Chapter Six

Internal Migration

THE UNITED STATES, Australia, New Zealand, and Canada display among some of the highest levels of population mobility observed in the world. In each of these countries, around one in every six people change their place of residence every year, almost double the rate of movement typically observed in many European countries. This high mobility has been attributed to a variety of factors, including peripatetic traditions inherited from immigrant forebears, the relatively open nature of land, and the housing markets in these countries. Historically, internal movement was related to the opening of new frontiers (i.e., the westward expansion of Canada and the United States) or the discovery of gold and the ensuing gold rushes. More recently, population movement is associated with economic conditions; the attraction of amenities, as in the American Sun Belt; and employment opportunities.

Of all the demographic processes, it is perhaps migration and immigration (covered in the next chapter) that have gained the most attention from geographers. In large part, this likely reflects the intrinsic nature of population movement: by moving from an origin to a destination, space is involved, and we can ask questions about the motivation for migration, the impact migration has on sending and receiving regions, who moves, and so forth. At the same time, measuring and defining the movement of population is much trickier than measuring fertility or mortality, given issues associated with both space and time

that are discussed below. The following chapter explores migration by focusing on its definition and measurement and alternate theories of migration. The "Focus" section considers contemporary internal migration in the United States, and the "Methods, Measures, and Tools" section discusses the various measures of migration.

DEFINING MIGRATION

As with fertility and mortality, researchers attempt to quantify and measure the movement of a population. However, the statistical representation of migration is somewhat more problematic: mortality, for example, is a given and measurable event. Likewise, fertility is measurable. Population mobility is somewhat trickier. When, for example, has an individual migrated? Is it when they purchase a new house down the street or across the country? Likewise, does the relocation need to be permanent, or can it be a temporary one? If temporary, how long should the absence be?

To define migration events, we need to consider the impact of our definition of space (i.e., boundaries and size) and the time interval over which migration is measured and differentiate between migrants and migrations before we can quantify movements. We start by distinguishing between the number of migrants and the number of migrations. The number of migrants refers to the number of individuals who have made one or more migrations during a specified interval, while the number of migrations counts the total number of recorded movements. This distinction is important, as some individuals will move more than once during a specific time interval, so the number of migrations is typically greater than the number of migrants.[1]

Geography and Migration

Simply defined, migration involves a change of usual residence by a person, family, or household. However, this definition does not account for spatial scale (i.e., the distance of the move), making it useful to distinguish the type of move by geographical scale. *Residential mobility* typically refers to short-distance (within city or labor market) residential relocations. These moves are often associated with changing housing preferences and needs and do not necessarily involve changing jobs. *Internal migration* generally involves a permanent relocation crossing an internal political boundary (i.e., state boundaries) that results in the migrant changing labor markets.[2] Finally, *international migration* involves moves that cross international borders and is typically highly restricted. These broad distinctions have dominated migration research for the past four decades.

Similarly, the size, shape, and characteristics of the spatial units that migration occurs in or across will influence the number of observed migrants. That is, use of alternate spatial units, such as counties, states, or regions, will alter the count of migrants (along with the reason for migration). In general, the larger the spatial unit, the fewer migrants will be counted moving in or out of that region. For this reason, we see fewer individuals making long-distance migrations as compared to local, residential moves. For instance, based on the 2000 census, 11.6 million people moved between the four census regions (Northeast, Midwest, South, and West), including a net in-migration to the West, which gained 12,048 individuals.[3] During the same 1995-2000 interval, over 22 million moved between states. An even larger number made more local moves, with 65.4 million moving within the same county, and another 25.3 million moving between counties but within the same state.[4] The state of California, meanwhile, lost over 755,000 individuals during the same period. Likewise, what is comparatively a long-distance migration from northern California to southern California would not be counted as a between-state (interstate) migration. The same distance migration on the East Coast would cross multiple state lines.

Time and Migration

The timing and duration of a migration is also an integral part of its definition. Over what interval of time should migration be measured? *Seasonal or temporary* migrations, for instance, are short-term relocations, such as moves made by students or seasonal workers, but both the US and Canadian censuses only identify migrants as individuals who have changed their usual place of residence. Time intervals that are too short risk capturing short-term, temporary relocations, including students moving to attend university or relocations associated with short-term work reassignments or vacations. While important and worthy of study in their own right, these temporary moves add noise and confusion to the system when a person is interested in permanent relocations. Conversely, too long of a time interval will end up missing migrants, particularly those who migrate and then either "return" to their origin region or make a second, "onward" migration to a different destination.[5]

Many geographers and migration researchers (at least in the United States, Canada, Australia, and western Europe) rely on the census to define migrations and migrants, while population geographers in Scandinavian countries are more likely to use the registration systems that track individuals and households over time. Since 1940, the US census has, for example, asked respondents their usual place of residence on census day and place of residence five years prior.[6] Together, these two points in time enable the analyst to define a migrant. That is, if the respondent indicated one location on census day and a different one

five years prior, and these two locations are different counties, then the person is defined as a migrant. In many ways, this five-year migration question has become the "standard" way of defining migration, and other countries, including Canada and Australia, use similar metrics to define population migration.[7]

While the five-year migration question may be standard, it is inexact. For instance, by virtue of its definition, it measures a single move, say between 1995 and 2000, and therefore misses multiple moves over the period. With Americans some of the most mobile people in the world, making on average ten migrations over their lifetimes, the timing of moves may be significant. Specifically, the five-year migration question may miss return (i.e., migrations that return an individual to some defined starting point) and onward (subsequent migrations to a destination other than the origin) migrations.[8] In short, the five-year migration question tends to underestimate migration flows within a population. The census also misses moves in the first five years of the decade (i.e., 1990–1995 for the 2000 census), a problem if significant events might have altered migration choices and numbers.

