Decomposition of Future Population Growth Rates by Region in Japan: 2020-2050
—Results of Regional Population Projections for Japan (2023 Revision) and Population Momentum—

KAMATA Kenji, KOIKE Shiro, SUGA Keita and YAMAUCHI Masakazu

This study decomposes the population growth rates of prefectures and municipalities from 2020 to 2050 into four factors—age structure, fertility, mortality, and migration—based on the "Regional Population Projections for Japan (2023 Revision)".

Analysis using the methodology of Bongaarts and Bulatao (1999) revealed that the primary driver of future population decline is the significant negative contribution from the age structure factor, with natural decrease due to low fertility and aging projected to intensify. The factors most strongly correlated with future population growth rates were the age structure factor (0.877) and the migration factor (0.817). Among prefectures, Tokyo prefecture is the only one projected to experience population growth, driven by a prominent positive contribution from the migration factor. However, its age structure factor contains a significant negative value of -20.2%. In non-major metropolitan areas, even assuming increases in fertility rates and balanced migration, the negative contribution from the age structure factor remains substantial, preventing a shift to positive population growth.

Furthermore, analysis of population momentum indicates that as of 2020, all prefectures are in a "declining momentum", meaning they will experience long-term population decline even if birth rates reach replacement levels. At the municipality level, only 10 out of 1,729 areas have a population momentum exceeding 1, indicating that nationwide, the age structure inherently contains population decline.

Keywords: Regional Population Projections for Japan, Population Growth Rate, Decomposition, Population Momentum