

Concern in the European Union about Low Birth Rates

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Abstract While the European Union recognises the importance of ageing and falling populations in a number of official documents, the findings require focus. In this article, the author first identifies the documents' failure to name a target birth rate. Second, he stresses that the often mentioned fertility level of an average of 1.5 children per woman underestimates the real figure. Thirdly, he points out the futility of fertility policies when ageing processes will continue regardless of birth rate changes. In response, policies must be coordinated in a number of areas including gender policy, employment policy, immigration policy, housing policy, family policy and economic policy.

Keywords Demographic renewal · Total fertility rate · Completed cohort fertility · Stability and growth pact · Green paper

Reasons for concern

There is considerable concern in the European Union today about demographic developments in its member countries. Birth rates are low, particularly in Eastern, Central and Mediterranean Europe. At the same time, mortality is low—in many places death risks are decreasing, and consequently people are living longer. The combination of low mortality and low fertility rates results in ageing populations. This process has been going on for several decades, as a result of the long-term downward trend in fertility and mortality rates throughout the twentieth century. But two factors have sparked renewed interest in the challenges an ageing European population will bring. First, people of the baby boom generations born between 1946 and 1965 will retire within the next two decades. They will be replaced by the less numerous generations born in the 1970s and later. This will bring about a major shift in the balance between the active and the retired. Hence, public pension and health care systems may become unsustainable. The second factor is the introduction

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of the stability and growth pact (SGP) in 1997. The SGP is an agreement among European Union Member States to coordinate their fiscal policy in order to support the Economic and Monetary Union (EMU). The aim is to maintain and enforce fiscal discipline in the EMU in terms of annual budget deficits and national debts. When pension and health care systems become unsustainable, Member States will not be able to maintain this fiscal discipline.

An ageing population and the consequences for public expenditures are the main concerns. But another problem caused by low birth rates is also present in the European debate, namely, a declining population. Projections made by Eurostat for the period 2004–2050 indicate that the population of the EU-25 is likely to decrease after 2025 and that by 2050, the population will be 2% smaller than it was in 2004. In 12 of the EU-25 countries there will be continuous population growth during the years 2004–2050, but of the five largest Member States, only the UK and France will grow steadily (by 10 and 8%, respectively). In some of the remaining 13 countries, the population will already start to decline before 2015, and in a few cases by 10% or more by 2050: Czech Republic, Germany, Estonia, Latvia, Lithuania, Hungary, Poland and Slovakia. Currently, 7% of the world's population lives in the EU-25. By 2050, this share will have dropped to around 5%.

Contributions to the discussion

In March 2005 the European Commission launched an open debate on demographic change with the Green Paper *Confronting Demographic Change: a New Solidarity between the Generations* ('Green Paper'). The Commission presented its conclusions from this debate in the 2006 follow-up communication, 'The Demographic Future of Europe—From Challenge to Opportunity' ('the Communication'). Much relevant statistical and other information can be found in 'Europe's Demographic Future: Facts and Figures on Challenges and Opportunities' of October 2007 ('Facts and Figures'). Finally, the European Parliament adopted a resolution on the demographic future of Europe on 21 February 2008 ('the Resolution').

This article focuses on the problem of low birth rates as addressed by these four documents. Two important points need to be mentioned:

1. Although the documents repeatedly stress the need for an increase in birth rates in the EU, no target level is explicitly mentioned. When are birth rates high enough—at an average of 1.8 children per woman, or 2.2, or perhaps 2.5? By leaving the target unspecified, the discussion arising from the documents is at best confused, and runs the risk of becoming irrelevant.
2. Close reading of the documents suggests that a fertility level in the neighbourhood of 2.1 children per woman—the so-called replacement level, at which older generations are exactly replaced by younger ones—is the desired one. An important point here, not sufficiently highlighted in the discussions so far, is that the ageing of the population will continue even when birth rates rise to replacement level. If the target is roughly to maintain the current proportion of the elderly in the age structure of the population, birth rates of around 2.5–3 children per woman on average will be required. Fertility levels that high are unlikely in the EU, at least in the foreseeable future.

