INTERNAL MIGRATION: A REVIEW OF
ISSUES AND RESEARCH ACTIVITIES

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The European Research Institute for Regional and Urban Planning (ERIPLAN) was founded on the basis of an intergovernmental initiative. "Its purpose is to stimulate, coordinate and carry out research, concerned directly or indirectly with regional and urban planning, in relation to its application in Europe. Its work is carried out, where appropriate, in close cooperation with those national and international bodies, public or private, whose objects coincide, wholly or partly, with those of the Institute" (Article 3 of the Statutes). Since its foundation in 1972, ERIPLAN has set up a network of collaborating national research centres, whose activities are highly relevant at the European scale.

To enhance the achievement of its goal, ERIPLAN is launching a series of research papers in regional and urban analysis and planning. The objectives of this series are (i) to review and advance the state-of-the-art of regional and urban analysis and planning in Europe and (ii) to disseminate to a wider audience relevant research results of the collaborating institutions.

The paper by Frans Willekens belongs to the first category. The author reviews the state of research on internal migration, speculates about future directions, and suggests some new topics requiring more attention in order to better understand the causes and consequences of the geographical mobility of the population. The issues addressed in the paper are of particular interest to the E.C. concerted research project on the growth of large urban concentrations for which ERIPLAN is acting as the scientific secretariat.
This paper was written while the author was at the International Institute for Applied Systems Analysis, Laxenburg, Austria. Frans Willekens is currently Director of Research at Mens en Ruimte, v.z.w., a Belgian urban and regional research and planning institute which is cooperating with ERIPLAN since the Northwest European Megalopolis Study 1973 - 74.

ERIPLAN and the author would very much appreciate comments, reactions and suggestions related to this paper. Original manuscripts, related to the objectives of this series, are welcomed by ERIPLAN and will be considered for publication.

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Internal Migration: A Review of Issues and Research Activities

Recently, the literature on internal migration has been featured by an explosion. The volume of papers and books produced on migration can no longer be overlooked. A review that strives for completeness is therefore infeasible. Although internal migration has received a tremendous expansion of research interests, some of the key issues remain and some of the basic questions are still waiting for an answer. It is the purpose of this paper to review important issues and to present an account of research that is being undertaken or that is required to extend our knowledge on internal migration.

The study of internal migration may be divided into three broad categories:

i. Migration as a component of demographic change
ii. The socioeconomic of migration
iii. Migration and population distribution policy.

This paper only deals with (i) and (ii).

1. Migration as a Component of Demographic Change

With the growing interaction between regions within a nation and with the growing awareness of regional differences, there is a need for a better understanding of the interdependence between regional population systems. In addition, planners at all levels of the government request better techniques for projecting multi-regional, regional and local populations.

Regional population change consists of five components: (a) fertility, (b) mortality, (c) immigration (international migration), (d) inmigration (internal migration), and (e) administrative change of regional boundaries. The latter component
is difficult to forecast but may be important. For example, the USA cities with a population of 100,000-300,000 have grown during the decade 1960-70 exclusively through the annexations of suburbs (United Nation, 1973, p. 196). In general, however, change in civil boundaries constitutes a minor component of regional population growth. A predominant role is played by natural increase and migration. Table 1 shows the relative importance of these components for urban change in several areas of the world.

<table>
<thead>
<tr>
<th>Major area</th>
<th>Urban population growth rate and its components (per 1,000 urban population)</th>
<th>Rural natural increase rate and its components (per 1,000 rural population)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Growth rate</td>
<td>Natural increase</td>
</tr>
<tr>
<td>East Asia</td>
<td>47.0</td>
<td>17.1</td>
</tr>
<tr>
<td>South Asia</td>
<td>37.5</td>
<td>23.0</td>
</tr>
<tr>
<td>Europe</td>
<td>18.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Soviet Union</td>
<td>35.1</td>
<td>14.4</td>
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<tr>
<td>Africa</td>
<td>45.8</td>
<td>24.0</td>
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<tr>
<td>Northern America</td>
<td>24.6</td>
<td>15.4</td>
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<tr>
<td>Latin America</td>
<td>44.8</td>
<td>24.6</td>
</tr>
<tr>
<td>Oceania</td>
<td>26.5</td>
<td>13.7</td>
</tr>
</tbody>
</table>

Table 1. Rates of urban population growth and its components, and rural rates of natural increase and its components, around 1960.

