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# Mizuho Economic Outlook & Analysis

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## *Measures to address Japan's falling birthrate should target those in the 20s*

*Despite a slight rise of the birthrate in the 30s+ age bracket,  
it is not enough*

### < Summary >

- ◆ Recent statistics revealed some notable changes, including a moderate rise in the birthrate among women in their 30s and older.
- ◆ However, the total number of childbirths of women in their lifetime is unlikely to change much and stem the population decline, given the slim margin of rise of the birthrate among women in their 30s and over.
- ◆ The key to dramatically increasing the number of childbirths is raising the birthrate of women under 30, and to that end, offering various life courses for people in their 20s is imperative.

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Mizuho Research Institute Ltd.

**Yutaka Okada**, Senior Researcher, Research Department – Public Policy

yutaka.okada@mizuho-ri.co.jp

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## 1. How to read the two “total fertility rates”

### (1) Yearly live births fall short of one million for the first time since the end of World War II (“WWII”)

While declining birthrates and population aging attract increasing attention, a series of important statistics reports on the nation’s birthrate have been released over the last six months. This article analyzes those reports and outlines the birth trends in recent years.

According to annual estimates of *Vital Statistics* for 2016 released by the Ministry of Health, Labour and Welfare,<sup>1</sup> the number of live births in 2016 was 981,000, falling short of the one million mark for the first time since the end of WWII. The figure has declined to below 40 percent of the postwar peak of 2,696,638 in 1949. The natural population increase calculated by “live births minus deaths” was minus 315,000, the largest negative margin ever, which highlights the rapid decline in Japan’s population. The population of women in their 20s and 30s, age groups with relatively high fertility rates, is likely to continue falling as a result of past declines in the birthrate. With no major factors to substantially increase the birthrate, the population is expected to dwindle further.

### (2) Doubts about the effects of the rise in the total period fertility rate

One of the key indicators for understanding the birthrate is the average number of childbirths per woman. It is widely considered that the total fertility rate, which is the sum of age-specific fertility rates of women aged between 15 and 49, is appropriate for that purpose; but less known is that there are two types of total fertility rate. One is the “total period fertility rate,” the sum of age-specific fertility rates of women between 15 and 49 for a given year. This index, simply referred to as “the total fertility rate,” is often used by the media. The other one is the “total cohort fertility rate,” or the cumulative fertility rates of age-specific cohorts for the period of their lives from age 15 to 49. Since these two types of fertility rate are not as similar as they sound, it is important not to confuse the two. In general, the total period fertility rate is used more commonly to discuss the number of childbirths of women during their lifetime. Let us take a look at the trends of these two fertility rates.

The total period fertility rate (**Chart 1**) has been increasing moderately after bottoming out around 2006. Since the rate is often influenced by short-term childbirth trends, it does not actually help in understanding how many children women give birth to throughout their lives. In the event there are socioeconomic factors which affect the

