

On the Contribution of the Changes in First Marriage Behavior and Couples' Reproductive Behavior to the Recent Change in Total Fertility Rates of Japan

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Using data from the Vital Statistics and Japanese National Fertility Surveys, I show the extent to which changes in first marriage behavior and couples' reproductive behavior have contributed independently to the decline in period TFR since 1970. To answer this question, I proposed a new measurement using cohort-based simulations instead of conventional period-based decomposition analysis. For simulations I used a model in which cumulative cohort fertility rates are determined by the proportion of ever-married females, the distribution of wife's age of first marriage, and marital duration-specific birth rates. Using this model, I computed the counterfactual age-specific fertility rates that would be obtained if first marriage timing (age-specific first marriage rates) and/or couples' reproductive behavior (marital duration-specific birth rates) had not changed across cohorts.

The counterfactual TFR in each calendar year can be obtained by summing up these counterfactual age-specific fertility rates for the corresponding cohorts. The contributions of each type of behavioral change can be assessed by comparing counterfactual TFRs with observed ones. The results show that the fertility decline up to 1990 is largely explained by change in marital behavior, whereas decline in the 1990s is increasingly due to change in couples' reproductive behavior. Overall, 70% of the decline between 1970 and 2000 is due to change in first marriage behavior, and the remaining 30% is due to the change in couple's reproductive behavior. Results from this study indicate that if couples' reproductive behavior had remained constant at levels observed for the 1950 birth cohort, TFR in 2000 would have been 1.56, somewhat higher than the actual value of 1.36. It is true that couples' behavior has become more important for understanding recent TFR decline, but we should also keep in mind the possibility that the contribution of couples' behavioral change to change in period TFR could, to some extent, be a tempo effect caused by delayed childbirth.