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## Comment: Desired Family Size and the Future Course of Fertility

MASSIMO LIVI BACCI

THE CURRENT LOW fertility in Europe and the even lower levels in European Mediterranean countries—particularly Iberia and Italy—raise many questions. Why is fertility so low? Is there a minimum level below which it cannot fall? Has this threshold been reached already? Is low fertility a structural, permanent phenomenon or is it a transient one, dominated by a particular conjunction of economic, social, and cultural circumstances? Will recovery be brought about by the action of the invisible hand? What is the role of public policies? Have European societies developed a kind of “reproductive anorexia” or are they facing a temporary loss of appetite?

First, a general point concerning terminology. Demography suffers from an inflation of “transitions” used as a synonym for “change.” We have a couple of demographic transitions and several isolated transitions: fertility transition and marriage transition; mortality transition with the attendant epidemiological transition, which is not unrelated to the health transition; and the mobility transition and the migration transition. The transition club is generous and hospitable: abortion, contraception, and nutrition are its occasional—if not permanent—guests. Hence a modest proposal: let us give to the expression “demographic transition” (which can be shortened to “the transition”) the status economic historians have assigned to the expression “industrial revolution.” In other words, let us reserve it to refer to an interrelated set of profound changes that have occurred only once in any given population, responding to the same paradigm, not always clearly recognizable because of the peculiarities of each society, and occurring at different times and with different durations: between the industrial revolution and the third quarter of the twentieth century in the rich countries, and after the 1940s (ending nobody knows when) in the poor ones. There is only one “demographic transition” in world history, although there have been many phases of deep and interrelated change. The acceptance of this modest proposal—thus reverting to the teaching of

the old school—would simplify communication since everybody would understand what we are talking about when mentioning the “transition” or its components (fertility, marriage, migration, etc.). Expressions like pretransitional or post-transitional fertility (or mortality, etc.) would immediately convey a precise meaning.

### Desired family size and the total fertility rate

John Bongaarts’s chapter in this volume, on which I comment here, starts from one firm tenet. Couples express a “demand” for children that can be measured. For various reasons the couples’ targets cannot be precisely attained, so that the expected or desired family size (DFS) is different from actual family size (as measured by the TFR): lower when fertility is high (in pretransitional societies or during most of the transitional process), but higher when fertility is low (typically in the late transitional or post-transitional phases). The reasons for divergence between DFS and TFR, when the former is lower than the latter, have been the object of many studies and debates. In Bongaarts’s analysis, unwanted fertility—or the insufficient command over reproduction by women and men—together with the drive to replace unexpected deaths of children and dissatisfaction over the sex balance achieved among one’s children, are the causes of TFR exceeding DFS, typical of developing societies.

Less clear are the reasons for the specular divergence in post-transitional societies (DFS higher than TFR), since couples are thought to have complete command of fertility. In low-fertility populations two factors explain why DFS exceeds TFR: one is involuntary infertility (inability to find a partner; termination of a partnership before the birth of a child because of death, separation, divorce; physiological sterility). The second is a kind of “residual factor” (defined by Bongaarts as “other constraints”), conceptually much less clear. Some women report that they want no more children although they have not yet attained their desired family size: they may do so for various reasons, but clearly experience has taught them that their aspirations were higher than their actual willingness to have more children. Maybe the first child cries too much at night and has proved to be difficult to handle; maybe pregnancy has been awkward; maybe the respondent is in a depressed state; maybe she would have answered the question differently had not she quarreled with her partner the day before. The residual factor summarizes the difficulty—or the inability—of surveys to measure expectations which are intimately linked with aspirations and desires that change with time and circumstances. As Bongaarts himself observes, “A plausible alternative explanation is that women do report their desired family size fairly accurately, but that competing preferences (e.g., for a career, income, freedom from child care responsibilities) cause

some women to stop childbearing before they have reached their desired number of offspring. In that case, stated desired or ideal family size overestimates the current demand for children." I will return to this point later. Finally, another factor that may depress or raise period TFR over its "true" value is the "tempo" of fertility (well summarized by the trend in women's ages at childbearing). When the tempo accelerates (age at childbearing declines), TFR is above its "true" level; when the tempo slows (age at childbearing increases as has been happening in Europe during the last two or three decades), TFR falls below its "true" level.