Source: United Nations, 1974, p. 22

Natural increase dominated in South Asia, and in Northern and Latin America. Rural-urban transfers played a major role in East Asia, the Soviet Union and Europe.

Before proceeding to the study of multiregional demographic change with migration endogenous, we would like to deal with one criticism. It is argued that migration, unlike fertility and mortality, is not constant over time, but changes considerably in response to economic fluctuations. Figure 1 shows a remarkably stable level in the US after the second World War. For the case of Hungary, Figure 2 indicates a trend-like change and does not suggest the fluctuation of migration rates in response to economic changes. A similar observation for France has been made by Courgeau (1970, p. 85).
Figure 1. Movers by type of mobility as percent of the population 1 year old and over, for the United States: April 1949 - March 1971.


Figure 2. Gross migration rates, Hungary, 1957-1968.

Source: Compton, 1971, p. 268

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1. 'Movers' are those persons who move to different residences.
2. 'Migrants' are those persons who move their residence to a different county.
Not only total migration rates but also directional migration rates are much more stable than is generally accepted (Wolpert, 1967). They do not change abruptly but with a considerable degree of inertia.

a. Approaches to Modeling Multiregional Population Change

Because of the importance of migration, local or regional demographic change should be studied in a multiregional framework. Focusing on a system of regions instead of on a single region enables one to investigate the various interdependencies. Multiregional population change has been represented as a matrix multiplication. The best known matrix model is the Markov chain. In Markov models of aggregate demographic change each state represents a different region*. Fundamental to Markov chain models of migration is that the probability of moving during a unit time interval and the direction of migration only depend on the region of residence at the beginning of the interval (Markovian assumption). Conventional Markov chain models are used to study population redistribution and do not consider natural increase. Rogers (1966, 1968) extended the Markov model to include all the important components of demographic change: migration and regional levels of fertility and mortality.

Aggregate models of multiregional population change show an important weakness. They imply complete homogeneity of regional population and are unable to consider differential migration and demographic behavior within a specific region. It is however, a well-known fact that migrants are not randomly distributed between the regional population but that migration is selective. Migrants do differ from non-migrants in particular with regard

*The following types of aggregate models may be considered: exponential growth model, Markov chain model, demographic input-output model and components-of-change model. For a comparison, see Willekens (1976, Chapter 4). The uses of such models are illustrated by Rogers (1968), Stone (1975) and Liaw (1975) among others.
to age and duration of residence. Recently, methodological innovations in multiregional population analysis have introduced migration rates of increasing specificity. Particularly important are models with age-specific and duration-of-residence-specific migration patterns. They are based on the observed strong covariance between migration and age and duration of residence. The age-specific approach will be discussed in more detail in the next section.

The strong age effect of migration has long been recognized. In a study of migration differentials, Bogue concluded that "Only one migration differential seems to have systematically withstood the test - that for age" (Bogue, 1959, p. 504). Migration rates are high among young children, drop to a low point at about age 16, increase sharply to a maximum near age 22 and decline regularly thereafter except for a slight peak around ages 62 to 65, the principal ages of retirement. Some migration schedules are shown in Figure 3. While most studies (e.g., Miller 1966;

![Graph showing age-specific annual migration rates](image)

**Figure 3.** Age-specific annual migration rates of the total United States population by category of move: average of 1966-1971.

Source: Long, 1973, p. 38
Gallaway, 1969; Long, 1973) use cross-sectional data to reveal the covariance between migration and age, Taueber (1967) shows the relation with cohort data.

The age-specificity of migration is not the only regularity that has intrigued mathematically oriented analysts. The other is the feature that the longer an individual has resided in a given place, the smaller the probability that he moves to another place. The propensity to migrate decreases sharply as the duration of residence increases (Figure 4). (See also Morrison,

![Graphs](image)

(b) Amsterdam data: migrants aged 45–60. Source: Land (1969).  
(f) British National Register data: migrants of all ages. Source: Rowntree (1957).

Figure 4. Relationship between propensity to migrate (vertical axis) and length of residence in years (horizontal axis).

Source: Gleave and Cordey-Hayes, 1977, p. 28
1967, 1971; Land, 1969 and Rogers, 1969). The declining tendency to move with length-of-residence has been denoted as the "law of cumulative inertia" (McGinnis, 1968) and has induced a considerable amount of mathematical modeling efforts.

