

Better later than never: The increase in very late childbearing in Europe, Japan and the United States

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Extended Abstract, please do not quote

Draft 20 June 2006

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INTRODUCTION AND MAIN RESEARCH QUESTIONS

Many countries have experienced a pronounced shift towards later childbearing during the last three decades. This ‘postponement’ of childbearing has become one of the most characteristic features of contemporary fertility in advanced societies. While the overall shift to later childbearing has been studied extensively (see e.g., Beets et al. 2001, Frejka and Calot 2001, Bongaarts 2002, Kohler, Billari, and Ortega 2002, Sobotka 2004, Ní Bhrolcháin and Toulemon 2005), the issue of childbearing at very late reproductive ages remains little explored by demographers. One notable exception is the analysis of late childbearing in Sweden by Billari et al. (2003) and recent contributions of Prioux (2005) and Toulemon (2005).

One reason why the research on very late fertility has been relatively rare is the rareness of very late childbearing itself: with the decline in family size, improvements of contraceptive technologies and relatively early family formation, late fertility “seemed destined to disappear” (Prioux 2005: 2S10). Thus, the study of early childbearing, particularly among teenage women, appeared much more relevant and received considerable attention among researchers studying fertility and family dynamics. However, many countries have experienced a marked increase in fertility rates among women aged 40+ during the last two decades. Although late childbearing is not generally considered as a ‘social problem’, which devotes special attention, there are many reasons why the topic of very late childbearing deserves to be explored extensively, including an increased risk of adverse outcomes of pregnancies in late reproductive ages

Our study aims to bridge this gap and provide a comprehensive exploration of very late childbearing in Europe, Japan, and the United States. Specifically, we explore trends, patterns, and cross-country differences in childbearing among women aged 40 years and older. Because of the lack of reliable comparative data on men’s fertility rates and fairly sharp demarcation of the reproductive span for women, our study focuses solely on women. We assume that men experience comparable trends and are increasingly fathering children after reaching the age of 40. Because women tend to have on average slightly older partners (in the most typical heterosexual partnership, a man is by 2-4 years older than a woman) and because men do not face a strict biological deadline to reproduction, childbearing after age 40 is in fact considerably more frequent among men (see also Prioux 2005). Delaying childbearing into their 40s have potentially more serious consequences for women, who may not be able to realise their childbearing intentions at this age.

Besides mapping general trends in late childbearing, we aim to address several specific issues pertaining to this analysis:

- Is the recent increase in fertility rates at very late reproductive ages typical of all advanced societies?
- Do we observe a similar trend in the frequency of 'latest-late' (age 45+) and 'extreme late' (age 50+) childbearing?
- How significant are contemporary levels of very late fertility from a historical perspective?
- Is the order-specific distribution of very late births shifting towards first and second births? Is the very late timing of first births becoming more common than in the past?
- Is there an evidence of a 'rectangularisation' of fertility schedule, i.e., a shift towards a concentration of childbearing into late and very late reproductive ages?

Furthermore, we aim to provide for selected countries a more detailed analysis of parity-specific trends in very late childbearing. Using life table computations, we estimate period probabilities of ever having a(nother) child for women who are at parity 0, 1, and 2 when reaching the age of 40. This analysis enables us to address the following questions:

- Is the increase in the frequency of late childbearing linked to the changing parity composition of women aged 40+ or is it also manifested in a 'genuine' increase in childbearing intensities among women at different parities?
- Is the increase in fertility rates among women aged 40+ primarily linked to the 'catching-up' process among women who postponed childbearing to very late reproductive ages? In this case, we would expect that the trends in very late childbearing are primarily cohort-driven: Cohorts experiencing the shift to later childbearing are also 'responsible' fertility increase at very high reproductive ages.
- Does the frequency of late childbearing differ by parity? Are women who are still childless when reaching age 40 more likely to have a child than women who have one or two children at that age?

Finally, we also aim to stimulate discussion on various social, cultural, and technological changes that contribute to the observed trend reversal in very late childbearing. We focus especially on the role of Assisted Reproductive technologies (ART), such as In Vitro Fertilisation (IVF) in contributing to contemporary increase in very late fertility rates. In conclusion, we link historical evidence with the results of our analysis and the discussion of selected factors contributing to very late childbearing and speculate on the likely future trends of very late childbearing:

- Given the biological limitations to late childbearing, can the increase in fertility rates at high reproductive ages be sustained in the next decades?

RELEVANCE OF THIS STUDY

In the past late childbearing was usually linked with larger family size. The long-term trend towards small family size, initiated with the (first) demographic transition, implied a considerable reduction in fertility at birth orders 3+ and, consequently also a drastic reduction in fertility rates at high childbearing ages. In many countries fertility rates among women past age 40 had declined so markedly that late motherhood became rare. However, last two decades brought a reversal of this long-term trend and most European countries recorded increasing fertility rates among women aged 40+.

This process has a number of important consequences. Increasing number of women who wish to have children at late reproductive ages implies increasing demand for infertility treatment, which is frequently linked with considerable psychological and financial costs, as well as high failure rates. Furthermore, increasing frequency of late childbearing is also likely to lead to an increase in the number of miscarriages, birth deformations and negative health effects both for mothers and their children (Stein and Susser 2000, de la Rochebrochard and Thonneau 2002). Several recent studies indicate that high paternal age (specifically, age 40+) is also linked with increased risk of miscarriage and foetal death, especially when coupled with high maternal age (Andersen et al. 2002, de la

Rochebrochard and Thonneau 2002). Potentially, this may also lead to the reversal of trend in infant mortality, which has been declining for many decades. However, late childbearing might also be beneficial for mothers' health (Mirowsky 2002), although the causality of this association remains questionable (Mueller 2004). In a more general perspective, late parenthood may imply not only increasing need for careful monitoring of women's during their pregnancy, but also increasing demand for specialised childcare and child-related services, as older mothers tend to have higher income.

