



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**A
SURVEY OF
AGRICULTURAL
ECONOMICS
LITERATURE
VOLUME 3**

*Economics of Welfare,
Rural Development,
and Natural Resources
in Agriculture,
1940s to 1970s*

LEE R. MARTIN,
editor

Published by the University of Minnesota Press, Minneapolis,
for the American Agricultural Economics Association

Rural to Urban Migration: Population Distribution Patterns

Philip E. Graves

*Associate Professor, Department of Economics
University of Colorado*

Marion Clawson

*Consultant in Residence
Resources for the Future, Inc.
Washington, D.C.*

Why do people live, work, and play where they do? How much, why, and between what points do people migrate, both temporarily and permanently? These are rather simple questions, but the answers are much less clear and do not fall neatly into one field of human knowledge. Because choices are involved, choices having costs and benefits, the matter of migration and settlement patterns involves economics and the economist. But the sociologist, the demographer, the urban or regional planner, the geographer, and perhaps other specialists are, and traditionally have been, also involved. The field of migration shades off into many other considerations and disciplines. If one interprets the subject broadly, there has been and continues to be a vast literature dealing with migration. This is not a full review of all related literature but represents the authors' ideas of the major divisions of the general subject, with many illustrative references, from which the interested person may go further.

Some of the professional writing is primarily analytical, being either theoretical or empirical. It seeks to present or develop a theoretical or analytical framework or to provide some empirical data, reaching conclusions of a more or less quantitative nature. Other literature deals primarily with a problem or a situation for the purpose of developing a policy or a program to solve that problem or to improve the situation. There is obviously not a clean line between these two major categories: some pieces may be primarily analytical but lead up to an evaluation of an ongoing program, for instance. In the present survey, we are primarily interested in the analytical pieces.

The first section presents a background discussion of migration and settlement, designed to provide a historical context for the discussion of analytical trends. The next section introduces two migration "triads" as a conceptually useful device for understanding the diverse analytical and empirical threads weaving in and out of the migration literature. A prediction of the direction that will be taken in future migration work emerges. The final section summarizes the review of population distribution patterns.

Migration and Settlement Design

Migration has built and rebuilt the United States, from the days of the first permanent settlements of Europeans along the Atlantic Coast until today; for many decades people moved westward across the nation, and moved from rural to urban locations in great numbers, more or less continuously. Rural to urban net migration now appears to be largely over—in recent years nonmetropolitan counties have been growing more rapidly than their more urban counterparts.

Migration of human beings is a complex personal, economic, social, demographic, psychological, and political process. The personal characteristics of individuals greatly influence their decision to move or to stay, and affect the nature of the migration process when they decide to move. But the migration process in turn affects individuals, both those who move and those who stay; migrants, in particular, may experience substantial personal change as a result of moving. Loss of some members of the local society has an impact on the area of origin in numerous and varying ways; gains of migrants similarly alter the areas of destination in equally varied ways.

Migration flows may usefully be classified in several ways. There is *gross* flow in one direction: total numbers of persons leaving a particular area, or total numbers entering another area, during some defined time period. There is generally a *reverse* flow: for instance, even in the years of heavy migration from some rural areas to some urban area, there were considerable numbers of persons moving in the opposite direction. Some of these may well be described as *return* migrants; in an earlier period they moved from rural to urban areas, and now they return to their former location. There could of course be reverse flow without return flow. The difference between gross and reverse flows is a net flow; in many instances, one knows only about these net changes. The Census, for instance, may show numbers of people who live in a city, county, or state and whose birthplace was elsewhere; changes in such numbers between two Census dates show net migration for a given area during the Census interval. In more recent years, the Census has obtained information on numbers of persons living in each location who moved there during the preceding five

years. This measure is one of gross migration, since migrants in the opposite direction are not deducted.

A number of recent studies have dealt with individual survey data. These newer sources of data are leading to important new theoretical and econometric approaches to migration, as will become clear in the following section.

Migration flows may also be classified according to the intent of the mover and/or the time period involved in the migration. For instance, some migration is seasonal, with the intent being to return to the place of origin within the year: primitive people followed their herds of livestock; men left the village to do seasonal work elsewhere while the families stayed at home; and in the modern world both rich and retired persons follow the sun in winter. Some persons migrate on a tentative, or trial, basis—to see how they like life in the big city, while retaining the old home in the village as a line of retreat; others migrate with every expectation of never returning; and still others have intermediate intentions. The reality may differ, in either direction, from the expectation. What began as a temporary move may prove permanent, what was intended as permanent may be reversed, and so on. Data on migration, collected annually, as for instance the U.S. Department of Agriculture (USDA) series on persons leaving and persons returning to farms, may reveal rather different numbers than those collected at five- or ten-year intervals, as with Census data. Population flows in the United States are numerous and complex, and to some extent the relationships depend on how and when the data are collected.

Finally, migration affects both the area of origin and the area of destination. Not only does it remove some people, but it takes away part of the labor force, some of the customers, and some of the participants in every economic and social process. Migrants typically share certain personal characteristics, as will be discussed briefly later; hence both the area of origin and the area of destination are changed by migration—that is, both areas are not the same as would be the case if the migrants were a random cross-section of the whole population. It is possible for the same migration stream to impoverish or to enrich both the area of origin and the area of destination. For instance, if the better-educated and relatively higher income blacks move from southern rural areas—as they have—this decreases the average level of education and income among the blacks who remain; but these migrants may be less well educated and poorer than the average person in the areas of their destination, hence lowering the average level of education and income there as well. This particular type of migration may be highly desirable from a national viewpoint, but the policy implications in a regional context are substantial. Similar origin-destination effects are of course present for variables other than income flows, notably stocks of physical, financial, and human capital.

The foregoing general ideas have been developed, elaborated, or illustrated in many books and articles, of which only a few can be briefly mentioned. Long ago Shanahan [1927] discussed these ideas in rather general but perceptive terms, using Britain and western Europe for many of his examples but applying them to North America also. He concluded, pessimistically, that the outlook for prosperity in farming areas was bleak, because outmigration will always lag, owing to personal resistances to movement, below the level necessary to equate rural and urban real income. In more recent times, Sjaastad [1962] considered human capital aspects of migration, in an improved theoretical and empirical analysis, though he concentrated more upon the economics of population movement than upon its sociological or human terms and did not consider the effects of the migration either on areas of origin or on areas of destination. Sjaastad also included a fairly complete listing of the pertinent economics literature, up to the time of his writing. Parr [1966], considering depressed areas generally and not specifically agricultural areas (though these are also included), found that outmigration may take the most employable persons from the local labor force, because they are best employable elsewhere, leaving the source area even less capable of competing economically. Vanderkamp [1970, 1971] conducted both theoretical and empirical studies for the Canadian experience. He found that migration was greater in times of prosperity than in times of high unemployment. Moreover, when migration takes out of an area people who were unemployed but who drew welfare payments from a central government, the income of the area is reduced and its unemployment is increased (but to only about 40 percent of the gain due to outmigration of the unemployed).

There has been an extended literature on the amount, the flows (direction, end point, etc.), the timing, the human characteristics, and so on, of migration in the United States, especially since World War II. Only three such studies will be referenced in this section as indicative of the type. Bowman [1965] made an extended analysis of migration from the South to other parts of the country, with particular reference to the age, educational level, and incomes of those who migrated and those who stayed, and with special concern for racial differences. The period of the analysis was the 1950s, and the prime source of data was the 1960 Census. She concluded that migration tends to take the better educated, especially among blacks, but it also takes some of the most poorly educated; average incomes rise with education, until at the highest educational levels southern whites did about as well as similarly educated northerners, but incomes of southern blacks were substantially below those of northern blacks at each education level. She stressed the very low level of education characterizing the South for both blacks and whites, circa 1960.

Fein [1965] presented an analysis of migration in the 1955-60 period, by Census regions within the South. His analysis was much influenced by the migration pattern in Florida, which had a large immigration, dominated by whites, older persons, the very well educated, and those in higher status occupations. Largely because of this heavy immigration to Florida, net migration from the South as a whole was rather low—heavy outmovements elsewhere more than overbalanced the heavy inmovement to Florida. Although gross rates of outmovement were higher for whites than for blacks, the inmovement was largely white, so the rate of net outmovement was higher for blacks. Fein estimated the dollar values lost from the South by migration and concluded that it was not a major part of the South's total economic problem. Of note is that this study observed a multiplicity of migration motives which figured importantly in recent analyses; although many were moving out of the South seeking higher incomes and less discrimination, others were moving into the South motivated by low price levels and climatic amenities.

Using Census data, Ashby [1964] made an easily understood analysis of one aspect of migration during the 1940s and 1950s—the shifts in employment. He utilized the shift-share type of analysis employed by many economists, showing which states gained by having a mix of employment favorable in terms of rapid nationwide growth. Although this type of analysis deals with migration only peripherally, it does help both to explain why some migration took place and to measure some of the results of that which did occur.

There have been numerous analyses of the farm-urban migration in the United States, a rural to urban movement which characterized the years since World War II and which began tapering off only recently (Beale [1975]). Beale [1971] made many analyses of the demographic aspects of this earlier movement—the ages of persons involved, their educational status, the effect of loss of young people on reproductive rates in the areas of origin, and other aspects.

Diehl [1966], using data for economic areas within the Southeast, concluded that migration rate and farm income are negatively correlated—where farm income is higher, the outmigration rate is lower. Chennareddy and Jones [1972] estimated the expected remaining lifetime earnings of young men about to enter farming and of older farmers if both groups were to migrate away from farms for city employment; this analysis lends support to the rationale by which young men hesitate to enter farming.

