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- SEARCH
- Current Volume
- Volumes
- Articles
- Special Collections

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- About the Journal
- Information for Authors
- Copyright Information
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## Estimating multistate transition rates from population distributions

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### Abstract

The ability to estimate transition rates (or probabilities) from population distributions has many potential applications in demography. Iterative Proportional Fitting (IPF) has been used for such estimation, but lacks a meaningful behavioral, or demographic, foundation. Here a new approach, Relative State Attractiveness (RSA), is advanced. It assumes that states become more (or less) attractive, and that rates respond accordingly. The RSA estimation procedure is developed and applied to model and actual data where the underlying rates are known. Results show that RSA provides accurate estimates under a wide range of conditions, usually yielding values similar to those produced by IPF. Both methods are then applied to U.S. data to provide new estimates of interregional migration between the years 1980 and 1990.

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