Apportionment of Unknowns of Migration Tabulations in the 2015 Population Census of Japan and Verification of the Results

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The migration tables (residence five years ago) in the Population Census are valuable statistics enabling us to understand the migration patterns between municipalities of all Japan. However, those migration tables include various kinds of unknowns with regional differences. Since the regional variation in unknowns of residence five years ago correlates with in-migration to the current residence at the time of survey, neglects make the tables deviate greatly from the actual migration patterns. In this paper, we focused on the origin and destination (OD) characteristics of the migration flows between 1,896 municipalities publicized in the 2015 census and attempted to recover the migrants' actual OD patterns by apportioning the unknowns in the municipal tables according to the known distribution.

The results showed that the number of net migrants by prefecture after the apportionment of unknowns is much closer to the number according to the "Annual Report on Internal Migration in Japan Derived from the Basic Resident Registration" for the same period. Based on these results, we argue from various aspects on municipal migration that the apportionment seems to be highly probable. Overall, the apportionment in this paper is assessed as successfully reproducing the in- and out-migration between municipalities from 2010 to 2015, and the OD tables after the apportionment of unknowns are expected to serve as a platform for practical analyses.

keywords: Population Census, origin and destination table, proportional redistribution of unknown, municipal migration