Other issues addressed in the documents mentioned above include immigration and the labour market. These are equally important as low birth rates, but they are discussed elsewhere.¹

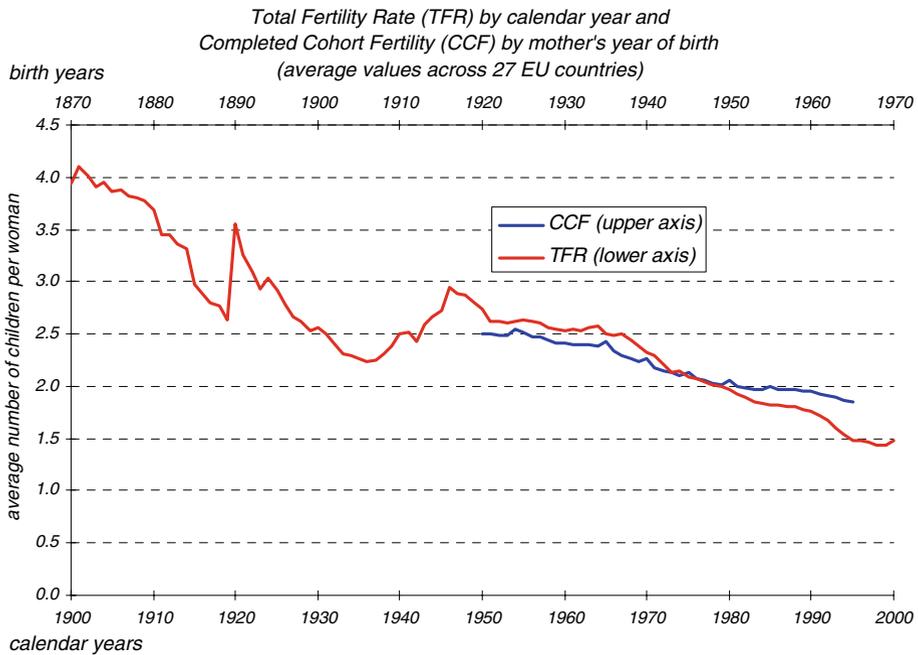
Misleading fertility indicators

The Green Paper's section on low birth rates notes that the fertility rate in the EU is 'insufficient to replace the population' (p. 21). In other words, the parent generations are not having enough children to replace themselves—this would require 2.1 children per woman on average (taking women's mortality through their reproductive period into account). If fertility remains below this so-called replacement level over a long time, there will be fewer births than deaths in the population, and any possible population growth must come from a migration surplus. The average number of children European women have is estimated at 1.5 by the Green Paper. The same number, which refers to the average birth rate in the EU-25, can be found in the Communication (p. 3), in Facts and Figures (p. 14) and in the Resolution (§ 4). However, one has to be careful when interpreting this figure. It relates to the so-called total fertility rate (TFR), which gives the average number of children a woman will have, provided that current age-specific fertility rates remain constant for at least 35 years. But to assume unchanging fertility rates over such a long period is not realistic: in practice, fertility goes up and down in conjunction with a country's business cycles, possibly superimposed on long-term trends. The TFR gives a snapshot view of what current fertility conditions might imply. Imagine a car's speedometer. When it shows a current speed of 80 km/h, this is not at all a guarantee that the car will have driven exactly 80 km one hour from now; it may have travelled a shorter or longer distance. One can only measure what distance the car has driven after one hour. Similarly, one can only measure the number of children for women aged 50 and older after they have finished their reproductive career. This is expressed by what demographers call the completed cohort fertility (CCF). The latest available CCF figures for women born in 1955 and 1965 in the EU-25 are 1.94 and 1.77 children on average, respectively.² This is still lower than replacement level, but considerably higher than the often-mentioned TFR of 1.5. The TFR is sensitive to postponement and catch-up effects, which make it a volatile and unstable indicator. At present, the TFR is lower than actual fertility rates because in the past two to three decades, each generation of European women has waited longer and longer before having children. This deflates the TFR (see also Facts and Figures, § 2.2.3 for a brief discussion).³ Thus, the good news is that the level of fertility in the European Union is higher than the often-quoted figure of 1.5 children per woman on average. But the bad news is that when measured more properly than by the TFR, fertility rates follow a systematic and uniform downward trend. For instance, women born in 1920 had a CCF equal to 2.5 children on average, those born in 1935 had 2.4 children, while the average is 2.1 children for women born in 1950 and 1.8 for the 1965 cohort. There is no indication

¹ For instance, see the discussion in the 2007 issue of the Vienna Yearbook of Population Research, at <http://www.oew.ac.at/vid/publications/VYPR2007/VYPR2007.shtml>.