The conventional Markovian-type models used in mobility analysis are not applicable since the probability of going from region i to region j depends not only on i (region of residence in the beginning of the interval) but also on how long the individual has been in i. Two approaches to model this phenomenon may be distinguished. The first reduces the non-Markovian process to a Markovian process by expanding the state space. The mover-stayer model is an early example of this approach (Blumen et al., 1955). As the name suggests, the population is divided into two categories: movers who will move at least once during a unit time interval, and stayers who will not move, i.e., their propensity to move is zero. Henry, McGinnis and Tegtmeyer (1972) define region and duration-specific transition probabilities which are Markovian.

The second approach describes migration as a semi-Markovian process. In this model, the probability of moving depends on the duration of stay and, in addition, may depend on both the region of origin i and the region of destination j (Ginsberg, 1971).

b. Multiregional Demography

The strong age-effect of migration led Rogers (1966, 1975) to approach multiregional demographic systems from the perspective of the discipline in which age is the main variable; namely, demography. Multiregional demography is concerned with the analysis of multiregional population systems, primarily with respect to their size, age and regional composition, and the changes of these over time and space. A multiregional population system may be composed of two regions (for instance: urban and rural), many regions (such as states or provinces), or a single region. It generalizes the conventional demography of fertility and mortality by adding a spatial dimension.
It considers explicitly regional differences in age-specific fertility and mortality and gross interregional migration flows by age and generalizes to a multiregional system the basic concepts and techniques of mathematical demography (Keyfitz, 1968; Coale, 1972).

The life table, the growth matrices of Leslie and Lotka and the stable population analysis all have their multiregional counterparts. A convenient way to generalization has been the application of matrix notation, where rows and columns represent regions of current or future residence and of birth or previous residence, respectively. The mathematical apparatus underlying multiregional demography is matrix algebra.

The multiregional life table shows the mortality and migration experience of a hypothetical birth cohort or radix, which is subject to observed mortality and migration schedules (observed age-specific rates = life table rates). The multiregional life table contains probabilities of dying and migrating for each age, the life history of the initial cohort, stationary age compositions, survivorship proportions and life expectancies. The latter statistic is not a single number but the expectation of life is disaggregated according to where the life is expected to be lived.

The multiregional life table only reflects the mortality and migration behavior of a population. A statistic which summarizes the mortality, migration and fertility pattern is the net rate of reproduction matrix. Similarly to any NRR, it gives the average number of children a woman would have if she is subjected to the fertility and mortality schedule of an observed population. In multiregional demography, however, not only the expected number of children is given but also the regions in which the children are likely to be born. How many children will be born in a region other than the region of birth of the mother depends on the migration behavior of the mother and on regional fertility differences.
As to the description of a population system, multiregional demography adds a spatial dimension to the study of the dynamics of demographic changes. The multiregional Leslie and Lotka growth models describe the change in size, age composition and regional distribution of a specific base year population and are, therefore, useful for population projections. Again, the approach is basically to use matrix algebra.

The advantages of multiregional demographic growth models over more conventional approaches to projecting regional populations are the explicit consideration of gross migration flows as endogenous and the simultaneous treatment of regional differences in fertility and mortality schedules. Pittenger, in the conclusion of a study on models for projecting local and regional populations in which he attempts to predict the future of population projection techniques states, "A likely feature of forecasts appearing in the 1970's will be projections of local directional migration flows by age and sex that go beyond the fixed ratio techniques noted in this study" (Pittenger, 1976, p. 223). Today, such growth models are available (Rogers, 1975a; Willekens, 1978).

The new opportunities of better analytical techniques can only be fully explored if data are abundantly available or if accurate estimation procedures can be developed. Recently, attention has been devoted to the design of techniques to infer detailed migration patterns from available data. This research is still in an early stage and needs considerable expansion. Its review is beyond the scope of this paper. The techniques can be divided into four groups:

i. Inferring period migration data from lifetime migration statistics. A number of methods to obtain intercensal migration flows from lifetime data are reviewed in United Nations (1970). These techniques, which differ in data required and assumptions made, yield net migration flows. Gross flows may be obtained with the place-of-birth-by-place-of-residence method developed by Rogers (1975a, pp. 172-185).
ii. Model migration schedules. The regularity exhibited by empirical schedules of age-specific migration rates initiated research on ways to describe these schedules by a limited number of parameters (Rogers, Castro and Raquillet, 1977). The approach is similar to that used by demographers to develop model life tables and model fertility schedules. Once "standard" migration schedules have been obtained, it can be used in situations where no information is available on the age structure of migrants.