Although most migration studies typically rely on census data that is collected based on a change in residential location within a five-year interval, an additional consideration when calculating migration measures is the length of the period over which they are measured. For instance, assuming we are using census data that measures migration over a five-year period (as the US census did before the ACS was introduced), the number of migrants recorded over a five-year interval is considerably less than five times the one-year number.[9] Moreover, we can't simply multiply the number of migrants captured in a one-year window by five, meaning that the reconciliation of one- and five-year data is not straightforward. Finally, the move to record mobility and migrations through the new ACS will raise new questions and issues with respect to the measurement and definition of mobility, since the ACS measures migration over a one-year time interval and compares place of residence on the day the form is completed relative to where the respondent lived a year earlier (see "Focus," chapter 2).

WHY DO PEOPLE MIGRATE?

While population geographers are interested in the counts, flows, and directions of migrants, they are also interested in asking why people migrate. After all, migration is a fundamentally social or economic phenomenon, and the reasons for migration will vary from person to person, household to household, and over time and across geographic regions, meaning that the reasons for a local move will likely differ from the reasons for longer, interstate relocations.[10]

Some will move, for example, for a new job or in the hope of a new job and others will move for housing issues, while yet others will move for amenity-, health-, or care-related reasons.

We can get a sense of the reasons for migration from table 6.1. Based on the 2006–2007 CPS, the most important reason for moving was the desire for a new or better home/apartment, representing over one-third of all moves in the year. Cheaper housing was the second most important reason (18.5 percent), followed by the desire for a better neighborhood or less crime (12.8 percent). Other reasons, including moves associated with health needs or relocation for education, were proportionately less important. Clearly, however, age is also closely associated with reasons for migration. Among the young, aged twenty to twenty-four, nearly 17 percent of all moves were associated with attending or leaving college. For the old, health reasons were much more important motivators (21.8 percent). Most surveys do not ask, however, why individuals (or households) migrate. Thus, it is frequently left to the analyst to infer the reasons why individuals migrate. Information relating to the origin and destination of a migrant can, for example, be combined with other information from census or other data files, including age, gender, employment status, marital status, and so on, along with broader measures such as labor-market effects or amenities. When information is combined with multivariate methods, we can infer reasons for population movement.

This is still incomplete, and migration must be contextualized or viewed relative to a migration theory that allows us to interpret or understand the motivations for migration. The current "state of the art" of migration theory actually represents more than a century of analysis, with much of the basis for modern migration theory stemming from the work of Ravenstein,[11] who provided the

Table 6.1. Reasons for Move by Age (%): 2006–2007

Reason for move	*Total*	*20–24*	*30–44*	*65+*
Wanted new or better home/apartment	36.6	31.9	40.1	22.9
Wanted better neighborhood/less crime	12.8	10.3	14.0	9.8
Wanted cheaper housing	18.5	18.9	18.1	13.2
Other housing reason	15.8	12.2	16.3	22.3
To attend or leave college	4.5	16.9	1.4	—
Change of climate	0.9	0.5	0.6	4.2
Health reasons	3.2	1.2	2.4	21.8
Natural disaster	1.1	0.3	1.3	2.7
Other reason	6.8	7.7	5.8	3.1

Source: Data derived from US Census Bureau, Current Population Survey (CPS), *Geographical Mobility, 2006–2007*.

first insights into its determinants. Premised on individuals' desire to better themselves, Ravenstein described the spatial, population, and economic determinants of migration. Among the more important generalizations, Ravenstein concluded that migration occurred in a "stepwise" manner (i.e., movement from farm to hamlet, hamlet to village, village to town, with moves continuing into progressively larger centers), that each migration stream tended to have a compensating counterstream, that the majority of migrations are short-distance, and that the major cause of migration was economic. These often-quoted generalizations have stood the test of time and have formed the basis of scientific discussion and theoretical development over the years.

Everet Lee advanced and updated Ravenstein's ideas,[12] creating a framework for migration analysis that involves the "pull" effects of the destination, the "push" effects of the origin, intervening opportunities, and personal characteristics. For example, high unemployment rates in the origin would constitute a "push" factor and high wages in the destination would "pull" (attract) migrants. Between each potential origin and destination was a set of intervening opportunities, the most important being distance. These intervening opportunities could, for example, direct the migrant to another destination or decrease the likelihood of migration by imposing costs to the move. Finally, a set of personal factors, such as age, level of education, marital status, and occupation, were allowed to influence migration. Like Ravenstein's work, Lee's conceptualization of migration has informed and generated much empirical work.

Wilbur Zelinsky hypothesized the "mobility transition."[13] Similar to the demographic transition, Zelinsky argued that the patterns of internal migration in a country would shift over time as the country developed. In the earliest stages of development, rural-to-rural movements, including frontier expansion, would predominate. Later, and with industrialization, rural-to-urban movements would prevail, as individuals moved to cities in search of employment. Finally, urban-to-urban movements would dominate as the economic system matured.

While the migration theories put forward by Ravenstein, Zelinsky, Lee, and others have shaped migration research, more formal theories have been advanced and developed within economics, sociology, and geography. Naturally, the emphases of these disciplines have differed, with economists tending to emphasize the economic influences upon migration, sociologists interested in the validity of economic rationality and individual behavior, and geographers focusing upon the role of space.

THEORIES OF INTERNAL MIGRATION

Despite the regularities and correlations observed in migration flows, and the occasional expressed reason for migration, students of migration need a more

theoretical understanding of migration flows. Because of the diversity of the migration literature, it is convenient to differentiate between *macroadjustment* theories and *microbehavioral* theories of migration, a distinction that conditions the way that migration is modeled with respect to the wider operations of housing, labor markets, and social relations. Macro theory, on the one hand, has typically been concerned with the analysis and explanation of flows, focusing upon the relationship between migrations and objectively defined macroeconomic variables, such as wages or employment. Microbehavioral theory, on the other hand, has focused upon broad topics, including human capital explanations of migration, residential mobility, and return and onward flows, while also considering influences that prompt migration and the choice of a destination.