Hathaway [1960] wrote an excellent review of the outmigration from agriculture as it appeared at that time.

Price et al. [1969], in an exhaustive review of the rural-urban migration literature to the time of his writing, noted that many stereotypes of the

historical rural to urban migrant were not supported by the data. In particular he observed that

1. most rural-urban migrants were white;
2. recent black migrants were as well educated as urban blacks;
3. relatively small proportions of the migrants were on welfare;
4. migrants earned about the same average incomes as urban nonmigrants.

The Price study dealt in chapter-by-chapter annotated detail with the traditional migration issues: the areas left behind, the decision to migrate, characteristics of rural-urban migrants compared with those of nonmigrants in urban areas, adjustment of migrants in urban areas, return migration to rural areas, effects of migration on rural areas, and effects of migration on urban areas. Readers interested in one or more of these topics would do well to begin their study with the Price synthesis of research findings.

The Price work was concerned not only with rural to urban migration but also with poverty. The latter aspect is pursued here only to the extent that poverty and migration are related. For further discussion of rural poverty, see the Bryant, Bawden, and Saupe survey in this volume.

Much recent work in migration (Graves [1976], Graves [1979b], Liu [1975]) has supplemented traditional (and ongoing) concerns of employment and economic opportunity with the concerns of the environment and amenities generally. This reemphasis no doubt stems from the current revival of growth in nonmetropolitan areas, a revival well summarized by Beale:

The vast rural-to-urban migration of people that was the common pattern of U.S. population movement in the decades after World War II has been halted and, on balance, even reversed. During 1970-73, nonmetropolitan areas gained 4.2 percent in population compared to only 2.9 percent for metro areas. In the eyes of many Americans, the appeal of major urban areas has diminished and the attractiveness of rural and small town communities has increased, economically and otherwise. The result is a new trend that is already having an impact, one that modifies much we have taken for granted about population distribution [1975, p.1].

In the following section an organizing construct, called here the "Two Triads," will be presented to categorize the modeling approaches observed in the literature. For the present, it seems clear that the dominant type of migration actually observed has had an (expected) profound influence on the analytical models advanced for the explanation of the migration phenomenon.

When one comes to consider settlement pattern, the first and basic question is: on what geographic scale? An analysis might be made on a national scale; this will show that the American population until recently has been concentrating in metropolitan areas and in certain regions—Florida, Texas, and the

Pacific Southwest, in particular.¹ Or one might make a study on a regional basis, either using regions (rather than metropolitan areas) as units within a national total or studying changes within parts of a region. Likewise, analysis might be based upon states, or upon (Census-defined) economic areas within states, or by counties. Or the focus might be upon rural-urban contrasts, or upon nonmetropolitan-metropolitan contrasts, or upon those for central city and suburb. At the central city metropolitan scale, population has been dispersing since World War II; suburbs have grown much faster than have central areas. Or one might focus upon settlement pattern within neighborhoods and suburbs—lot size, contiguity or lack thereof for subdivision development, floor/area ratio, and other measures. Each of these scales of analysis is not only defensible but valuable for certain purposes. Difficulties arise when one uses a single scale (often because data are available for it and not for another) but applies one's findings as if they related to a different scale. For example, when one uses Census data on "urban counties," one gets one picture of urbanization in the "megalopolis" that stretches from Boston to Washington, whereas one gets a wholly different picture if one uses aerial photographs that show actual development on the land (see Clawson [1971]).

The study of settlement patterns—in the broadest sense of that term—may be concerned with one or more of several aspects. One concern may be efficiency—but whose efficiency and for what activities? There is a fairly clear concern with efficiency in production by producing units—farms, factories, stores, etc.; there is also clearly efficiency in terms of workers—the relation of their residences to their employment; there is efficiency for the housewife or other shopper; there is efficiency in recreation—the location of recreation areas vis-à-vis location of homes; and so on. But there is also the possibility that what is efficient for the person observed or the participant is inefficient when all those affected are considered. We are aware of this possibility because in recent years we have discovered that the underlying externalities are so pervasive. For example, an individual may personally find driving his or her car to work the most efficient means of transport, but when everyone drives, this may no longer be as efficient for the whole body of workers, in view of the congestion and pollution which results.

But settlement patterns may be examined from viewpoints other than efficiency, at least as the economist defines the latter. Planners, whether city, regional, physical, "comprehensive," or some other variety, architects, and others have been much concerned with "design"—a range of considerations and a viewpoint, even a jargon, with which the average economist is entirely unfamiliar.

Economists have conducted many studies of one or another aspect of the American settlement pattern, yet have made few studies examining the settle-

ment pattern as a whole, explicitly, in terms of efficiency, externalities, or other characteristics. There have been, for instance, a number of studies concerned with growth centers, marketplaces and trade areas, commuting patterns, and the like (Berry, Goheen, and Goldstein [1969], Fox [1968], Hansen [1971]). In these and similar studies by others, central points or cities are identified in various ways; trade or tributary area is defined by actual commuting or trade patterns or in terms of distance to the center as compared with distance to equivalent centers elsewhere, and worker commuting patterns, trade and commodity flows, cultural influences, or other economic or social relations between center and hinterland are measured or described.

All of this may be considered a modern and more sophisticated, or at least more specialized, version of the classic locational theorizing of Von Thünen [1966 (1826)], Lösch [1954], and A. Weber [1929 (1909)]. That classical tradition has been continued by Hoover [1937, 1948], Isard [1956], Lefebvre [1958], and Beckmann [1968]. Neutze [1967] has provided a beautifully clear discussion of location theory, using agricultural and trade examples.

A somewhat different line, or perhaps only a specialized version of general location theory, has concerned itself with the relationship of city center to its periphery—changes in land use intensity gradients, and the like. Clark [1967] wrote extensively on this subject, using data from various cities around the world. In this country, Muth [1961, 1969] made similar analyses. Winsborough [1963], as a sociologist, treated the same situation using terms that many economists will find strange. Each of these authors used measures of intensity of land use obtained by dividing total population (or total economic activity) by total land area; there was no place in any of these formulations for idle land, which some of us have identified as one-half or more of the area “withdrawn” by the city from other land uses; each utilized a single-centered model of the city, which seems increasingly inappropriate in this day of decentralized metropolitan areas; and each made additional simplifying assumptions. Nevertheless, these approaches clearly included several positive features.

As might be expected when spatial arrangements are under review, geographers have given the subject considerable attention. One recent issue of *Economic Geography* (J. A. Brown and Moore, eds. [1971]) is devoted entirely to the subject of urban spatial systems, with eight major articles; some of these are primarily mathematical and theoretical, others represent major reviews of pertinent literature, and some provide substantial empirical findings. Although the focus is on urban spatial patterns, the agricultural economist will find much of interest in this symposium issue.

Numerous attempts have been made (U.S. Advisory Commission . . . [1968]) to determine economies of scale for cities or metropolitan areas; how do costs (total, or for governmental functions) or returns (by some

measure) or satisfactions vary with size of the urban settlement, and is there an optimum size? Tolley, Graves, and Gardner [1979] presented the most comprehensive treatment of issues pertaining to city size. However, it is extremely difficult to define, and more so to measure, "output" in unambiguous terms—if real governmental costs go up, this may mean either that services are better or that productivity has fallen. Data on "costs" even for governmental activities are seldom uniform; there are few satisfactory measures of quality of life, or even some segments of it; and factors other than size may dominate the results. There is a widely held, but not empirically sound, belief that economies of scale exist among smaller settlements (up to 50,000, or to 250,000, depending upon which writer you read) and an equally firmly held belief that diseconomies exist and can become large above some size (250,000 for some authors, 500,000 or more for others); and most of those holding either or both of these beliefs argue strongly that a population "balance" is needed, by which they mean fewer people in large metropolitan areas and more people in smaller cities or open countryside.

Attempts to measure economies of specific aspects of urban life have been somewhat more decisive. Hirsch [1968], for example, measured the factors affecting costs of garbage collection. Downing [1969a, 1969b] showed the relationship of suburban settlement pattern and location to costs of sewage collection, transport, and treatment. In Clawson [1971] all studies of this type were utilized—they are not numerous.

Two other types of studies relating to efficiency of settlement pattern may be mentioned briefly. The relationships between costs of travel from home to recreation area, and the number of persons making such trips, have now been analyzed in perhaps 100 different studies.² With outdoor recreation now an "industry" with a gross value of "output" of the same general magnitude as that for agriculture, and with the travel peaks for recreation often exceeding those for the journey to work, it is obvious that studies of the location of recreational opportunity vis-à-vis the location of the home of the recreationist are likely to increase in number and in sophistication.

The possibility of studying the efficiency of rural—largely farm—settlement patterns had been suggested, but few such studies have been conducted thus far (see Clawson and Knetsch [1966] for references). It is difficult to believe that the rural settlement pattern that evolved when travel speed along rural roads behind a team of horses was four miles an hour and when average farm size was about 130 acres (as it was for several decades) can also be the most desirable settlement pattern now, when travel speed in rural areas is 50 miles an hour and when farms are three or more times as large. What is needed is some research to test the economic and social efficiency of settlement patterns not yet in existence—a research for the future, not one of the past or present.

This brief discussion of both migration patterns and settlement patterns suggests that they are much more closely related than has been emphasized in the past. The following section presents an organizational framework within which they can be jointly understood.