iii. Entropy and multiproportional adjustment techniques. Frequently, data are published for aggregate migrant categories only. Entropy and multiproportional adjustment techniques are designed to infer statistics for subgroups of migrants when only aggregate information is available. Subgroups may be defined on the basis of age, sex, nationality, income, etc. Willekens (1977) applies the entropy method to differentiate internal migration patterns by nationality and by age. Recent work focuses on methodological improvements (Willekens, Pór and Raquillet, 1978).

iv. Demographic accounting. A spatial demographic account provides a framework for presenting the available data on regional fertility, mortality and migration in a consistent and correct way, and for estimating the missing items in the accounts matrix (Rees and Wilson, 1977). The missing elements consist of minor migration flows in a given time interval. The estimation involves an iterative procedure in which the minor flows are derived from the known major flows and population at the beginning and end of the time interval considered. The emphasis is on a consistent system that correctly reproduces the population changes in the base period. Demographic accounting may therefore be used for calibration purposes (Rees, 1978).
c. Explaining Age and Duration-of-Residence Effects

The covariance between migration and age or duration-of-residence has been an important observation, and age and duration-of-residence-specific models of multiregional population change represent a realistic picture. However, research should not stop with this categorization. Age and duration-of-residence are only intermediate migration variables, which are highly useful for modeling purposes but which cannot provide the underlying rationale of migrants' behavior. In the near future, one may expect migration research to focus much more on the explanation of these intermediate variables.

The behavioral analysis of the age-effect has already started. David (1974, p. 561), distinguishes between pure age effects and indirect or "spurious" age effects, through age-correlated influences. The pure effect of increased age is reducing the length of an individual's remaining working life. As a consequence, age lowers the likelihood that an individual finds migration an attractive investment project. The indirect age effects are caused by age-related properties, in particular the life cycle position. A fruitful direction for research may therefore be to think of age as the basic component of life cycle behavior and to relate migration to school enrolment, nuptiality and labor force participation.

Referring to migration research in general, Mangalam states: "It seems to me that the explanatory-predictive potential of the life-cycle concept is yet to be realized" (Mangalam, 1977, p. 565).

Two types of life cycle may be distinguished: the economic life cycle or job-career position and the family life cycle. The economic life cycle explains employment-related migration. The young are more likely to be unemployed job seekers and geographical mobility is an element of job search. Recent work on vacancy models and regional labor markets places migration completely in the framework of job search (for a review, see
Miron, 1976). Middle age workers are more established in the labor force and their migration is more likely in response to career opportunities and is not related to unemployment. Older workers are established in the labor force and are less likely to migrate, except at time of retirement. The family life cycle has received most attention in studies on residential mobility. Changes in marital status and family size affect the decision to move. Courgeau (1976), found that in France an individual moves an average of three times before the age of 50; 0.75 of these moves are connected with marriage and 0.70 with reproduction. Family size, through the impact on the housing condition, tends to increase mobility of the French population (Clerc, 1974, p. 104). Since the residential moves, in particular the family-size-related migrations, are frequently over a short distance, data on interregional migration would not reveal this relation. Nevertheless, several authors use data on intercounty, interstate or interprovincial migration (e.g., Bogue, 1969; Long, 1972, 1974).

In studies of all changes of residence, including those within the same labor market, the family life cycle becomes more important as Table 2 and Figure 5 show. (See also Courgeau, 1970, pp. 81-84).

In explaining the relation between the family life cycle and migration, sociologists emphasize the social integration aspect of family formation (Ritchey, 1976, pp. 380-382). A larger family increases the community ties through marriage and aging of children. The presence of family and friends and the involvement in community activities deter migration. "Place attachments" not only grow through the family life cycle, but also through personal investment in the community of residence, in particular through home-ownership.

As for the age-effect, the duration-of-stay effect is only a symptom of other duration-of-stay-correlated influences. One has already been mentioned: the personal investments in local communities that are accumulated with the length of residence.
Table 2. Reason for migrating by distance moved, Great Britain, 1970.

Source: Gleave and Cordey-Hayes, 1974, p. 59

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![Figure 5. Proportion of all migrants moving due to change in job, Great Britain, 1970.](source)

Source: Gleave and Cordey-Hayes, 1974, p. 59
These investments may range from home-ownership to knowledge of
the area and to kinship and friendship affiliations. These ties
demonstrate the ability of the migrant to be assimilated into the
new community.* The basic explanation of duration of residence
must be in terms of social integration. A study of length-of-
residence related influences requires a better understanding of
the sociology of migration.