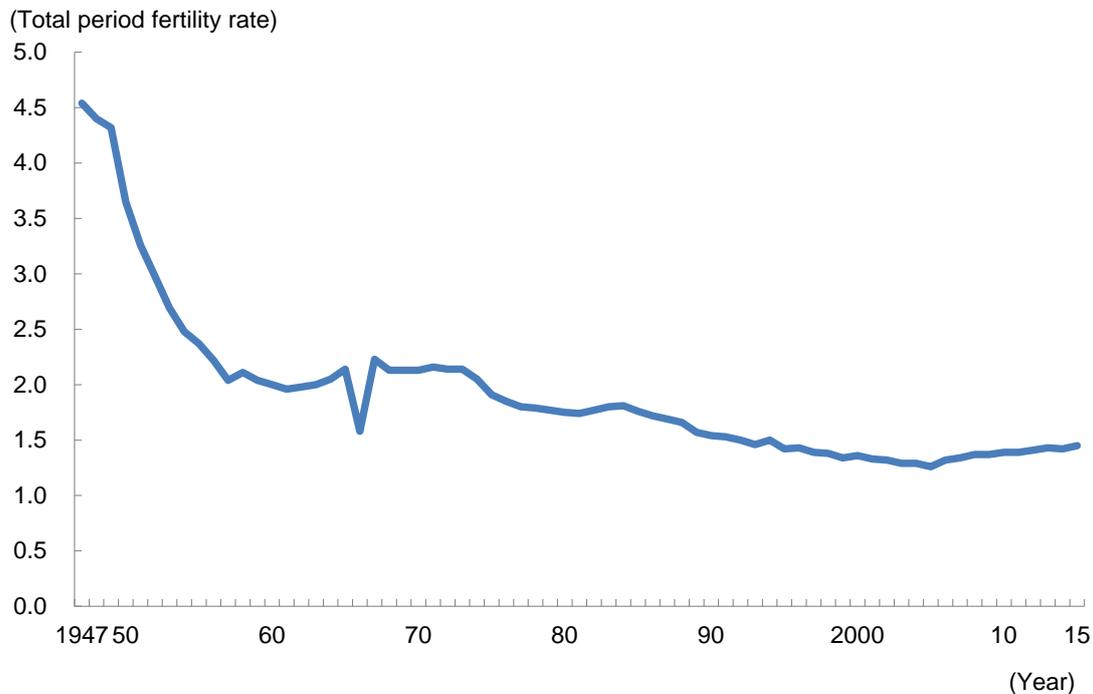
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<sup>1</sup> The statistics regarding childbirth in this article pertain to Japanese nationals residing in Japan.

timing of childbearing, the total period fertility rate would fluctuate but would not have much of an impact on the overall number of children women have in their lifetime.

This is the reason for the longstanding discussion among experts on the link between fluctuations in the total period fertility rate and the number of women's childbirths in their lifetimes. In demography, the total period fertility rate is subject to both tempo factors and quantum factors. Tempo factors affect the fertility rate depending upon the timing of childbearing by women in their lifetime. Even if the rate fluctuates in line with the tempo factors, the total number of children women have in their lifetime is little affected. Quantum factors, on the other hand, involve the impact of the number of women's childbirths on the total period fertility rate. To understand the future long-term fertility trend correctly, an examination of the quantum factors is crucial.

**Chart 1: Trend in total period fertility rate**



Source: Made by MHRI based on the Ministry of Health, Labour and Welfare, *2016 Annual Vital Statistics Report*.

In Japan, where there is a tendency for people to marry later and have children at older ages, the total period fertility rate would fall once and then rise again influenced by tempo factors even if the average number of children women have in their lifetimes remains unchanged.<sup>2</sup>

While some observers attribute the rise in the total period fertility rate after 2006 to

<sup>2</sup> For example, Yutaka Okada, "Has the brake been put on the declining birthrate?" *Mizuho Research*, August 2009, Mizuho Research Institute.

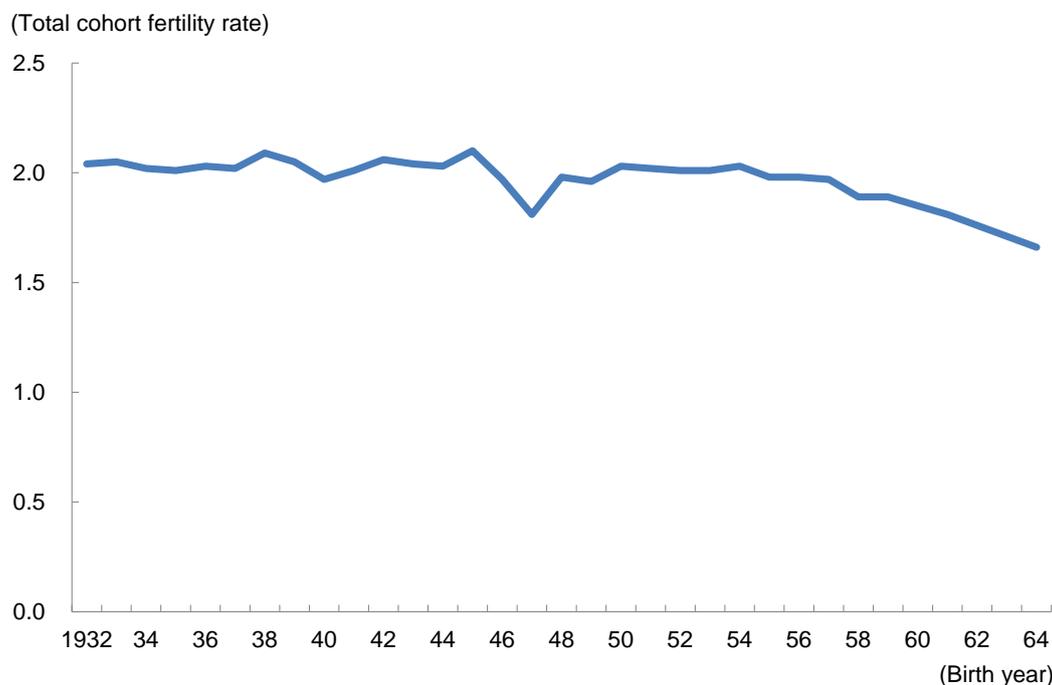
recent government measures to raise the birthrate, it is important to analyze both tempo and quantum factors carefully. It would also be risky to make hasty conclusions on the relationship between the total period fertility rates and fertility measures of other countries, such as France, Sweden and Germany, without differentiating the two types of factors and to use refer to them in measures to address Japan's falling birthrate.