The Two Migration Triads³

The large and growing literature on issues surrounding the human migration decision, as reflected in this and other recent literature reviews. (Greenwood [1975], Price et al. [1969], Mangalam and Morgan [1968]), covers many hundreds of articles. Yet only bits and pieces of a comprehensive model exist to provide a context for judging the relative merits of individual contributions and for determining how they fit together as a coherent whole. In presenting here what we call the "two migration triads," it is hoped that a conceptual foundation useful to researchers in the area will emerge.

The approach takes as its starting point a very nonrestrictive model of human migration. That is, all one needs to assume is that:

1. people want to locate so as to make themselves as "well off" as possible;
2. people can order their preferences pairwise between locations at a point in time, given what information they possess;
3. if location A is preferred to location B and location B is preferred to location C, location A will be preferred to location C.

An individual following these axioms is said to be "rational" (given what he or she knows of the characteristics of the various locations of the world). The easily derived and intuitively plausible optimality condition resulting from such a model is that a rational individual will relocate any time the present value of benefits from that relocation exceed the associated costs.

The Two Triads

The two migration triads that follow from this approach are depicted in Figure 1. Consider first Triad I—a perfect information, frictionless world in which the characteristics of all possible locations are assumed to be known for each period of the individual's life. The only uncertainties involved are personal (e.g., unexpected death of a spouse, job loss as one's firm goes out of business, and so on). Aside from such unexpected changes, the rational individual should be able to schedule his or her location throughout life. Thus, in this scenario, a series of what may be described as "life-cycle" changes is what leads to migration. Examples of such move-causing changes might be graduation from college (the best job is unlikely to be in the same location as the educational facility); getting married (larger home or apartment demanded), having children (still larger home, perhaps with more land), retirement (greater spare time might result in demands for better weather in which to enjoy it).

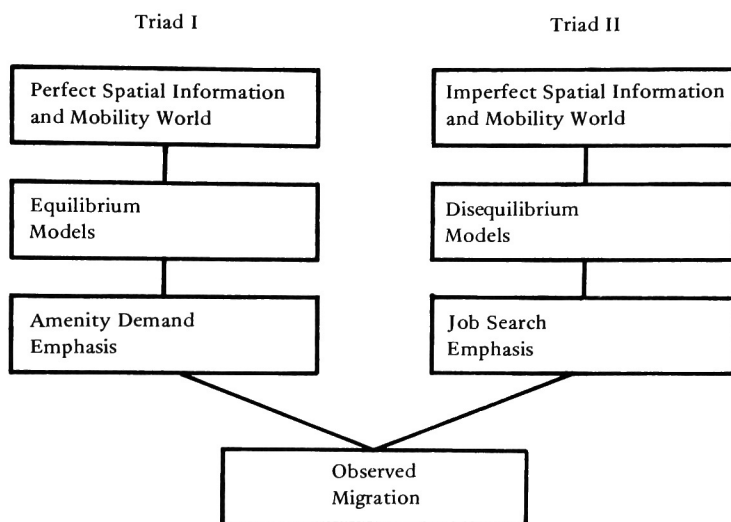


FIGURE 1. Two migration triads

In all these cases a change (expected) occurs as a result of which the present value of benefits from migration exceed the costs.

It should be noted that the "present value" part of the previous sentence is important apart from the obvious discounting of more distant benefits. If an old individual faces the same change a young individual faces, the former would be less likely to move for two reasons: the benefits of the new location would be received for fewer periods since the older individual may not expect to live as long, and the costs of movement will be higher owing to loss of job seniority, greater importance of friends and other community ties, and so on. Thus we would expect, and indeed the literature substantiates, that the probability of moving should be, *ceteris paribus*, negatively related to age.

Another type of movement that would occur in a world of perfect information would be due to changes in the amounts of location-specific goods available. That is, whereas a certain professor might plan on living in the immediate area of his university, changing levels of, say, crime or pollution could well cause a move. Thus changes in supply of location-specific characteristics as well as changes in demand can lead to benefits from relocation exceeding costs.

These illustrations of movement in the presence of high levels of information and mobility suggest that equilibrium models are appropriate. That is, migrants represent the arbitrage activity that keeps utility levels constant across locations. This view of the migration phenomenon has an important

implication, already intimated, which is useful in interpreting existing empirical migration analyses: only *changes* in variables important in the migration decision should matter, with migration being unaffected by the levels of these variables if an equilibrium view is appropriate. For example, an individual having a certain allergy or sinus problem may, *ceteris paribus*, locate in Arizona, whereas another otherwise identical individual not having this problem might locate in Indiana. If national statistics on the number of people having such difficulties were included in a migration equation among regions or states, the expected coefficient of this variable would be zero in an equilibrium context. Only changes in the level of this variable will result in migration. Although this example may seem trivial, the interpretation of the income and unemployment variables that appear in virtually all net or gross migration studies is seriously affected. If one accepts the equilibrium modeling approach, all expected income differentials across locations represent compensation required to offset amenity and other location-specific differences so that utility is constant across locations. Hence a high urban median income reflects compensation for the lower level of amenities received there as compared with a rural setting, and these income differentials should not affect average migration flows.⁴

This equilibrium modeling approach appears to be the conceptual view of the world that underlies recent emphasis on the effect of amenities on migration (Liu [1975], Graves [1976, 1979a, 1979b, 1980]). In these articles the implicit (not explicit) rationale for migrating to places with high amenity levels becomes, under Triad I, that amenities have high income elasticities of demand. Thus rising incomes over a period of time lead to changed demands for amenities that can only be exercised by moving.⁵

It is readily seen that the approaches to migration represented by the first triad fall squarely into the usual microeconomic framework. That is, perfect mobility and information are incorporated in an equilibrium model. Further, migration may be thought of as resulting from changed demands for goods whose nature is location-specific. Hence the determinants of migration are changes in variables entering the demand or supply schedules for these location-specific goods, in much the same way as in ordinary goods markets. Viewed this way, it is clear that both net and gross migration regressions found in the literature represent reduced forms lacking any direct structural interpretation without additional information.

The second triad in the taxonomy proposed here is probably more important from the standpoint of sweeping regional or world migrations. In this scenario, with imperfect information and mobility, the determining factors in migration are the ever-changing perceptions of level of utility obtained in different locations. These changing perceptions may be of two basic types: "discoveries" of

new information about areas, and slow information transfer and reaction to available knowledge.

To elaborate on the first type: the sporadic discovery of new information would alter the relative attractiveness of areas in such a way that the benefits from moving might suddenly exceed the costs for many people. An example in which a whole new area could be compared with existing feasible locations would be the discovery of the New World. Similarly, although California was known to exist long before the discovery of gold, this new information about California led to rapid immigration as the perceived benefits of moving there were suddenly seen to exceed the costs of that move for many rational individuals. The long history of labor-saving technological advance in agriculture can be seen, in the context of the second triad, to have facilitated the mass (but selective) migration from rural to urban areas prevalent until recently in the United States. This effect, when combined with the low-income elasticity of demand for farm (relative to manufactured) products, has led to real utility differences which have only recently begun to be arbitrated away.

Slow information transfer and irregular disturbances leaving real utility differentials account not only for rural-urban migration but also for a great deal of the migration from the East to the West which has been observed over most of the history of the United States. The notion here is that the West might have spectacular scenery, warmer weather, lower humidity, etc., which make it a more attractive location for many people—but unlike the approach of Triad I, this relative attractiveness is only perceived slowly. Thus, even if hypothetically one-half of the population of the East at some point in time were predicted to have greater benefits than costs associated with moving westward, the slow recognition of differentials in locational advantage can account for the long historical process we observe. An individual might move, some years later a friend from the East may visit, who might then after a lag move, and so on. Movement to equilibrium in such a system may well take many decades.

This view of the migration decision suggests disequilibrium model building, which incorporates lags into the analysis and interprets variables in a different way than was done in Triad I. In particular, the income and unemployment differentials are not viewed as compensatorial but as representing real utility differences which should be expected to result in migration flows tending to eliminate them. This is the view most commonly implied in studies of rural to urban migration, particularly until recently.

The job search literature, associated most prominently with labor economists (Phelps et al. [1970]), best represents the emphasis of the second triad. However, labor movement away from locations dominated by extractive

industries (until recently) and away from agricultural areas, the subject here, has been extensively analyzed in the migration literature and is certainly well characterized as a persistent disequilibrium phenomenon. In other discussions, return migration is commonly explained as being due to imperfect information having resulted in a "wrong" initial move.

A Synthesis

The two triads presented here clearly dovetail and jointly underlie the observed migration phenomenon, as implied in Figure 1. Although examples of both predominantly Triad II-motivated migration (e.g., ongoing black migration to the North since the Civil War) and predominantly Triad I-motivated migration exist, in general the motivations are mixed. Hence, while incomes may compensate for amenities at a point in time, the lower nominal wages in the high amenity areas will lure mobile industry in the longer run, raising the demand for labor, which will in turn facilitate additional immigration to desirable areas (which may also become less desirable through this process, as exemplified by Los Angeles smog). Further, since industries and commerce vary in the degree to which they are footloose (location-specific production function shifting variables, such as harbors, are of varying importance according to firm type), this process may be expected to take a very long time. To illustrate: the movement of the steel industry from first Pittsburgh to Chicago, now Chicago to Houston (and points west), depends on prior and concurrent movement by metal fabricators.