Macroeconomic Theories of Migration

Interregional migration was initially viewed as a response to wage differentials, formally expressed by the so-called macroadjustment model.[14] Drawing upon neoclassical economics, the macroadjustment model argued that labor migrates in response to interregional wage differentials, moving from low- to high-wage regions.[15] As it does, labor supply will decrease in low-wage areas due to outmigration, forcing wages to rise. On the other hand, increasing labor supply in high-wage regions will force wage rates to be lowered until wage rates are equal across space. Empirical results have confirmed that individuals are more likely to choose destinations with higher wage rates.[16]

The macroadjustment model has, however, been subject to a number of criticisms. Foremost amongst these is the assumption that labor will move from low- to high-wage regions, allowing wage levels to equalize across the system. This assumes, of course, that there are no barriers to migration. However, perfect mobility is rare. At its simplest, distance is still a barrier to movement, imposing the physical costs of movement along with potential psychological costs associated with, for example, family separation. Market conditions such as worker recognition and accreditation requirements, and social-welfare programs, including unemployment insurance, may prevent migration (or, at a minimum, delay the need to migrate). At the same time, incomplete information on the part of potential migrants (i.e., not knowing all possible alternatives) and "stickiness" in the labor and wage market (i.e., associated with labor unions or minimum-wage requirements), complicate or impede the free movement of individuals.[17]

Second, while wages are undoubtedly important in motivating migration, it is unclear whether regional wage levels move toward equilibrium through migration. That is, the persistent regional income disparities in highly mobile countries such as the United States suggest that the consequences of migration have little to do with the regional equalization rates prescribed in the macroad-

justment model. Other market effects—such as the role of labor unions or minimum-wage laws—likely keep wages stable. Several studies have challenged the assumption that migration is an equilibrating process, finding that migration instead leads to increased social and economic polarization, more reflective of a process of cumulative causation.[18]

Third, the existence of other variables and personal factors, which have been observed to have significant effects upon the migration decision, suggests that the macroadjustment model is too simplistic in its reliance upon wages. By way of an example, an important variable missing from the macroadjustment model is unemployment, a problem underscored by experiences during the Depression of the 1930s. During this time, positive net migration to rural areas was observed despite the fact that wage rates in urban areas remained considerably higher than those in rural areas, a situation that the wage-differential approach could not explain. The population movements during this time were, however, due to the severe unemployment in urban areas, suggesting the effect of unemployment upon migration decisions. When applied to the current migration system, higher unemployment in a region should generate higher levels of out-migration, while in-migration should be negatively related to unemployment levels.[19]

Finally, the operationalization of the macroadjustment model has typically relied upon the use of either net migration flows (the number of in-migrants minus the number of out-migrants from a region) or the net migration rate (obtained by dividing the volume of net migration by the population of that region). However, the use of net migrants (or rates) is problematic, since there are no "net migrants" in the real world.[20] Moreover, net migration rates are not appropriately defined, relying on a denominator that does not express the population "at risk" of migrating. This misspecification confounds movement propensities with relative population stock levels, hides regularities in the age pattern of mobility, and leads to misspecified explanatory variables. Consequently, models based upon the macroadjustment framework should rely upon gross migration streams or rates (i.e., number of in- or out-migrants or migration rates based upon an appropriately specified at-risk population).

Expanding Macroeconomic Theory

In overcoming these problems, macro theory has been expanded to include a variety of effects hypothesized to influence migration.[21] Environmental considerations are, for example, important in the migration decision, evidenced by the growth of Sun Belt states in postindustrial America. Amenities such as a warm climate or scenic areas offering recreational outlets such as skiing and hiking have become increasingly important in explaining the attraction of the American and Canadian West coasts (i.e., California, Washington, Oregon, British

Columbia) and interior states such as Arizona and Colorado. All of these areas reflect the increasing desire by an affluent population to reside in these areas, the ability of employers to locate in these areas, and the increasing ease of communication and transportation that has "shrunk" distance.

Linguistic, ethnic, and racial differences have also been recognized for their role in generating and directing internal migration flows. In Canada, for example, there is a well-known dichotomy between the migration propensities of French and English Canadians, with French Canadians less likely to out-migrate from Quebec (Canada's French-speaking province) and more likely to return to it than their English-speaking counterparts. In the United States, race has long been observed to influence migration patterns, with African Americans having different internal migration patterns than their white counterparts.[22]

Microbehavioral Approaches

Microbehavioral approaches to migration differ in three important ways from the macro models discussed above. First, micro theoretical approaches represent an alternative view of migration and the decision-making process, typically replacing economic rationality with satisficing behavior, such that individuals evaluate only a subset of the possible alternatives. Second, the microtheoretic tradition has focused on the migration sequences and decisions of individuals using data from residential histories, publicly released census files, or longitudinal data sets, while macro approaches have commonly (although not exclusively) focused upon aggregate migration data. Third, micro theories have typically distinguished between the decision to move, the destination choice, and the interrelation between the change of residence and other changes in the status of the migrant (i.e., socioeconomic mobility or housing).

Empirically, micro approaches offer two additional advantages. First, they allow the specification of migration measures for individuals with particular characteristics (i.e., the out-migration of the unemployed) that tend to be less misleading than similar measures based upon aggregate data (i.e., the out-migration rate from a high-unemployment area). For example, it is easier to reveal the push effect of unemployment using behavioral models than the macroadjustment model. Second, in assessing the effect of a key factor (i.e., level of education) on migration behavior, micro approaches offer greater flexibility in controlling for the effects of other factors (i.e., ethnic background, age) and therefore typically yield less biased results.

The Human Capital Theory of Migration

At the interregional scale, the human capital theory defines migration as an investment in human capital,[23] or changes to the stock of skills and knowledge

embodied in an individual, whereby the costs of migration are balanced against future expected returns measured by lifetime earnings. That is, if benefits exceed costs, then the individual will migrate, with the individual choosing to migrate to the location that offers the greatest returns. Both benefits and costs could be monetary (i.e., the dollar cost of moving) or psychic (i.e., the psychological costs of moving away from family and friends). Consequently, human capital theory offers several advantages over the wage-differential approach. Importantly, it does not cast migration as a purely economic decision. While economics and income opportunities figure prominently in the decision to move, other nonwage effects are brought to bear upon the decision. Second, it offers a concise explanation of why migration rates are observed to decline with age, acknowledging that the psychic costs of migration tend to increase with age. Moreover, younger individuals have longer periods within which to capture the benefits (expected income) of migration than their older counterparts. Third, spatial dimensions are incorporated within the theory, with the cost of moving related to distance. Finally, the model both reflects a microeconomic approach and can be aggregated to look at migration flows by sections of the population.