**(3) The total cohort fertility rate representing actual lifetime fertility is declining**

To analyze the quantum factors, attention must be paid to the total cohort fertility rate, which is not subject to tempo factors. However, for the under-50 age bracket, it would be necessary to estimate the total fertility rates of cohorts in this age bracket based on their age-based cumulative fertility rates after turning 15.

The total cohort fertility rate of the generations born in or before 1954 was around 2.0, except for some cohorts (**Chart 2**). This is a level that offers a good chance of curbing the population decline, but the rates of the cohorts born in or after 1955 fell short of this benchmark, with the rate of the 1964 cohort falling to 1.66. This downward trend more or less continued with younger cohorts up to the group born in 1973 with slight fluctuations, indicating that the decline in the birthrate was fully in progress.

**Chart 2: Trend in total cohort fertility rate**



Source: Made by MHRI based on the Ministry of Health, Labour and Welfare, *2016 Annual Vital Statistics Report*, and the National Institute of Population and Social Security Research, *Latest Demographic Statistics 2016*.

**(4) Increase in the birthrate of women aged 30 and older is notable, but not necessarily promising**

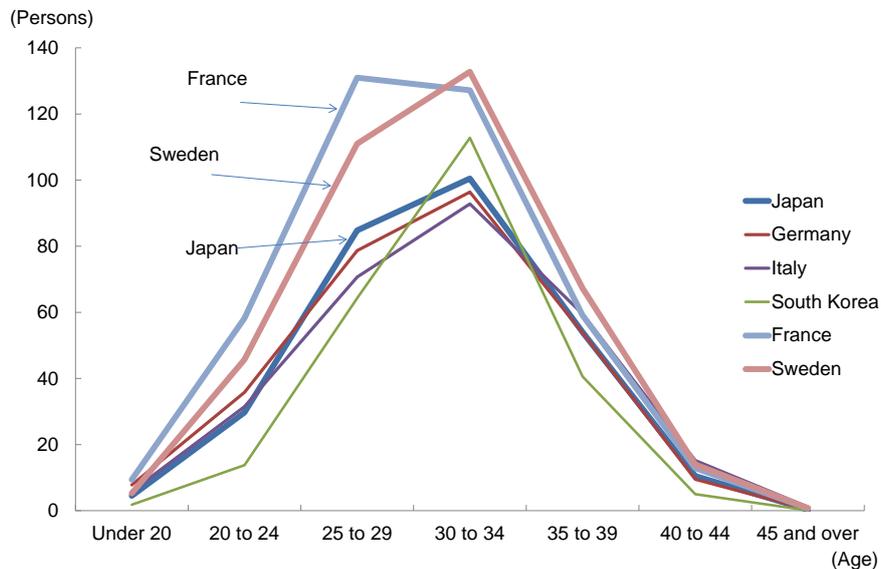
The total cohort fertility rates of women born in 1965 or later, whose childbearing years have not yet come to an end, must be estimated based on their cumulative cohort fertility rates. Looking at the trend of the cumulative cohort fertility rate from that perspective, the rise in the fertility rate of women aged 30 and older is pushing the cumulative cohort fertility rate beyond the level of the older generations born before 1974. This recent trend, though notable, does not necessarily mean the birthrate has completely bottomed out and will continue rising to the government's target of 1.8, because the increase in the cumulative cohort fertility rates of those born in or after 1974 is extremely moderate. Reflecting the recent trend, the new population projections scheduled to be released in the first half of 2017 are expected to refer to a slight slowdown in the population decline from the previous report.

