

On the Methodological Framework for Making Fertility Assumptions in the Population Projections for Japan, 2006

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In this paper, I discuss the methodological framework for making fertility assumptions in the National Population Projections for Japan released by the National Institute of Population and Social Security Research in 2006. In the current situation of fertility decline below replacement commonly witnessed in post-industrial nations, population projection is confronted by difficulty that is two folds. One is increasing demand for accurate and multilateral visions such aspects of the changing society as pace of depopulation and the extent of population aging; shifts which virtually affect every corner of the society. The other side of the difficulty is the loss of the population replacement level as a guide of future fertility trends which had been long employed in most national population projections including Japan, following decades of below-replacement fertility in most of those societies. In the face of this a dilemma, the only strategy that can be scientifically justified in setting fertility assumption is to employ demographic models that best describe the reproductive life courses of the past cohorts precise data, and let them indicate the future direction of fertility. In this connection, some important enhancements are introduced in the latest population projections. First, fertility is measured and projected by nationality (Japanese and non-Japanese) to communicate with structural change in over all fertility in Japan. Second, the effects of divorce and remarriage on fertility is carefully measured and projected rather than being fixed in value as were in previous projections. These advanced designs are developed so as to cope with increasing international migration and diverging life courses by marital status in Japan, which are expected. With the generalized log-gamma model with empirical adjustments that are revised for age specific first marriage rates and fertility rates by birth order, and employment of the logistic regression model for marital fertility by age at first marriage, we establish the new framework of making fertility assumptions for the next stage of the society.