2. The Socioeconomics of Migration

It has already been stated in the previous section that,
to understand the migration phenomenon, one must consider the
interdependencies between migration and socioeconomic variables,
such as the life cycle. Socioeconomic determinants and con-
sequences of migration have received considerable attention in
the scholarly literature over the past decades. Recently, a
number of surveys and bibliographies have been produced on
this research. The reviews of Greenwood (1975), Price and
Sykes (1975), and Shaw (1975) focus on migration research in
developed countries, in particular the United States. Byerlee
(1977a) review studies on the economics of internal migration
in developing countries. Ritchey (1976) reviews sociological
aspects of migration. In addition, four collections of papers
may be taken as illustrative of what is currently happening in
internal migration studies in different disciplines around the
world. The volume edited by Kosinski and Prothero (1975) is
an output of the Symposium on Population Geography, organized
in 1972 by the International Geographical Union Commission on
Population Geography. The volume edited by Richmond and Kabut
(1976) contains papers presented at the sessions of the Research
Committee on Migration of the International Sociological Associa-

*A measure of assimilation is the involvement in community
activities and organizations.
and Neuberger (1977) is sponsored by the Committee on Comparative Urban Economics and contains papers submitted for a conference in 1974, but which was cancelled. The fourth volume is produced by the American Anthropological Association and based on a symposium held in 1975 (Guillet and Uzzell, 1976).

The reviews mentioned above clearly show an emphasis on the determinants of migration and on migration differentials. Limited attention is devoted to the consequences of migration. The latter, however, provides important background information for the formulation of migration policies. The increased attention given to determinants may also be explained by the demand on the part of planners at all levels of government for more accurate forecasts of populations for regions or localities.

Another explanation of the bias of the migration literature toward examining the determinants is given by Long and is related to the approach usually followed in studies on determinants of migration, namely, multiple regression analysis. He writes: "By varying the combinations of predictor variables (determinants), one could rapidly expand one's list of publications. Such regression studies could be quickly produced because of the rapid introduction of canned computer programs to produce regressions. Articles based on these data and using multiple regression analysis apparently had a high degree of acceptance in professional journals in the 1960's and up to the present" (Long, 1977, p. 559).

In contrast to the extensive enquiry on the determinants of internal migration, little effort has been devoted to the synthesis of this fragmentary knowledge into a general migration theory. Nevertheless, two basic approaches to theory building may be distinguished. The first, inductive approach builds up a migration theory from empirical observations. The second, deductive approach starts from a general theoretical construction and collects empirical evidences to prove its applicability. It is not surprising that most researchers have followed the inductive approach.
Unlike in other social sciences, such as economics and sociology, only a very few have adopted the deductive approach.

a. Migration Theory: Inductive Approach

The first attempt at formulating a migration theory dates back almost a century. Following an empirical study on population movements, first in Britain and later in twenty countries, Ravenstein (1885 and 1889) formulated the observed empirical regularities as "Laws of Migration". The gravity type laws formulated a crude answer to the questions of why people migrate, what the migrant's characteristics are, and what the pattern of internal migration is.

The Ravenstein work has been extended along two paths: (i) extension and reformulation of the list of empirical regularities, and (ii) expression of the regularities in gravity type models. Along the first path, Bogue (1959, pp. 449-501) came up with extensive lists of situations affecting migration. He explicitly stated that the lists are nothing more than a framework for migration analysis, and should not be interpreted as laws or theory. Lee (1966) provides a more explicit attempt at theory formulation. Migration is the result of a decision-making process. Lee classifies the factors that enter directly into the decision-making into four sets:

i) Push factors: factors associated with the area of origin;

ii) Pull factors: factors associated with the area of destination;

iii) Intervening factors: obstacles associated with the movement itself;

iv) Personal factors: characteristics of the potential migrant, that determine the way in which he perceives and evaluates migration as a personal project.
These factors constitute the context, or motivational structure out of which the decision to migrate finally crystallizes. Lee uses this structure to formulate nineteen hypotheses about the volume of migration, the migration directions and the characteristics of the migrants. Central to many of these hypotheses is the observation that migration is an adjustment to changes in personal and economic conditions. The importance of personal factors (age, education, employment status, race, occupation) suggests the computation of migration properties by category, i.e., migration analysis at a higher level of specificity.

