9	1990	1, 40	27, 2	25, 5
1962	2, 16	28, 6	25, 8	1991	1, 38	27, 4	25, 7
1963	2, 13	28, 4	25, 7	1992	1, 39	27, 5	26, 0
1964	2, 24	28, 2	25, 7	1993	1, 34	27, 8	26, 2
1965	2, 24	28, 1	25, 4	1994	1, 35	28, 0	26, 4
1966	2, 32	27, 9	25, 4	1995	1, 31	28, 2	26, 6
1967	2, 45	27, 8	25, 3	1996	1, 28	28, 4	26, 8
1968	2, 42	27, 7	25, 1	1997	1, 29	28, 6	27, 0
1969	2, 35	27, 7	25, 1	1998	1, 26	28, 8	27, 2
1970	2, 40	27, 4	25, 0	1999	1, 24	28, 9	27, 3
1971	2, 32	27, 4	25, 0	2000	1, 27	29, 1	27, 5
1972	2, 32	27, 3	24, 8	2001	1, 25	29, 2	27, 7
1973	2, 27	27, 2	24, 7	2002	1, 27	29, 4	27, 9
1974	2, 38	26, 9	24, 5	2003	1, 28	29, 5	28, 0
1975	2, 33	26, 8	24, 5	2004	1, 30	29, 7	28, 3
1976	2, 35	26, 6	24, 4	2005	1, 33	29, 8	28, 5
1977	2, 27	26, 5	24, 4	2006	1, 40	29, 9	28, 4
1978	2, 27	26, 3	24, 2	2007	1, 41	30, 0	28, 6
1979	2, 26	26, 2	24, 2	2008	1, 51	30, 1	28, 7
1980	2, 23	26, 1	24, 1	2009	1, 52	30, 2	28, 8
1981	2, 09	26, 1	24, 2	2010	1, 51	30, 3	28, 9
1982	2, 03	26, 1	24, 2	2011	1, 41	30, 4	29, 3

1983	1, 94	26, 1	24, 2	2012	1, 34	30, 7	29, 7
1984	1, 83	26, 2	24, 3	2013	1, 30	30, 9	29, 9

Table 3: Greece, Births by order.

Year	1st order	% 1st order	2nd order	% 2nd order	3rd order	% 3rd order	4 nd + order	% 4 nd + order
1960	64553	41%	49577	32%	22104	14%	21005	13%
1961	60805	40%	49888	33%	21157	14%	18866	13%
1962	61958	41%	51518	34%	20776	14%	17906	12%
1963	62357	42%	50284	34%	19527	13%	16081	11%
1964	66952	44%	51706	34%	19686	13%	14765	10%
1965	64594	43%	53671	35%	19430	13%	13753	9%
1966	67520	44%	55232	36%	19146	12%	12715	8%
1967	69496	43%	60218	37%	20543	13%	12582	8%
1968	66284	41%	60893	38%	20779	13%	12382	8%
1969	61955	40%	59424	39%	20930	14%	11768	8%
1970	60141	41%	55155	38%	19240	13%	10392	7%
1971	58744	42%	53832	38%	18727	13%	9823	7%
1972	59336	42%	52571	37%	19087	14%	9897	7%
1973	56646	41%	51753	38%	19256	14%	9871	7%
1974	61633	43%	53393	37%	19547	14%	9496	7%
1975	61681	43%	52428	37%	18539	13%	9625	7%
1976	64798	44%	54756	37%	18534	13%	8478	6%
1977	63577	44%	54087	38%	18182	13%	7893	5%
1978	65541	45%	55015	38%	18530	13%	7502	5%
1979	66056	45%	55330	37%	19067	13%	7512	5%
1980	66169	45%	55396	37%	18934	13%	7635	5%
1981	61360	44%	53879	38%	18258	13%	7456	5%
1982	59192	43%	52884	39%	17967	13%	7232	5%
1983	58686	44%	50302	38%	16827	13%	6793	5%
1984	56312	45%	47832	38%	15314	12%	6266	5%
1985	51436	44%	45566	39%	13926	12%	5553	5%
1986	50233	45%	44236	39%	13017	12%	5324	5%
1987	48344	45%	40724	38%	12139	11%	5185	5%
1988	48770	45%	41372	38%	12237	11%	5126	5%
1989	45102	44%	39826	39%	11748	12%	4981	5%
1990	45588	45%	39833	39%	11914	12%	4894	5%
1991	46583	45%	38558	38%	12262	12%	5217	5%
1992	48450	47%	37947	36%	12166	12%	5518	5%
1993	46276	45%	37771	37%	12094	12%	5658	6%
1994	46978	45%	38478	37%	12429	12%	5878	6%
1995	47056	46%	37828	37%	11564	11%	5047	5%
1996	47067	47%	37068	37%	11396	11%	5187	5%
1997	47176	46%	38228	37%	11562	11%	5072	5%
1998	47450	47%	38048	38%	10910	11%	4486	4%
1999	47525	47%	37915	38%	10901	11%	4302	4%
2000	49229	48%	38536	37%	11131	11%	4371	4%
2001	48268	47%	39078	38%	10566	10%	4370	4%