Although human capital theory provides a number of theoretical advantages over macroadjustment theories and has been widely applied and expanded within migration research, it too is not without its shortcomings. First, it assumes perfect information, both on the part of the potential migrant as well as on the part of the modeler, both of which are unrealistic expectations. Instead, information acquisition is associated with costs (i.e., time and effort to collect) and is variable over space, meaning it is variable in its quality and quantity from one individual to another. Second, the theory assumes that the migrant (or modeler) can estimate lifetime earnings at alternate destinations, a task that is difficult regardless of the perspective. This difficulty has commonly led to the replacement of lifetime earnings by current income, decreasing the model's attractiveness and applicability.

The Job-Search Model of Migration

As an alternative microapproach, the job-search model captures the movement of labor across space,[24] distinguishing between *speculative migrations*, which are undertaken in the hope of finding suitable employment at the destination, and *contracted migrations*, which are undertaken after having secured employment. For job searchers, potential returns are typically greatest in urban labor markets, underscoring the continued population movement into large metropolitan areas (immigration or movement "up the urban hierarchy" from smaller to larger urban areas). Contract migration may be the more common form of

movement, particularly over longer distances, minimizing the risks of migration through the securing of employment beforehand.

Residential Mobility and Life-Cycle Theory

The application of microbehavioral models to residential mobility was largely driven by a lack of specificity derived from aggregate analyses, with one of the central theoretical issues underpinning residential mobility theory reflecting the distinction between the decision to move and destination choice. In this context, mobility allows residential needs to be adjusted in response to changing life-cycle needs or other requirements. Rossi's "life-cycle" theory[25] proposed that life-cycle changes, such as leaving the parental home for education or first job, marriage, the growth of the family, and declining health, would drive residential relocation decisions through changing housing requirements (typically space), with each change in the life-cycle "stage" prompting relocation. The search process is undertaken once the decision to move has been made, and reflects needs, social aspirations, income, and the role of institutions, including real-estate agents and banks. At small spatial scales, therefore, migration interacts with the housing career of the migrants.[26] In addition, characteristics of the household (i.e., age, sex, marital status, household status), individual housing units (i.e., size, structure, availability), and wider characteristics of the origin and destination areas (i.e., neighborhood structure, ethnic/racial structure, housing availability) were hypothesized to influence relocation decisions.

Yet, life-cycle theory can not account for all residential moves. Several authors have argued that large proportions (perhaps up to 25 percent) of residential moves are "forced" rather than "voluntary."[27] Further limiting the decisions of individuals or households are the constraints imposed by a variety of institutional forces, including the effects of racism or discrimination, tenure choice, housing supply, and the role of specific agents (such as real-estate agents), who may limit housing options as they steer potential buyers to (or away from) particular locations. For the poor, residential options may be particularly constrained, with the poor having fewer options in terms of location, the availability or quality of housing stock, and its cost. Life-cycle theory is also less relevant in North American society, where "traditional" nuclear households are becoming less common. Instead, alternative family arrangements, including single-parent families, dual-income households, alternative lifestyle households, "empty nesters," or singles are increasingly dominating the social makeup of societies (composing greater than 50 percent of all households), with each group having its own housing needs and preferences. We can no longer assume a homogenous population.

Behavioral theory and models have also been applied to the analysis of

elderly migration. Although the distinction between the decision to move and destination choice remains, the factors driving the migration process generally differ from what has been considered in the above theories. The reason is simple: most elderly have quit the labor market and are thus less sensitive to the changes in the market than others. Consequently, the decision to migrate is strongly influenced by a set of personal resources, such as health and income.[28] Older individuals who are healthier are more likely to move to high-amenity areas, while even older individuals (aged seventy-five-plus) are more dependent and may move to seek help either from family members or institutions. Likewise, the destination pattern of elderly migrants is quantitatively different from that of the general population, focusing upon high-amenity areas like British Columbia in Canada and Florida or Arizona in the United States.[29] For assistance-seeking migrants, the search space is generally more limited than that of the general population, constrained by the location of family or other assistance providers such as nursing or chronic-care homes.

Alternative Models

Discontent with traditional economic-based theories and the continued reliance upon census products or other published data has led to calls to revise existing approaches to migration in terms of theory, models, and data sources.[30] McHugh notes, for instance, that migration is about people, their connections to multiple places, and "people living in the moment while looking backward from where they came from and forward to an uncertain future" (1997, 15).[31] Over the past decade, there have been increasing calls (and action) for a richer examination of the spatial and temporal aspects of migration than has commonly been achieved. The census, for example, represents a snapshot of the population at a specific point in time, and yet we assert some connectivity between space, time, and individuals based on a few questions relating to mobility. Place of residence at two points in time does not capture the complexity of migration, the nature of which is emerging (for example) in the new transnational migration literature[32] or in McHugh's work[33] associated with seasonal snowbirds in Arizona.

The reconceptualization of migration has meant that it is not seen as just an economic event performed by economically rational individuals but as an event that is "culturally produced, culturally expressed and cultural in effect."[34] As such, chronic mobility may, for example, reflect dwindling place ties, rootlessness, or a sense of adventure, rather than economic rationality. Migration also reflects past, current, and future states of affairs, such as current income, employment status, and family situation or anticipated changes in employment, income, or health. Yet these concepts are frequently missing from much of the migration literature. The true reason for migration may therefore lie buried

within the migration event, being invisible to the researcher relying on cross-sectional or longitudinal data and econometric tools. This reconceptualization is seen in numerous areas associated with migration research. Alejandro Portes and his colleagues,[35] for instance, have pursued ethnographic studies of immigrant communities and their adjustment in US society. The literature on transnational migration has also approached migration issues through ethnographic and survey techniques.

