THE STRUCTURE OF INTERSTATE AND INTERREGIONAL MIGRATION:
1965-1970

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Abstract

This study examines the structure present in interstate migration at the national level and interregional migration in the Western states in an attempt to identify the interrelationships that exist between the respective areal units. Places which act as important origins and destinations in the process are determined through the use of nodal and principal component analyses. It is found that the nation can be dichotomized into regions oriented towards the states of California and Florida and that the western part of the nation can also be regionalized into a small number of important migration fields. The centers of the majority of these fields are metropolitan areas. Such identification of the spatial organization provides a useful picture of the areal extents over which major attractive centers have influence.

I. Introduction

The purpose of this paper is to identify the presence and nature of structure in the migration phenomenon at the national and regional levels. It will seek to discover the manner in which states interrelate in terms of their exchange of migrants and to designate those states which act as major origins and destinations in the interstate migration system. Additionally, it will define the set of interrelationships between state economic areas in the eleven states west of the Great Plains and derive from this a functional regionalization.

Two analytical techniques are used to identify the structure of migration, and they will be applied first to a 48 square matrix of interstate migration flows and then to a 72 square matrix of interregional flows. The techniques are nodal analysis which is a graph-theoretic technique, and principal component analysis (P.C.A.). The latter technique can be utilized for a number of purposes ranging from a means of reducing the dimensionality of large datasets through structure-seeking and classificatory procedures, to scaling, hypothesis testing and theory operationalization designs (14 - pp. 29-32). It will be applied here in two ways: (a) to identify the main independent dimensions of variation contained in the interaction matrices; and (b) to determine the manner in which elements of the migration system (areal units) cluster together in terms of their interactions.

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II. Background

Migration between states has been increasing over the recent period covered by the last four decennial censuses of the United States. Between 1935-1940, 15 million people were classed as migrants, i.e., changed their county of residence. The interval 1955-1960 saw the magnitude increase to 29 million and further to 77 million between 1965-1970 when it constituted 42% of the population five years of age and over. There is ample precedent for such migration. Between 1820 and the 1920's over 33 million people entered the United States and there were also huge internal population movements, e.g., 250,000 blacks left the South between 1870 and 1910 (19, pp. 52-59). In addition, an estimated 28.5 million people left farming during the period 1940-1970 (3), and extensive migration contributed to the phenomenal growth of Southern California, especially in the 1890's (9).

Increasingly the movements of population have become directed toward urban agglomerations, and today most migration is of an intermetropolitan nature with certain metropolitan centers attracting disproportionately large shares of migrants (1, 2).

Considerable work has focussed on the relationship between migration and regional and urban economic development, and Morrison has made the distinction between the effects that migration has upon the migrants and the effects that it has upon the places (10). Emphasis on the experience of places can given an illusion of problems (because of an exodus of population or a rapid influx and turnover) such as those faced by San Jose, California and St. Louis, Missouri (11). Focus on the people may well show that the problems are being solved outside the boundaries of the origin places.

Migration is one form of human response to the uneven spatial distribution of opportunities and resources. Population is not perfectly mobile, however, and distance and the costs (monetary, social, and psychological) associated with it influence radically the length of the move undertaken and the location of possible destinations. Many studies have illustrated the attenuating effects exerted on migration by distance, and distance constitutes an important variable in the classic gravity model, later variations of it, and in most econometric models. Excellent summaries of models that incorporate distance as a determinant of migration are included in Isard (7), Olsson (13), Schwind (16), and Levy and Wadycki (8).

The factor of distance will, thus, operate in such a manner as to produce migration regions which consist of a single or multiple major migrant destinations and a set of associated origins. It is quite probable that the regions will be interrelated and form wider migration fields. The identification of such migration fields and regions and their linkages will allow for a better understanding of the migration process, and a knowledge of the migrational interdependencies between areas will provide information concerning some of the possible attributes of the migrants involved.