

# On the Determinants of the Recent Fertility Upturn in Japan: Application of a Fertility Projection Model to Period Effect Analysis

Ryuichi KANEKO

In this paper several statistical analyses are conducted to identify causes and mechanisms of the fertility upturn experienced since 2006 in Japan. First, I constructed the monthly development of the seasonal adjusted total fertility rate (TFR) to closely observe the detailed timings of transition stages. Accordingly seven time segments have been detected in four major phases of the fertility change. Second, I measured the so-called tempo effect in the period TFR during the upturn by evaluating trends in the tempo adjusted TFRs (including the newly developed TFR with the cohort-shift framework of fertility schedules). Third, I assessed mechanisms of the upturn by measuring the tempo-effect-free period effect (which I will denote the type-H period effect) in the drift of period TFR. In this course of assessment, I made use of projected cohort age-specific fertility rates by birth order in the official population projection to contrast with the realized rates so that the type-H period effects should be detected as differences between those rates. The analysis involved the conceptualization of several types of period effects, which were then isolated in the data. As a result, I found that the Japanese upturn is somewhat different from the upturns widely seen in the West where the period fertility is said to gradually regress to cohort fertility along with deceleration of postponement of childbearing toward the end of “tempo transition”. In Japan, it is rather suggested that the initial rise in TFR was on the rebound from a prolonged depression in the fertility during the period since around 2000 to the first half of 2005, causing a positive period effect as a boom reacting to a growing market for family formation and childbearing promoted mainly by the media. Though the comparatively steep fertility upturn in Japan characterized by the initial rebound and subsequent boom might be expected to accelerate the process of “tempo transition” and make TFR continue to grow on one side, in fact the TFR stopped rising in 2009. This may be due to the economic recession caused by the world financial crisis (since the fall of 2008). Therefore, it is difficult to foresee the future course of Japanese fertility due the complexity of the present situation. The present study suggests that the incorporation of uncertainty associated with the type-H period effect seen in the most recent fertility trend is necessary when constructing fertility assumptions for population projections.