MIGRANT SELECTIVITY AND MIGRANT CHARACTERISTICS

Despite the high mobility rates observed in the United States and other countries, not everyone moves. In fact, migration is highly selective, meaning that different individuals, defined by their sociodemographic or socioeconomic characteristics, will be more or less likely to migrate over their life spans. Consequently, migration rates will differ by personal characteristics such as age, race, income, housing tenure, education, and marital status. Perhaps the most important determinant of migration is age, with the young consistently more likely to migrate than older individuals, an outcome observed regardless of location, time, or geographic scale (figure 6.1). The likelihood of migration is somewhat more complicated than this. For instance, the very young (typically defined as less than fifteen years old) are considered to be "tied" migrants, following their parents as they relocate. Even still, the very young (and their parents) are more likely to migrate as compared to families with young teenagers, reflecting both their parents' declining likelihood to relocate as well as parental desire to minimize disruptions to school and friend networks as their children grow.

Migration rates increase dramatically as individuals age into the late teens and through the twenties. Close to one-third of twenty- to twenty-nine-year-olds move each year, reflecting movements out of the parental home into their own residences, moves to or from college, or moves related to employment. Following this, migration rates generally decline toward retirement as it becomes more difficult and costly to relocate (both physically and emotionally) as families grow and as individuals and families have built up a network of friends and other assets, such as a house or property, in their locations. Oftentimes we see a small increase in migration rates around retirement, reflecting the desire to be closer to amenities, while final late-life migrations are often associated with health issues, bringing individuals closer to family for care or into institutions. Many of the reasons for changing migration propensities by age can be attributed to *life-cycle changes*, notions made popular by Rossi.[36]

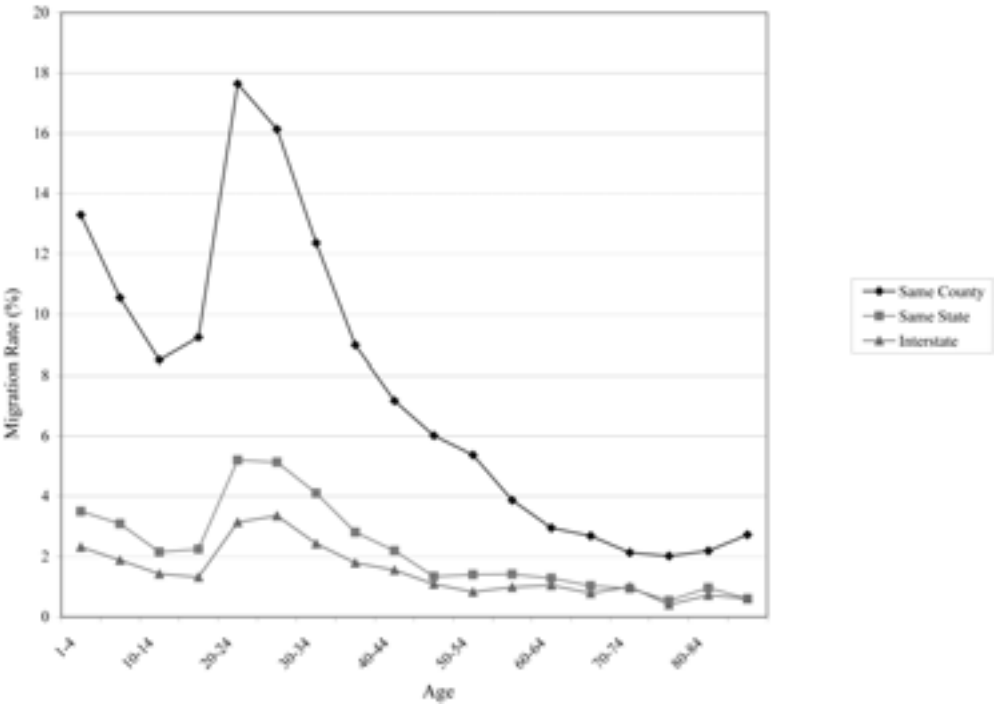

Figure 6.1 Age Schedule of Migration (percent): United States, 2006–2007.

Source: Data derived from US Census Bureau, Current Population Survey, "Geographical Mobility, 2006 to 2007."

Sjaastad's[37] human capital theory also helps to explain differing migration rates by age, with young adults having a longer career time to recoup the costs of moving than older individuals.

Beyond age and life-cycle events, other factors are also closely and consistently associated with migration selectivity (table 6.2). We observe, for instance, that more educated individuals are more likely to migrate, based on the reasoning that they are better able to collect, synthesize, and interpret information on alternate locations. Likewise, the better educated may have more options open to them and are therefore more likely to engage in longer-distance migrations. Levels of long-distance migration also tend to increase as income or occupational status increases, and renters are more likely to migrate as compared to home owners, particularly over short distances, such as within-county moves.

We can also identify demographic factors, including gender, marital status, and the presence of children, as correlates of migrant selectivity. In most developed countries, men and women have virtually the same rates of migration, reflecting gender equality. In many developing nations and in terms of international migration, however, men frequently have higher rates of migration as they move in search of employment, while women remain at home to care for

Table 6.2. Migration Rates (%) by Selected Demographic Characteristics: United States, 2006–2007

	Migrant	*Same county*	*Same state*	*Interstate*
Educational status (age 25+)				
Not a high school graduate	12.5	8.8	2.1	1.0
High school graduate	10.5	7.2	2.0	1.2
Some college	11.2	7.1	2.4	1.5
Bachelor's degree	11.1	6.2	2.5	1.9
Professional or graduate degree	10.3	5.2	2.1	2.3
Marital status (age 14+)				
Married, spouse present	8.8	5.3	1.8	1.4
Married, spouse absent	23.2	14.4	2.6	3.3
Divorced/separated/widowed	13.2	9.1	2.5	0.8
Never married	18.4	12.2	3.5	2.1
Home tenure				
Owner	4.1	1.4	0.3	0.7
Renter	20.1	5.4	1.0	2.4

Source: Data derived from US Census Bureau, CPS, *Geographical Mobility, 2006–2007*.

family. Typically, individuals who are single (and also younger) are more likely to migrate, especially over longer distances, as they are not "tied" to others in the same household. Married couples, on the other hand, are often less likely to migrate, as relocation is often associated with career disruption for at least one of the partners.[38] In a similar way, families with dependent children are less likely to relocate, given disruptions to school and social networks.

