Reconstructing Japanese population by birth cohort using vital statistics and comparing with static statistics: considering the death structure estimates for 1944/45

HAYASHI Reiko

Japan's modern population statistics, which began in 1872 (Meiji 5), have a history of a century and a half. Many systems contribute to population statistics, such as family registers, birth and death notifications, censuses, and basic resident registration, but the statistics from these sources are not always linked. This paper compares the Japanese birth cohort population calculated by vital statistics, in subtracting deaths from births, with the population derived from static statistics. The comparison is based on population by birth year (birth cohort). Since the family register system is for Japanese nationals only, the calculation is done for Japanese, incorporating also the number of overseas Japanese and changes in nationality.

For the past 150 years, figures for the number of births have been published continuously, but there is no information on the number of deaths by birth year from 1872 to 1889 and for 1944/45 during World War II. The death structure by sex and age of the latter was estimated by adding and subtracting vital statistics from static statistics between 1940 and 1955. The calculated number of excess deaths in 1944/45 was 3.76 million, with a significantly high level of mortality for men born around 1920, i.e., around 25 years old in 1945.

Incorporating 1944/45 estimated deaths in the data, the population data accumulated by number of births and deaths based on vital statistics and static statistics of 2020 were compared. The former was found to be 0.3% higher in terms of total population, although there are certain variations among the birth cohort. Despite the fact that the system of vital statistics and static statistics are conducted separately, the population difference between the two was small.

While "big data" is an emerging topic, the quality of conventional population statistics has been questioned recently. Improving and modifying current statistical methods is important, but we should also think about linking and utilising the many existing statistics.

Keywords: vital statistics, static statistics, birth cohort, war-time deaths, Japan