² Women born in 1965 have not yet finished their reproductive career and therefore the figure for this cohort includes an estimate of the fertility of these women in their forties. Few children are born to these women, which means that the number given for the 1965 birth cohort is quite reliable.

³ There are indications that in recent years this postponement is slowing down in a few countries. The result is a modest increase in the TFR. Italy, Germany, Spain and France are examples.



Graph 1 Sources: Chesnais [1] for TFR 1900–1959; Frejka and Sardon [7] for CCF for cohorts before 1920–1959; Council of Europe [5] for CCF for cohorts 1960–1965 and for TFR 1960–2000

that this trend will be reversed soon. A further reduction to 1.6 children per woman on average by 2030, as Eurostat assumed in its population projections (Facts and Figures, 47), looks reasonable.

These points are illustrated in Graph 1, which shows the TFR for the calendar years 1900–2000 and the CCF for women born during the period 1920–1965. The two lines represent averages across 27 EU member countries.⁴ The TFR exhibits strong fluctuations, with a period of low fertility around 1918 (World War I, Spanish Influenza) and the 1930s (economic depression), and high levels in 1920 and during the baby boom period of 1946–1965. If only EU–15 countries had been considered, the baby boom would have been even more marked. Cohort fertility levels, which are not influenced by postponement and catch-up effects, show a much smoother trend. The Green Paper, the Communication, and Facts and Figures all give fertility time series that only start in 1950 (and in many cases only from 1960). These short series do not reveal the long-term trends with sufficient accuracy; instead, they suggest that birth rates nowadays are exceptionally low. However, Graph 1 shows that the current rates are simply in keeping with the long-term trend, which is markedly downward. The high birth rates during the baby boom period were an exception to the trend.

⁴ Data for the CCF are much scarcer than those for the TFR, which explains the shorter line for the former. CCF data for Cyprus are missing altogether. The earliest CCF averages are taken across just six countries (20 countries for the women born in the early 1950s). TFR averages are computed across four countries in 1900, nine countries in 1920, 14 in 1940 and the full 27 starting in 1960. The graph shows unweighted averages across countries. The numbers are slightly different from those that take population sizes in the countries into account, but the general trend is the same.

Demographic renewal

The Communication identifies ‘promoting demographic renewal’ as one important possible constructive response to the challenges stemming from long-term low fertility and an ageing population. Other policy responses are connected to the labour market, productivity, social protection systems and immigration. Facts and Figures (p. 75) and the Resolution (§§ 14–29) also use the term ‘demographic renewal’. EU Member States are encouraged to take policy actions that will prevent demographic decline or respond to falling birth rates. Such policies may take the form of family policies, gender equality policies and labour market policies that facilitate the entry of young adults and that improve the family–work balance for young couples, and so on. These policies are not pro-natalist per se, but an increase in fertility should be an important indirect effect.

Strikingly, a quantitative target for the policy of demographic renewal is lacking. This is all the more surprising when one considers the explicit targets set by both the Lisbon Strategy (to have 70% of the working age population employed and 3% of Europe’s GDP spent on Research and Development by 2010) and the SGP (an annual budget deficit no higher than 3% of the GDP and a national debt no higher than 60% or approaching that level). By not stating quantitative targets, the proposed policy of demographic renewal is confusing at best and may even become irrelevant in certain cases. For instance, consider the cohort of women born in 1965. Germany is the Member State with the lowest CCF for this group, at 1.5 children per woman. This figure is part of a downward trend: 1.8 children on average for German women born in 1945, and 1.7 for those born in 1955. Women born in 1980 are currently in their prime childbearing years. If the trend continues, it is reasonable to expect a CCF around 1.3–1.4 for those women and a lower figure for women born around 1990. If one assumes that an explicit demographic renewal policy results in 1.7 children on average for the latter group of women, is this a relevant policy outcome? Is the policy successful? The questions are difficult to answer because targets are lacking.