The simultaneity of the two triads in most observed migration suggests the direction future developments of the field will take: supply-of-population equations, which will depend on production function shifters (harbors, local wage rates, agglomeration benefits of city size, technological change in agriculture, etc.) and final market demand will be derived, based to a far greater extent than in the past on individual rather than aggregate (usually Census) data.⁶ The simultaneous system may then be solved and migration can be predicted as the flow necessary to maintain supply-demand equilibrium in the presence of predicted exogenous shifts in supply (owing to, say, projected income increases or air quality changes resulting from environmental legislation) or in demand (e.g., changes in highway, or harbor, or other infrastructure-altering accessibility to inputs or markets). If reactions were instantaneous (the Triad I case), this would be the whole story. But considerations of the Triad II kind will be incorporated through lags in movement to equilibrium, so that several periods are required to eliminate excess population supplies or demands.

The procedure, outlined here, through which the two triads are combined will take some time for data development, proper specification, identification, choice of functional form, and the like. However, the process of moving in

this direction will be easier if the two-triad formulation presented here is borne in mind when drawing on the existing literature for guidance in formulating the simultaneous system described above.

The importance of a common theoretical framework in which to view migration is heightened by the range of social science disciplines that consider migration, as is seen in the accompanying references. The variables that shift demand and supply and that introduce lags vary considerably across disciplines. That is, a sociologist may stress group pressures (as, e.g., change in racial or religious persecution), whereas an economist might emphasize income and unemployment differentials, and a psychologist might study age effects, and so on. But the fundamental model must inevitably be that:

1. an individual has an initial location;
2. if the individual is in his or her best location, only *changes* in variables that affect the costs and benefits of relocation will cause migration (Triad I);
3. if the location is not optimal, after perhaps long lags, movement will occur to the optimal location as information is processed and acted upon (Triad II).

Summary

As indicated above, the individual who contemplates the possibility of moving from one location to another weighs advantages and disadvantages of present location, of new possible locations, and both monetary and nonmonetary costs of moving. Each of these factors has an uncertainty or risk component; the situation at home today may be better known than the situation in the possible destination location, but what changes in each will time bring? Much of the literature speaks of push from areas of origin and pull to areas of destination; but there is always both push and pull from each in varying proportions. That is, the young man contemplating a move may be repelled by the lack of a job at home, but attracted by friends and familiar surroundings there; attracted by a job and the glamor of city life, but repelled by his conception of the impersonality and coldness of the big city. In a given situation, push may dominate—an area experiencing a massive drought or a major flood or a prolonged but local economic depression may literally drive some people out. In other situations, pull may dominate, as when World War II opened up jobs in shipyards for blacks who had never had well-paying job opportunities previously. But neither force is ever entirely absent.

In evaluating the many empirical studies of migration, the question inevitably arises: "What do these coefficients mean?" The two triads presented in the previous section were advanced as an aid in this interpretation. Yet the pervasive intermingling of equilibrium and disequilibrium facets of actual migration leaves the appropriate interpretations fuzzy at best. Further, conceptualization of how the triads may be combined in the future leads to the realization

that most past empirical work lacks behavioral content—the regressions represent reduced forms, neither demand nor supply. This is not to suggest that such studies are not useful in the policy arena or as input into fuller models. Rather, the implication is that such usage is fraught with very real difficulties which should be recognized.

The post-1970 reverse migration to nonmetropolitan areas perhaps best clarifies the fundamental similarity of all migration, as described in the previous section. However, the text and the accompanying references emphasize the rural to urban migration the United States has witnessed since World War II.⁷ The recent stress on amenities (climate, pollution, general “quality of life” indicators, and the like) is not really new and was observed by Dahlke and Stonecipher [1946] at the beginning of the period of concern here. It would seem, though, that such concerns will become increasingly important in the future.

With a continuation of migration highly probable and with major, if not profound, changes under way in settlement patterns, metropolitan and non-metropolitan alike, there would seem to be many opportunities for the young economist seeking fruitful fields for research. It is customary, in a review of past research, to plead for more future research, and we have no wish to break with that tradition. More research is clearly needed, and we hope this paper may have suggested some of the directions in which the payoff is likely to be greatest.

Notes

1. For a good analytical treatment of population movements and metropolitan growth, including trenchant comments on data sources and discrepancies, see U.S. Advisory Commission on Intergovernmental Relations [1968, chap. 1]. See also Clawson [1971, especially chaps. 2 and 3].

2. See Clawson and Knetsch [1966] for a discussion of this methodology and for a review of such studies up to 1966. For more recent studies, see issues of the *Journal of Leisure Research*.

3. This section is a revised version of Graves [1977].

4. See Linneman and Graves [1977] for comparisons of city rankings according to nominal and real incomes where the real income measure corrects primarily for climate differences. Clearly other variables (culture, “excitement,” and the like) do matter, but the seriousness of their omission for the conclusions is unclear since they may be uncorrelated with the weather variables. Particularly in the rural-urban migration case, the issue of job-specific human capital becomes relevant and can account for why established farmers do not migrate but their offspring do.

5. Changed relative prices for amenities (as, for example, the lower price of summer comfort in the American Southwest owing to the advent of air conditioning) would also enter in this type of model.

6. Promising recent efforts along these lines include those of Graves and Linneman [1979], Bishop [1976], and Polachek and Horvath [1977]. These authors applied

nonlinear estimation techniques (probit or logit) to the probability of individual or household movement in the face of exogenous changes. In a further effort to separate the amenity and job-search motivations for migration, Linneman and Graves [1979] employed a multinomial logit analysis in which the dependent variable classified households into those changing jobs but not moving and those moving but not changing jobs as well as those doing both.

7. Greenwood's [1975] now-classic review considers a broader range of migration research, giving little specific attention to rural-urban migration.

References

- Adams, A. V., and Nestel, G. [1976]. "Interregional Migration, Education, and Poverty in the Urban Ghetto: Another Look at Black-White Earnings Differentials." *Rev. Econ. and Stat.* 58:156-166.
- Ashby, L. D. [1964]. "The Geographical Redistribution of Employment: An Examination of the Elements of Change." *Survey of Current Business* 44(10):13-20.
- Askin, A. B. [1971]. *An Economic Analysis of Black Migration*. U.S. Department of Commerce, National Technical Information Service, NTIS No. PB 193 791. (Also available from University Microfilms as 1970 M.I.T. thesis of same title.)
- Bachmura, F. T. [1959]. "Man-Land Equalization through Migration." *Amer. Econ. Rev.* 49:1004-1017.
- Bakke, E. W., P. M. Hansen, G. L. Palmer, C. A. Myers, D. Yoder, and C. Kerr [1954]. *Labor Mobility and Economic Opportunity*. New York: MIT Press and Wiley.
- Banks, V. J. [1963]. *Migration of Farm People: An Annotated Bibliography, 1946-1960*. USDA, ERS, Miscellaneous Publication No. 954.
- Beale, C. L. [1964]. "Rural Depopulation in the United States: Some Demographic Consequences of Agricultural Adjustments." *Demography* 1:264-272.
- [1968]. "The Relation of Gross Outmigration Rates to Net Migration." Unpublished paper prepared for the USDA, ERS.
- [1969]. "Demographic and Social Considerations for U.S. Rural Economic Policy." *Amer. J. Agr. Econ.* 51:410-427.
- [1971]. "Rural to Urban Migration of Blacks: Past and Future." *Amer. J. Agr. Econ.* 53:302-307.
- [1975]. *The Revival of Population Growth in Nonmetropolitan America*. USDA, ERS-605.
- Beale, C. L., V. J. Banks, and G. K. Bowles [1966]. *Trends and Outlook for Rural Migration*. USDA, ERS, prepared for the 44th Annual Outlook Conference, processed.
- Beckmann, M. [1968]. *Location Theory*. New York: Random House.
- Berry, B. J. L., P. G. Goheen, and H. Goldstein [1969]. *Metropolitan Area Definition: A Re-Evaluation of Concept and Statistical Practice*, revised. U.S. Bureau of the Census, Working Paper No. 28.
- Bishop, J. [1976]. *A Life-Cycle Theory of Migration: Whether to Migrate as a Function of Change*. University of Wisconsin-Madison, Institute for Research in Poverty, Discussion Paper 332-76.
- Blevins, A. L., Jr. [1969]. "Migration Rates in Twelve Southern Metropolitan Areas: A 'Push-Pull' Analysis." *Social Science Quarterly* 50:337-353.
- Bond, L. K., and B. D. Garner [1971]. "A Theoretical Framework for Analyzing Residence Shifts of Farm Families." *Intermountain Econ. Rev.* 2(2):47-59.
- Borts, G. H. [1960]. "The Equalization of Returns and Regional Economic Growth." *Amer. Econ. Rev.* 50:319-347.