THE MIGRATION PROCESS

Migration and relocation can represent a response to multiple factors that do not affect everyone in the same way, witnessed by migrant selectivity of, for example, young adults. Still left unanswered is what generates the desire to move? Conceptually, we can think of the process as having at least three steps, with the first representing the decision to migrate, the second the decision of where to migrate to (destination), and the third being the decision to actually migrate. Of course, these processes could be occurring simultaneously. Alternatively, only the destination search is important, such as for those whose jobs

have been relocated. However, for modeling and theoretical reasons, the literature often distinguishes between the three steps.

Given our earlier distinction between types of moves (i.e., residential mobility versus internal migration), the motivations for these types of migrations will also differ. Residential mobility, for example, is closely allied with changes in the demand for housing services. For example, disparities between housing needs and expectations, such as the need for more room as a family grows or downsizing as household units shrink, may give rise to "residential stress." Beyond some threshold, residential stress exceeds inertia (the forces keeping an individual or family in place), and the search for a new residence begins.[39]

Clearly, life-cycle theory could not account for all residential moves, with a large proportion (perhaps up to 25 percent) of residential moves "forced" rather than "voluntary."[40] Further limiting the decisions of individuals or households are the constraints imposed by a variety of institutional forces, including racism or discrimination, tenure choice (own or rent), housing supply (number, cost, and type of housing), and the role of specific agents (such as real-estate agents), all of which may limit housing options. Residential options may be particularly constrained among the poor and groups that are discriminated against, with both having fewer options in terms of location, the availability or quality of housing stock, and housing cost. In housing markets that are heavily controlled by local or national agencies, on the other hand, there are likely to be significant differences both in the operation of housing markets and in terms of residential choice. Individuals or households in such situations may have few residential options, decreasing the likelihood of movement. For longer moves, the decision to move is often based on economic conditions—poor job prospects and high unemployment in the origin may, for instance, trigger a migration. Amenities, particularly for older individuals, may also be important, as households migrate to escape colder climates.

The search process is undertaken once the decision to move has been made. For longer-distance migrations, individuals will search locations that may offer more amenities or better income and employment opportunities. At the same time, all moves involve a local scale, or the neighborhood location where the household ultimately settles. At this local scale, the search process reflects needs, economic opportunities, social aspirations, income, and the role of institutions, including real-estate agents and banks. At small spatial scales, therefore, migration interacts with the housing career of the migrants.[41] In addition, characteristics of the household (i.e., age, sex, marital status, household status), individual housing units (i.e., size, structure, availability), and wider characteristics of the origin and destination areas (i.e., neighborhood structure, ethnic/racial structure, housing availability) influence destination choice. Finally, the actual decision to move is made. In some cases, the search process may not reveal a suitable destination or option, and the move is called off. In

many other cases, the economic, housing, social, or lifestyle benefits are greater than the costs, and the move is made.

CONCLUSION

Despite different migration theories, most researchers agree that individuals or households migrate to improve their situation, with the various migration theories stressing different aspects (i.e., economic, social, environmental) of this commonality. In reality, much of the literature has actually tended to augment the distinction between micro and macro approaches, a problem that may, in part, be due to the different perspectives that the various disciplines bring to the table. The strong disciplinary focus has remained, although there has been considerable cross-disciplinary fertilization in recent years, as well as a greater embrace of qualitative methods in considering population issues. Despite the profusion of migration research, relatively few dramatic theoretical advances have been recorded in the past two decades. Instead, greater emphasis has been placed upon a more analytic/policy-oriented approach, meaning that many of the theoretical (or methodological) additions have built upon existing theories. Consequently, theoretical development in the past two decades has been incremental in nature. By and large, the availability of data (i.e., new longitudinal files and increased accessibility to public-use files such as the Public Use Microdata Sample) has been more important in influencing empirical and theoretical research over this period. For example, theoretical advancements associated with return migration, whereby an individual returns to an earlier region of residence, related to life cycle or employment have been enabled by improved data availability.[42]

FOCUS: CONTEMPORARY INTERNAL POPULATION MOVEMENT IN THE UNITED STATES

The US population has long been regarded as one of the most mobile populations in the developed world. In large part, the willingness to move and relocate over long distances, both for short-term periods as well as permanent relocations, is arguably entrenched in the US psyche, associated first with frontier expansion and exploration, then movement into urban areas, and more recently movement to rural and semirural locations. To a large extent, population movement in the United States followed the stages of Zelinsky's mobility transition theory, echoing the nation's historical and economic development. The opening of the American West, for example, prompted large-scale relocation from the eastern seaboard. Later, the Great Depression of the

1930s was associated with movement out of the American plains and westward into California. Resource discovery and development, such as California's gold rush and the development of the oil industry in Texas, spurred further population movement. Over the past three decades, the bulk of population movement has been between urban areas and from central cities to the suburbs.

