

# A Study on the Projection Accuracy of the Migrant Pool Model

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In this study, prefectural population projections are made by Rogers' model (a full-matrix multiregional model) and compared with those previously made by the migrant pool model (a simple pool model). Furthermore, prefectural population projections are made by the OD (origin and destination) pool model, which is also a migrant pool model but considering total OD migration pattern. The accuracy of the OD pool model is tested by comparing its population projections with those of the simple pool model.

Results show little overall difference between the population projections of the simple pool model and Rogers' model, and the simple pool model exhibits the ability to project migration tendency almost accurately. However, the difference in the projected in-migration number and population between the two models is slightly larger when the change in the future population of the entire area and of the source area of in-migrants is greatly different, because the geographical distribution of in-migrants is not considered in the simple pool model. On the other hand, the population projections of the OD pool model are generally closer to those of Rogers' model than to those of the simple pool model, suggesting that projection accuracy improves when the total OD migration pattern is taken into account.

Although the application of the multiregional model to actual regional population projections is met with many challenges, the OD pool model seems to be a prominent migration model from the viewpoint of both projection accuracy and availability of migration statistics.