2002	48900	47%	39543	38%	10841	10%	4285	4%
2003	49729	48%	39696	38%	10709	10%	4286	4%
2004	50389	48%	39884	38%	11036	10%	4346	4%
2005	50528	47%	41434	39%	11682	11%	3901	4%
2006	53323	48%	42350	38%	12128	11%	4241	4%
2007	52981	47%	42712	38%	12171	11%	4062	4%
2008	55995	47%	44484	38%	13536	11%	4287	4%
2009	55328	47%	44322	38%	14042	12%	4241	4%
2010	55296	48%	42002	37%	13235	12%	4233	4%
2011	53632	50%	38117	36%	10997	10%	3682	3%
2012	51317	51%	36085	36%	9639	10%	3330	3%
2013	47675	51%	34614	37%	8715	9%	3130	3%

Table 4: Greece, 1960-2013, TFR and mean age at childbearing by birth order

Year	TFR				Mean age at childbearing			
	1st order	2nd order	3rd order	4th or higher order	1st order	2nd order	3rd order	4th or higher order
1960	0, 89	0, 69	0, 31	0, 32	25, 9	28, 6	30, 7	34, 4
1961	0, 85	0, 69	0, 30	0, 29	25, 9	28, 6	30, 8	34, 4
1962	0, 88	0, 72	0, 29	0, 27	25, 8	28, 6	30, 8	34, 4
1963	0, 91	0, 71	0, 28	0, 24	25, 7	28, 6	30, 8	34, 4
1964	1, 00	0, 75	0, 28	0, 22	25, 7	28, 6	30, 9	34, 3
1965	0, 98	0, 79	0, 28	0, 20	25, 4	28, 5	30, 8	34, 2
1966	1, 02	0, 82	0, 28	0, 19	25, 4	28, 4	30, 8	34, 0
1967	1, 05	0, 91	0, 30	0, 19	25, 3	28, 2	30, 8	33, 9
1968	1, 00	0, 93	0, 31	0, 18	25, 1	28, 0	30, 6	33, 7
1969	0, 95	0, 92	0, 32	0, 18	25, 1	28, 0	30, 5	33, 7
1970	1, 00	0, 92	0, 32	0, 16	25, 0	27, 7	30, 4	33, 5
1971	0, 96	0, 90	0, 31	0, 16	25, 0	27, 9	30, 4	33, 6
1972	0, 97	0, 88	0, 32	0, 16	24, 8	27, 7	30, 4	33, 4
1973	0, 92	0, 86	0, 32	0, 16	24, 7	27, 4	30, 2	33, 3
1974	1, 01	0, 89	0, 33	0, 16	24, 5	27, 3	30, 1	33, 2
1975	1, 00	0, 86	0, 31	0, 16	24, 5	27, 2	30, 0	32, 9
1976	1, 02	0, 88	0, 30	0, 14	24, 4	27, 1	29, 8	32, 9
1977	0, 99	0, 86	0, 29	0, 13	24, 4	27, 0	29, 8	32, 7
1978	1, 00	0, 86	0, 29	0, 12	24, 2	26, 8	29, 5	32, 5
1979	0, 99	0, 85	0, 30	0, 12	24, 2	26, 7	29, 3	32, 1