**2. Measures to boost the birthrate should target women in the 20s**

**(1) The difference from countries with higher fertility rates stems from the situation of the population in the 20s**

In Japan, discussions on measures to increase the birthrate often cite the examples of France and Sweden, where the total period fertility rate remains high. The birthrate was declining in many industrialized countries at one time, but France and Sweden managed to reverse the trend. Since such a turn-around is often facilitated by tempo factors, as explained above, it is not easy to assess the actual effectiveness of the governments' fertility measures. It would be ideal to analyze the total cohort fertility rate to identify the quantum factors, but given the difficulty of obtaining such data for France and Sweden, we used the age-specific fertility rate as an alternative method. Comparing the age-specific fertility rates of France and Sweden with Japan and other countries with lower total period fertility rates such as Germany, Italy and South Korea, it becomes apparent that fertility rates are higher in France and Sweden, not only among mothers in their 30s, but also among women in their early or late 20s (**Chart 3**). For Japan to achieve the 1.8 birthrate target set by the government or the levels attained in France and Sweden, more efforts must be made to raise the birthrate of young people by improving the environment for women to have children early in their 20s and have two or three children.

**Chart 3: Age-specific fertility rates in selected countries  
(Live births per 1000 persons)**



Source: Made by MHRI based on the National Institute of Population and Social Security Research, *Latest Demographic Statistics 2016*.

**(2) Various options after high school must be provided to increase the fertility rate of women in the 20s**

Japan’s measures to increase the birthrate so far have placed emphasis on balancing childrearing and work. Since the mid-1970s, the average age of first marriage has risen to 30.6 for men and 29.0 for women by 2015. In this situation, support for raising children while maintaining a career is more effective for people in their 30s and older. Meanwhile, if Japan should follow the examples of countries with high fertility rates, like France and Sweden, measures targeting people in their 20s will be vital. Among easily conceivable plans is enhanced support for young couples lacking financial resources by creating an environment conducive to having children. In reality, though, most women around the age of 18 or 19 hope to marry in their late 20s and there is a clear rise in this age. It is unlikely that people who graduate from college and begin a career in their early 20s will consider marrying and starting a family at such a young age. Increasing financial assistance therefore would only have a limited effect in boosting fertility rates among women on their 20s.

For example, let us look at the pursuit of higher education, among those students enrolled in universities or technical colleges in Japan and countries overseas. In 2010, the average age of the younger 80 percent of entrants was 19 in Japan, the lowest among OECD countries. The figure was 24 in Germany, 21 in Italy and 24 in South Korea, all lower than the OECD average of 25, while the figure for Sweden was 28. Data were not

available for France, where higher education is harder to access than in other countries; the ratio of people who received higher education in France was 41 percent in 2010, lower than 81 percent in Japan, 50 percent in Germany and 90 percent in South Korea.

In a society where many young people enter college directly after graduating from high school and then find employment after finishing college with no intervals in between, the average age of first marriage or childbirth will naturally be higher, making it difficult to raise the total cohort fertility rate. One solution to raise the birthrate among the 20s would be to provide a more diverse array of life courses – including the option to marry and have children in their 20s – other than simply the pursuit of higher education immediately upon graduation from high school.

If the government intends to encourage people in their 20s to have more children as a way to increase the total cohort fertility rate, reviewing the patterns of college education and job recruitment will be crucial, in addition to the existing measures to boost the birthrate. For example, women in their 20s should be able to prioritize having children with financial assistance from the government before entering college, joining a company and starting a full-fledged career. It is also essential to deepen discussions involving the whole of society to ensure that women who have chosen such a path will not be disadvantaged later in life.