- Bower, L. G. [1972]. "Interstate Migration of Labor-Force Age Population: Comment." *Industrial and Labor Relations Rev.* 25:246-251.
- Bowles, G. K. [1958]. *Migration of Population in the South: Situation and Prospects*. USDA, Agricultural Marketing Service, presented to the 1958 meetings of the Association of Southern Agricultural Workers.
- Bowles, G. K., A. L. Bacon, and P. N. Ritchie [1973]. *Poverty Dimensions of Rural-to-Urban Migration: A Statistical Report*. USDA and University of Georgia, Institute for Behavioral Research, Economic Research Service Statistical Bulletin No. 511.
- Bowles, G. K., and J. D. Tarver [1965a]. *Net Migration of the Population, 1950-60, by Age, Sex, and Color. Vol. I, States, Counties, Economic Areas, and Metropolitan Areas*.
 Part 1. Northeastern States.
 Part 2. North Central States.
 Part 3. South Atlantic States.
 Part 4. East South Central States.
 Part 5. West South Central States.
 Part 6. Western States.
- USDA, ERS, Population-Migration Report.
- [1965b]. *Net Migration of the Population, 1950-60, by Age, Sex, and Color. Vol. II, Analytical Groupings of Counties*. USDA, ERS, Population-Migration Report.
- Bowles, S. [1970]. "Migration as Investment: Empirical Tests of the Human Investment Approach to Geographical Mobility." *Rev. Econ. and Stat.* 52:356-362.
- Bowman, M. J. [1965]. "Human Inequalities and Southern Underdevelopment." *Southern Econ. J.* 32(1, part 2):73-102 (supplement).
- Bowman, M. J., and R. G. Myers [1967]. "Schooling, Experience, and Gains and Losses in Human Capital through Migration." *J. Amer. Stat. Association* 62:875-898.
- Bramhall, D. F., and H. J. Bryce [1969]. "Interstate Migration of Labor-Force Age Population." *Industrial and Labor Relations Rev.* 22:577-583.
- [1972]. "Interstate Migration of Labor-Force Age Population: Reply." *Industrial and Labor Relations Rev.* 25:251-252.
- Brody, E. B., ed. [1969]. *Behavior in New Environments: Adaptation of Migrant Populations*. Beverly Hills, Calif.: Sage Publications.
- [1970]. *Migration and Human Adaptation*. Iowa City: University of Iowa.
- Brown, J. A., and E. G. Moore, guest editors [1971]. "Perspectives on Urban Spatial Systems." *Economic Geography* 45, no. 1.
- Brown, J. S., and G. A. Hillery, Jr. [1962]. "The Great Migration, 1940-1960." In *The Southern Appalachian Region: A Survey*, T. R. Ford, ed. Lexington: University of Kentucky Press. Pp. 54-78.
- Brown, L. A., J. Odland, and P. G. Golledge [1970]. "Migration, Functional Distance, and the Urban Hierarchy." *Econ. Geography* 46:472-485.
- Bryant, W. K., D. L. Bawden, and W. E. Saupe [1980]. "The Economics of Rural Poverty—A Review of the Post-World War II United States and Canadian Literature." (In this volume.)
- Bunting, R. L. [1960]. "Labor Mobility: Sex, Race, and Age." *Rev. Econ. and Stat.* 42: 229-231.
- Cebula, R. J., and R. M. Kohn [1975]. "Public Policies and Migration Patterns in the United States." *Public Finance* 30:186-196.
- Cebula, R. J., and R. K. Vedder [1973]. "A Note on Migration, Economic Opportunity, and the Quality of Life." *J. Regional Science* 13:205-211.
- [1976]. "Migration, Economic Opportunity, and the Quality of Life: Reply and Extension." *J. Regional Science* 16:113-115.

- Chennareddy, V., and B. F. Jones [1972]. "Labor." In *The Overproduction Trap in U.S. Agriculture: A Study of Resource Allocation from World War I to the late 1960s*, G. L. Johnson and C. L. Quance, eds. Baltimore: Johns Hopkins University Press for Resources for the Future. Pp. 113-136.
- Clark, C. [1967]. *Population Growth and Land Use*. London: Macmillan.
- Clawson, M. [1968]. *Policy Directions for U.S. Agriculture: Long-Range Choices in Farming and Rural Living*. Baltimore: Johns Hopkins University Press for Resources for the Future.
- [1971]. *Suburban Land Conversion in the United States: An Economic and Governmental Process*. Baltimore: Johns Hopkins University Press for Resources for the Future.
- Clawson, M., and J. L. Knetsch [1966]. *Economics of Outdoor Recreation*. Baltimore: Johns Hopkins University Press for Resources for the Future.
- Cleveland, O. A., Jr., and M. S. Salkin [1975]. "Migration Analysis and Farm Number Projection Models: A Synthesis: Comment." *Amer. J. Agr. Econ.* 57:368-369.
- Coe, P. F. [1955]. "Nonwhite Population Increases in Metropolitan Areas." *J. Amer. Stat. Association* 50:283-308.
- Courchene, T. J. [1970]. "Interprovincial Migration and Economic Adjustment." *Canadian J. Econ.* 3:550-576.
- Crowley, R. W. [1970]. "An Empirical Investigation of Some Local Public Costs of Immigration to Cities." *J. Human Resources* 5:11-23.
- Dahlke, H. O., and H. V. Stonecipher [1946]. "A Wartime Back-to-Land Movement of Old Age Groups." *Rural Sociology* 11:148-152.
- Davis, K. [1955]. "Internal Migration and Urbanization in Relation to Economic Development." In *World Population Conference Proceedings, 1954*, vol. II. New York: United Nations. Pp. 783-801.
- De Graft-Johnson, K. T. [1974]. "Population Growth and Rural-Urban Migration, with Special Reference to Ghana." *International Labour Rev.* 109:471-485.
- Diehl, W. [1966]. "Farm-Nonfarm Migration in the Southeast: A Costs-Returns Analysis." *J. Farm. Econ.* 48:1-11.
- Downing, P. B. [1969a]. *The Economics of Urban Sewage Disposal*. New York: Praeger.
- [1969b]. "Extension of Sewer Service at the Urban-Rural Fringe." *Land Econ.* 45:103-111.
- Ducock, L. [1951]. "Migratory Farm Workers: A Problem in Migration Analysis." *Rural Sociology* 16:217-224.
- Duncan, O. D. [1956]. "The Theory and Consequences of Mobility of Farm Population." In *Population Theory and Policy: Selected Readings*, J. J. Spengler and O. D. Duncan, eds. Glencoe, Ill.: Free Press. Pp. 417-434.
- Easterlin, R. A. [1966]. "Economic-Demographic Interactions and Long Swings in Economic Growth." *Amer. Econ. Rev.* 56:1063-1104.
- Eldridge, H. T. [1965]. "Primary, Secondary, and Return Migration in the United States, 1955-1960." *Demography* 2:444-455.
- Evsiukov, I. [1973]. "Migration of the Population from the Countryside to the City (Problems of Analysis and Forecasting)." *Problems of Economics* 16 (2):14-25.
- Fein, R. [1965]. "Educational Patterns in Southern Migration." *Southern Econ. J.* 32 (1, part 2):106-124 (supplement).
- Fisher, R. W. [1968]. "Professionals on the Move." *Monthly Labor Rev.* 91(11):32-34.
- Flinn, W. L., and J. W. Converse [1970]. "Eight Assumptions Concerning Rural-Urban Migration in Colombia: A Three-Shantytown's Test." *Land Econ.* 46:456-466.

- Folger, J. K. [1958]. "Models in Migration." In *Selected Studies of Migration since World War II: Proceedings of the 34th Annual Conference of the Milbank Memorial Fund*. New York: Milbank Memorial Fund. Pp. 155-171.
- Ford, W. F., and L. E. Hill [1971]. "Reverse Migration and Population Dispersion: A Partial Solution for Urban Problems." *Nebraska J. Econ. and Business* 10(4):45-60.
- Fox, K. A. [1968]. "Agricultural Policy in an Urban Society." *Amer. J. Agr. Econ.* 50: 1135-1148.
- Freedman, R. [1964]. "Cityward Migration, Urban Ecology, and Social Theory." In *Contributions to Urban Sociology*, W. Burgess and D. J. Bogue, eds. Chicago: University of Chicago Press. Pp. 178-200.
- Galloway, L. E. [1963]. "The North-South Wage Differential." *Rev. Econ. and Stat.* 45:264-272.
- [1967a]. "Industry Variations in Geographic Mobility Patterns." *J. Human Resources* 2:461-474.
- [1967b]. *Interindustry Labor Mobility in the United States, 1957 to 1960*. U.S. Social Security Administration, Research Report No. 18.
- [1969a]. "Age and Labor Mobility Patterns." *Southern Econ. J.* 36:171-180.
- [1969b]. "The Effect of Geographic Labor Mobility on Income: A Brief Comment." *J. Human Resources* 4:103-109.
- [1969c]. *Geographic Labor Mobility in the United States 1957-60*. U.S. Social Security Administration, Research Report No. 28.
- Galloway, L. E., R. F. Gilbert, and P. E. Smith [1967]. "The Economics of Labor Mobility: An Empirical Analysis." *Western Econ. J.* 5:211-223.
- Gaude, J. [1972]. "Agricultural Employment and Rural Migration in a Dual Economy." *International Labour Rev.* 106:475-490.
- Gaude, J., and P. Peek [1976]. "The Economic Effects of Rural-Urban Migration." *International Labour Rev.* 114:329-338.
- Gerard, K. [1971]. "Cities and the Sunbelt: Growth, but Where?" *Business Econ.* 12(1): 58-63.
- Godfrey, E. M. [1973]. "Economic Variables and Rural-Urban Migration: Some Thoughts on the Todaro Hypothesis." *J. Development Studies* 10:66-78.
- Graves, P. E. [1976]. "A Reexamination of Migration, Economic Opportunity, and the Quality of Life." *J. Regional Science* 16:107-112.
- [1977]. "Human Migration: The Two Triads." Mimeo.
- [1979a]. "Income and Migration Reconsidered." *J. Human Resources* 14:112-119.
- [1979b]. "A Life-Cycle Empirical Analysis of Migration and Climate, by Race." *J. Urban Econ.* 6:135-147.
- [1980]. "Migration and Climate." *J. Regional Science* 20:227-237.
- Graves, P. E., and P. D. Linneman [1979]. "Household Migration: Theoretical and Empirical Results." *J. Urban Econ.* 6:383-404.
- Greenwood, M. J. [1969]. "An Analysis of the Determinants of Geographic Labor Mobility in the United States." *Rev. Econ. and Stat.* 51: 189-194.
- [1971]. "A Regression Analysis of Migration to Urban Areas of a Less-Developed Country: The Case of India." *J. Regional Science* 11:253-262.
- [1975]. "Research on Internal Migration in the United States: A Survey." *J. Econ. Literature* 13:397-433.
- [1976]. "A Simultaneous-Equations Model of White and Nonwhite Migration and Urban Change." *Econ. Inquiry* 14:1-15.
- Grossack, I. M., and R. L. Pfister [1971]. "Estimating Patterns of Labor Mobility." *J. Human Resources* 6:345-357.