However, a closer reading of the documents reveals that a replacement level fertility rate (2.1 children per woman on average) is most likely the policy outcome the authors had in mind. ‘Demographic renewal’ is a novel term. It suggests that a certain segment of the population, or a generation, will be replaced by a younger segment or generation. This is what demographers usually call replacement of generations. In order for this to happen, fertility rates must be at replacement level. Indeed, replacement level fertility is mentioned in various places in connection with concerns about low birth rates (Green Paper, pp. 7, 21; Communication, p. 3; Facts and Figures, pp. 12, 31, 75).

One is inclined to think that replacement level fertility is the implicit target of demographic renewal policy when it calls for increased birth rates. But one may also argue that an explicit target for the level of fertility is not necessary, since it is the *consequences* of low birth rates that cause concern in the EU, namely, an unfavourable age structure and a declining population size. Whether following one argument or the other, two questions are warranted. First, what are the possibilities for achieving the goal of higher birth rates? Second, what are the consequences in terms of age structure and population size?

Can demographic renewal policies boost birth rates?

The Communication is optimistic in this regard. It states that it is realistic to expect an increase in birth rates, because demographic renewal policies consistently implemented by some countries over several decades have been shown to be effective, evidenced by two

studies to support that view. Unfortunately, a broader reading of the literature on this subject leads to a less unequivocal conclusion. After an extensive review of the literature on family policy effects on fertility, Gauthier [8] concludes that the empirical evidence is mixed. While numerous studies find a small positive effect, others indicate no statistically significant effect. Moreover, some studies find that policies tend to affect the timing of births (the age at which women have children) rather than the quantity (the number of children they have). Gauthier also points out the problems connected to assessing the effect of policies on fertility. First, it is difficult to accurately measure policies. Because of data limitations, studies seldom include a comprehensive measure of the total support provided by governments to families. Furthermore, studies usually rely on global measures of family policies while failing to consider eligibility criteria, benefit caps, and so on. Instead, flat-rate benefits are assumed. Second, it is difficult to adequately model the various ways in which policies may affect fertility. Policies may reduce the costs of having children, increase family incomes or increase the preference for having children. But other factors may operate through the same channels: women's wages, for instance, have a strong impact on parental benefits in some countries. This makes it difficult to isolate the effect of family policies from other determinants. Further methodological problems are discussed by Hoem [9]. He notes that many studies use macro data, which are not well suited for establishing causal connections. Moreover, counterfactual arguments are often lacking—yet these are needed to demonstrate an effect of policy on fertility. Special techniques, such as before-and-after analyses or double differences analyses, can be applied to overcome at least partly these difficulties.

Thus, the evidence is mixed on whether or not policies have an effect on fertility rates. Many studies show a small positive effect, in particular on the tempo of childbearing, while others show no effect. But due to methodological issues, the findings of empirical studies are often difficult to interpret.

The demographic consequences of replacement level fertility

Let us assume for a moment that a population renewal policy has been implemented, and that it is shown to be effective in a given setting. In the interpretation discussed under 'Demographic renewal' above, this means that birth rates for the population in question are at or near replacement level, and stay around that level for an extended period of time. What are the demographic consequences? Clearly, there will be as many births as deaths in this population each year and thus the total population will not increase unless there is a migration surplus. The consequences for the age structure of the population are more complicated.

Here the theory of stable populations gives the answer. When fertility is at replacement level such that women have 2.1 children on average, the population's age structure is completely determined by mortality (assuming one can ignore the impact of migration). For a country like Norway, with a life expectancy of 80 years, replacement level fertility would imply that 21% of the population is 65 or older. This is a much higher share than the one that is currently observed for that age group, which is 15%. This is also the approximate level in many EU Member States; for the EU-27 as a whole, 17% of the population is 65 years or older. If the aim is to maintain a share of 15% for Norway, the fertility rate would have to be considerably higher than 2.1, namely, around 2.5 children per woman [3]. This estimate is based on today's life expectancy of 80 years. However, mortality rates are expected to continue their long-observed decrease, and Statistics Norway assumes a life expectancy of 86 years by 2040. In that case, a fertility level of around 2.7 children per

woman would be required to maintain the current share of 15% for the over-65 age group. This is an unrealistically high fertility target for Norwegian women. With a life expectancy of 86 years, replacement level fertility would lead to the elderly constituting 25% of the population—an amount 10% points higher than today's share. For other countries, similar calculations can be made.