Estimates of "involuntary infertility" could probably be based on the proportion of women childless at age 35 or 40 and may be thought of as an (exponential?) function of the mean age at childbearing. Among women born in the mid-1960s in north and central Italy, mean age at birth of the first child is close to 28 years, and the final proportion childless is estimated at 20 percent or more. Women who delay the first birth beyond age 30 face a risk of infertility or subfecundity that at this point increases rapidly with age. This applies also to women who want a second (or third) child but who delayed too long the birth of their previous child.

### Is DFS a good index of the demand for children?

Is desired family size a good index of the demand for children? If so, it is worthwhile to try to understand the discrepancy between the actual number of children women bear and their stated preferences. Probably, in the long run, DFS (or similar measures) reflects the changes in demand fairly well. However, there are doubts that DFS is a good indicator of demand when fertility is very low. Indeed the suspicion is that stated preferences are heavily influenced by stereotypes and particularly by the model of the two-child family (a boy and a girl). This stereotype is pervasive and many surveyed individuals are "prisoners" of it. This would explain the fact that DFS very rarely falls below 2; the relative uniformity of DFS among countries; and the lack of differentials between cohorts or between social groups (e.g., with different levels of education).

If we take EFS (expected family size) as measured in the 13 European Fertility and Family Surveys, the value across age groups (20–24, 25–29, 30–34) is the same in four countries, varies at most by 2 tenths of a point in seven countries, and by 3 tenths and 6 tenths of a point in the other two. In only one case out of 39 (Polish women aged 20–24 in 1991) did EFS fall below 2. In the Eurobarometer survey of 1989 (the one used by Bongaarts) DFS falls between 2 and 2.3 in eight cases out of 12, and is below 2 in only one case. Greater variation (between 2.2 and 3) can be found for IFS (ideal family size) in the 19 developed countries of the World Values Survey, but for 14 out of 19 countries IFS remains in the narrow range

of 2.2–2.6. Similarly homogeneous are preferences of women with different degrees of education or holding materialist/postmaterialist values.

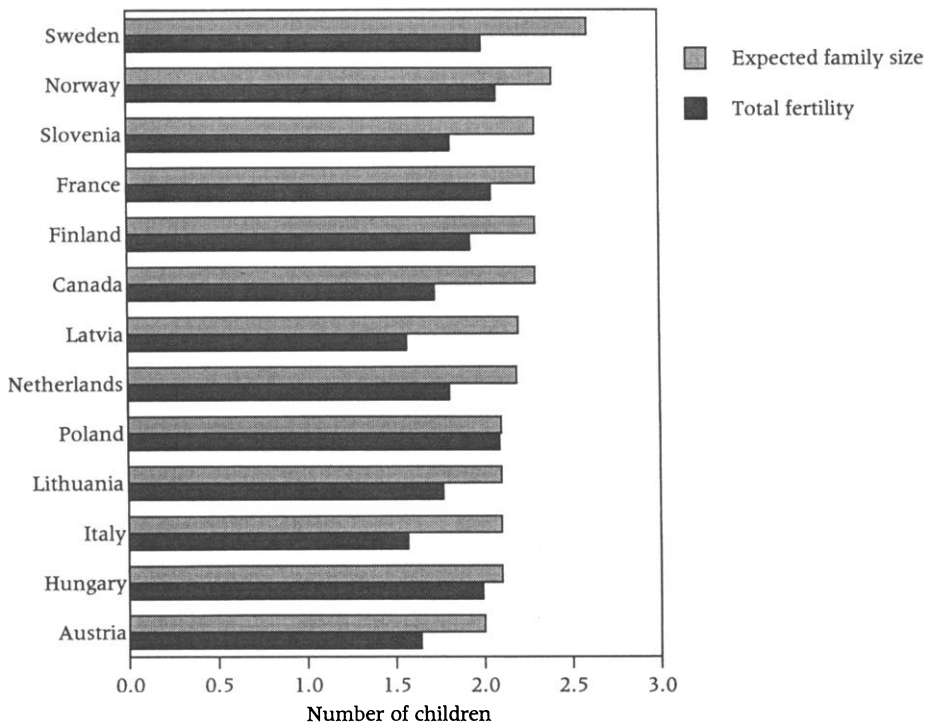
It is also true that differential fertility has fallen considerably in the last decades, but variation in fertility across populations and cohorts appears to be by far larger than variation in preferences. Relative homogeneity of preferences may, of course, reflect a true homogeneity of demand. But it may also signal the inadequacy of these indicators to measure demand correctly.

### Preferences and cohort fertility

In Bongaarts’s analysis both DFS and TFR are intended as period measures. Hence the attempt to remove the “tempo” effect, a crucial step in determining the discrepancy between the two measures in low-fertility contexts. But suppose we compare cohort preferences with cohort outcomes: the tempo issue disappears as it is “incorporated” in each woman’s stated preference.