- Gupta, A. D. [1959]. "Types and Measures of Internal Migration." In *International Population Conference Proceedings, 1959*. Vienna: International Union for the Scientific Study of Population. Pp. 619-624.
- Haenzel, W. [1967]. "Concept, Measurement, and Data in Migration Analysis." *Demography* 4:253-261.
- Hamilton, C. H. [1956]. "Population Pressure and Other Factors Affecting Net Rural-Urban Migration." In *Demographic Analysis: Selected Readings*, J. J. Spengler and O. D. Duncan, eds. Glencoe, Ill.: Free Press. Pp. 419-424.
- [1965]. "Continuity and Change in Southern Migration," In *The South in Continuity and Change*, J. C. McKinney and E. T. Thompson, eds. Durham, N.C.: Duke University Press. Pp. 53-78.
- [1966]. "Effect of Census Errors on the Measurement of Net Migration." *Demography* 3:393-415.
- Hansen, N. M. [1971]. "The Problem of Spatial and Resource Allocation." *Growth and Change* 2(2):22-24.
- [1972]. "Migration Centers, Growth Centers, and the Regional Commissions: An Analysis of Expected Future Lifetime Income Gains to Migrants from Lagging Regions." *Southern Econ. J.* 38:508-517.
- Harris, J. R., and M. P. Todaro [1970]. "Migration, Unemployment, and Development: A Two-Sector Analysis." *Amer. Econ. Rev.* 60:126-142.
- Harris, R. N. S., and E. S. Steer [1968]. "Demographic-Resource Push in Rural Migration: A Jamaican Case Study." *Social and Econ. Studies* 17:398-406.
- Hart, J. F., N. E. Salisbury, and E. G. Smith, Jr. [1968]. "The Dying Village and Some Notions about Urban Growth." *Econ. Geography* 44:343-349.
- Hathaway, D. E. [1960]. "Migration from Agriculture: The Historical Record and Its Meaning." *Amer. Econ. Rev., Papers and Proceedings* 50:379-391.
- Hathaway, D. E., and B. B. Perkins [1968]. "Farm Mobility, Migration, and Income Distribution." *Am. J. Agr. Econ.* 50:342-356.
- Hill, L. D. [1962]. "Characteristics of the Farmers Leaving Agriculture in an Iowa County." *J. Farm Econ.* 44:419-426.
- Hirsch, W. Z. [1968]. "The Supply of Urban Public Services." In *Issues in Urban Economics*, H. S. Perloff and L. Wingo, Jr., eds. Baltimore: Johns Hopkins University Press for Resources for the Future. Pp. 477-525.
- Holtmann, A. G. [1968]. "Migration to the Suburbs, Human Capital, and City Income Tax Losses: A Case Study." *National Tax J.* 21:326-331.
- Hoover, E. M., Jr. [1937]. *Location Theory and the Shoe and Leather Industries*. Cambridge, Mass.: Harvard University Press.
- [1948]. *The Location of Economic Activity*. New York: McGraw-Hill.
- Isard, W. [1956]. *Location and Space Economy: A General Theory Relating to Industrial Location, Market Areas, Land Use, Trade, and Urban Structure*. Cambridge, Mass.: MIT Press.
- Jack, A. B. [1976]. "Cross Sectional Studies of Interregional Migration: A Note on Functional Form." *J. Econ. Studies* 3(2):170-172.
- Jitodai, T. T. [1964]. "Migrant Status and Church Attendance." *Social Forces* 43:241-248.
- Johnson, D. G. [1960]. "Policies to Improve the Labor Transfer Process." *Amer. Econ. Rev., Papers and Proceedings* 50:403-418.
- Kain, J. F., and R. Schafer [1972]. "Income Maintenance, Migration, and Regional Growth." *Public Policy* 20:199-125.
- Kaun, D. E. [1970]. "Negro Migration and Unemployment." *J. Human Resources* 5:191-207.

- Kelley, A. C., and L. W. Weiss [1969]. "Markov Processes and Economic Analysis: The Case of Migration." *Econometrica* 37:280-297.
- Kim, S. [1973]. "Rural-Urban Migration and Technological Changes in the Agriculture of a Developing Country." *Econ. Record* 99:15-23.
- Kinman, J. L., and E. S. Lee [1966]. "Migration and Crime," *International Migration Digest* 3:7-14.
- Kirk, D. [1958]. "Major Migration since World War II." In *Selected Studies of Migration since World War II: Proceedings of the 34th Annual Conference of the Milbank Memorial Fund*. New York: Milbank Memorial Fund. Pp. 11-38.
- Kleiner, R. J., and S. Parker [1969]. "Social-Psychological Aspects of Migration and Mental Disorder in a Negro Population." In *Behavior in New Environments: Adaptation of Migrant Populations*, E. B. Brody, ed. Beverly Hills, Calif.: Sage Publications. Pp. 353-374.
- Knight, J. B. [1972]. "Rural-Urban Income Comparisons and Migration in Ghana." *Oxford Univ. Institute of Econ. and Stat., Bulletin* 34:199-228.
- Knox, H. W. [1972]. "Rural-Urban Migration and Concentrated Employment Programs: A Commentary." *Rev. Regional Studies* 1(3):57-58.
- Koziara, E. C., A. G. Venzill, and K. S. Koziara [1970]. "Racial Differences in Migration and Job Search: A Case Study." *Southern Econ. J.* 37:97-99.
- Kummerfeld, D. D., et al. [1970a]. *Federal Activities Affecting Location of Economic Development*, vol. I, summary and parts I-V. U.S. Department of Commerce, Economic Development Administration.
- [1970b]. *Federal Activities Affecting Location of Economic Development*, vol. II, part I and appendix A ("Program Analysis"). U.S. Department of Commerce, Economic Development Administration.
- Kuznets, S., and D. S. Thomas [1958]. "Internal Migration and Economic Growth." In *Selected Studies of Migration since World War II: Proceedings of the 34th Annual Conference of the Milbank Memorial Fund*. New York: Milbank Memorial Fund. Pp. 196-221.
- Laber, G. [1973]. "Human Capital in Southern Migration." *J. Human Resources* 8: 223-241.
- Laber, G., and R. X. Chase [1971]. "Interprovincial Migration in Canada as a Human Capital Decision." *J. Polit. Econ.* 79:795-804.
- Ladenkov, V. N. [1973]. "Studies of Migration of Skilled Personnel in Agriculture." *Problems of Economics* 15(10):62-80.
- Lal, D. [1973]. "Disutility of Effort, Migration, and the Shadow Wage-Rate." *Oxford Econ. Papers* 25:112-126.
- Lansing, J. B., and N. Barth [1964]. *The Cost of Geographic Mobility*. U.S. Department of Commerce, Area Redevelopment Administration.
- Lebergott, S. [1970]. "Migration within the U.S., 1800-1960: Some New Estimates." *J. Econ. History* 30:839-847.
- Lee, A. S., and G. K. Bowles [1974]. "Contributions of Rural Migrants to the Urban Occupational Structure." *Agr. Econ. Research* 26:25-32.
- Lee, E. S. [1966]. "A Theory of Migration." *Demography* 3:47-57.
- Lee, E. S., and A. S. Lee [1960]. "Internal Migration Statistics for the United States." *J. Amer. Stat. Association* 55:664-697.
- Lefebvre, L. [1958]. *Allocation in Space: Production, Transport, and Industrial Location*. Amsterdam: North-Holland.