The study of late childbearing also touches a number of theoretical issues. Kohler, Billari, and Ortega (2002) hypothesized, referring to economic models on the optimal age at childbearing, that the shift to later childbearing might eventually lead to a 'rectangularisation' of fertility, i.e., an increasing concentration of childbearing to a relatively narrow interval during a late stage of reproductive span. This development would be in line with a general extension of the life span and corresponding 'postponement' of many important life-course transitions, including the transition to adulthood, leaving parental home, transition from education to work, or the entry into union and parenthood. However, the idea of 'rectangularisation' is in conflict with the arguments that many important life transitions have become increasingly *de-institutionalised* and *de-standardised* (Lesthaeghe 1995, Settersen 2003), a development which also implies an increasing variability in the timing of these transitions.

Biology still constitutes a decisive force setting the age limits of childbearing. Although specialised treatments have enabled childbearing in the cases of post-menopausal women, the ultimate deadline to childbearing is fixed for the overwhelming majority of women by the timing of their menopause, which typically occurs before reaching age 50. According to Leridon (2005), permanent sterility affects 17 % of couples with woman aged 40, 55% of couples with women aged 45, and 92% of couples with women aged 50. In relationship with this given biological limitation, our study aims to investigate what is the scope for further increase in the frequency of late childbearing.

DATA AND METHODS

An introductory analysis of changes in fertility rates among women aged 40+ in most European countries in the period 1950-2004 is primarily based on the data collected by the Council of Europe (2005), Eurostat (2006). In addition, we use data compiled by national statistical agencies (CBS Statline (2005) for the Netherlands, CZSO (2004) for the Czech Republic, ONS (2006) for England and Wales, SFSO (1998), CBS (2006) and NIPSSR (2003) for Japan, and NCHS (2006) for the United States) or individual researchers (Smallwood (2002) for England and Wales, Vishnevskii (2006) for Russia and Heuser (1982) and Schoen (2004) for the United States). These data serve for reconstructing long-term trends in late childbearing in the countries concerned. We use them in combination with historical data and estimates on age-specific fertility rates in the late 19th and 20th Century, compiled by Festy (1979) for many 'Western' societies.

A detailed investigation of parity-specific trends in late childbearing is based on period fertility tables, which estimate the probability of having (a)nother child for women at each age and parity status. These indicators have been computed for selected European countries and the United States and pertain to varying time periods between 1975 and 2005. The data used for these computations come from Eurostat (2006) *New Cronos* database and various country-specific sources (ISTAT, CBS Statline (2005), CNPS, CZSO, Statistics Austria, NCHS (2006), Heuser (1982), and Schoen (2004).

SELECTED PRELIMINARY FINDINGS

By the early 2000s, the trend reversal in fertility rates among women aged 40-50 took place in almost all European countries as well as Japan, United States, and other advanced societies. The trend of increasing fertility rates among women aged 40+ has started considerably later than the onset of the overall shift towards later childbearing. It occurred first between the late 1970s and the mid-1980s in Northern Europe and Western Europe, by about one decade later in Southern Europe and by the early 2000s also in the former communist countries of Central and Eastern Europe.

The time lag between the initiation of fertility 'postponement' and the increase in fertility rates at late reproductive ages supports the argument that the increase in late childbearing was primarily a cohort-driven process, i.e., it has been initiated by the cohorts who had previously initiated the shift towards later childbearing. Although the relative increase in fertility rates at age 40+ has been rather steep in many countries, usually it has not surpassed the pace of increase in fertility among women in their 30s. In most countries, the relative increase in fertility has been steeper at age 40-44 and relatively slow at age 45-49, indicating that while late childbearing has become more common, 'very late' childbearing remains rare. The share of fertility rates at ages 40+ on the overall total fertility still remains relatively small in comparison with the historical records. For instance, in the Netherlands 3.0 % of fertility rates were realized among women aged 40-49 in 2003 as compared with 8.5 % in 1950.

Although the absolute frequency of late childbearing is not yet very high, our study shows that only a portion of the ongoing increase can be attributed to the effect of changes in the parity composition of female population. The analysis of detailed age-parity data, which take into account exposure population, reveals that in most countries there has been a real shift in childbearing behaviour among women at a later stage of reproductive span, manifested by increasing probabilities of having a(n)other child among women aged 40+. This evidence shows that the reversal in the frequency of late childbearing is attributable to the behavioural change among nulliparous women and women at parity 1, who have increasingly postponed childbearing to the latest stage of reproductive life. This effect of behavioural change, coupled with an increasing share of women at parity 0 and 1, indicates that the frequency of late childbearing is likely to increase markedly in the future. In contrast, the contribution of higher-order fertility to the overall fertility rates at advanced reproductive ages has been declining during the analysed period, although it still remains important.

Surprisingly, many countries registered most marked increase in late childbearing among women at parity 1. Especially in the societies with 'higher' fertility level—judged by the European standards of low fertility—the orientation towards a two-child family is also manifested in the probabilities of having a child at higher ages. In Finland, the Netherlands, and Sweden, as well as in the United States women aged 40 who have one child thus have considerably higher probability of ever having another one than the childless women. Furthermore, in all the countries analysed, the probability of having (a)nother child past age 40 is much higher among women at parities 0 and 1 than among women at parities 2+.