Great efforts have been devoted in the past several years to determining the factors that enter the migration decision. Following the inductive approach, such efforts have tried to recover, from surveys and reported census data, the causes of observed migration behavior. Attitude surveys go to the heart of the problem by asking migrants directly about their motives.* Most researchers, however, rely on aggregate data on migration and socioeconomic conditions reported by the Census Bureau or other institutions. Using correlation and regression techniques, they try to infer the determinants of migration. However, the primary purpose of most regression models of migration reported in the literature is a description and an ad hoc explanation of empirical regularities. This search for empirical uniformities is not enough to construct a migration theory. What is required is a synthesis of these uniformities into coherent interpretations of behavior (Morrison, 1972, p. 289).

b. Migration Theory: Deductive Approach

The antipode of the previous approach is the deductive analysis of migration. Instead of focusing on the empirical regularities that result from the actions of the migrants, it may be fruitful to

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take a distant view of the migrant and to ignore everything but the essentials. What we would see then is an abstract individual with no other characteristics other than what are common to all migrants. Analagous creatures are, for example, the "homo economicus" and the "homo sociologicus". Their characteristics constitute the basics of economic and sociological theory respectively. The "homo migrans" would have some factors in common with both the "homo economicus" and the "homo sociologicus", but he would also have unique characteristics that make him identifiable as a separate entity.

It is beyond the scope of this paper to attempt to derive the properties of the "homo migrans". It would constitute the migration theory. However, some initial work along these lines will be reviewed. In the deductive approach, migration is viewed as the result of a decision-making process. Three general approaches to the development of a behavioral theory of migration may be distinguished (Ritchey, 1976, p. 395).

(i) cost-benefit approach
(ii) adjustment-to-stress approach
(iii) modes-of-orientation approach.

The cost-benefit or human capital approach underlies labor mobility studies. Migration is interpreted as an investment in human capital. Returns to investment accrue over the remaining working lifetime. Sjaastad (1962) treats the migrant as an investor, and migration as an investment project. It is assumed that the potential migrants will undertake the project, i.e., migrate, only if the benefits exceed the costs, discounted at a proper rate which expresses his time preference. Benefits are generally measured in terms of present value of lifetime income. It is assumed that the number of alternative locations to move to is limited, and that the migrant has full information on the costs and benefits involved. This approach is favored by economists. Most economic models of migration are imbedded in the human capital approach. Recent extensions emphasize the uncertainty involved in future earnings (Todaro, 1969; David, 1974).
Note that the micro-perspective of the human capital approach is consistent with the macro-perspective of labor and regional economists. They view migration as an adjustment mechanism of the labor market. Regional labor supply and demand is equalized through migration. The perfect interregional mobility of labor assures in addition equal wage rates (Greenwood, 1975).

The adjustment-to-stress approach receives most attention in residential mobility research. Migration is viewed as a response to changes in personal and environmental factors. As early as 1955, Rossi (1955) found that each decision to change residence originated in a conflict situation. Sources of conflicts were housing complaints, overcrowding, neighborhood conditions, etc. Ten years later, Wolpert (1965, 1966) developed a behavioral theory of mobility based on environmental stress, which received a number of elaborations. The fundamental feature of this theory is given by Wolpert as follows:

Migration is viewed as a form of individual or group adaptation to perceived changes in the environment, a recognition of marginality with respect to a stationary position, and a flow reflecting an appraisal by a potential migrant of his present site as opposed to a number of other potential sites (Wolpert, 1965, p. 161).

This theory will be reviewed in more detail in the next section.

The modes-of-orientation approach emphasizes basic differences in decision-makers. The term "mode of orientation" has been introduced by Beshers (1967) to reflect the fundamental differences in orientation that migrants may have and to distinguish types of decision-makers. Well-known migrant types are active and passive migrants (Hagerstrand, 1967, p. 132). Their behavior is fundamentally different. Active migrants base their mobility on future prospects. Passive migrants, on the other hand, rely on limited information available from previous migrants. Recently, Kau and Sirmans (1976, 1977) also found important behavioral differences between primary, repeat and return migrants. Lansing and Mueller (1967) distinguish between achievement and security orientations of migration. The first orientation appears early in the life cycle, while the latter is more characteristic of older workers.
c. Migration Theory: Combined Approach

The inductive approach to migration theory emphasizes the anatomy of the migration factors or determinants. On the other hand, the deductive approach focuses on migration as a decision-making process and on the migrant as a utility maximizer. Both approaches may be married in focusing on an anatomy of the migration decision. Migration is a complex process, involving many single but interdependent considerations. The analysis of migration and its causes may benefit from the distinction of three types of decisions, each of which has its own character. They are:

1. the decision to move
2. the locational decision
3. the decision to stay.