1980	0, 98	0, 84	0, 29	0, 12	24, 1	26, 6	29, 2	32, 0
1981	0, 90	0, 80	0, 28	0, 11	24, 2	26, 5	29, 1	31, 8
1982	0, 86	0, 78	0, 27	0, 11	24, 2	26, 5	29, 1	31, 7
1983	0, 85	0, 74	0, 25	0, 10	24, 2	26, 6	29, 0	31, 7
1984	0, 81	0, 70	0, 23	0, 09	24, 3	26, 7	28, 9	31, 5
1985	0, 73	0, 66	0, 20	0, 08	24, 5	26, 7	28, 9	31, 4
1986	0, 70	0, 63	0, 19	0, 08	24, 7	26, 9	29, 1	31, 5
1987	0, 67	0, 58	0, 17	0, 08	24, 9	27, 0	29, 1	31, 4
1988	0, 67	0, 58	0, 17	0, 07	25, 1	27, 3	29, 2	31, 6
1989	0, 62	0, 55	0, 16	0, 07	25, 3	27, 5	29, 5	31, 5
1990	0, 62	0, 54	0, 17	0, 07	25, 5	27, 7	29, 6	31, 7
1991	0, 62	0, 52	0, 17	0, 07	25, 7	28, 0	29, 8	31, 6
1992	0, 64	0, 51	0, 16	0, 08	26, 0	28, 1	30, 1	31, 9
1993	0, 61	0, 50	0, 16	0, 08	26, 2	28, 4	30, 2	31, 9
1994	0, 61	0, 50	0, 16	0, 08	26, 4	28, 6	30, 4	32, 1
1995	0, 60	0, 49	0, 15	0, 07	26, 6	28, 8	30, 6	32, 1
1996	0, 60	0, 47	0, 15	0, 07	26, 8	29, 1	30, 8	32, 1
1997	0, 59	0, 48	0, 15	0, 06	27, 0	29, 3	31, 1	32, 2
1998	0, 59	0, 47	0, 14	0, 06	27, 2	29, 5	31, 2	32, 5
1999	0, 59	0, 47	0, 13	0, 05	27, 3	29, 8	31, 4	32, 3
2000	0, 61	0, 47	0, 14	0, 05	27, 5	30, 0	31, 4	32, 4
2001	0, 60	0, 47	0, 13	0, 05	27, 7	30, 2	31, 6	32, 6
2002	0, 61	0, 48	0, 13	0, 05	27, 9	30, 3	31, 6	32, 6
2003	0, 62	0, 48	0, 13	0, 05	28, 0	30, 4	31, 8	32, 7
2004	0, 63	0, 49	0, 13	0, 05	28, 3	30, 5	32, 0	32, 8
2005	0, 64	0, 51	0, 14	0, 05	28, 5	30, 7	32, 2	32, 9
2006	0, 68	0, 52	0, 15	0, 05	28, 4	30, 7	32, 2	32, 9
2007	0, 69	0, 53	0, 15	0, 05	28, 6	30, 8	32, 3	32, 6
2008	0, 73	0, 56	0, 17	0, 05	28, 7	31, 0	32, 3	33, 0
2009	0, 74	0, 56	0, 17	0, 05	28, 8	31, 1	32, 4	32, 9
2010	0, 75	0, 54	0, 17	0, 05	28, 9	31, 2	32, 3	32, 7
2011	0, 73	0, 49	0, 14	0, 05	29, 3	31, 5	32, 3	32, 5

2012	0, 70	0, 47	0, 13	0, 04	29, 7	31, 7	32, 5	32, 5
2013	0, 67	0, 47	0, 12	0, 04	29, 9	31, 9	32, 5	32, 3