Figure 1 compares the expected family size (derived from the Fertility and Family Surveys) for ages 25–29 (these are cohorts born roughly between 1960 and 1970, since the surveys were taken between 1989 and 1996)

**FIGURE 1** Expected family size among women aged 25–29 years surveyed between 1989 and 1996 compared with TFR among women born 1960–65



and estimated TFR of the cohort born in 1960–65. Admittedly, these are estimates and completed fertility may turn out to be different, so that the following considerations are subject to verification. Now, although the tempo effect is removed, EFS exceeds estimated TFR by an average of 0.44 points, or almost one-fourth of the mean TFR of 1.80 (similar results are reached using DFS and IFS instead of EFS). On the other hand, the correlation between the two measures is rather weak, thus raising doubts about whether expectations are a good approximation to the real demand for children. And expectations—much more than DFS or IFS—ought to get closer to cohort TFR in view of the experience that women have already accumulated.

## Facing the future

### Past experience as a guide

How low or high could fertility go (and remain) in the future—that is, a future not belonging to science fiction, but seen as a plausible extension of the present? Let us discard the answer “zero” as a possible minimum: true but a useless statement. In the north of Italy, cohorts born in the mid-1960s will end up with about 1.3 children, 3 tenths of a point below cohorts only ten years older; the decline has been precipitous and there is no theory to tell us when it will stop. However, another piece of evidence is interesting: in no sizable population has period TFR ever been lower than 0.8. In eastern Europe the stress of the transition from a socialist to a market economy has been traumatic and fertility has gone down everywhere. But nowhere has it gone below 1, with the exception of parts of Germany belonging to the former East Germany, where TFR fell to 0.8 in 1993–94. Now, in a year of stress (high unemployment, loss of security, etc.), women of all ages will change their behavior and “postpone” reproduction, and period TFR amplifies the negative effects. It is, however, implausible that the same stress will affect the entire life cycle of a cohort. So the very nature of period TFR justifies taking its lowest level as an empirical cohort minimum. This line of reasoning is symmetrical, and we could take the highest period TFR as an empirical maximum (in populations having completed their fertility transition). The highest TFR was reached, in western Europe, in the early 1960s, with values close to 3. But because in the early 1960s the “contraceptive revolution” had not been completed (in most countries contraception was illegal except for medical purposes; family planning programs were unheard of; abortion was still a criminal offense), a non-negligible proportion of births was unplanned. For this reason 2.5 can be taken as a possible “maximum” benchmark.

In the future of Europe—say for the next 30 years, the length of a generation—1.0 and 2.5 can be seen as minimum and maximum levels of

“tempo-free” cohort fertility with widely diverging implications for long-term growth; probably these limits should be raised for North America. We have now witnessed more than 30 years of fertility decline, but the experience of the baby boom teaches that fertility can also go up. In ten countries where fertility showed an increase (Denmark, Sweden, Norway, England and Wales, Switzerland, France, Germany, Canada, United States, Australia) cohort TFR rose an average of 0.54 points.<sup>1</sup> The cohorts with minimum fertility were born, on average, in 1908 and those with the maximum in 1930. Since fertility control was not complete we may assume that the recovery of fertility was “dampened” by an increasing proportion of women who were reducing their “unwanted” births. Considering the central point (1.75) of the range (1.0 to 2.5), a variation between 1.4 and 2.1 would be consistent with the long-range fluctuations experienced in the past. Such variation could be expected for an array of countries, or a large region, while variation in individual countries could be even larger. The duration of the cycle—from high to low or vice versa—might approximate the intergenerational interval.

### Substantive considerations

The preceding discussion addressed “mechanical” considerations concerning the potential amplitude of fertility cycles. But what about the forces that will drive fertility up or down? Fertility is the result of the interaction of biological, ideological, and material constraints and of thousands of years of evolution of our species. Humility when dealing with phenomena of this nature is the first imperative. I will mainly deal with the “material,” or economic, aspects of the question, pointing to two main forces that affect the cost–benefit balance of procreation, the first quite general in nature, the second more specific.