The first two decisions are also explicitly considered in the adjustment-to-stress approach to migration, represented by Wolpert (1965, 1966) and Speare (1974).

Usually the three decisions will be carried out in sequence, although this is not a requirement. For most potential migrants, there is the realization that they eventually will migrate, but some precipitating event determines the time of migration and the destination (Price and Sykes, 1975, p. 14).

1. Decision to move. Why do people move? Wolpert (1965, p. 162; Speare, 1974) and others following the adjustment-to-stress approach argue that each decision to move has originated from a stress situation or a dissatisfaction with the current community.* A dissatisfaction may result from a change in the environment, a change in needs and expectations, or a change in standards used to evaluate the environment. An example of a change in needs is family growth, requiring a larger dwelling unit. A change in

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*Speare et al. (1974, p. 175) prefer the term "dissatisfaction" to the term "stress" because it avoids the connotation of mental tension.
standards may result from social mobility aspirations or the receipt of information about opportunities elsewhere. For instance, education increases one's aspirations and may therefore lead to a dissatisfaction with the place of residence.

Dissatisfaction, however, is not a sufficient condition for migration; rather, it initiates a search for more satisfying alternatives. Migration is one alternative. Instead of moving, the individual may reduce the stress by changing the environment in situ or by reducing his aspirations. It is the interplay of mobility and stabilizing factors that determines the alternative chosen. Hence, there is no unique stress threshold which, if exceeded, results in a decision to move. It depends on the stabilizing factors.

2. Locational decision. Where do people go? The locational decision involves a search and evaluation of alternative destinations. According to Wolpert, an individual assigns a "place utility" to his current place of residence and to other alternative locations. "Place utility" refers to the net composite of utilities which are derived from the individual's integration at some position in space. The range of alternatives is limited to what Wolpert calls the "action space", that part of the limited environment with which the individual has contact, which he perceives and to which he responds (Wolpert 1965, p. 163). The first condition for a place to be in the action space is that enough information is available to assign place utilities. The second condition is that the place is relevant to the migrant, i.e., has desired opportunities. Not all characteristics are equally relevant to all migrants. Some migrants are looking for employment opportunities; others for cultural, recreational or educational facilities. Although most economic studies emphasize the economic nature of the migration process, non-economic considerations may play an important role in the migration decision. The action space, therefore, depends on the environment, in particular the communication network, and on the migrant's personal attributes, in particular his needs,
expectations and abilities. Lansing and Mueller (1967) disclosed that the action space is actually very limited. Two-thirds of all migrants in the US consider no other destination than the place to which they actually move. They also revealed that the communication network is very restricted. Sixty percent of the migrants rely on only one source of information to explore new opportunities. Family and friends are the most important information channel. This results in what Morrison (1977, p. 65) calls the "beaten path" effect of migration and Greenwood (1970) the "migrant stock" effect; namely, that a migration flow is self-perpetuating. "Like a siphon, it draws even more migrants to the same locale through ties with people left behind" (Morrison, 1977, p. 65).

The action-space concept enables an explanatory analysis of the relation between distance and migration. Migration distance is an indication of the rise of the action space. In the literature, two factors have consistently been proposed as explanatory variables of the migration-distance relationship: information and intervening opportunities. Both factors are associated with the conditions for a place to be in the action space. The intervening opportunities hypothesis (Stouffer, 1940) states that migrants move only as far as they must to find the opportunities sought. Hence the existence of opportunities close-by reduces the action space. As a consequence, migration-distance depends directly on the type of opportunity sought: residential mobility is short distance, labor mobility is long-distance migration.

The fact that most moves are short-distance moves may also be explained by the individual's capability to obtain and analyze information. As one's information gathering capability increases, for instance, through education, then the migration distance changes accordingly. The positive association between migration distance and education is shown by Schwartz (1973) and is interpreted in terms of information obtained. A reformulation of the distance concept in terms of the migrant's characteristics is proposed by Brown and Horton (1970).
The stress or dissatisfaction models require the evaluation of various place utilities, and hence the measurement of these utilities and level of (dis)satisfaction. The translation of the concept of place utility into specific, quantitative terms has been difficult. Speare (1974) and Speare et al (1974, pp. 175-183) represent the evaluation process as a cost-benefit model that includes both monetary and nonmonetary factors. The probability of considering moving and the probability of moving for those who consider moving, is related to several personal and environmental variables, such as housing and location characteristics. This is done by multiple regression or by the calculation of a satisfaction index. The latter represents the evaluative mechanism which links personal properties and environmental characteristics (for an illustration, see Bach and Smith, 1977).