- Leslie, G. R., and A. H. Richardson [1961]. "Life-Cycle, Career Pattern, and the Decision to Move." *Amer. Sociological Rev.* 26:894-902.
- Leven, C. L. [1959]. "Population, Migration, and Regional Economic Development." *Current Economic Comment* 21(4):31-42.
- Levi, J. F. S. [1973]. "Migration from the Land and Urban Unemployment in Sierra Leone." *Oxford Bull. Econ. and Statistics* 35:309-326.
- Levy, M. B., and W. J. Wadycki [1974]. "What Is the Opportunity Cost of Moving? Reconsideration of the Effects of Distance on Migration." *Econ. Development and Cultural Change* 22:198-214.
- Lianos, T. P. [1970]. "A Stocks and Flows Approach to Migration." *Amer. J. Agr. Econ.* 52:442-443.
- [1972]. "The Migration Process and Time Lags." *J. Regional Science* 12:425-433.
- Link, C. R. [1975]. "Black Education, Earnings, and Interregional Migration: A Comment and Some New Evidence." *Amer. Econ. Rev.* 65:236-240.
- Linneman, P. D., and P. E. Graves [1977]. "Compensating Differentials and the Demand for Weather." University of Chicago. Mimeo.
- [1979]. "Amenities, Job Search, and the Migration Decision: A Multinomial Logit Analysis." University of Colorado Discussion Papers in Economics, No. 141.
- Liu, B.-C. [1975]. "Differential Net Migration Rates and the Quality of Life." *Rev. Econ. and Stat.* 57:329-337.
- Long, L. H. [1970]. "On Measuring Geographic Mobility." *J. Amer. Stat. Association* 65:1195-1203.
- [1973]. "New Estimates of Migration Expectancy in the United States." *J. Amer. Stat. Association* 68:37-43.
- Lösch, A. [1954]. *The Economics of Location*, trans. from 2nd rev. ed. of *Die Raumliche Ordnung der Wirtschaft* by W. H. Woglom and W. F. Stolper. New Haven: Yale University Press.
- Lowry, I. S. [1966]. *Migration and Metropolitan Growth: Two Analytical Models*. San Francisco: Chandler.
- MacDonald, L. D., and J. S. MacDonald [1968]. "Motives and Objectives of Migration: Selective Migration and Preferences toward Rural and Urban Life." *Social and Econ. Studies* 17:417-434.
- MacMillan, J. A., and F. L. Jung [1975]. "Migration Analysis and Farm Number Projection Models: A Synthesis: Reply." *Amer. J. Agr. Econ.* 57:370-371.
- MacMillan, J. A., F. L. Jung, and J. R. Tulloch [1974]. "Migration Analysis and Farm Number Projection Models: A Synthesis." *Amer. J. Agr. Econ.* 56:292-299.
- Maddox, J. G. [1960]. "Private and Social Costs of the Movement of People Out of Agriculture." *Amer. Econ. Rev., Papers and Proceedings* 50:392-402 and 413-418.
- Mahoney, B. S. [1968]. "The Case for Migration." *New Generation* 50(3):6 and 9-10.
- Maikov, A. [1972]. "Redistribution of Rural Labor Resources." *Problems of Economics* 15(7):36-41.
- Mangalam, J. J., and C. Morgan [1968]. *Human Migration: A Guide to Migration Literature in English, 1955-1962*. Lexington: University of Kentucky Press.
- Mas-Colell, A., and A. Razin [1973]. "A Model of Intersectoral Migration and Growth." *Oxford Econ. Papers* 25:72-79.
- Mazek, W. F. [1969]. "Unemployment and the Efficacy of Migration: The Case of Laborers." *J. Regional Science* 9:101-107.
- Mazek, W. F., and J. Chang [1972]. "The Chicken or Egg Fowl-Up in Migration: Comment." *Southern Econ. J.* 39:133-139.

- Mazumdar, D. [1976]. "The Rural-Urban Wage Gap, Migration, and the Shadow Wage." *Oxford Econ. Papers* 28:406-425.
- Mehmet, O. [1976]. "A Note on Unemployment and Labor Migration in Less Developed Countries: A Diagrammatic Illustration." *Amer. J. Agr. Econ.* 58:351-354.
- Miller, E. [1972]. "A Note on the Role of Distance in Migration: Costs of Mobility versus Intervening Opportunities." *J. Regional Science* 12:475-478.
- [1973]. "Is Out-Migration Affected by Economic Conditions?" *Southern Econ. J.* 39:396-405.
- [1976]. "Is Out-Migration Affected by Economic Conditions: Reply." *Southern Econ. J.* 42:759-761.
- Morgan, C. [1976]. "Is Out-Migration Affected by Economic Conditions? Comment." *Southern Econ. J.* 42:752-758.
- Morrill, R. L. [1963]. "The Distribution of Migration Distances." *Regional Science Association, Papers and Proceedings* 11:75-84.
- Morrison, P. A. [1970]. *The Rationale for a Policy on Population Redistribution*. Santa Monica, Calif.: Rand Corporation, P4374-1.
- [1973]. "A Demographic Assessment of New Cities and Growth Centers as Population Redistribution Strategies." *Public Policy* 21:367-382.
- Mueller, E. [1964]. *Migration into and out of Depressed Areas*. U.S. Department of Commerce, Area Redevelopment Administration.
- Mueller, E., and J. Lean [1968]. "The Case Against Migration." *New Generation* 50(3):7-8.
- Mujahid, G. B. S. [1975]. "Rural-Urban Migration, Urban Underemployment, and Earnings Differentials in Pakistan." *Weltwirtschaftliches Archiv* 111:585-598.
- Mumey, G. A. [1959]. "The Parity Ratio and Agricultural Out-migration." *Southern Econ. J.* 26:63-65.
- Musser, W. N. [1976]. "Economic and Political Issues in Population Redistribution." *Monthly Labor Rev.* 99(4):25-27.
- Muth, R. F. [1961]. "Economic Change and Rural-Urban Land Conversions." *Econometrica* 29:1-23.
- [1969]. *Cities and Housing*. Chicago: University of Chicago Press.
- [1972]. "The Chicken or Egg Fowl-Up in Migration: Reply." *Southern Econ. J.* 39:139-142.
- Nelson, J. M. [1976]. "Sojourners versus New Urbanites: Causes and Consequences of Temporary versus Permanent Cityward Migration in Developing Countries." *Econ. Development and Cultural Change* 24:721-757.
- Nelson, P. [1959]. "Migration, Real Income, and Information." *J. Regional Science* 1(2):43-74.
- Neutze, G. M. [1967]. "Major Determinants of Location Patterns." *Land Econ.* 43:227-232.
- Paglin, M. [1965]. "'Surplus' Agricultural Labor and Development: Facts and Theories." *Amer. Econ. Rev.* 55:815-834.
- Parnes, H. S. [1954]. *Research on Labor Mobility: An Appraisal of Research Findings in the U.S.* New York: Social Science Research Council, Bulletin 65.
- Parr, J. B. [1966]. "Outmigration and the Depressed Area Problem." *Land Econ.* 42:149-159.
- Perkins, B. B. [1973]. "Farm Income and Labor Mobility." *Amer. J. Agr. Econ.* 55:913-920.
- Perloff, H. S., E. S. Dunn, Jr., E. E. Lampard, and R. F. Muth [1960]. *Regions, Resources, and Economic Growth*. Baltimore: John Hopkins University Press for Resources for the Future. (Also in paperback, Lincoln: University of Nebraska Press.)

- Persky, J. J., and J. F. Kain [1970]. "Migration, Employment, and Race in the Deep South." *Southern Econ. J.* 36:268-276.
- Phelps, E. S., et al. [1970]. *Microeconomic Foundations of Employment and Inflation Theory*. New York: Norton.
- Polachek, S. W., and F. W. Horvath [1977]. "A Life Cycle Approach to Migration: Analysis of the Pespicious Peregrinator." In *Research in Labor Economics*, vol. 1, R. G. Ehrenberg, ed. Westwood, Conn.: Jai Press. Pp. 103-149.
- Price, D. O. [1955]. "Examination of Two Sources of Errors in the Estimation of Net Internal Migration." *J. Amer. Stat. Association* 50:689-700.
- Price, D. O. et al. [1969]. *A Study of Economic Consequences of Rural Urban Migration*, vols. I-III. U.S. Department of Commerce, National Technical Information Service, PB 188-658, PB 188-659, and PB 188-655.
- Raimon, R. L. [1962]. "Interstate Migration and Wage Theory." *Rev. Econ. and Stat.* 44:428-438.
- Raup, P. M. [1960-61]. "Impact of Population Decline on Rural Communities." *Farm Policy Forum* 13(2):28-36.
- Riddell, J. B., and M. E. Harvey [1972]. "The Urban System in the Migration Process: An Evaluation of Step-Wise Migration in Sierra Leone." *Econ. Geography* 48: 270-283.
- Rikkinen, V. [1968]. "Changes in Village and Rural Population with Distance from Duluth." *Econ. Geography* 44:312-325.
- Rogers, A. [1967]. "A Regression Analysis of Interregional Migration in California." *Rev. Econ. and Stat.* 49:262-267.
- Saber, S. [1964]. "Geographic Mobility and Employment Status, March 1962-March 1963." *Monthly Labor Rev.* 87(8):873-881.
- Sahota, G. S. [1968]. "An Economic Analysis of Internal Migration in Brazil." *J. Polit. Econ.* 76:218-245.
- Sawyer, R. E. [1974]. "Labor Migration, Relative Wage Levels, and Unemployment in Less Developed Countries." *Amer. Economist* 18(2):55-62.
- Schiffel, D., and S. Goldstone [1976]. "Employment, Induced In-Migration, and Labor Market Equilibrium." *Growth and Change* 7(4):33-40.
- Schroeder, L. D. [1976]. "Interrelatedness of Occupational and Geographical Labor Mobility." *Industrial and Labor Relations Rev.* 29:405-411.
- Schultz, T. P. [1971]. "Rural-Urban Migration in Colombia." *Rev. Econ. and Stat.* 53:157-163.
- Schwartz, A. [1971]. "On Efficiency of Migration." *J. Human Resources* 6:193-205.
- [1973]. "Interpreting the Effect of Distance on Migration." *J. Polit. Econ.* 81: 1153-1169.
- [1976]. "Migration, Age, and Education." *J. Polit. Econ.* 84:701-719.
- Schwind, P. J. [1975]. "A General Field Theory of Migration: United States, 1955-1960." *Econ. Geography* 51:1-16.
- Shanahan, E. W. [1927]. "Economic Factors in the Changing Distribution of Population between Urban Centres and Rural Areas." *Econ. J.* 37:395-403.
- Shaw, R. P. [1974]. "Land Tenure and the Rural Exodus in Latin America." *Econ. Development and Cultural Change* 23:123-132.
- Sjaastad, L. A. [1960]. "The Relationship between Migration and Income in the United States." *Regional Science Association, Papers and Proceedings* 6:37-64.
- [1962]. "The Costs and Returns of Human Migration." *J. Polit. Econ.* 70 (5, part II):80-93.