Among the many factors that may be responsible for low fertility in Europe, one deserves greater attention than others: this is the “negative fertility drift” induced by current welfare systems. Children are doubtless a private good for the utility, satisfaction, and income that parents derive from them. But they are also a “public good”: without them societies would stop functioning and, in a more narrow way, the services, income, and wealth that they produce are essential in providing health care, assistance, and pensions also to those who have chosen not to have children. In modern systems individuals may find it convenient (in purely economic terms) not to have children (or to have fewer children than the average). They will benefit from social protection in old age but will contribute only marginally to the cost of rearing children (mainly by paying for public education), who are also a public good. This inequitable system of transfers produces the “negative fertility drift.” The negative drift is more pronounced

in certain contexts than in others: if the give and take is calculated for the various age groups, Italians receive net transfers until age 17, and from age 59 on, while Americans receive net transfers until age 23 and from age 61 on.<sup>2</sup> Moreover, inequitable transfers have a much higher impact today than in the past. Indeed, in present-day Europe public expenditure amounts to about 50 percent of gross national product, and the way governments redistribute this 50 percent between generations greatly affects the relative cost of children. This was not so in the past: at the beginning of the twentieth century the proportion of GNP redistributed by the state was only 10 percent and around 1950 only 25 percent, and the potential effect on fertility of inequitable redistribution was much lower than today.<sup>3</sup> Correction of the distortions (where they exist) and attenuation of the negative fertility drift should be the main public policy task of governments in future decades.<sup>4</sup> These corrections imply a more equitable system of intergenerational transfers, and they imply that children be considered as public as well as private goods whose costs must be more equitably shared.

The second important force that may shape the course of future fertility is women's work. In the 1950s and 1960s women's employment in the nonprimary sector was lower than today, while the "mother and wife" lifetime role was widespread. Typically, gainfully employed women had fewer children than women outside the labor force. At the end of the twentieth century, even in societies that were latecomers to the benefits of development (Mediterranean Europe, for instance), women outside the labor force are a minority. Cultural as well as economic forces underlie this process. Societal adjustment has been more responsive to change in some societies than in others so that the burden of childrearing is probably lower in the north than in the south of Europe, where the transformation has taken place later. While 50 years ago childrearing competed with work, in the societies that are now being shaped employment may become a precondition for having children. Work provides the security, stability, and recognition needed when the decision to have a child is taken. "[I]n societies where fertility is below replacement,...higher status of women, and the policies necessary to bring about such a status, may in fact become preconditions for achieving and maintaining a level of fertility that is socially desired."<sup>5</sup> An empirical proof of the changing relation between fertility and work is the current positive association between employment rates and TFR in European countries (if the ex-socialist countries are excluded).<sup>6</sup> Higher employment rates are an indicator of the higher status of women that Chesnais indicates as a precondition for a socially desired level of fertility. This is a reversal of the inverse relation that prevailed decades ago. On the other hand, there is an inverse association (for the same countries) between the rates of women's unemployment and TFR. Unemployment is a powerful indicator of the lack of security, stability, and recognition that



women in prosperous countries increasingly consider to be preconditions for having children. Many factors obscure this newly emerging relation, not least the fact that in many segments of society the traditional inverse relation between fertility and work survives because of delayed modernization.

The future course of fertility may be strongly affected by policies aimed at reversing the "negative fertility drift" of fiscal policies and by social and labor policies that will increase women's employment and security. These policies, we must add, work in tandem and may be integrated with one another.

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## Notes

1 Patrick Festy, *La fécondité des pays occidentaux de 1870 à 1970* (Paris: Presses universitaires de France, 1979).

2 For Italy, see Nicola Sartor, *Finanza pubblica e sviluppo demografico* (Torino: Fondazione Giovanni Agnelli, 1997). For the United States, personal communication from Ronald Lee.

3 Angus Maddison, *Monitoring the World Economy, 1820–1992* (Paris: Development Centre of the OECD, 1995).

4 Some comparative data on transfers to families and children in European countries can be found in Sheila B. Kamerman and Alfred J. Kahn, "Le politiche della famiglia nel secondo dopoguerra: la trasformazione degli

impegni nazionali," *Polis* 12 (1998), no. 1; and J. Bradshaw, "La condivisione dei costi dei figli: i pacchetti di aiuti per i figli nei paesi dell'Unione Europea nel 1996," *Polis* 12 (1998), no. 1.

5 Jean-Claude Chesnais, "Fertility, family, and social policy in Western Europe," *Population and Development Review* 22 (1996): 729–739; quotation from p. 738.

6 Massimo Livi Bacci, "The demographic transition: From where to where?" in *The African Population in the 21st Century: Third African Population Conference, Durban, South Africa, 6–10 December 1999* (Dakar: Union for African Population Studies, 1999).