References

- [1] Adsera, A. 2004. "Changing fertility rates in developed countries. The impact of labour market institutions." *Journal of Population Economics* 17 (1): 1-27.
- [2] Andorka, R. 1978. *Determinants of fertility in advanced societies*. London: Methuen & Co.
- [3] Becker, G. S. 1960. "An economic analysis of fertility." In: *Demographic and Economic Change in Developed Countries*, Universities-National Bureau, UMI, pp. 225-256.
- [4] Butz, W. P. and M. P. Ward. 1979a. "The emergence of countercyclical U. S. fertility." *The American Economic Review* 69 (3): 318-328.
- [5] Butz, W. P. and M. P. Ward. 1979b. "Will US fertility remain low? A new economic interpretation." *Population and Development Review* 5 (4): 663-688.
- [6] Cutright, P. and Shorter, E. 1979. "The effects of health on the completed fertility of nonwhite and white U. S. women born from 1867 through 1935." *Journal of Social History* 13 (2): 191-218.
- [7] Easterlin, R. A. 1973. "Relative economic status and the American fertility swing." In: Sheldon, E. B. (ed.) *Family economic behavior: problems and prospects*. Philadelphia, Pennsylvania: J. B. Lippincott, pp. 170-227.
- [8] Easterlin, R. A. 1976. "The conflict between aspirations and resources." *Population and Development Review* 2 (3-4): 417-425.
- [9] Fagnani, J. 2012. Work-family life balance: Future trends and challenges. In: OECD (ed.). *The Future of Families to 2030*. OECD Publishing: 119-187.
- [10] Frejka, T. 2008. "Determinants of family formation and childbearing during the societal transition in Central and Eastern Europe." *Demographic Research*, Special Collection 7, Vol. 19 (Article 7): 139-170.
- [11] Goldstein, J. , Kreyenfeld, M. , Jasilioniene, A. , Karaman Örsal, D. 2013, "Fertility Reactions to the "Great Recession" in Europe: Recent Evidence from Order-Specific Data", *Demographic Research*, Vol. 29, Art. 4, pp 85-104.
- [12] Hoem, B. 2000. "Entry into motherhood in Sweden: The influence of economic factors on the rise and fall in fertility, 1986-1997." *Demographic Research* 2, Article 4.
- [13] Hofmann, B. Hohmeyer, K. (2012). Perceived economic uncertainty and fertility. *Journal of Marriage and Family* 75: 503–521.
- [14] Macunovich, D. J. 1996. "Relative income and the price of time: Exploring their effects on US fertility and female labor force participation." In: J. B. Casterline, R. D. Lee, and K. A. Foote (eds.) *Fertility in the United States. New patterns, new theories*. Supplement to *Population and Development Review* 22, New York, Population Council, pp. 223-257.
- [15] Matysiak, A. and D. Vignoli. 2008. "Fertility and women's employment: A meta-analysis." *European Journal of Population* 24: 363–384.
- [16] Morgan, S. P. 1991. "Late Nineteenth and early Twentieth century childlessness." *The American Journal of Sociology* 97 (3): 779-807.

- [17] Morgan, S. P. 1996. "Characteristic features of modern American fertility". In : J. B. Casterline, R. D. Lee, and K. A. Foote (eds.) *Fertility in the United States. New patterns, new theories*. Supplement to *Population and Development Review* 22, New York, Population Council, pp. 19- 63.
- [18] Philipov, D. and H. -P. Kohler. 2001. "Tempo effects in the fertility decline in Eastern Europe: Evidence from Bulgaria, the Czech Republic, Hungary, Poland and Russia." *European Journal of Population* 17 (1): 37-60.
- [19] Philipov, D. and J. Dorbritz. 2003. *Demographic consequences of economic transition in countries of Central and Eastern Europe*. Population Studies, No. 39, Council of Europe Publishing: Strasbourg.
- [20] Rindfuss, R. R. , S. P. Morgan, and G. Swicegood. 1988. *First births in America. Changes in the timing of parenthood*. Berkeley: University of California Press.
- [21] Schmitt, C. 2008. "Gender-specific effects of unemployment on family formation: A cross-national perspective." DIW Berlin, *Discussion Papers* 841.
- [22] Schmitt, C. 2012. A cross-national perspective on unemployment and first births. *European Journal of Population* 28 (3):303-335.
- [23] Skirbekk, V. 2008. "Fertility Trends by Social Status." *Demographic Research* 18 (5): 145-180.
- [24] Sobotka, T. 2004. *Postponement of childbearing and low fertility in Europe*. PhD Thesis, University of Groningen. Amsterdam: Dutch University Press.
- [25] Sobotka, T. 2008a. "Does persistent low fertility threaten the future of European populations?" In: J. Surkyn, P. Deboosere and J. van Bavel and (eds.) *Demographic challenges for the 21st Century. A state of art in demography*. Brussels: VUBPRESS, pp. 27-89.
- [26] Sobotka, T. 2008b. "The diverse faces of the second demographic transition in Europe." *Demographic Research*, Special Collection 7, Vol. 19 (8): 171-224.
- [27] Sobotka, T. , V. Skirbekk, and D. Philipov. 2011. "Economic recession and fertility in the developed world. A literature review." *Population and Development Review* 37 (2): 267-306.
- [28] Thévenon, O. 2011. Family policies in OECD countries: A comparative analysis. *Population and Development Review* 37 (1).
- [29] UNECE. 2000. "Fertility decline in the transition economies, 1989-1998: Economic and social factors revisited". In : *Economic Survey of Europe 2000, No. 1*. Economic Commission for Europe,
- [30] Vikat, A. 2004. "Women's labor force attachment and childbearing in Finland." *Demographic Research*, Special Collection 3 (Article 8): 177-212.