Knowledge of population movement was aided by the introduction on the 1940 census of a migration question asking respondents where they lived five years ago. Since World War II, population movement has been dominated by four large themes. First, preferences for warmer climates and amenities prompted movement to the Sun Belt. At the same time, changing economic conditions, characterized by the decline of American manufacturing in the northeast United States and the emergence of the so-called Rust Belt and the coincident rise of industry in the South, prompted population movement into the Sun Belt. Second, rural areas continued to lose population, especially in the rural Midwest, upper Great Plains, and the Mississippi Delta.[1] Third, suburbanization, or the movement from towns and cities to the rural-urban fringe, gathered momentum immediately after the war, prompted interest in short-distance migrations, and had far-reaching impacts on the structure of American cities. Fourth, "counterurbanization" emerged during the 1970s, signaling a shift in net migration toward nonmetropolitan areas, movement that was in stark contrast to the long-standing movement up the urban hierarchy and toward larger metropolitan areas. While this appeared to decrease in importance in the 1980s, urban-to-rural movements reappeared in the 1990s and 2000s.

Evidence from the 1990s and the early to mid-2000s showed a general continuation of these long-standing migration patterns. Other consistent patterns were also apparent. For instance, the Northeast and Midwest continued to lose population through the millennium, and migrants continued to move to the southern states, a process that had started with deindustrialization.[2] Similarly, many of the country's largest cities experienced net out-migration, again reflecting a decades-long pattern. However, populations in the largest metropolitan areas were reinforced by immigration, such as in the cases of New York and Chicago.[3]

There were also, however, significant changes in the mobility patterns of Americans. Overall, migration and mobility rates declined (see figure 6F.1), a phenomenon partially associated with population aging (older individuals are less likely to migrate than younger individuals). At a regional scale, the pace of out-migration from northeastern and midwestern states declined somewhat between 2000 and 2004 as compared to rates observed in the 1990s, although the Northeast still lost 281,000 over 2006–2007. The South continued to be the primary destination for migrants, with a net in-migration of 307,000 over 2006–2007 (table 6F.1), although the pace of this movement also declined, and only the Atlantic states, such as Florida, were important destinations, reflecting the movement of retirees.

Beyond these large-scale movements, migration has reshaped America's features in other ways. While this book has yet to tackle immigration, the internal migration of immigrants in the United States has resulted in spatial assimilation or the reduction in differences in residential patterns across groups.[4] While spatial assimilation occurs over time, with new immigrants generally more segregated than those who have been resident in the country for a longer period, segregation levels are greater for foreign-born black immigrants than they are for Asian, white, and Hispanic immigrants, and poorer immigrants tend to be more segregated as well.

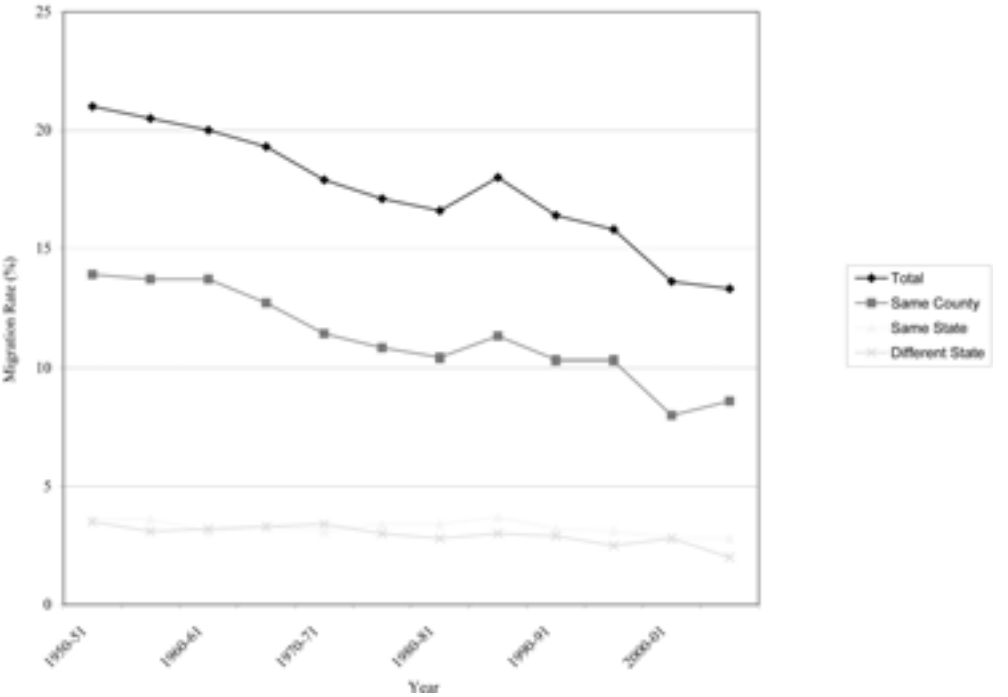

Figure 6F.1 Mobility Rates by Type of Movement: United States, 1950/1951–2005/2006.

Source: Data derived from the US Census Bureau, based on Current Population Survey data.

Table 6F.1. Interregional Migration Flows (in Thousands): United States, 2006–2007

Destination in 2007	*Region of residence in 2006*				
	Northeast	*Midwest*	*South*	*West*	*Total*
Northeast	**−281**	65	194	54	313
Midwest	92	**60**	265	231	588
South	401	315	**307**	316	1,032
West	101	148	266	**−86**	515
Total	594	528	725	601	2,448

Note: Bold cells represent net gain/loss for the period. Over the 2006–2007 period, approximately 2,448,000 Americans relocated.

Source: Data derived from the US Census Bureau based on CPS data.

The country's population is also being redistributed across the metropolitan hierarchy. Plane noted that the largest "megametropolitan" areas (populations greater than 2,500,000) gained from other large metropolitan areas, while they lost population to the very bottom of the urban-rural hierarchy, namely "micropolitan" (metropolitan places with populations between 10,000 and 49,999 in addition to being associated with an urban core) and nonurban counties.[5] In large part, the movement down the urban hierarchy and toward smaller urban areas or even some selected rural areas represents the continuation of the counterurbanization trend first noted in the 1970s, along with location preferences, amenities, and population aging.

