

Demographic Components of Future Population Growth Rates by Prefectures

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In this paper, we analyzed the demographic components of the future population growth rates by prefectures in "The Regional Population Projections (2018)" conducted by the National Institute of Population and Social Security Research, with an emphasis on the contribution of age structure of the projection base year in addition to the future vital rates. In particular, we conducted the population projections based on counterfactual assumptions such as the replacement level fertility, and performed the population momentum analysis.

Among four factors identified in Bongaarts and Bulatao (1999) as components of future population change, we found that the negative contributions of the age structure factor were the largest in all prefectures. In the metropolitan areas, the positive contribution of the migration factor mitigated the depopulation, while in non-metropolitan areas, the negative contribution of migration enhanced the depopulation further. On the other hand, the contributions of the fertility and the mortality factors on future population growth were limited.

Further examinations of the four factors by five-year age groups uncovered that the age structure effect played vital roles both in metropolitan and non-metropolitan prefectures but with regional differentials by age groups. In non-metropolitan prefectures where the proportion of age 65 and over was already high in 2015 and population decline had begun, future population of young and old age groups declined mainly due to the age structure effect. In metropolitan prefectures, future young population of age 64 and below decreased but the future elderly population increased by the age structure effect, anticipating severe population aging in the future.

The analysis of population momentum showed that even in Tokyo, only prefecture where the population growth rate 2015 - 2045 was positive, and in Okinawa prefecture, where the birth rate was high, the population momentum status was "the decreasing momentum" in the long run. This implied that even if the birth rates immediately rise to the population replacement level and the migration is balanced, it will take until 20802095 that the long-term population decline in each prefecture stops.

【Keywords】 regional population projections, future population growth rate, decomposition method, population momentum