When Tempo Affects Quantum: Integrating Reproductive Age Limits into Dynamic Microsimulation Models of First Birth Delay and Cohort Completed Fertility

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Research has shown that in the past fertility did not necessarily decline more in countries where first births were delayed more. For the most recent cohorts of women, however, the first birth schedules in the Human Fertility Database (HFD) indicate that risks of childbearing have stopped increasing at older ages in some countries, despite continued postponement. This suggests that recent cohorts may be reaching reproductive age limits and raises the question of whether, and how much, further postponement is likely to affect cohort fertility levels. In this paper we use microsimulation of cohort fertility in conjunction with Belgian longitudinal microdata for the 1970-1972 birth cohort to address this research question. We model the postponement of first births by shifting the curve of first birth risks towards later ages, and integrate the reproductive age limit that seems to emerge from the recent HFD observation into the simulation model to cap first birth risks at older ages. Initial results show that such a shift immediately and strongly reduces the transition to second and higher order births, resulting in a 15 percent decrease in cohort fertility rate when the modal age changes from the original 28 years to 32 years. First order births also start to be affected by the delay after the first birth schedule has been delayed by 5 years (to a modal age of 33). The reduction in completed cohort fertility then accelerates to 5 percent with each additional year of delay in the schedule. Considering that in a country like Spain, the modal age in first birth probability is 34 years, and that in an increasing number of countries it is well above 28, further research is needed to determine whether the recent unexplained fertility declines in Europe is partly due to delays in first birth beyond age 28.