Not all rural areas benefited from this migration, with many losing population through the 1990s and early 2000s. Despite the above discussion of movement down the urban hierarchy, it is important to realize that the growth of these rural and micropolitan areas is selective. For remote rural America, including much of the Great Plains and the rural Midwest, population loss associated with migration has essentially continued unabated since the Depression. Population loss in these rural areas can be attributed to the loss of employment, lack of services such as schooling, poverty, and in some cases a lack of amenities such as warmer winters or recreational opportunities.[6] At the same time, net in-migration has benefited other rural areas, and in particular those either closer to urban areas or those that have amenities, as advances in telecommunications and transportation have enabled preferences for living in smaller areas that are close to urban areas.[7] For instance, migrants from large cities such as Los Angeles, New York, Chicago, and San Francisco have increasingly relocated to counties more than forty miles away from the city core, bypassing suburban areas that are closer to the center and the inner city.[8]

Although young adults in their twenties remain the most mobile segment of the population as they move for education- or employment-related reasons, the penchant for mobility amongst Americans seems to be declining. Long-term analysis shows that the frequency of longer distance moves (anything across county lines) has declined over the past forty years.[9] In large part, this reflects increased female participation in the labor force, which decreases the ability to make long-distance moves amongst households. In addition, the aging of the population decreases mobility rates as well, with older individuals and households less likely to migrate long distances.

It is unclear whether these migration patterns—and particularly the preference for moving further and further from the city center—will be sustained into the near-term future in light of rapid increases in the price of oil and gas in the later part of the 2000s. The *New York Times* suggested that the increasing cost of fuel threatened to slow migration away from cities.[10] While an excess housing supply and the credit crunch of 2008 compounded the problem and make it difficult to identify the exact reason for housing price changes and differences, housing prices beyond the urban core fell in value faster than those within. However, anecdotal evidence suggested that the rising cost of energy is the primary reason home prices have fallen, particularly in the outer suburbs. The outcome may be increased preference for inner-city locations, the exact opposite of what had happened for the preceding decades.

Measuring migration is not necessarily straightforward, and the migration researcher must account for time and space when counting migrations. Nevertheless, a number of tools or measures are available that allow us to quantify migration flows. Between 1995 and 2000,[1] some 22 million people moved between states, or more than seven percent of the nation's population. Of these, about 1.4 million people moved into California. During the same period, over 2.2 million people moved out of the state, meaning a net population loss through migration of 755,536 and a gross migration of nearly 3.7 million. When expressed as a rate (per one thousand), California's in-migration rate was 47.1, its out-migration rate was 71.7, and the resulting net migration rate was -24.6, meaning that it lost 24.6 people through migration for every one thousand individuals living there in 1995. Nationally, the in- and out-migration rates were 45.7 for the period.

MIGRATION PROPENSITY

A basic measure of migration is the *migration propensity* (p_{ij}), which shows the relative proportion of the population beginning the period in one region (i) who are found in other regions by the end of the period, defined as

$$p_{ij} = \frac{m_{ij}}{P_i}$$

where P_i is the population of the origin (starting) region at time $t-1$ (i.e., the beginning of the census interval), and m_{ij} is the number of migrants moving from i to each destination j.

GROSS MIGRATION FLOWS AND RATES

Oftentimes, population geographers are interested in the propensities of a population to leave (enter) a particular destination (origin) regardless of where they migrate to or from. When relying on the census, migrants and migrations are defined based on place of residence at the start of the census interval (five years prior to census day) and compared with place of residence at the time of the census. Once defined, the number of out-migrants leaving an origin (O_i), the number of in-migrants entering a destination (I_j), or the number moving between two points (M_{ij}) can be counted. For instance, the number of out-migrants from region i (O_i) can be defined as the following formula.

$$O_i = \sum_{i \neq j} m_{ij}$$

In the same way, gross in-migration to region i (I_i) is determined by adding up all its in-migration flows.

While the number of migrants may be instructive, it can also be misleading. Large regions, such as states like Texas or California, will both produce a large number of migrants given their population size and also attract a large number of migrants, while smaller regions or states will experience the opposite. Migration rates are therefore typically constructed based upon the population *at risk* of migrating. For instance, the *out-migration rate* (OR_i) from region i is defined as

$$OR_i = (O_i \,/\, P_i)*1000$$

where O_i is the number of out-migrants from region i, and P_i is the population of region i.

Similarly, the *in-migration rate* (IR_j) to region j is defined as

$$IR_j = (I_j \,/\, P_j)*1000$$

where I_j is the number of in-migrants to region j and P_j is the population of region j. Strictly speaking, this specification does not accurately capture the population at risk of migrating to region j. Instead, it defines the at-risk population as the population of the destination region.[2] But if they are already residing in j, they can't in-migrate to j! A more precise definition of the in-migration rate would be

$$IR_j = (I_j \,/\, \sum_{j \neq k} P_k) * 1000$$

where the denominator represents the population of the entire system excepting region j.

Net Migration Flows and Rates

Frequently, population geographers will want to know the overall effect of migration on a region's population. Did it, for example, grow or decline (and by how many) due to migration over a period? This can be determined by *net migration* (N_i), which is defined as the difference between the number of in-migrants and the number of out-migrants to/from region i.

$$N_i = I_i - O_i$$

The *net migration rate* is defined similarly as the difference between the in- and out-migration rates. While useful for ascertaining overall population effects, the use of net migration in most cases is problematic, as it essentially represents a constructed figure and not an actual migrant.[3] As such, it is not commonly used when modeling migration.

MIGRATION EFFECTIVENESS

Migration researchers may also be interested in the relative proportion of arriving and departing migrants. *Migration effectiveness*[4] (E_i) is defined as the ratio between net migration (in-migration − out-migration) and gross migration (in-migration + out-migration) flows.

$$E_i = 100\left(\frac{I_i - O_i}{I_i + O_i}\right)$$

E_i tells the percentage of "turnover" that results in population change and does not depend on the population size of the region in question. Large values (as opposed to those close to zero) are defined as more "effective," in that migration flows are more one-way. A related measure is *stream effectiveness*, which captures movement between two particular regions.

$$e_{ij} = 100\left(\frac{m_{ij} - m_{ji}}{m_{ij} + m_{ji}}\right)$$