An alternative approach to measuring place utility, but which is not rooted in conflict theory, is the cognitive behavioral approach. The fundamental focus of this approach is on the evaluations of community preferences. The idea is that preferences are subjective evaluations and that the perceived attractiveness of alternative locations is a critical element in the migration decision. The perceived attractiveness constitutes a mental map, i.e., a graphic depiction of expressed preferences for alternative locations. Cognitive behavioral migration research deals with three aspects: (i) determination of community preferences, or, in other words, design of aggregate mental maps; (ii) relation between the preferences and the propensities to migrate; (iii) selection of place attributes that contribute to perceived attractiveness. In a recent study, De Jong (1977) investigates the relation between migration and residential preferences in terms of size-of-place and proximity to a larger city and gives an extensive list of other studies on the cognitive behavioral approach (see also De Jong and Sell, 1977). Gustavus and Brown (1977) investigate the relative importance of thirteen place attributes that migrants to Columbus, Ohio perceive as relevant components of the attractiveness of Columbus and a set of alternative destinations. It should be stressed that the concept of place utility
and its measurement in terms of satisfaction or community preferences is generally applied to residential mobility, and hence short-distance migration. Bach and Smith (1977), however, use the paradigm to study intercounty migration.

3. Decision to stay. Migration is a risky activity. It is based on incomplete and inexact information available prior to the actual migration. Once the migrant arrives at the destination, he starts to feel the consequences of his act. A posteriori information allows him to reassess his expectations. If at this point the expected net benefits or place utility of the new area is found to be less than those of alternative areas, the migrant may consider to move again. This move is frequently back to his place of origin. The decision to stay is, therefore, an important element in the study of return migrations. Another migration stream in which the decision to stay is of basic importance consists of temporary migrations. Seasonal migrations for example, are important in several parts of the developing world. An outcome of the decision to stay is the duration of residence of migrants. Because a migration can only be considered to be completed if the migrant stays in his new area for a prolonged period of time, the decision to stay must be treated as a component of the complex migration decision. Moreover, Mabogunje (1970) states that the final stage of the migration process is the successful assimilation of the migrant into his new environment. Sociological aspects determine, therefore, the end of the process.

The consideration of three types of migration decisions does not imply that they can always be separated. In particular, in existing theoretical constructs, two or all of the decisions coincide. For example, in a two-region system, implicit in Sjaastad's theory (1962) and explicit in Todaro's theory (1969), the decision to move and the locational decision are equivalent. Moreover, they omit the decision to stay since return migration is therefore a logical consequence. However, in most empirically oriented econometric models of migration, involving more regions, a combination
of factors affecting the three decisions may be found. In this paper, we will not elaborate on these models. For a review of econometric models, see Greenwood (1975) for developed countries, and Yap (1975) for developing countries. A more recent and critical overview of approaches to econometric modeling of migration and of important related issues is given by Ledent (1978).

3. Conclusion

This paper addressed some issues on internal migration and reviewed recent research activities. The study of migration as a component of demographic change is easily done in the context of multiregional demography. It enables one to trace through the combined demographic effects of migration between a set of regions and of regional differences in mortality and fertility. The applicability of multiregional demography is not limited to the analysis of a system of regions. Any system of states with transitions between them may be studied using this methodology. Recently, the theory of multiregional demography has been applied to manpower analysis (Willekens, 1978). Here, the system consists of two states, namely, the inactive and the labor force population.

The new opportunities of better analytical techniques can only be fully explored if data are abundantly available or if accurate estimation procedures are available. Considerably more research is needed to develop methods for inferring detailed migration patterns from aggregate data.

The socioeconomics of migration deals with the investigation of determinants and consequences. Attempts to develop a consistent migration theory allowing the synthesis of the existing knowledge have not been completely fruitful. One reason may have been the emphasis on the determinants, and the neglect of an anatomy of the migrant's decision-making process. The existence of such a theory would considerably benefit our understanding of the migration phenomenon and would provide a basic structure for organizing future migration research.
References


Schwartz, A., "Interpreting the Effect of Distance on Migration", *Journal of Political Economy, 81*, pp.1153-1169.