Hence the conclusion is that an increase in birth rates to replacement level cannot prevent population ageing. This point is acknowledged in *Facts and Figures* (p. 75), but it deserves a more prominent place in the discussions. The implication is that replacement level fertility cannot be a solution to sustainability problems for pension and health care expenditures. Certainly, increasing the birth rates to that level will help to alleviate the pressure somewhat, particularly in countries where current fertility is much below replacement level (for instance, at 1.6 children per woman or lower). But the ultimate solution has to come from system reforms and labour market policy. This is the reason that a number of EU Member States have implemented pension reforms, and why increasing employment rates is high on the agenda [6]. It also explains why the current discussion in Europe about the implications of an ageing population is about much more than just fertility: migration, employment, productivity, economic growth, and public finances are also important items in the discussion.

Summary and concluding remarks

Current low birth rates in the European Union are in line with the long-term trend in fertility rates. The high birth rates during the baby boom period (1946–1965) were an exception to that trend. Empirical demographic literature fails to demonstrate a universal positive effect of generous family policies on birth rates. In many cases there is a small positive effect, but in other cases there is none. Moreover, due to methodological problems, the findings are difficult to interpret. The current discussion in the EU about policies that could increase birth rates lacks explicit target levels. It is reasonable to assume that replacement level fertility, that is, 2.1 children per woman on average, is the implicitly assumed target. But even with fertility at replacement level, the resulting population will be much older than today's. Presently, the share of the population aged 65 or older is around 15% in many countries of the European Union (17% for the EU-27 as a whole). In order to maintain this share at 15%, birth rates would have to increase immediately to a rate of 2.5–3 children per woman and stay at that level (ignoring international migration). It is unlikely that European women will have this many children in the next few decades. Replacement level fertility would imply that about 25% of the population will be age 65 and over. An increase in birth rates towards replacement level will have only a modest effect on the age structure, but it cannot prevent a population with a large share of elderly. A combination of policy measures related to the labour market, productivity, economic growth, public finances and migration is required to guarantee sustainable systems for public pensions and health care expenditures.

Finally, one might ask why fertility is high in some countries (the Nordic countries and France currently have TFRs of around 1.8–2) but much lower in others (TFR values are around 1.2–1.5 in Eastern and Central Europe and in Mediterranean countries). Economic insecurity is possibly a major factor in Eastern and Central Europe. The difference between Northern and Southern Europe is probably related to different sex roles. Coleman [4] has argued that the economic behaviour and opportunities for women in the south may not be compatible with that society's ideas about the importance of family and its views on differentiated gender roles. The attractions of the labour market, the welfare arrangements

for young and elderly dependants, if any, the familial pressure faced by women to produce a child and to consider being a parent may all pull in different directions. Low levels of fertility arise from the dissonance caused by unequal levels of gender equity in different social institutions of society. If women have opportunities similar to men's in education and work, but gender roles are very unequal when it comes to household chores and care for children, then women will restrict their number of children severely. When social and policy adjustments have taken place and gender equality is greater, higher fertility levels are often observed [2]. Equally long periods of maternal and paternal leave as well as part-time work for mothers and fathers are important elements of such adjustments. Thus women in France and the Nordic countries combine motherhood with employment, whereas Italian and Spanish women have resolved the conflict between homemaker roles and roles outside the home by postponing childbearing. The evidence from France and the Nordic countries suggests that it should be possible to maintain a reasonably high TFR not just by making more money available to families who have or plan to have children, but by a coordinated use of public policies in a range of areas such as gender policy, economic policy, employment policy, housing policy, in addition to family policy [9].

Discussions about the level of fertility in Europe are more than two centuries old. High birth rates created concerns in the 1800s (Malthus) and in the 1960s (Club of Rome). Low birth rates at the end of the 1700s in France (Montesquieu) and in the 1930s in Europe (the Myrdals, Oswald Spengler) led to the opposite discussion. There is a renewed fear of low birth rates in our time. Nowadays the concern lies more with the consequences of an ageing population than with population decline. Nevertheless, proposals for policies directed towards higher birth rates should take global problems into account, in particular food scarcity and pressures on the environment.

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