- Smith, E. D. [1956]. "Nonfarm Employment Information for Rural People." *J. Farm Econ.* 38:813-827.
- Sommers, P. M., and D. B. Suits [1973]. "Analysis of Net Interstate Migration." *Southern Econ. J.* 40:293-201.
- Spengler, J. J. [1958]. "The Economic Effects of Migration." In *Selected Studies of Migration since World War II: Proceedings of the 34th Annual Conference of the Milbank Memorial Fund*. New York: Milbank Memorial Fund. Pp. 172-195.
- Stewart, C. T., and V. Benson [1973]. "Job Migration Linkages between Smaller SMSAs and Their Hinterlands." *Land. Econ.* 49:432-439.
- Stiglitz, J. E. [1969]. "Rural-Urban Migration, Surplus Labour, and the Relationship between Urban and Rural Wages." *Eastern African Econ. Rev.* 1(2):1-27.
- Stone, L. O. [1967]. "Evaluating the Relative Accuracy and Significance of Net Migration Estimates." *Demography* 4:310-330.
- [1971]. "On the Correlation between Metropolitan Area In- and Out-Migration by Occupation." *J. Amer. Stat. Association* 66:693-701.
- Stouffer, S. A. [1960]. "Intervening Opportunities and Competing Migrants." *J. Regional Science* 2(1):1-26.
- Taeuber, C. [1959]. "Economic and Social Implications of Internal Migration in the United States." *J. Farm Econ.* 41:1141-1154.
- Todoaro, M. P. [1969]. "A Model of Labor Migration and Urban Employment in Less Developed Countries." *Amer. Econ. Rev.* 59:138-148.
- [1970]. "Labor Migration and Urban Unemployment: Reply." *Amer. Econ. Rev.* 60:187-188.
- [1971]. "Income Expectations, Rural-Urban Migration, and Employment in Africa." *International Labour Rev.* 104:387-413.
- [1976]. "Urban Job Expansion, Induced Migration, and Rising Unemployment: A Formulation and Simplified Empirical Test for LDCs." *J. Development Econ.* 3:211-225.
- Tolley, G. S., P. E. Graves, and J. L. Gardner [1979]. *Urban Growth Policy in a Market Economy*. New York: Academic Press.
- Tolley, G. S., and H. W. Hjort [1963]. "Age-Mobility and Southern Farmer Skill—Looking Ahead for Area Development." *J. Farm Econ.* 45:31-46.
- Ullman, E. L. [1954]. "Amenities as a Factor in Regional Growth." *Geographical Rev.* 44:119-132.
- U. S. Advisory Commission on Intergovernmental Relations [1968]. *Urban and Rural America: Policies for Future Growth—A Commission Report*.
- U. S. Bureau of the Census [1957a]. *U. S. Census of Population: 1950. Vol. IV, Special Reports, PE No. 4C. Population Mobility: Farm-Nonfarm Movers*.
- [1957b]. *U. S. Census of Population: 1950. Vol. IV, Special Report, PE No. 5B. Population Mobility-Characteristics of Migrants*.
- [1962a]. *U. S. Census of Population: 1960. Supplementary Reports. Series PC (51)-19. Geographic Mobility of the Population of the United States: April 1960*.
- [1962b]. *U. S. Census of Population: 1960. Supplementary Reports. Series PC (SI)-30. Mobility of the Population by Age: 1960*.
- [1963a]. *U. S. Census of Population: 1960. Subject Reports. Mobility for Metropolitan Areas. Final Report PC(2)-2C*.
- [1963b]. *U. S. Census of Population: 1960. Subject Reports. Lifetime and Recent Migration. Final Report PE(2)-20*.

- [1963c]. *U. S. Census of Population: 1960. Selected Area Reports. Standard Metropolitan Statistical Areas. Final Report PE(3)-1D*. Tables 5 and 8.
- [1967]. *U. S. Census of Population: 1960. Supplementary Reports, Series PC(SI)-54, Poverty Areas in the 100 Largest Metropolitan Areas*.
- [1968]. In *Current Population Reports*. Series P-23, No. 25. "Lifetime Migration Histories of the American People."
- [1971a]. "Preliminary Intercensal Estimates of States and Components of Population Change, 1960-1970." *Current Population Reports, Population Estimates and Projections*, Series P-25, No. 460:1-15, June 7.
- [1971b]. "Whites Account for Reversal of South's Historical Population Loss through Migration, Census Shows." *U. S. Department of Commerce News* CB71-34:1-11, March 3.
- U. S. Congress [1968]. *The Rural to Urban Population Shift: A National Problem*. National Manpower Conference, Oklahoma State University. U. S. Senate, 90th Congress, 2nd Session, Committee on Government Operations, Committee Print.
- U. S. Department of Agriculture, Economic Research Service [1969]. *U. S. Population Mobility and Distribution: Charts on Recent Trends*. ERS-436.
- U. S. Department of Agriculture, Federal Extension Service [1963]. "Migrants." *Co-operative Extension Service Work with Low-Income Families*. ESC-549.
- U. S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Analysis Division [1976]. "Work-Force Migration Patterns, 1960-73." *Survey of Current Business* 56(10):23-26.
- U. S. Department of Commerce, Economic Development Administration [1967]. *Report of the Independent Study Board: Regional Effects of Government Procurement and Related Policies—Three Staff Working Papers and Bibliography to Accompany the Report of the ISB*.
- U. S. Department of Health, Education, and Welfare, Office of Regional and Community Development [1971]. *The Economic and Social Condition of Rural America in the 1970's. Part 2, Impact of Department of Health, Education, and Welfare Program on Nonmetropolitan Areas, Fiscal 1970*. U. S. Senate, 92nd Congress, 1st Session, Committee on Government Operations, Committee Print.
- Vanderkamp, J. [1968]. "Interregional Mobility in Canada: A Study of the Time Pattern of Migration." *Canadian J. Econ.* 1:595-608.
- [1970]. "The Effect of Out-Migration on Regional Employment." *Canadian J. Econ.* 3:541-549.
- [1971]. "Migration Flow, Their Determinants, and the Effects of Return Migration." *J. Polit. Econ.* 79:1012-1031.
- [1972]. "Return Migration: Its Significance and Behavior." *Western Econ. J.* 10:460-465.
- [1976]. "The Role of Population Size in Migration Studies." *Canadian J. Econ.* 9:508-517.
- Von Thünen, J. H. [1966]. *Von Thünen's Isolated State: An English Edition of "Der Isolierte Staat"*, C. M. Wartenberg, trans., P. Hall, ed. New York: Pergamon. (First published in German in 1826.)
- Wadyski, W. J. [1974]. "Alternative Opportunities and Interstate Migration: Some Additional Results." *Rev. Econ. and Stat.* 56:254-257.
- Warriner, D. [1970]. "Problems of Rural-Urban Migration: Some Suggestions for Investigation." *International Labour Rev.* 101(5):441-451.

- Weber, A. [1929]. *Theory of the Location of Industries*, C. J. Friedrich, trans. Chicago: University of Chicago Press. (First published in German in 1909.)
- Weinstein, R., and R. Premus [1976]. "A Theoretical Analysis of the Effect of Labor Market Adjustment Processes on Migration Flows Among Regions." *Revista Internazionale di Scienze Economiche e Commerciali* 23(8):793-804.
- Weiss, L., and J. G. Williamson [1972]. "Black Education, Earnings, and Interregional Migration: Some New Evidence." *Amer. Econ. Rev.* 62:372-383.
- [1975]. "Black Education, Earnings, and Interregional Migration: Even Newer Evidence." *Amer. Econ. Rev.* 65:241-244.
- Wertheimer, R. F. [1970]. *The Monetary Rewards of Migration within the U.S.* Washington: Urban Institute.
- Widner, R. [1968]. "Statement." In *The Rural to Urban Population Shift: A National Problem*. National Manpower Conference. U.S. Senate, 90th Congress, 2nd Session, Committee on Government Operations, Committee Print. Pp. 178-187.
- Wilber, G. L., and J. S. Bang [1958]. *Internal Migration in the United States, 1940-1957: A List of References*. Mississippi Agricultural Experiment Station, Sociology and Rural Life Series No. 10.
- Wilber, G. L., and T. W. Rogers [1966]. *Internal Migration in the United States, 1958 to 1964: A List of References*. Mississippi Agricultural Experiment Station, Sociology and Rural Life Series No. 15.
- Winsborough, H. H. [1963]. "An Ecological Approach to the Theory of Suburbanization." *Amer. J. Sociology* 68:565-570.
- Wrighton, F. M., and P. K. Gatons [1974]. "Is Out-Migration Affected by Economic Conditions? Comment." *Southern Econ. J.* 41:311-313.
- Yap, L. [1976a]. "Internal Migration and Economic Development in Brazil." *Quart. J. Econ.* 90:119-137.
- [1976b]. "Rural-Urban Migration and Urban Underemployment in Brazil." *J. Development Econ.* 3:227-243.
- Yezer, A. M. J., and L. Thurston [1976]. "Migration Patterns and Income Change: Implications for the Human Capital Approach to Migration." *Southern Econ. J.* 42:693-702.
- Zachariah, K. C. [1963]. "A Note on the Census Survival Ratio Method of Estimating New Migration." *J. Amer. Stat. Association* 57:175-183.
- Zahn, F. [1971]. "Sectorial Labor Migration and Sustained Industrialization in Japanese Development Experience." *Rev. Econ. and Stat.* 53:283-287.
- Zarembka, P. [1970]. "Labor Migration and Urban Unemployment: Comment." *Amer. Econ. Rev.* 60:184-186.
- Ziegler, J. A. [1976]. "Interstate Black Migration: Comment and Further Evidence." *Econ. Inquiry* 19:449-453.